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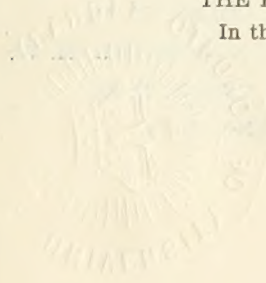
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The Philadelphia Medical Journal

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Salutatory.—With the present number the PHILADELPHIA MEDICAL JOURNAL appears under new editorial management. The occasion is not one that calls for extended comment. It may be proper to state, however, that the present editor is not entirely new to the task, as he has been a frequent, almost constant, contributor to the editorial pages of the JOURNAL from its inception. In this work he has devoted his pen to the more strictly scientific aspects of medicine as they have been discussed here. The change in editorial supervision does not necessarily indicate any radical change in the general scope, appearance, and scientific aims of the JOURNAL. What changes, if any, may occur will be the results of careful forethought and for the best interests of our readers. In the future, as in the past, the object will be to present a high class of original papers, to reflect faithfully the most useful contemporary literature, and to relate weekly the most important events in the medical world. These editorial columns will be kept exclusively for the discussion of subjects that are purely professional. It is due to the host of readers, subscribers, and contributors, who have made this JOURNAL a success in the past, that acknowledgment should be made here now of their support, and that they should be assured that no effort will be spared in the future to make the JOURNAL a reflex of their interests and their views, as well as a fitting exponent of one of the most important centers of medical learning in America.

The Medico-Legal Relations of the X-ray.—A great danger attending the introduction of new methods of diagnosis is that the most recent procedure may be endowed by its advocates with more than its proper share of weight as evidence. With admirable foresight, the American Surgical Association has anticipated this contingency and, at the meeting held in 1897, appointed a committee, of which Dr. J. William White was chairman, to report upon the medico-legal relations of the x-rays. This committee made a report at the Washington meeting held in May, 1900 (*American Journal Medical Sciences*, July, 1900). The facts collected by the committee go to show that there have already been cases of improper use of the skiagram in court and that there is a real danger for the future from the teaching of some members of the profession, who have exalted skiagraphy beyond its present merits. Grave mistakes have been

made in reference to the presence or absence of fractures, one of the most striking of which is the failure of a skiagram to show the line of fracture after complete osteotomy, only 24 hours old. Defective plates may lead to errors concerning foreign bodies; in one instance such a defect was considered to indicate the existence of a renal calculus. It is thus shown that the x-rays are not infallible and that in addition to the skiagram the surgeon should employ the methods which experience has shown to be trustworthy in drawing his conclusions in a given case. There seems to be no justification for the teaching that x-rays should be employed as a routine method of examination in every case for the diagnosis of fractures. Indeed, in the region of the base of the skull, the vertebral column, the pelvis, and the hips, the results are far from satisfactory. Again, it should be remembered that a skiagram alone is very misleading with regard to the existence of deformity. Furthermore, after a recent fracture an x-ray examination will not be sufficient to prognosticate union or nonunion with accuracy. The investigations of the committee seem to show that while x-ray burns are, in the majority of cases, easily preventable, their cause is not definitely known. The skiagram has already been admitted as evidence in medico-legal cases and its use will undoubtedly increase; it is necessary, therefore, that its sources of fallacy should be borne in mind. The surgeon should familiarize himself with the appearances of skiagrams, with their distortions, with the relative values of their shadows and outlines so that he may judge of their teachings and not be dependent upon the interpretations of others. The conclusions of the committee were wisely adopted unanimously by the members as expressing the views of the American Surgical Association. The association, by this action, while setting forth the advantages of x-ray examinations, avoids the fallacy of giving to skiagrams more than their proper relative importance.

Gastrointestinal Autointoxication.—Weintraub stated in Lubarsch and Ostertag's "Ergebnisse," that most cases reported as instances of gastrointestinal autointoxication bear absolutely no resemblance to such a condition except in the name given them. There is certainly much more scientific truth in this brief remark than in most of the more elaborate writings con-

cerning the subject. The publication of Bouchard's book, followed by Altru's and other somewhat elaborate works, produced a swarm of smaller articles which buzzed about one's ears so industriously that many a poor doctor seems to have concluded that there is justification for considering every case of obscure disease the result of poisoning from the alimentary tract. If only there is some evidence of disturbance of the stomach or bowels, or if treatment which is likely to relieve disease of these organs produces improvement the diagnosis becomes clear at once—and the treatment should evidently be to disinfect the gastrointestinal tract by drugs or mechanical means until the source of the noxious thing is removed. Such wild enthusiasm was born of the very originators of the discussion. In order to prove the doctrine they taught they looked in but one direction. The reactive party has now begun to show its head. Gumprecht has pointed out that there is little or no real demonstration of the existence of poisoning from the stomach, and authorities like Ewald and Robin have stated only recently that there has been far too free a use of the term gastrointestinal auto-intoxication and that even clinical evidence of its occurrence is scanty and rarely found, and the profession in general has begun to pause and deliberate before giving itself over to such a diagnosis.

Nevertheless there is a conviction in most reasoning minds that a not inconsiderable number of cases show signs of self-poisoning, and that in many of these cases the gastrointestinal tract apparently bears a close relationship to the production of the symptoms, though a clear recognition of the actual fault is difficult to reach.

The most satisfactory proof of the accuracy of a thought that must have been in many minds—that these cases should be considered to be due to general metabolic abnormalities rather than to simple digestive derangements—has been provided lately by Strauss and Philippsohn (*Zeitschrift für klinische Medizin*, Band xl, Hefte 5 and 6). After a laborious and elaborate study they conclude that there is in the first place excellent evidence that normally the products of intestinal putrefaction, while absorbed in considerable amounts, appear in the urine in only small quantities. They have in large part been, therefore, so altered by the tissues that their products which appear in the urine are harmless and are no longer recognizable as the products of putrefaction. Further, while one may in some conditions, often thought to be intoxications from the gastrointestinal tract, find abnormally large amounts of volatile fatty acids, ethereal sulphates, and other substances produced by putrefaction in the alimentary tract, there is usually no evidence that these substances are actually produced or absorbed in excessive quantities. There are many important details in the article, but the main point is indicated by what has been stated, *i. e.*, in a large number, probably a *very* large number,

of cases thought to be gastrointestinal intoxication, we should rather speak of a *tissue intoxication*. In other words, the gastrointestinal tract may be producing only a normal amount of toxic material, perhaps less than normal, or possibly a little more than normal. The tissues are, however, unable to cope with even normal amounts, and intoxication results.

The moral from all this story is that we have been too narrow in our views, and that the subject is far less easy than we have been led to believe. Such patients cannot be cured by mere colonic flushings or gastric lavage: they can be cured only as can persons with other metabolic abnormalities, by painstaking control of all the details of their lives, not of those alone which relate solely to the alimentary tract.

The Diagnosis of Mitral Stenosis.—The condition of mitral stenosis has given rise to a great diversity of opinion among medical authors; both as to its diagnostic features and its pathology. In consulting a large number of well-known works we have been impressed with the inadequacy of many of the descriptions for general application. They have no doubt fitted certain cases, but the various phases of the condition demand recognition and lucid explanation, which is too rarely attempted. First, the pathology demands our attention. We find it stated unequivocally by some writers of great clinical experience that the left ventricle is always atrophied in mitral stenosis, as we should expect it to be theoretically. Others hold that the left ventricle is normal in this condition; and that if atrophy is found, it is not dependent upon the mitral stenosis. This latter view, based as it is upon the extensive study of careful postmortem records, we believe to be the most acceptable and conclusive. There is no marked difference of opinion as to the other pathological processes found.

Discussing the character of the murmur, we find it stated generally, that it is presystolic in time with its point of greatest intensity a little above and within the apex-beat, or at the apex-beat itself; and that it is not transmitted. We have even seen it stated, however, that it may be transmitted towards the sternum; again, and unquestionably this is true, that it is sometimes heard at the left anterior axillary line, sometimes high up in the axilla, and has been heard posteriorly as far as the posterior axillary line. Another writer points out that there are three sets of cases to be considered; one, in which there is a diastolic murmur; another, in which the murmur is undoubtedly presystolic; and a third, in which no murmur whatever is audible.

All the authors consulted note the characteristic thrill, the *fremissement* of Laennec, but we are cautioned that the murmur may be absent in one-third of the cases and that the thrill may be felt, at times, when the murmur is not appreciable. Again, it has been pointed out, and proven conclusively, that the presys-

toxic murmur is not absolutely pathognomonic of mitral stenosis, but is heard in other valvular defects.

As to the characteristics of the murmur there is a unanimity of opinion. It is loud, prolonged, and of a grinding, churning character. For the most part, just prominence is laid upon the accentuation of the second sound, both over the pulmonary area and at the apex, but many authors fail entirely to mention the reduplication of the second sound which is sometimes present—the *bruit de rappel*, or three-toned rhythm of the heart, a condition in which a single systolic sound is followed by a double diastolic sound.

The pulse is passed over in many works with too great brevity. By some it is stated that it may be regular and normal in frequency; by others, that it is of normal rate and irregular; again, that it is irregular and frequent. We may attempt to rationalize this by stating that, early in the disease, with compensation established, there may be no alteration in character or rate. The constant factors to be heeded are the "smallness, softness, and emptiness" of the pulse. Later in the disease its characteristics are its irregularity and frequency.

It would puzzle a student sorely to diagnose correctly many cases of mitral stenosis from some of the descriptions given. The cases are so varied in character, and so often atypical, that we believe more stress should be laid upon diagnosis by exclusion. We should notice especially the enlargement of the right heart, the character of the murmur, and thrill, when present; the character of the pulse, and the familiar picture of easily disturbed equilibrium of the circulation. No less important is the accentuation of the second pulmonary sound and frequent reduplication of the second sound.

In conclusion, it would seem that much of the diversity of opinion among medical writers upon the cardinal points of diagnosis and pathology is due to the fact that current works have been utilized too freely without modifying carefully the opinions expressed by more extensive personal observation, and a careful study of the results of contemporary original research.

By these methods alone, we believe, can a harmony of diverse views and the exclusion of error be brought about.

The Stethoscope Up to Date.—Since 1819, when Laennec first gave to the world the stethoscope, after he had already acquired such a degree of proficiency in its use that he was able to define very closely its advantages and limitations, physicians have been listening to the secrets of diseased processes that had hitherto been so zealously guarded by nature.

It is true that there were many men, such as Clarus, professor of medicine at the University of Leipsic, who until the year of his resignation in 1847 fought against

the methods of physical diagnosis, and refused to introduce them into his courses; but the medical world at large was soon convinced of their extraordinary value, and accepted them with enthusiasm, perhaps a little excessive. Nevertheless, it is surprising that in spite of the complexity of the subject, comparatively so little has been added to the observations of Laennec and his immediate followers, particularly Skoda. On the other hand, the mechanical ingenuity of physicians and instrument makers has been exercised to the utmost in the production of various forms of apparatus which are designed either merely for the purpose of sale to those desiring a novelty, or because the makers believe that they in fact possess some points of superiority over other instruments for similar purposes, and yet it can be said that the single stethoscope, perhaps a trifle lighter and more convenient than the clumsy wooden apparatus employed at first, but not greatly better as a machine for the conducting of sounds, still holds its preeminence. For 40 years it held undisputed sway; then an Englishman, Walter Bryan, introduced a flexible rubber-tube between the funnel and the air-piece, and from this it was but a slight step to the binaural stethoscope.

In the sixth edition of "Abhandlung über Perkussion und Auscultation," Skoda records that "the best form of the stethoscope and the material of which it is constructed is a subject of particular anxiety for those who are not yet accustomed to auscultation," for even in that day the number of stethoscopes, microphones, stethophones, etc., was legion, and the poor student seeking the best instrument was confused with such a mass of advice that he was thoroughly puzzled; and yet, Skoda, in this sentence, implies, as he elsewhere states explicitly, that it makes very little difference what instrument is used, provided that the ear at the farther end is educated to perceive the sounds. To one who listens for the first time, the whirl of noises heard over the heart, or in the chest, sounds hopelessly confused. It is only by prolonged practice that the ability is gradually acquired to disregard all but certain particular sound-waves, and to analyze each in regard to its time, duration, and regularity with accuracy.

It is a curious fact, that so many men who are familiar with auscultation insist that that instrument that conveys the sounds most loudly to the ear is therefore the best. Even Laennec, sharp auscultator as he was, was more or less addicted to this opinion, and in the latest American book upon physical diagnosis, that of Cabot of Boston, the same mistaken idea is apparently held, for in his enthusiastic commendation of the Bowle's stethoscope, he says that the sounds conducted through any one of the 12 tubes in the multiple form are "as loud as those to be heard with a single instrument of the ordinary form, although far fainter than those to be heard with a single Bowle's stethoscope." Sahli, whose work Cabot probably consulted, is much

more correct upon this point; it is not the intensity, but the differentiation of the sounds that is important.

Any one familiar with the use of the microscope will readily appreciate the disadvantage of using a high eyepiece with an inferior lens; the field is blurred, although the image is large. It is the same with the stethoscope that conveys the sounds loudly; they are blurred and indistinct, and it is often impossible to differentiate them satisfactorily. It is for the reason of definition therefore, that differences exist in stethoscopes, and that the advice given by some clinical teachers is to our mind incorrect. It is not sufficient to become acquainted with one form of stethoscope, for murmurs may be heard with one and not with another, as we have often been able to prove to our own and others' satisfaction; but each man should be trained carefully in the movements of the single and double stethoscopes, and immediate auscultation; for it is the ear and not the instrument that does the work.

Nerve Regeneration; Neurotropism.—The regeneration of nerves is an interesting biological phenomenon. Physiologists, pathologists, neurologists, and surgeons have all given attention to it, but despite their combined efforts many phases of the process are still obscure. That severed nerves can reunite, with return of conductivity, is a fact firmly established by physiological and pathological evidence.

It is, furthermore, definitely known that such union can only be brought about by the regeneration of nerve fibers, although a partial restoration of function seems to be possible before an actual new production of nerve fibers has taken place.

This is shown in the occasional disappearance of an old paralysis within a few hours after a surgical operation in which the cut ends of the nerve are accurately brought into apposition.

Regarding the histogenesis of new fibers two theories have been advanced, called the theories of continuous and of discontinuous regeneration respectively. According to the first the new fibers are formed by a down growth of the old axis cylinders; according to the latter the axis cylinder develops by a process of differentiation of undifferentiated fibers that grow from the central stump.

No unequivocal proof of either theory has been of benefit. Whichever be true, the fact remains that the new fibers come from the old fibers of the proximal end.

The steps in the new formation are quite well known, thanks to the labors of Ranvier, Vanlair, Huber, Stroebe, and others. But there is another point at issue, namely, the nature of the force or forces that govern the direction of growth. Why does the central end seek to connect with the peripheral? Ranvier and Vanlair were of the opinion that the governing force was mechanical, that the nerve grew toward the peripheral

end because, owing to the gap, it was the path of least resistance. Many facts favor this theory, but others are against it. With the view of determining the significance of the mechanical factor and the possible cooperation of others, Forssman undertook a very clever series of experiments, the upshot of which is that the *mechanical factor is subordinate*, and that there is another far more potent. For the purpose of more readily controlling the course of the nerve fibers, Forssman employed tubes of straw or collodion. The ends of the cut nerve were either introduced into the upper end and lower parts of the tube respectively, or the proximal was introduced into the upper part, while the distal end was carried along the outside of the tube and by means of an intercalated segment doubled over the top of the tube so as to lie parallel with the central stump. By means of fixation threads the cut ends were retained in place. After a period of two months the animals were killed, the nerves excised, fixed in Müller's fluid, cut into vertical serial sections, and stained by the Weigert-Pal method.

It was found that the growth of new fibers occurred by no means necessarily in the direction of least resistance. If, *e. g.*, the proximal end of the nerve was placed in the tube and the peripheral end carried along the outside to the top, a piece of resected nerve affixed to it, and then turned into the tube so as to lie alongside of the central end, the new nerve fibers growing out from the latter were at first directed peripherad into the tube; but after proceeding thus for a short distance, they doubled upon themselves and grew toward the center, so as to meet the distal end, or the intercalated segment hanging into the tube from above. If only the upper end was placed in the tube, the distal portion of the nerve being entirely removed, almost no growth occurred down the tube, although, mechanically, there was no obstacle. The distal end of the nerve in some way exerts an attraction upon the newly-forming fibers and these respond by growing toward it along the shortest path. The fixation thread has but little influence in guiding them. In one experiment the tube of straw was filled with brain substance, and the proximal end of the tibial nerve carried down along the outside of the tube to the lower end and then fastened. The distal portion of the tibial nerve had been excised as far as its entrance into the calf-muscles. On examination remarkable results were noted—while many new fibers had gathered on the outside of the tube, comparatively few had grown downward, although the muscle interstice of the old nerve was open. On the other hand, a large bundle extended upward into the tube as far as its top. When in control experiments the tube was left empty, very few fibers grew into it, and then only for a short distance.

If the mechanical principle were the guiding one it would be natural to expect a more luxuriant growth under the latter than under the former conditions. As

we have seen, the contrary obtained, and therefore evidently nerve substance possesses some peculiar attractive force which determines the direction of growth in the newly-formed nerve-fibers. This force is akin to that known as chemotropism or chemotaxis, and is therefore designated by Forssman as *neurotropism*. In its essence it is probably also chemical.

In a more recent series of experiments, Forssman endeavored to determine the relative influence upon the central end of a nerve as compared with that of its own peripheral end. He divided the peroneal and tibial nerves, and reunited them in the control animals, while in others he joined central tibial with peripheral peroneal, and vice versa. No difference was found. The central end of the tibial neurotized the peripheral end of the peroneal as nicely as it did its own distal stump. Even if a segment of nerve, as of the peroneal, was interposed between the cut ends of the tibial, the result was the same. When the interpolated nerve came from another animal than a rabbit, as from guineapig, pigeon, or frog, no downgrowth of new fibers occurred. If the ends were left apart, and united only by a cotton thread, the distal end was freely neurotized, and if a piece of rabbit's sciatic was interpolated, the neurotization was abundant. It would thus appear that the nerves of other animals exerted a negative neurotropism on the nerve-fibers of the rabbit. However, it is not wise to generalize too broadly from these few experiments.

Forssman also tested the neurotropic power of spleen and liver, placing emulsions of these organs in the tubes, as in the experiment with brain substance. No growth of fibers took place, showing that the neurotropic substance was absent.

The experiments which we have cited possess a deep significance, apart from their histogenetic importance. They constitute another illustration of that widespread force, at present called chemical, which brings about phenomena that by the old philosophy were considered manifestations of a *vital* force. Neurotropism and chemotropism, to be sure, do not solve the mystery, they only remove one of the many enshrouding veils. The new century will tear off others, but will bequeath the problem still unsolved to a future age.

Sewage is a Fertilizer for Seaweed.—Dr. Letts, the professor of chemistry at the Belfast College (Ireland), has discovered that seaweed is a valuable test for ascertaining the presence of sewage in sea water. Investigations proved that the successful growth of the weed depends almost entirely upon the presence of sewage in the water. The greater the pollution, the more prolific was the growth of the weed, while, on the other hand, if no pollution of the water existed, the weed simply died. It should be understood that these observations were made on the seaweed and sewage near Dublin and Belfast. In other latitudes, other factors might prevail.

Reviews.

Lessons on the Anatomy, Physiology and Hygiene of Infancy and Childhood for Junior Students.

Consisting of Extracts from Lectures given at the Rush Medical College. By ALFRED C. COTTON, A.M., M.D. Chicago: Chicago Medical Book Co. \$1.50.

This will be an extremely useful book for those who are students of medicine, in the catalog sense. Practitioners have in their larger books of reference practically all that is in this condensed work, but perhaps not so conveniently put together. The lack of accurate proof-reading renders it difficult at times for the reader to keep his mind on the subject-matter. If the book represents a required course in pediatrics for all the students in the Rush Medical College, they and the College, as well as the future clientele of the embryo physicians, are to be congratulated on the just importance attached to this hitherto neglected branch of medicine.

The Microtometist's Vade-Mecum. A Handbook of the Methods of Microscopic Anatomy. By ARTHUR BOLLES LEE. Fifth Edition. Philadelphia: P. Blakiston's Son & Co. 1900.

This book needs no introduction to anatomists and zoologists; and to others unacquainted with it, the mere fact of a fifth edition is in itself a sufficient recommendation.

In the preface to this edition the reader is informed that the work has been extensively revised; many old methods have been rejected to make room for many new methods; fuller consideration has been given to the philosophy of cardinal general methods; the chapter on cytologic technic has been in the main rewritten. Of especial interest is the discussion of the principle of precipitation in the process of fixation, based on Fischer's theory that "the coagulation which constitutes fixation is, in the case of the liquid and semi-liquid constituents of tissues, *always* a phenomenon of *precipitation*." Recalling the author's previous emphatic support of Flemming's opinion on the action of potassium bichromate on kinetic chromatin, which he said gave "merely unnatural caricatures of the true structures," it is interesting to note, in the section on cytologic fixing agents (p. 360), that now he regards some of the chromatin images given by this reagent as more lifelike than when produced by acids.

As always, the book is a treasure-house of information and suggestion.

Egbert's Hygiene and Sanitation. A Manual of Hygiene and Sanitation. By SENeca EGBERT, A.M., M.D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. New (2d) and revised edition. In one handsome 12mo volume of 427 pages, with 77 engravings. Philadelphia and New York: Lea Brothers & Co. Cloth, \$2.25 net.

This manual is a welcome addition to the limited number of exact and satisfactory handbooks on hygiene. To incorporate 14 distinct subdivisions of this important subject in a 12mo volume of 427 pages, allotting sufficient reading matter, that each division may be of practical use, and to do it as well as the author has done, is most gratifying. The new chapter on Military Hygiene is a necessary and welcome addition. Could the suggestion contained therein have been applied practically during the past few years, many of our soldiers' lives would undoubtedly have been spared. In connection with this chapter we feel that the author has not emphasized sufficiently the value of fire as a purifying and destructive agent for camp offal. Practically it has been found that even the simpler forms of chemical disinfectants are not always obtainable, and to secure their proper use in camp is a seeming impossibility. To disinfect properly the contents of pits and sinks and then cart away, requires so much detail that it will be impossible to have it performed without the most constant watchfulness. The New York State militia have in practical use a privy on wheels in which all discharges from the men are consumed by fire without the necessity of handling, and as it accompanies the men even on the march, the danger of spreading infection beyond camp limits is reduced to a minimum. In Santiago

and elsewhere cremation has superseded very largely chemical disinfection, and in every case where cremation is at all practicable it should be used in preference to other more uncertain and troublesome methods. We refer to the destruction of camp refuse and not to the disinfection of clothing, bedding, etc. To the country physician and to those without access to the larger works this book will be found especially useful, and we trust it may have a sale commensurate with its unquestionable value. Every rural health officer should possess a copy.

Textbook of Physiology. Edited by E. A. SCHÄFER, LL.D., F.R.S., Professor of Physiology, University of Edinburgh. Vol. II. New York: The Macmillan Co. 1900.

In a notice of the first volume of this noteworthy textbook of modern physiology, published in the PHILADELPHIA MEDICAL JOURNAL, Vol. I, page 906, it was stated that the scope of the work is different from that of any similar work in English, comparable only to Hermann's Handbook—that is to say it is a systematic arrangement of the whole sphere of physiologic facts and doctrines presented in their proper connection and just proportion and verified by that copious citation of original sources which is so indispensable to the advanced student, teacher, and original investigator.

The second volume, comprising some 1300 pages, has just been published and in its general make-up maintains the high standard set by the first volume. The articles are written by physiologists whose names are a sufficient guarantee for scientific accuracy, thoroughness, and philosophic presentation. It is safe to say there is hardly any phase of modern physiology that does not receive complete and elaborate treatment. Each article is not only a resumé of all that has hitherto been published in works of similar character, but is a thorough presentation of the results of investigations the world over during the past 20 years. Though this textbook will appeal most strongly to professional physiologists and teachers, yet the practical character of the articles and their bearing on all problems of clinical medicine will commend it to teachers and practitioners of clinical medicine as well. In no other work can there be found such a wealth of facts and observations of a practical character.

In a brief notice of a work so extensive as this nothing but an enumeration of the table of contents is possible. The papers have reference mainly to the mechanisms of the circulation, respiration, the functions of the central nervous system, the general physiology of muscle and nerves, the special senses, etc. The table of contents is as follows:

The Mechanism of the Circulation of the Blood. 166 pages. By Dr. Leonard Hill.

The Contraction of the Cardiac Muscle. 60 pages. By W. H. Gaskell.

Animal Mechanics. 46 pages. By I. B. Hayercraft.

The Muscular and Nervous Mechanism of the Respiratory Movements. 38 pages. By E. H. Starling.

The Muscular and Nervous Mechanisms of the Digestive Tract. 34 pages. By E. H. Starling.

The Muscular Mechanisms of the Generative Apparatus. 6 pages. By E. H. Starling.

The Mechanical, Normal and Electrical Properties of Striped Muscle. 97 pages. By J. Burton Sanderson.

Nerve. 100 pages. By Francis Gotch.

Physiology and Electrical Organs. 40 pages. By Francis Gotch.

The Nerve Cell. 23 pages. By E. A. Schäfer.

The Sympathetic and Other Related Systems of Nerves. 80 pages. By J. N. Langley.

The Cerebral Cortex. 86 pages. By E. A. Schäfer.

The Spinal Cord. 100 pages. By C. S. Sherrington.

The Parts of the Brain below the Cerebral Cortex. 37 pages. By C. S. Sherrington.

Cutaneous Sensations. 81 pages. By C. S. Sherrington.

The Muscular Sense. 25 pages. By C. S. Sherrington.

Vision. 122 pages. By W. H. R. Rivers.

The Ear. 58 pages. By John Gray McKendrick and Albert A. Gray.

On Vocal Sounds. 30 pages. By John Gray McKendrick and Albert A. Gray.

The Sense of Taste. 22 pages. By I. B. Hayercraft.

There is in addition a most extensive index of subjects, covering 75 pages.

The Prevention of Valvular Disease of the Heart.

By RICHARD CATON, M.D., F.R.C.P. With 6 illustrations. London: C. T. Clay & Sons. 1900.

Dr. Caton, from a long experience in the Liverpool Royal Infirmary, has formed very positive views about the treatment and prevention of valvular deformity in rheumatic endocarditis. His little monograph is based upon a study of 86 cases. The author, like so many other physicians, has been discouraged by the enfeebling and shortening of so many valuable lives which occur from this disease, and particularly so since the crippling of the heart happens in so many cases early in life and the sufferer, instead of keeping step with his fellows is compelled to fall out of the ranks, losing hope, and even the power to earn his daily bread. Dr. Caton's book is suggestive not so much for the novelty of his views (for there is really little that is original in it) as for the force and insistence with which he presents them. His plan of treatment is by prolonged rest, after all the symptoms of acute articular disease have disappeared, counterirritation over the heart by blisters, and the exhibition of the iodids. In the acute articular stage he, of course, uses the salicylates freely. He claims that a beginning valvulitis, when recognized early, can be arrested and cured by this means, and says that the mistake too often made in practice is of regarding a slight endocarditis as beyond therapeutic help, and permitting the patient to leave his bed too soon. He enjoins absolute recumbency for several weeks. He is careful to state that he does not claim to cure well advanced cases of rheumatic valvulitis. His book is devoted rather to prophylaxis and the treatment of incipient cases, and is an excellent and suggestive work.

A Comparative Study of Digitalis and its Derivatives.

—Arnold and H. C. Wood, Jr. (*American Journal of the Medical Sciences*, August, 1900), as the result of a series of experiments draw the following conclusions: 1. Digitalin and digitoxin each represent the full circulatory powers of digitalis. 2. Digitalis, digitalin, and digitoxin stimulate the cardioinhibitory mechanism both centrally and peripherally. In larger doses they paralyze the intrinsic cardioinhibitory apparatus. 3. They all cause a rise of blood-pressure by stimulating the heart and constricting the bloodvessels. 4. Very large doses paralyze the heart-muscle of the mammal, the organ stopping in diastole. 5. Digitalin of Merck is a stable compound, 1 gram of it being equivalent to about 18 drams tincture of digitalis. 6. Digitoxin is not to be recommended for human medication on account of its irritant action, which makes it liable to upset the stomach when given by the mouth or to cause abscesses when given hypodermically, and on account of its insolubility, which renders it slowly absorbed and irregularly eliminated, having a marked tendency to cumulative action.

Laryngeal Tuberculosis.

—Cohn (*Journal of the American Medical Association*, November, 1900) divides laryngeal tuberculosis, as regards its therapeutics, into three stages. In the first stage, with the exception of a circumscribed infiltration, or ulceration, the larynx is healthy. In this stage, the only one in which a permanent cure can be hoped for, the treatment consists in curetment in case an infiltration be present; in cauterizing with lactic acid in case an ulcer be present. If the general condition, especially that of the lungs, be good these procedures are imperative and should be repeated at intervals of from 1 to 3 weeks until the diseased condition is completely removed. In the second stage the larynx presents extensive infiltrations or ulcerations. Here complete elimination of the morbid tissue can no longer be hoped for, but antiseptic treatment comes to the front, the author preferring antiseptic inhalations of carbolic or boric acid or lysol. If the epiglottis permit of an inspection of the interior of the larynx, the antiseptic swab can be used to advantage. By these methods secondary infection, and the terrible dyspnea and dysphagia of the last stage is prevented. Finally, if the case is first seen in the last pitiful stage, all that can be done is to treat it symptomatically, to administer a morphin powder before each meal, or, better still, to apply a 10 or 20% solution of cocaine to the pharynx. In impending suffocation, tracheotomy must of course be performed.

Correspondence.

PSEUDOMENSTRUATION.

By ALFRED H. SCOFIELD, M.D.,

of Coggon, Iowa.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

A CASE of pseudomenstruation has just come to my notice. On November 5, Mrs. — was delivered of twins, male and female. Labor was extremely easy, and the infants were well formed and strong, weighing a trifle over 8 pounds each. About 7 days later the mother informed me that there was present in the female child a vaginal discharge, slightly bloody, lasting but a few hours. It had disappeared when I saw the child, but there is in my mind no doubt as to the nature of the discharge.

FOREIGN BODY IN THE AIR-PASSAGES.

By W. A. JOLLEY, M.D.,

of Rawlins, Wyoming.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE article on "Foreign Bodies in the Air-passages," in a recent number of THE PHILADELPHIA MEDICAL JOURNAL, recalls to mind a peculiar case which came to my notice.

A. L. M., aged 18, was chewing a stalk of timothy; when near the head he inhaled the stalk and head. He fell over and was supposed to be dead, but revived in a few minutes. He then had a severe bronchitis and spat blood. He thought that he had swallowed the head of timothy and could not account for the lung trouble which was supposed to be tuberculosis by several physicians who examined him. He came West, but did not gain health until one day after a severe spell of coughing he raised what he thought was a piece of lung, but on examining it closely he found the head of timothy which he had inhaled 2½ years previous. He began to improve at once, and now, 18 years after, is a strong healthy man with the exception of a bronchorrhea.

PERCENTAGE OF FAILURES.

By J. W. HOLLAND, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

A FEW days ago I saw a report of the number of graduates of Jefferson Medical College that failed in the July examination before the State Board. The paper bore on it the stamp of the Alumni Association of the University of Pennsylvania and contained a very laudatory notice of the University, making odious comparisons with other institutions. It stated that there were 38 graduates of Jefferson and 4 failures among them.

I have obtained from Dr. Hulshizer, who is a member of the Medical Council, an official list now in my possession of the average of each candidate before the Medical Council. According to that official statement there were 35 Jefferson men, graduates of the class of 1900, that applied, and three of them failed. The report emanating from the University Alumni probably counted in the same graduates from Jefferson College that have applied a number of times, one of whom

failed this year, as he did last. I protested last year against the practice of publishing these repeated failures of one man who graduated years ago as if they were failures of the class of this year, when our standard has risen with the standard of the Medical Council. As I make it out, we had 35 applications of class 1900 and 3 failures, and the total general average of our applicants of class 1900 was 81.94%.

TUBERCULOSIS AND RUSSIAN JEWS.

By MAURICE FISHERBERG, M.D.,

of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN a paper published in your valuable JOURNAL for December 1, 1900, entitled "Where the Danger Lies in Tuberculosis," by A. Dutcher, the writer made a few mis-statements which should not pass uncorrected. At first the author classifies as follows: "Our 190 (tuberculosis) patients divide themselves naturally (?) into blacks, whites, and Russians." Such a classification reminds me of the explorer who described a foreign country as containing a flora, a fauna, and elephants. Then the author proceeds to reveal "a most distressing state of affairs among the Russians, who are dangerous elements in our midst as breeders and spreaders of this disease" (tuberculosis).

The danger in tuberculosis consequently lies in the Russian elements. The author has discovered this fact while visiting tuberculous patients in Baltimore, "giving them a few simple instructions of the nature of the disease, the mode of its contagion, and methods of its prevention." By these means 20 Russians have been visited, and the observations among this large number of patients have convinced the author that the real danger for Baltimore, and the United States for that matter, lies in the Russians.

Miss Dutcher will surely be amazed to hear that the Russians (Jews) are not only not a dangerous element as breeders and spreaders of tuberculosis in Baltimore, but that the fact is that of all the races and nationalities living in the United States the Russian Jews are the least affected by tuberculosis, or any other fatal disease for that matter, except diabetes.

On consulting the Report on Vital Statistics of New York and Brooklyn of the eleventh census of the United States, we find that the death-rates from tuberculosis in New York during a period of six years, ending May 31, 1890, were for each 100,000 of population for each of the following nationalities: Colored, 744.21; mothers born in Ireland, 645.75; Bohemia, 499.13; Scotland, 384.12; Scandinavia, 357.00; Germany, 328.80; France, 324.98; England, and Wales, 205.14; Hungary, 155.05; Russia and Poland, 93.21.

On looking at these statistics, based on a Russian population in New York in 1890 of over 80,000, it does not look as if the Russians were "dangerous elements in our midst as breeders and spreaders of tuberculosis," the conclusion to which Miss Dutcher arrived on visiting 190 consumptives, 20 of which were Russians.

One more point: Under the name Russian I understand that Miss Dutcher means Russian Jews. It is a well known fact conceded by almost every authority on the subject that the proportion of Jews attacked by tuberculosis is very small in comparison with other nationalities. Dr. John S. Billings, who, by virtue of his having been an expert special agent for the census office of the eleventh census in the United

States, has made a special study of vital statistics in the United States, states plainly that the "members of the Jewish race possess a distinctly higher degree of immunity against the bacillus of tuberculosis and the micrococcus of pneumonia as compared with other races." (See Allbutt's System of Medicine, Vol. 1, p. 20.) And in almost every textbook on medicine and in every paper on tuberculosis where the question of the influence of race and nationality on the mortality from tuberculosis is discussed, it is almost invariably mentioned that the Jews are the least affected by this disease. A statement to the contrary, with special emphasis that the Russian Jews are breeders and spreaders of tuberculosis, could only be made by one whose conclusions are drawn from a study of the enormous number of 190 cases, 20 of which are Russian Jews.

Miss Dutcher makes a statement that house to-house visitation to teach tuberculous patients to destroy the sputum, to throw open the windows to admit the sunshine and fresh air, is productive of good results and adds:

"I feel that most of these individuals, unless they be Russians, are teachable."

This again is far from being a fact: Physicians who practise among this people will testify that the poorer working classes of the Russian Jews are as teachable as any other nationality of the same social status.

The fact is that they are not bad pupils, but that the individuals who undertake to do the teaching are not well prepared for the task, because they are not acquainted with the habit, social conditions, and language of the Russian Jews.

Any intelligent physician or trained nurse of Russian Jewish descent could do the work easily and satisfactorily.

PAIN IN THE BACK AND HEADACHE AS SYMPTOMS OF INTESTINAL DISEASE.

BY ALEXANDER R. BECKER, M.D.,

of Seattle, Washington.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE just read your capital editorial on Pain in the Back as a Symptom of Intestinal Disease (November 17th, p. 919), and beg to offer a few additional remarks, based upon my personal experiences and professional observations during the last forty years.

During McClellan's Peninsular Campaign of 1862, great numbers of our men were prostrated with the enteric fever, then and since called "Chickahominy fever," and their invariable and bitter complaint was: "Oh! doctor—my back, my back!" We were not strong on pathology in those days, and I do not know that any autopsies were made with a view to explaining that symptom, but I am perfectly sure that the enteritis extended to a severe colitis at the time, and has persisted in a chronic—sometimes only recurrent—form in very many cases, and I am suffering from it still, although only one of the original five strictures now remains, and I have had a number of patients among the veterans of that campaign who have suffered more or less as I have, and still complaint is made of the weary, wearing backache, which grows so much more severe with every exacerbation, or even with the delayed movement so frequent with a sluggish peristalsis.

I have also had quite a number of patients suffering from this latter condition—usually, but not always, middle-aged and stout—who have complained wearily or savagely of

backache, and in whom the location of the delayed fecal matter could be told by the region of the headache, the latter coming on in the right temple and side of the head as the offending matter was slowly passing up the ascending colon, passing to the forehead, and still more to the back of the head and neck as it traversed the transverse colon, and then to the left side of the head as it passed on downward—to be sometimes almost instantly relieved on defecation, but, at other times only intensified thereby, until, after an interval, a small, dark, partly watery and putrid discharge brought peace and comfort.

Backache, headache, colds—how vast a proportion of adult ills and pains are covered by those terms, and yet how little of really scientific or painstaking (no pun intended) thought is given them either by the investigator or writer, or practitioner, but all three arise largely from autointoxication—appreciating which, we can already give much relief, and more light will come.

A RARE ANOMALY; ATRESIA ORIS.

BY CHARLES D. LOCKWOOD, M.D.,

of Los Angeles, Cal.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I WISH to make a preliminary report of an extremely rare anomaly, which recently occurred in my obstetrical practice:

History of case: November 3, I was called to see Mrs. H. at 6.30 A. M. She thought herself in labor, and said she had a free discharge of water during the night from the vagina.

Menstrual history: Has had 4 children, one born prematurely. Labors were normal. Last menstrual period began March 15.

Examination: Fundus uteri midway between umbilicus and ensiform. Fetus freely movable; head not engaged; active fetal movements; heart-sounds and uterine bruit distinct.

Per vaginam: Cervix high up; external os patulous, internal os closed; rectum full of hard feces. There were no periodic uterine contractions. I concluded that the bag of waters had ruptured prematurely, but the woman was not in labor. This proved to be the fact.

November 12, 8 A. M.: Called again to see the woman. She had been in severe pain during the night. Since 3 A. M. pains had been cramp-like and abdominal, accompanied by free discharge of blood and water from the vagina. Abdominal palpation showed regular and painful uterine contractions. Fetal heart-tones distinct, 150 per minute.

Vaginal examination: Cervix well dilated, fetal head at vaginal outlet. Head presented, occiput anterior, closely enveloped in amniotic sac. Amnion stripped from fetal head after delivery, when child immediately became intensely cyanotic. Unable to find an explanation for the cyanosis, delivery of the body was hastened by traction. After a few heart-beats child died and cord was cut. It proved to be a monster, i. e., cyclopia or synophthalmia.

The only facial organ approximating perfect formation is a single eye situated in the median line at about the normal location for the root of the nose. The supraorbital ridge and upper lid are imperfectly developed. The lower lid is represented by a fold of skin lined with mucous membrane. There is a total absence of the nose and ears. At the lower angle of the face is a tag of skin resembling the upper lip, but there is complete *atresia oris*.

The branchial arches, which go to form the lower maxilla and upper respiratory organs, are represented by two or three pockets in the skin of the neck to the right of the median line.

The child otherwise is well nourished and perfectly developed. Weight, 6 pounds.

Careful inquiry failed to elicit any important hereditary influences bearing upon the etiology of the case.

The father is mentally weak as the result of sunstroke several years ago.

The mother rode a bicycle continuously the first three months of pregnancy, and in the early weeks of gestation fell from her wheel with considerable violence.

The amniotic sac formed a tight cap over the fetal head, and this may have had some bearing upon the maldevelopment as claimed by Geoffrey St. Hilaire, who has made a careful study of fetal monstrosities.

The specimen is in the museum of the Los Angeles Medical School. After suitable preparation, careful drawings will be made and the development of the brain and respiratory tract studied in sections.

I am unable to find any similar case figured. Ziegler pronounces the condition of atresia oris extremely rare.

APPARATUS FOR ADMINISTRATION OF CHLOROFORM.

By WILLIAM B. HIDDEN, M.D.,
of Boston, Mass.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

It was certainly a commendable idea to devote an issue of your always interesting JOURNAL to anesthesia. No one can read that number without concluding that the disadvantages attending present methods are numerous, and, however the writers may be groping after something better, none seem satisfied with results obtained. Anesthesia has never received the professional attention that it deserved. Custom has barred the road to progress by taking students, without any previous thought or training, to administer the anesthetic, and their success has been solely judged by the rapidity with which they prepared the patient for the operator. Hence the anesthetizer and surgeon have bestowed so little thought upon the subject, that the idea of the expansive effect of the patients' breath coming directly upon the anesthetic, has never entered their minds. Yet it is easily proved that all the discomfort, suffering and deaths incident thereto are clearly traceable, by natural law, to this one factor.

It is a provable fact that the expansive, evaporative pressure of ether and chloroform at a normal temperature just equals the atmospheric pressure, and every degree of heat added, correspondingly increases it, so that the breath of the patient produces an evaporative pressure of more than two atmospheres, and generates a coldness that will encase a glass container in ice in five minutes. It is this coldness taken into the lungs that has caused pneumonia to follow the use of ether. It is this rapid expansion from the contact of the breath that has asphyxiated the patient, given the anesthetic in unequal quantities, and but for the frequent removal of the cone to replenish the anesthetic, would have been very often attended with fatal results. These are facts, not theories.

It is a self-evident truth that true inhalation demands and should receive a normal amount of fresh air with each inspiration; this, by the usual methods of giving anesthetics, is made impossible by the laws of physics. As we cannot change the laws of Nature, we must change our methods to harmonize with them. So an instrument, simple in construction, has been devised, that automatically gives a nor-

mal amount of fresh air, impregnated with the anesthetic by a revolving current over it, insuring an equal quantity of the chloroform with each inspiration, and by the automatic action of valves, preventing the breath of the patient from contact with the anesthetic, and making every breath a fresh one, laden with the vaporized anesthetic. Experience with this instrument shows that what we called the sedative effects of chloroform are due to the want of oxygen and not to its supposed action upon the heart or nerve-centers; that the difference between vinous intoxication and that of anesthetics given by this method, is simply a matter of degree and no more dangerous. The person who readily yields to vinous intoxication, as readily yields to anesthetics and the reverse, though rarely can individual susceptibility be predetermined, nor can any instrument make the time uniform.

Assuming the correctness of the principle involved in this fresh-air method, which no one has ever disputed, the next important query must be, what anesthetic will bear the natural dilution of air and still secure complete anesthesia as uniformly and quickly as consistent with absolute safety?

Chloroform will do this, ether will not.

It has been truly said that statistics of the deaths from the use of chloroform and ether are not reliable. No better illustration of the fact need be given than that the deaths from pneumonia following the use of ether are never credited to ether, as they certainly should be; if they were the writer has good reason for asserting they would exceed the deaths from chloroform.

Nature's best gifts to man have been sources of danger until he learned how to use them in accord with her laws, and it is only in conformity with her as coworker that we reach our highest attainments; so in the use of chloroform, experience founded upon an utter disregard of the law of expansion by heat, is not a reliable or even tenable basis of judgment as to results, when Nature becomes a harmonious coworker with us, and its benign effects are engrafted upon natural sleep.

Three Microorganisms Other than Klebs-Löffler which Produce Membranous Angina. — Bassell (*Buffalo Medical Journal*, December, 1900) says the Bureau of Bacteriology in the city of Buffalo has observed that *Streptococcus pyogenes*, and the micrococcus of sputum septicemia, which belong to the bacteria, and *Oidium albicans*, which belongs to the group of fungi, are each capable of producing a pseudomembranous inflammation which macroscopically cannot be differentiated from that produced by the Klebs-Löffler bacillus. So far as observed in that city the *Oidium albicans* has never caused a fatal angina; but at least one death has been caused by each of the other germs named, in both of which cases the antitoxin of diphtheria was used without appreciable effect. Several deaths from the *Streptococcus pyogenes* have been reported in New York City, in which nothing but a bacteriologic examination could distinguish the infection from a true diphtheria. The author draws the following conclusions: 1. *Streptococcus pyogenes* and the micrococcus of sputum septicemia can produce membranous anginas, accompanied by physical disturbances sufficient to result in death. 2. *Oidium albicans* produces pseudomembranous exudates easily mistaken for the Klebs-Löffler inflammation. 3. The only positive means of determining a Klebs-Löffler infection is by microscopic methods. 4. From the sanitary standpoint, as regards quarantine, anginas due to *Streptococcus pyogenes*, micrococcus of sputum septicemia and *Oidium albicans* require little consideration. [A.B.C.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. George Fales Baker of Philadelphia was married, on December 31, to Miss Walker of Pittsburg.

Dr. A. W. Butt, a well-known physician of Paoli, Pa., died on December 31st after two weeks' illness.

Lunacy Laws.—A conference of delegates representing the different county medical societies of New Jersey was recently held in New Brunswick for the purpose of recommending amendments to the present lunacy laws of the State.

Diphtheria Epidemic Feared.—The School Board of Berwyn, Pa., has made application to the courts for a sanitary inspection, owing to the recent deaths from diphtheria in that township. The disease is said to have made its appearance at Ardmore and Malvern. An epidemic of diphtheria is feared at Berwyn. In the home of William Baylis, Jr., every member of the family, except the father, was taken ill. Florence, aged 7 years, died. The death of another child at Berwyn caused President James S. Lockwood, of the School Board, to call the members together to discuss enforcement of quarantine regulations. It was decided to ask the State Board of Health for instructions, and the result was the advice to petition for a sanitary agent. The State Board declined actively to interfere with the authorities of the township.

Vital Statistics of Philadelphia for the week ended December 29, 1900:

Total mortality	467	
	CASES.	DEATHS.
Inflammation of appendix 2, bladder 1, brain 9, bronchi 8, kidneys 16, heart 1, lungs 56, pericardium 1, peritoneum 5, pleura 2, stomach and bowels 13, spine 1, veins 1		116
Lungs—hemorrhage of 2, tuberculosis of 65		67
Heart—disease of 43, fatty degeneration of 3, neuralgia of 1		47
Debility 1, marasmus 11, inanition 15		27
Apoplexy 27, paralysis 11		38
Carcinoma of breast 2, bladder 1, face 1, liver 2, rectum 2, stomach 4, uterus 3		15
Diphtheria	100	14
Convulsions		13
Casualties		12
Cirrhosis of liver		4
Croup, membranous		7
Typhoid fever	88	9
Septicemia		1
Old age		17
Suicide—shooting		1
Scarlet fever	34	1
Cerebrospinal fever	1	1
Abscess of head 1, psoas abscess 1, alcoholism 3, asthma 2, Bright's disease 7, burns and scalds 4, cyanosis 3, diabetes 1, diarrhea 2, disease of liver 1, dropsy of brain 2, dropsy of heart 2, dysentery 2, epilepsy 2, erysipelas 1, hemorrhage of brain 1, hemorrhage of stomach 1, gallstones 1, hernia 1, homicide 1, indigestion 1, measles 1, obstruction of bowels 1, poisoning by carbolic acid 1, rheumatism 3, sarcoma of lungs 1, shock—surgical 1, softening of brain 4, strangulation 1, tumor of brain 2, ulceration of stomach 2, uremia 14, knife 1, influenza 1, consumption of bowels 1		77

New Buildings for Philadelphia Hospital.—City Councils have appropriated \$80,000 for the erection of new buildings for the Philadelphia Hospital, one of which will be a children's hospital, and the plans for the different structures are now being drafted, so that proposals can be advertised for and work on the various operations commenced as soon as possible. Very little money has been expended by the city in the way of improving or adding to this institution during the past 25 years, and the facilities for accommodating the unfortunate men, women, and children inmates have been very meager. Adults and children have been forced, owing to insufficient accommodations, to occupy the same wards. It is proposed to expend the bulk of the funds that have been appropriated in the erection of a mod-

ern scientific hospital for the cure of children's diseases, thus removing the little ones from the evil communications they are now and have been for some time past subjected to.

NEW YORK.

Dr. Martin J. Downey, of Buffalo, has been appointed assistant surgeon of the Erie railway.

Dr. Julius Ullman, of Buffalo, has been appointed local correspondent of the *Journal of the American Medical Association*.

Smallpox.—Four new cases of smallpox were reported to the Board of Health of New York City, on December 31. They are all residents of Brooklyn.

Dr. Chauncey Pelton Smith, of Buffalo, was elected vice-president of the Western New York Alumni Association of the University of Pennsylvania, during its foundation meeting, held at Buffalo, December 17, 1900.

The Brooklyn Society for Neurology.—At the annual meeting of the Brooklyn Society for Neurology, held December 27, 1900, Dr. W. H. Haynes was elected president, and Dr. B. Onif, secretary, for the ensuing year.

Buffalo General Hospital.—The staff, their assistants, and the clinical instructors have organized a clinical society of the Buffalo General Hospital, for the purpose of a closer *esprit de corps*. Dr. Irving M. Snow was elected chairman; Dr. E. L. Ruffner, secretary pro tem.

Study of the Bubonic Plague.—The Board of Health of the City of New York has decided to build a laboratory to be devoted to the study of the bubonic plague. The contract has been let for a building to cost about \$20,000, to be located on the grounds of the Willard Parker Hospital.

The German Hospital of Buffalo (N. Y.) will be opened to receive patients about January 10. It is a three-story building with basement, of substantial, fire-proof construction, equipped with the most modern facilities. It was formally opened with a bazaar which lasted two weeks, with great success.

New York University.—The death of Dr. Henry D. Noyes, professor of ophthalmology in the Medical School of the New York University, has left a vacancy which has been filled by the appointment of Dr. John E. Weekes, University of Michigan, '81. Dr. Weekes has been a lecturer in the medical school for the last two years, in the same department of which he has been made clinical professor.

Dr. R. V. K. Montfort, for 40 years superintendent of public schools of Newburgh, N. Y., died on December 29, aged 76 years. In September, 1862, he entered the Federal Army as assistant-surgeon in the New York Volunteer Infantry and was on every battlefield of the Army of the Potomac from Chancellorsville to the end of the war. He was promoted surgeon in March, 1865, and was mustered out in June of that year.

A New Accident Hospital for Buffalo, N. Y.—Plans have been filed and ground broken for a four-story building to be known as the Emergency Hospital. It is to be 60 by 142 feet, of steel construction, and to cost in the neighborhood of \$60,000. It will contain a dispensary, a diet kitchen, an operating amphitheater, and a roof to be used as a solanarium. When completed it will be one of the most perfectly equipped emergency hospitals in this country.

A bitter controversy is waging between Commissioner John W. Keller, of the New York Board of Charities, and a number of physicians of that city. Mr. Keller has accused the physicians on the medical board of improper administration, and one of them of taking big fees, and the physicians, in turn, say that Mr. Keller has managed affairs at Bellevue Hospital on a political basis. The trouble for the medical board began when, in his investigation of the charge that a patient had been murdered in the insane pavilion, Commissioner Keller discovered what he thought to be a need of reform in the general administration of the hospital. A letter to the medical board last week was so plain as to leave the board no alternative but a defense.

The Case of Dr. Kindred.—Justice Leventritt, in the Supreme Court of New York, granted an order to show cause, under which George C. Spann, the lawyer who claims \$25,000 damages from Dr. J. J. Kindred for alleged negligent treatment in a sanitarium, will have to show why the order for an inquest by a Sheriff's jury to assess damages should not be set aside. Dr. Kindred alleges that he was never served with the summons and complaint, and knows nothing about the case.

State Commission in Lunacy.—Governor Roosevelt has removed from office Dr. Peter M. Wise, of New York, president of the State Commission in Lunacy, after giving him an opportunity to make an explanation of certain statements made by him to the Governor on December 10 and 11, in relation to the alleged sale through him of stock in a copper mining company of New Mexico, in which Dr. Wise was pecuniarily interested, to employees of State hospitals for the insane under the control of the State Commissioner in Lunacy; and, secondly, in regard to his part in the construction of an artificial ice plant on the grounds of the Long Island State Hospital at Flatbush. This explanation the Governor considers unsatisfactory. Dr. Wise's term would have expired on December 31. The Governor states that he will not fill the vacancy, leaving that duty to Mr. Odell when he assumes office in January.

CHICAGO AND WESTERN STATES.

Professional Devotion.—Dr. B. C. Brett, of Green Bay, Wis., who is attending a case of smallpox in that city, has been shunned by his townsmen as though he were plague-stricken. Dr. Brett has sacrificed all of his private practice to care for his single patient.

St. Luke's Hospital of St. Louis to be Rebuilt.—The directors of St. Luke's Hospital of St. Louis have raised within the past few months more than \$100,000 by voluntary subscription, for the purpose of removing the hospital from its present location and erecting a modern building.

State Sanitarium for Consumptives.—The State Board of Health of Illinois, in its forthcoming biennial report, will recommend the building of a State sanitarium for consumptives. It will also join with the State Board of Charities in favoring a provision for the special care of epileptics.

Plague in San Francisco.—Surgeon Kinyoun reports to the Marine-Hospital Service 6 more fatal cases of plague. Dr. Kinyoun believes that the infected area is increasing in size, there being now only three blocks in the Chinese quarter proper, in which there has been no case of plague since March last.

Physician Killed.—Dr. Hawkins, formerly of Knox, Mo., is dead at Ralston, O. T., the result of a cowboy of Moody's ranch knocking him down and dancing on his stomach. The doctor was over 60 years of age, and recently saved the life of his assistant, over the settlement for which services the fatal dispute arose.

Smallpox in Lumber Camps.—From the lumber camps of Michigan come reports that smallpox is epidemic there. Similar reports come from Poplar Bluff, Mo., and at Kansas City extraordinary sessions of the board of health were held to cope with the disease. A number of new cases have developed at Schenectady, N. Y.

San Francisco's Quarantine Station.—Vexatious and expensive detentions at the San Francisco quarantine station of coaling vessels from Nanaimo will hereafter be avoided by the action lately of Surgeon-General Wyman, who has arranged for giving vessels a clean bill of health at the port of sailing. The California Congressional delegation brought the matter to the attention of the Surgeon-General with the above result.

Physicians' License Law.—A case to test the Wisconsin physicians' license law of 1897 has been begun by Dr. W. M. Caswell, of Hillsboro, in that State, who has obtained a writ of mandamus to compel the State Board of medical

examiners to issue him a license as a doctor. The Board, he alleges, refused him a license last August. Dr. Caswell alleges that he has practised medicine in Wisconsin for 12 years. The case will be heard January 14, before Judge Siebecker, at Madison.

Diploma Mill Exposed.—James and Thomas Armstrong, principal officers of the Metropolitan or Independent Medical College of Chicago, were convicted recently in the United States District Court on three charges of having used the mails to defraud, in connection with one of the most notorious "diploma mills" in the country. The jury decided they were guilty under a statute which permits an extreme penalty of 18 months in jail and a fine of \$1,500 each. Sentence was deferred.

Contagious Disease Hospital.—A despatch from Lansing, Mich., under date of December 29, says: Attorney-General Oren has in an opinion declared that townships must erect contagious disease hospitals. Attorney Oren says that it is the intention of the Legislature that each township should establish its own hospital for communicable diseases. Secretary Baker, of the State Board of Health, will soon advise the township officers of this provision in the law, and recommend its immediate enforcement.

Consumptives' Home.—The next Legislature in Iowa will most probably be asked to establish an institution in that State for the isolation and treatment of those afflicted with tuberculosis. The Iowa State Board of Health has just issued 10,000 circulars to be distributed all over the State in an endeavor to arouse public sentiment to the necessity of this enterprise. It is stated that 9 persons die daily in Iowa from consumption. Dr. Coniff, a member of the State board, says that the board is determined to educate the people up to the danger of permitting consumptives to scatter the deadly germ broadcast.

Kansas Enacts New Medical Laws.—The Kansas State Board of Health has prepared a number of bills for introduction during the winter session of the legislature. One bill provides for the establishment of a State Board of Medical Registration and Examination, consisting of seven members. Their duties will be to issue certificates or licenses to persons who desire to practise medicine. They shall be required to pass an examination touching upon their qualifications. The law, however, will not apply to persons who have diplomas from reputable medical colleges or who have practised medicine in the State for 20 years or more. To these, certificates will be issued without examination. The law does not recognize persons who practise christian science, faith cures, spiritualism, etc., but licenses osteopaths who have taken a 4 years' course of instruction, and who do not use drugs or perform operations in their practice. Provision is made for the law to take effect in January, 1902, and any person who has not complied with its provisions by that time and attempts to practise medicine without a license will be liable to a fine of from \$50 to \$200.

A Good Year in Drugs.—An increase in the drug business for the year just closed of 10% was recorded. The trade had its sensational features, and in some respects was materially different from previous years. The war in China produced material advances in all Chinese drugs, but part of them were lost. In quinin there was an advance from 32 to 39 cents, but large importations of bark produced a reaction to the low point, and the close was heavy. Castor oil jumped up 12 cents and camphor 16 cents. The latter was due to a large consumption and a reduction in supplies. The increased demand for bismuth for army use caused an advance of nearly 50 cents. The most sensational change was in cocaine, due to various influences. Early in the year it sold from \$6.20 down to \$3.50, but advanced to \$6.75. The enlarged consumption of carbolic acid in the African war reduced European supplies, and prices advanced 50%. The year was not without material declines, among the most noticeable being a drop of 50 cents in salol. The drug sundries had a large sale, but they are handled more extensively now by dry goods houses and department stores than by wholesalers of drugs. The aggregate business of the year was \$10,000,000.

SOUTHERN STATES.

Attorney Apologizes.—A full written retraction, with ample apologies, was made by Attorney A. J. Speckert, who recently filed a \$45,000 damage suit for Ida Mellinger against Dr. William Cheatham, a prominent specialist of Louisville, affirming that Dr. Cheatham had imposed upon the girl while treating her professionally.

Dr. Hartigan Sues University.—Dr. Hartigan, head of the medical department of the West Virginia University, has entered at Morgantown, West Virginia, suit for \$25,000 damages against President J. H. Raymond, of the university. At the meeting of the Board of Regents Dr. Hartigan was deposed from his position on the recommendation of President Raymond.

Influenza Epidemic.—An epidemic of la grippe has possession of Fort Worth, Texas, and the cases are numbered by the thousands. The symptoms this year are high fever, acute pain, particularly affecting the upper and back part of the head. The weather had been exceedingly mild and the recoveries, as a rule, are rapid. A few cases of meningitis have followed the attack of la grippe, one fatal.

The Virginia State Veterinary Association held its annual meeting in Richmond, Va., December 28. Dr. E. R. Niles, of Blacksburg, was elected president, Dr. H. S. Drake, of Leesburg, first vice-president, and Dr. H. Bannister, of Roanoke, secretary and treasurer. While the large majority of the members are of course veterinarians, still physicians are eligible to membership and some do contribute papers on subjects of common interest to both professions. The next meeting will be held in Norfolk, Va.

MISCELLANY.

Obituary.—DR. GEORGE G. TARBELL, of Boston, on December 29.—DR. ERASTUS E. MARCY, at New York City, on December 29.—DR. LOUIS SCHNEIDER, aged 56, of Williamsport, Pa., on December 29.

New X-ray Apparatus.—Cowe describes an apparatus by means of which the interior of the thorax can be photographed during respiration. Pictures are said to have been obtained, illustrating the intrathoracic contents at various stages of respiration.

Pneumonia in Alaska.—A Dawson, Alaska, dispatch, of December 18, states that there had been 5 deaths in as many days from pneumonia. The disease was spreading rapidly. Typhoid fever also had been epidemic, but subsided when cold weather set in.

Unusual Hyperpyrexia.—Dr. F. B. Jewett, of Howard, R. I., in *Providence Medical Journal*, reports a case of chronic mania, in which the temperature would go below 96° for several times a number of days in succession, and several times reached 94.6° to 94.8°.

Resignation of Dr. McGee.—The following correspondence relative to the resignation of Dr. Anita Newcomb McGee is of interest:

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL.—The Army organization bill contains a section putting the Army Nurse Corps into the regular military establishment, which section was written by me at the request of the Department. As it provides for the creation of the office of superintendent of the Army Nurse Corps, the almost certainty of its passage has seemed to offer a good opportunity for my leaving. Under present conditions there is no such position as superintendent of the nurse corps and therefore no vacancy to fill until the bill goes through. In order, however, to be able to leave without waiting for that, a temporary arrangement has been made by which one of the chief nurses (Mrs. D. H. Kinney) is to carry on the work, and if she chooses to accept it she will of course be offered the appointment of superintendent.

Very sincerely,

ANITA NEWCOMB MCGEE.

COPY.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
WASHINGTON, November 20, 1900.

To the Surgeon-General U. S. Army, Washington, D. C.

SIR:—The experimental and organizing stages of the Army Nurse Corps being now passed, I have the honor to tender my resignation as in charge of that body, and to ask that my work be carried on by another.

I also tender my resignation as Acting Assistant Surgeon, U. S. Army.

I cannot take leave of your office, with which I have been connected for over 24 years, without expressing in some small degree my pleasure in having been so closely associated with your administration, and having been able to render some little assistance in your very arduous and responsible duties. I wish also to thank you, and through you the officers and clerks in this office, for many courtesies received, the memory of which will remain always with me.

Very respectfully,
(Signed) ANITA NEWCOMB MCGEE,
Acting Assistant Surgeon, U. S. Army,
Exchange Army Nurse Corps.

COPY.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,

WASHINGTON, November 21, 1900.

Dr. Anita Newcomb McGee, Acting Assistant Surgeon, U. S. Army, in charge Army Nurse Corps, Surgeon-General's Office, Washington, D. C.

MADAM:—I have the honor to acknowledge the receipt of your letter dated November 20, 1900, in which you tender your resignation as an Acting Assistant Surgeon, U. S. Army, in charge of the Army Nurse Corps.

In accepting your resignation I desire to express to you my high appreciation of the valuable services you have rendered during the past 24 years in selecting trained female nurses for duty at our field and general hospitals wherever their assistance has been necessary, and in organizing the "Army Nurse Corps" upon a satisfactory basis. You have shown excellent judgment and executive ability, and have labored zealously both in the interests of the nurses and of the Government.

Your contract will be annulled December 31, 1900.

Very respectfully,
(Signed) GEO. M. STERNBERG,
Surgeon-General, U. S. Army

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended December 28, 1900:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
FLORIDA:	Jacksonville . . . Dec. 2	1	
KANSAS:	Wichita Dec. 15-22	10	
KENTUCKY:	Lexington Dec. 22	1	
MARYLAND:	Baltimore Dec. 22	1	
MINNESOTA:	Minneapolis Dec. 15-22	12	
"	Winona Dec. 15-22	120	
N. HAMPSHIRE:	Manchester Dec. 15-22	14	
NEW JERSEY:	Jersey City Dec. 16-22	7	
NEW YORK:	New York Dec. 15-22	21	
OHIO:	Ashtabula Dec. 15-22	15	
"	Cleveland Dec. 15-22	25	
"	Portsmouth Dec. 22	1	
TENNESSEE:	Memphis Dec. 22	1	
TEXAS:	Houston Dec. 15-22	22	1
UTAH:	Salt Lake City Dec. 15-22	31	
WASHINGTON:	Tacoma Dec. 15	1	
WISCONSIN:	Milwaukee Dec. 22	1	

SMALLPOX—FOREIGN.

ARGENTINA:	Buenos Ayres . . . Sept. 30	7	6
BOHEMIA:	Prague Nov. 24-Dec. 1	43	
BRAZIL:	Pernambuco . . . Oct. 1-15		26
"	Rio de Janeiro . . . Oct. 1-31		24
EGYPT:	Alexandria Nov. 27	3	1
ENGLAND:	London Dec. 1-8	1	
FRANCE:	Paris Dec. 1-8	14	
INDIA:	Calcutta Nov. 17	6	
MEXICO:	Mexico Dec. 16	1	2
"	Progreso Dec. 9-15	3	
RUSSIA:	St. Petersburg . . . Nov. 24-Dec. 1	4	
"	Warsaw Nov. 24-Dec. 1		46
SCOTLAND:	Glasgow Dec. 7-14	58	1

YELLOW FEVER.

BRAZIL:	Rio de Janeiro . . . Oct. 1-31	31	6
MEXICO:	Vera Cruz Dec. 14		2

CHOLERA.

INDIA:	Bombay Nov. 13-20		3
"	Calcutta Nov. 10-17		26
"	Madras Nov. 9-16		7
STRAITS SETTLEMENTS:	Singapore Nov. 10-13	5	5

PLAGUE.

BRAZIL:	Petropolis Dec. 10		1
"	Rio de Janeiro . . . Oct. 1-31	31	20
INDIA:	Calcutta Nov. 17		2
JAPAN:	Osaka Nov. 2-27	8	8
MADAGASCAR:	Tamatave Nov. 11	1	

Changes in the Medical Corps of the U. S. Navy, for the week ended December 29, 1900.

LEDBETTER, R. E., assistant surgeon, detached from the "Monongahela," and ordered to the "Constellation."
BUEB, C. R., assistant surgeon, orders of December 19 revoked, and to resume duties on the "Monongahela."
BRADLEY, G. P., medical director, commissioned medical director from May 31, 1900.
FITZSIMONS, P., medical director, commissioned medical director from November 19, 1900.
JONES, W. H., medical inspector, retired, died at Bethlehem, Pa., December 13, 1900.
BARBER, G. H., surgeon, commissioned surgeon from June 7, 1900.
RODMAN, S. S., assistant surgeon, appointed from December 14, 1900.
BRISTER, J. M., assistant surgeon, appointed from December 14, 1900.

Changes in the U. S. Marine-Hospital Service, for the week ended December 27, 1900:

McINTOSH, W. P., surgeon, to proceed to Columbus, Ga., for special temporary duty. December 23.
DECKER, C. E., assistant surgeon, granted leave of absence for 14 days on account of sickness. December 24.
BAHRENBURG, L. P. H., assistant surgeon, relieved from duty at the Immigration Depot, New York, N. Y., and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty. December 27.
DUFFY, FRANCIS, acting assistant surgeon, granted leave of absence for 6 days from December 29. December 24.
LINLEY, W. J., acting assistant surgeon, granted leave of absence for 30 days. December 22.

Foreign News and Notes.

GREAT BRITAIN.

Dr. Alexander Deas Davidson, of Swansea, a well-known ophthalmologist, died on December 7.

New Departments in the Royal Hospital, Belfast.—The Board of Management have just given their consent to a suggestion from the medical staff to establish a new special department for dermatology (the work to be done by one of the present staff), and to appoint 2 anesthetists, whose duty it will be to administer ether, chloroform, etc. It is felt that the time has come to specialize in the administration of anesthetics and also to teach students in such important medical duties.

Death of Dr. James Michell Winn.—Dr. James Michell Winn died at his residence in Hampstead on December 8, in his 92d year. He was, it is stated, the oldest doctor of Glasgow, and also the fourth in the list of the Members of the Royal College of Physicians; he was not the oldest in point of age, there being a senior to him by 6 months among the Fellows of the College. Dr. Winn was born in the parish of Budock, in Cornwall, on December 25, 1808. When about 5 years of age he went to reside with his parents at Lisbon, and was a resident in the Peninsula when the battle of Vittoria was fought in 1813. He commenced his medical studies at St. George's Hospital under Sir Benjamin Brodie and Dr. Chambers. He heard Mr. Abernethy deliver a lecture on one occasion, and was struck with the clear and practical style of the lecturer. On leaving St. George's Hospital he went in 1832 to the University of Glasgow to study for the M.D. degree. At that time the cholera had made its first appearance in England, and the average daily deaths at Glasgow amounted to upwards of 100. This gave him a good opportunity of studying the nature and treatment of that complaint at the Cholera Hospital. On returning to England he was appointed honorary physician to the Royal Cornwall Infirmary, a position he retained for 14 years. In 1852 he settled in London, where he made psychology his chief study, and contributed numerous articles on that subject to the *Journal of Psychological Medicine*. He had written previous to this, in 1848, a treatise on "General Paralysis of the Insane." In a work on the "Nature and Treatment of Hereditary Disease," published in 1869, he propounded a theory that all hereditary disease was interchangeable—in other words, mutually convertible. Dr. Winn was buried at Kensal Green on December 12.

CONTINENTAL EUROPE.

Gold Medal for Dr. Potain.—Dr. Potain will have reached the age limit prescribed by French law for service in the universities at the end of the year 1900. His colleagues have decided to present him with a gold medal on the occasion of his retirement from academic life, and a fund is now collecting for this purpose.

New Russian Medical School.—The first semester of the newly established medical school in Odessa opened on September 1, with a lecture on physics by Professor Schwedoff. Dr. Podwyssotsky, professor of pathology, has been appointed dean, and Dr. Batoujeff, professor of anatomy, is secretary of the new faculty of medicine of the University of Odessa.

First Woman Pharmacist in Russia.—Mme. Lesnievskaja, who has received the degree of Master of Pharmacy, has also secured the necessary authorization from the government to open a pharmacy in Moscow. She is the first woman in Russia to be accorded this privilege. In connection with her establishment there will be a chemical laboratory and a school for women pharmacists.

Compound Fractures.—Nicholas Senn (*The Chicago Medical Recorder*, October, 1900) says the adoption of the classification "open" and "closed" fractures, which has been proposed recently, would do away with much of the confusion which has arisen in regard to simple, compound, and complicated fractures. The special immediate danger in compound fracture is the exposure of the medullary tissue to infection. It is particularly susceptible, and antiseptics even in the most careful hands will not always prevent osteomyelitis. He quotes statistics recorded previous to the antiseptic era, which show a mortality of almost 50% in compound fracture cases. This he contrasts with a mortality of but little more than 5% under the present antiseptic treatment. The author says while the latter has done so much in the way of saving life, it has perhaps done more in the preventing of mutilating operations, primary and secondary amputations, and resections, and in shortening the healing process, and in improving and increasing the functional results. Under strict antiseptic precautions, timely employed, the majority of compound fractures heal in the same manner as simple fractures, in the same length of time, and with no more suffering and equally satisfactory functional results. Formerly the surgeons, who had become painfully aware of the great dangers arising from inflammation, aimed to prevent and combat it by the employment of energetic antiphlogistics, application of cold, restricted diet, venesection, sedatives, emetics, and cathartics; the modern surgeons score such marvelous results by excluding or rendering harmless the direct cause of infection, and by husbanding the strength and recuperative energies of the patient. Subcutaneous fractures suppurate only in exceptional cases, even in the event that the bone is extensively splintered, and the soft tissues are seriously injured. Lister, based on Pasteur's researches, showed that it was not the atmospheric air, as was formerly believed, but the micro-organisms suspended in it that produced the fermentation and putrefactive processes in the primary wound secretions. The modern treatment of a compound fracture enjoins a heavy responsibility on the attending surgeon. Under ordinary circumstances, and in recent cases, he is expected to protect the wound against infection, and the patient from its serious, immediate, or late consequences. After eliminating the cases requiring primary amputation, two leading indications present themselves: (1) Healing of the wound; (2) repair of the fracture. Upon the results of the first examination must depend the propriety of a primary amputation. Heretofore surgeons have placed too much reliance on the extent of comminution of the fractured bone in deciding this important question:—Is amputation necessary? Experience has shown that the condition of the soft tissues is more important in determining the advisability of adopting a conservative plan of treatment. The condition of the vessels, nerves, muscles, skin, and neighboring joints should influence the surgeon in arriving at final conclusions as to what course he should pursue.

The Latest Literature.

British Medical Journal.

December 15, 1900. [No. 2085.]

1. Polyorrormentitis, or Combined Serous Inflammations. TAYLOR.
2. Prognosis and Treatment in Pulmonary Tuberculosis. MAGUIRE.
3. The After-History of Applicants Rejected for Life Assurance. MACPHAIL.
4. A Case of Varicose Aneurysm of the Aorta Communicating with the Pulmonary Artery. CLARKE.
5. What is a Disease? MACILLWAIN.
6. The Relation Between Cause and Effect in Disease. WHITE.
7. Myokymia, or Persistent Muscular Quivering. WILLIAMSON.
8. A Brief Account of the Recent Epidemic of Cholera in Kashmir. NEVE.
9. Quinin Hemoglobinuria. WELSFORD.
10. A Fatal Case of Poisoning with Zinc Sulphate; Necropsy. MACKINTOSH.
11. Metabolic Fever. TODD-WHITE.
12. A Case of Angioma of the Spinal Cord, with Recurrent Hemorrhages. HARMAN.

1.—Taylor reports the case of a woman, aged 39 years, who was suffering from pain and swelling in the abdomen. The patient came under his care as a case of ascites, and the point to be determined was the origin of the peritoneal effusion. The choice seemed to lie between tuberculous peritonitis and cirrhosis of the liver. When, after a few days, the dulness increased in an upward direction, it became highly probable that there was a liquid effusion into the pleura as well as into the peritoneum. This frequent association of the serous cavities in a common lesion is a fact which has long attracted attention not only in the case of combined tuberculous peritonitis and pleurisy, but also in the case of some more acute diseases, such as acute rheumatism and pyemia. Italian physicians have given the names *polyserositis* and *polyorrormentitis* to this multiple inflammation of the serous cavities. The author considers the latter term to be the more desirable. We must guard ourselves, however, from regarding this combination of lesions as a separate disease and from thinking that we have reached the bottom of a given case when we have given it this imposing name. It obviously only represents a common grouping of pathologic conditions of sufficient frequency to require attention, and sufficiently constant in its pathologic or etiologic antecedents to make its study fruitful. Polyorrormentitis may be acute, subacute, or chronic, and it may be due to the action of the pneumococcus, the streptococcus, the staphylococcus, the rheumatic poison, or the tubercle bacillus. It is more frequent in males than females, and the majority of the cases occur between the ages of 16 and 30 years. It is usual for one serous cavity to be invaded before the others. In the majority of cases the peritoneum is first attacked and the inflammation subsequently invades the other membranes. This invasion may occur according to the following 3 types: (1) The peritoneum is first attacked, then the pleura; (2) the pleura is first the seat of disease, then the peritoneum; (3) pericarditis follows a pleurisy. Some of those who have written upon the subject believe that subacute and chronic polyorrormentitis are nearly always tuberculous. The prognosis of polyorrormentitis in general must depend very much on the cause. The treatment of the condition must be conducted on the lines of the treatment of the separate tuberculous lesions concerned. The tuberculous nature of the lesion in the patient reported in the paper was demonstrated by a laparotomy, from which, however, no benefit was derived. [J.M.S.]

2.—Will be treated editorially.

3.—From 1885 to 1895 the applications for insurance in a large company numbered 5,115 and the risks declined or postponed were 409, or 8.11%. The causes that determined the rejected applications are: Family history of phthisis, 84; rheumatism in applicant, 31; lung diseases, 57; heart diseases, 50; genitourinary diseases, 81; diseases of the nervous system, 25; other causes, 90. Of these 409 rejected cases

Macphail has ascertained definitely that 204 are living and 31 are dead. Basing a calculation on the normal death-rate of persons of suitable age we should expect to have 25 deaths out of the 235 subjects; while, as a matter of fact, the deaths number 31. There is no factor in life insurance of more importance than a family history marked by tuberculosis. Of late years, however, it has been proved that a bad family history may be largely neutralized by a good personal record, the chief indication being the weight of the occupant. Dr. E. J. Marsh has made this very clear and is led to the following striking conclusions: 1. That the history of consumption in any member of the immediate family increases the probability of its appearance in an applicant. 2. That consumption in a brother or sister is at least of equal importance as when it has occurred in a parent. 3. That persons who are under the standard or average of weight are much more liable to consumption than those above this standard. That the peculiarity of constitution that is indicated by the inability to take and assimilate a proper amount of nutriment indicates a susceptibility to phthisis, or at least is a reasonable suspicion of such predisposition. 4. That persons who exhibit a robust or well-developed body have little susceptibility to consumption. 5. That the personal condition of weight and robustness has far more value than the family history in diminishing the liability to consumption. 6. That the evidence presented by a well-developed body may outweigh the suspicion attached to an unfavorable family record. 7. That these influences of family history and personal weight are of the same grade for every age, and their importance is not lessened by the fact that the individual has reached middle life. In relation to abnormalities of pulse, the important thing for life insurance is to establish that the unusual condition is peculiar to the individual, that it has persisted for many years, that it is not associated with any objective symptoms or with any impairment of health. Fifty cases out of the 409, or 12%, were rejected for causes connected with the heart, and the author has been able to discover only 5 deaths from heart disease. The matter of albuminuria must be viewed from the standpoint of the medical examiner as well as that of the director. To the director the term albuminous urine is one of sinister significance. On the other hand, injustice is wrought to many an individual from this cause and this is the side that appeals to the examiner. It is not a question whether or not a substance supposed to be albumin is present; it is a question whether or not the applicant is in good health. With all these conflicting elements the medical examiner must feel constrained to lay aside his favorable opinion of an individual case and classify it the black-list of albuminuria, no matter how favorably he is convinced that the after-history will be favorable. Many risks are refused on account of personal habits, especially in relation to the taking of alcohol. There is a wide difference of view by examiners on this point and that view is affected by the habits of the examiner himself. All are pretty well agreed, however, that alcohol in reasonable amounts and at proper times is not only harmless but actually productive of good. Indeed the case of a total abstainer should be searched into as diligently as the case of the habitual drinker, since abstinence may be due to a knowledge of hereditary taint, to personal intemperance in early life, or to some physical condition which does not go with robust health and long life. But there is a class of risks which all companies agree to consider bad. This is the class of liquor dealers and manufacturers that are brought into daily and intimate connection with alcohol. Many cases are rejected on account of pregnancy. This is to prevent women from insuring against that particular contingency, and rules are made accordingly. If a woman insures her life under the usual conditions the company lays no restrictions upon her childbearing, but they will not accept her within 2 years of her marriage nor until she has borne her first child, or until it is pretty clear that she will never have any. [J.M.S.]

4.—Clarke reports a case of varicose aneurysm of the aorta communicating with the pulmonary artery. The opening was about the size of a sixpence, while the thin, walled sac was only the size of a bantam's egg. The murmurs observed during life were low pitched, roaring and varying in intensity, as it were a background to a loud systolic and diastolic sound; these were loudest at the sternal end of the third intercostal space; no tracheal tugging or laryngeal paralysis was observed. [W.S.N.]

5.—Macilwaine defines **disease** as the sum total of the consequences resulting in a patient from the interference with his physiologic state by a disease cause. According to this definition diseases are divided according to their etiology into those due to intrinsic causes; those due to extrinsic causes; and those due to causes of undetermined origin. 1. Diseases due to intrinsic causes may be due (a) to wear and tear, such as atheroma; (b) to incomplete development, such as idiocy; (c) to failure of function, such as gout; and (d) to unphysiologic stress, such as writers' cramp. 2. Diseases due to extrinsic causes may be due (a) to parasites, such as tuberculosis; (b) to nonparasitic matters introduced into the economy, such as alcoholism; and (c) to deleterious physical interference, such as wounds. 3. Diseases due to undetermined causes may be due (a) to tissue overgrowth, such as carcinoma, and (b) to toxemias of unknown origin, such as cirrhosis of the kidney. [J.M.S.]

6.—White believes that if a disease is due to a specific causal agent it is not characterized by specific anatomical or functional lesions. If a disease is characterized by specific lesions we must not expect to find a specific causal agent. From this it follows that from the characters, histologic or macroscopic, of the lesions we cannot positively affirm that the disease is due to a specific causal agent. The only means by which we can affirm this is to find and isolate the causal agent itself. Variations in the characters of the lesions in diseases due to specific causal agents depend not on the nature of the agent, but on the locality to which it is applied and on its relative virulence. [J.M.S.]

7.—Williamson reports the case of a man, aged 21 years, a clerk, who was suffering from a peculiar persistent quivering of the muscles of the limbs, the trunk and the face. During the infancy of the patient, his left leg had become suddenly paralyzed and had remained useless. At the age of 16 years the paralyzed limb had been seriously injured and amputation had been necessary. The quivering of the muscles of the right leg began 2 years before the author saw the patient and spread gradually. The most striking symptom was the persistent, rapid quivering of the muscles of the right leg, the arm, the trunk, the face, and the tongue. Sometimes one small bundle of muscle fibers contracted rapidly, giving the appearance of fibrillary contraction; sometimes several bundles of muscle fibers contracted; and at other times the whole muscle contracted. The symptom was best seen in the leg, affecting the muscles of the calf and the thigh. The patient could perform all the movements of the arms and the legs and there was no localized wasting or paresis of the muscles. There was no rigidity of the limbs. The knee-jerk was a little increased; but there was no ankle clonus. The condition was diagnosed **myokymia**. [J.M.S.]

8.—The mortality in the epidemic of **cholera** in Kashmir, in 1900, was about 56%. Neve believes that prophylactic treatment with sulphuric acid is of value in averting the disease. The immense importance of early treatment with some preparation of opium cannot, in the author's opinion, be too strongly insisted upon; 70% of those treated by him in that way recovered. [J.M.S.]

9.—Welsford reports the case of a man who was suffering from a high degree of malarial cachexia. He had had frequent slight attacks of blackwater fever during the 3 years previous to the time that he was seen by the author. On admission to hospital the patient objected to taking quinin, alleging that a single dose invariably made his urine black; but he eventually consented to take 2 10-grain doses, the last of which was administered at 2 o'clock in the afternoon. At 6 o'clock the patient had a chill and his temperature rose to 105° with vomiting and pain and at 7 o'clock he passed 10 ounces of black urine. During the night he improved, the next morning his urine was clear although it still contained a little albumin. After the patient's temperature had remained normal for 7 days he was put to bed and on the third day 2 10-grain doses of quinin were given him with the same result. A more doubtful case of **quinin hemoglobinuria** occurred in a man who was admitted with a somewhat severe attack of blackwater fever which was treated without quinin with good result. Three weeks later the patient's temperature rose to 100° and 10 grains of quinin were ordered 3 times a day. Two days later his temperature rose suddenly to 105° and his urine became black and continued so for 2 days. Since in this case the symptoms were well marked, the attack may have been a relapse. [J.M.S.]

10.—Mackintosh reports the case of a woman, aged 53 years, who swallowed a large packet of **zinc sulfate**. She was suffering, when seen by the author, from severe pain in the stomach and bowels, pallor, cold extremities, irregular pulse, cold sweats and purging; but she had vomited only about a teaspoonful. The patient died in collapse about 20 hours after taking the **poison**. At the necropsy, the mucous membranes of the stomach and the large intestine were found to present patches of intense inflammation. The inflammation in the small intestine was intense and diffuse. [J.M.S.]

11.—Todd White suggests the term **metabolic fever** for a form of febrile affection that is common in children during the summer months and that is generally called a bilious attack. It is characterized by severe frontal headache, profuse perspiration, vomiting, constipation, or diarrhea, loss of appetite, and a temperature of about 101 or 102°. The author has been able to show that in every case that has come under his notice the patient has taken some unusual exercise during the days immediately preceding the attack. [J.M.S.]

12.—Harman describes a rather uncommon case where the necropsy showed that the right half of the **spinal cord** near the lumbar enlargement had been destroyed by **angiomatous growth**, and death evidently was produced by pressure from a hemorrhage. About 2 years before the patient died he began to show signs of progressive paralysis of the right leg, and at times had severe attacks of pain, while on several occasions spasms of the muscles of the leg and back; the one that caused his death was of longer duration, as well as more intense, and their cause was presumed to be due to **recurring hemorrhages**. [W.S.N.]

Medical Record.

December 29, 1900. [Vol. 58, No. 26.]

1. Some Remarks on Medicine in 1800. GEORGE K. WELCH.
2. A Case of Gonorrheal Endocarditis with Congenital Malformation of Mitral Valves. G. W. McCASKEY.
3. The Operative Treatment of Varicose Veins of the Lower Extremities. W. C. BORDEN.
4. Two Unusual Cases of Aphasia, with Special Reference to the So-called Naming Center. GRAEME M. HAMMOND.

3.—Borden does not believe in the palliative treatment of **varicose veins in the lower extremity** as it only too often causes extension of the diseased condition until some more serious complication follows. This may be obviated by **early operation**, when the disease is localized, and then at that time it can be permanently cured. He favors most the complete excision of the diseased vein, but when for some reason this is contraindicated, he finds that multiple ligation or excision of part of the vein yields the best results under the circumstances, and in a few cases where the above operation cannot be performed, high ligation of the saphenous may be tried, but it rarely proves as satisfactory as the more radical operation. [W.S.N.]

4.—Hammond records a case in which there was an injury of the cortex at the junction of the middle and posterior thirds of the superior temporal gyrus, and a second case in which there was an area of softening in the middle third of the second temporal gyrus. In both cases there was entire word-deafness, and in the second word-blindness. He believes that a lesion in any part of the speech-area may so disorder the mechanism of the associated speech-centers that any or all forms of aphasia may result and that there is as yet no real evidence that a single naming center exists and some evidence against such a view, and it is at least not very improbable that there is no such center. [D.L.E.]

Medical News.

December 29, 1900. [Vol. lxxvii, No. 26.]

1. The Nitrite Treatment in Syphilis. WILLIAM BROWNING.
2. The Failure of the Consensus Judgment with Reference to Tuberculosis. CHARLES DENISON.
3. The Value of the Schumburg Method of Purification of Water for Military Purposes. JOHN H. HUDDLESTON.

4. A Theory of the Physiology of Spinal Anesthesia. H. H. STONER.

1.—The author's reason for employing the nitrites in syphilis is the widespread tendency of syphilis to cause **arterial interference**. The results of this interference are a narrowing of the lumen. He employs the medicament as a **vasodilator**, thereby increasing the means of transportation for the remedy. The author calls attention to the title and emphasizes that it is intentionally made, Use *in* syphilis and not *for* syphilis. He considers hypodermic administration as quite unsuited, as it makes the action of the nitrite more temporary. A continuous action is necessary. One or two grains of the sodium salt are usually sufficient, at least for earlier doses. All of these agents are explosive if improperly handled. [M.R.D.]

2.—Denison opposes the **consensus judgment** relative to the home management and local hospital treatment of tuberculosis, and for the following reasons: (1) There is a decided advantage in **climatic change** over the home or the local sanitarium treatment, and (2) the **germ theory** of tuberculosis is not the sole cause of the disease, and so is not a sufficient foundation for either its educational or legislative control. [M.R.D.]

3.—A number of experiments with **bromin solution** as a disinfectant for water were made by the author. Cultures of **typhoid bacillus** were obtained from 3 sources, one from laboratory, one isolated from well-water, and one from the feces of a typhoid patient. Croton water was obtained from tap in laboratory from Hudson river at Albany, and from a pool that had been standing some weeks. It was inferred that for ordinary drinking water, the minimum amount of bromin solution, as proposed by Schumburg, was sufficient to disinfect typhoid and coli, while the ordinary air bacteria may be much more resistant. It was shown that, if sufficient bromin be employed, it is possible to even make stagnant water, under experiment, drinkable. Schumburg has devised a military pouch adapted for preparing a day's water-supply for a regiment of 1200 men. [M.R.D.]

4.—Stoner considers the term "medullary narcosis" as misleading, as it conveys the impression that the injection is made into the substance of the cord. The cell bodies are situated outside of the canal, therefore the poison does not gain access by direct infiltration. The most plausible theory is supposed to be the one, that the solution, thrown into the cavity occupied by the axones, is absorbed by the latter, and transferred by way of the vascular supply back to the cell. The motor neurons escape the paralyzing effect of the solution. Stimuli over the sensory tract are prevented from reaching their destination owing to paralysis and withdrawal of the arborizing extremity of the peripheral sensory neuron from contact with its associated one, but in the case of the peripheral motor neuron no such ending takes place. The reflexes are inhibited in the anesthetic area. A portion of the stimulus may pass up the ascending axone of the sensory neuron, and upon reaching the brain give rise to sensation, the other portion taking the reflex route, over the descending branch. It is self-evident that the solution paralyzes the arborizing processes of the collateral of the descending branch, as well as that of the ascending one, and the solution is, therefore, removed from functional relation to the peripheral motor neuron. [M.R.D.]

Boston Medical and Surgical Journal.

December 27, 1900. [Vol. cxliii, No. 26]

1. Operative Treatment of Goiter. J. COLLINS WARREN.
2. Statistics of Operative Treatment of Thyroid Tumors. LINCOLN DAVIS.
3. Neoplasms of the Thyroid Gland. CHAS. G. CUMSTON.
4. The Practical Use of Vital Statistics. FREDERICK L. HOFFMANN.

1.—Warren operates in the young, where a rapidly growing tumor has resisted medical treatment, and **whenever pressure symptoms arise**. A U-shaped incision is made, sternomastoid muscle drawn aside, and, if necessary, sternohyoid, sternothyroid, and omohyoid muscles are cut. He avoids injuring the capsule of the tumor with knife on account

of hemorrhage. The tissue at upper and outer margin of lobe clamped and divided. Secure superior thyroid artery if is possible. Avoid clamping recurrent laryngeal nerve. Tumor is now dissected away by cutting the attachments to anterior wall of trachea. He leaves a piece of gland, the size of an English walnut, to prevent operative myxedema. Silk is employed to tie vessels. Morphin is administered before or directly after operation to prevent vomiting. Dressings should be loose, but still give support. For this purpose a horse-collar dressing is used, augmented by an ordinary tin internal angular splint to the neck for fixation. The author mentions Reinbach's 80 cases of resection by this method, with a mortality of 3.75%. Author has operated on 2 cases of exophthalmic goiter with unfavorable results. [M.R.D.]

2.—Davis presents a resumé of operations for simple malignant and exophthalmic goiter. Statistics of complications and recurrences are also included. [M.R.D.]

3.—Cumston reports 42 cases of various neoplasms of the thyroid. Excepting the malignant cases, dyspnea was the principal subjective symptom. Most frequently employs the transverse incision of Kocher. A case of sarcoma of the thyroid gland is mentioned, which after operation resulted in general sarcomatosis. [M.R.D.]

Journal of the American Medical Association.

December 29, 1900. [Vol. xxiv, No. 26]

1. Treatment of Injuries to the Ureters. BYRON B. DAVIS.
2. Epispadic Extrophy of the Bladder Complete. AP MORGAN VANCE.
3. Hemorrhagic Infection in an Infant Due to the Typhoid Bacillus. GEORGE BLUMMER.
4. Morphological Variation in the Pathogenic Bacteria with Two Pronounced Examples. A. P. OHLMACHER.
5. Local Use of Guaiacol in the Treatment of Frequent, Painful Urination. JESSE HAWES.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1273.

2.—" " " " " " 1274.

3.—Blummer reports a case of hemorrhagic infection in an infant due to the typhoid bacillus. Most of the bleeding was from the vagina and could not be controlled by treatment; death resulted on the ninth day. The presence of the typhoid bacillus was demonstrated in nearly all the organs, and Widal's test was also positive. [W.S.N.]

4.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1296.

Journal of Nervous and Mental Diseases.

December, 1900. [Vol. xxvii, No. 12.]

1. A Case of So-Called Landry's Paralysis with Autopsy. SIDNEY I. SCHWAB.
2. An Atypical Case of Multiple Sclerosis. CHARLES W. BURR and D. J. MCCARTHY.
3. A Case of Malaria Presenting the Symptoms of Disseminated Sclerosis, with Necropsy. WILLIAM G. SPILLER.
4. Note Upon the Occurrence of Multiple Neuritis and Beriberi in Alabama. E. D. BONDUANT.
5. Section of the Posterior Spinal Roots for the Relief of Pain in a Case of Neuritis of the Brachial Plexus. MORTON PRINCE.

1.—Schwab reports the following case: A young married woman, 21 years of age, who had had one stillborn child, and two dying almost immediately after birth, and who for some months had been emaciating, noticed first a tingling and numbness in the fingers of the left hand. A week later the same symptom was noticed in the right hand, then there was gradual weakening of the lower extremities. This gradually increased until there was weakness of all four extremities, and loss of control over the sphincters. There was no fever, no sensory disturbances, no loss of appetite. She died as the result of severe dyspnea. Microscopically, the cord and the peripheral nerves were normal. There was some congestion of the organs, and apparently softening of the heart-muscle. Microscopically, the only important change found was a curious congestion of all the bloodvessels of the cord, associated with old and recent hemorrhages into its substance. There was no degeneration in the an-

terior or posterior roots. Schwab believes that it is possible to explain this condition either by ascribing it to mechanical congestion, or to some toxic process. [J.S.]

2.—Burr and McCarthy report the following case: The patient, a man of 46, had commenced to have difficulty in walking at the age of 39. This gradually increased. His symptoms had been inability to walk without watching the ground, exaggerated kneejerks, ankle-clonus, ataxia and paresis of the lower extremities. Towards the end of his sickness there was extreme spasm of the limbs without wasting or atrophic changes, and no involvement of the arms. Death occurred suddenly, and at the autopsy a condition of multiple sclerosis was found, involving large areas in the cord, and a considerable proportion of the cortex of the brain. The case is interesting because the typical symptoms of multiple sclerosis were never present; that is, there was no intention tremor, no nystagmus, no scanning speech, and no loss of power. The oldest area of sclerosis was limited to the posterior columns in the dorsal region. Later the lateral columns were also involved, and gave rise to the symptoms of ataxic paraplegia, and the subsequent spastic symptom development caused the diagnosis of spastic paraplegia. It is possible that the noninvolvement of the optic thalamus explains the absence of the characteristic symptoms. The changes in the cortex were exceedingly widespread, and even extended to a considerable distance into the underlying white matter. [Although several authorities are mentioned, references have been omitted. J.S.]

3.—Spiller gives a brief abstract of his paper upon a case presenting intention tremor of the left arm, ataxia of the left leg, and transient hemiparesis, affecting first one and then the other side, vertical nystagmus, scanning speech, and exaggerated tendon reflexes on the right side. There was also headache, vertigo, drowsiness, and diplopia. At the autopsy the capillaries of the central nervous system were found to be filled with malarial parasites, and there were numerous small, recent hemorrhages. [J.S.]

4.—Bondurant mentions several epidemics of multiple neuritis that have occurred in various parts of the South. He has obtained reports of various cases of multiple neuritis from other physicians, and has treated 11 himself. In all, 5 had no assignable cause. Beriberi is exceedingly common in Mobile among the sailors, particularly those working on lumber ships. [J.S.]

5.—Prince gives an abstract of his paper, of which the following is the title: "Section of the posterior spinal roots for the relief of pain in a case of neuritis of the brachial plexus, cessation of pain in the affected area; later development of Brown-Sequard's paralysis as a result of laminectomy; unusual distribution of root anesthesia, later, partial return of sensibility." This is a sufficient description of the case. [J.S.]

Deutsche medicinische Wochenschrift.

November 22, 1900. [26. Jahrg., No. 47.]

1. Enucleation of the Kidney by Ligature of the Ureter. L. LANDAU.
2. Induration of the Connective Tissue of the Myocardium. K. DEHIO.
3. Second Report Concerning Malaria and Mosquitos on the West Coast of Africa. H. ZIEMANN.
4. A Case of Fatal Parenchymatous Colon Hemorrhage. L. HUISMANS.
5. Traumatic Coma Diabeticum. W. SPITZER.

1.—Landau, while operating on a case of carcinoma of the uterus where it had invaded some of the other organs of the pelvis, found the right ureter involved. The operation was tedious and required over 1 hour; a nephrectomy in addition would have been fatal, therefore he simply excised the malignant portion and brought the two ends of the ureter together; the peripheral portion could not be seen. This was done only as a temporary procedure and he fully expected to perform a nephrectomy when the patient's condition would warrant it, but was surprised to have the patient recover without any complication, and show no sign of hydro-nephrosis. Some time after a cystoscopic examination showed that the right ureter was performing its proper function. This case goes to show that the ureter is not so troublesome

in healing as it is usually thought to be, and that operators must use their own judgment in dealing with these cases. Usually when the ureter is wounded some plastic operation is performed; if it is cut, or a portion excised near the bladder, the end is carried into it; and should the ureter be too short the end is then turned into the bowel. The disadvantage of this is that the bowel soon becomes very irritable. When neither of these operations can be performed the kidney must then be removed. [W.M.N.]

2.—Dehio some years ago made a study of the changes in the heart as a person advances in years, and the publication of his opinion gave rise to contrary ones. Since then he has studied microscopically 36 hearts and still supports his former theories. He divides these cases into 2 groups. 1. Those in which there is an atheromatous or arteriosclerotic change. 2. Those in which the cardiac degeneration is due to sclerosis of the coronary arteries or to impoverished blood, from some chronic poisoning such as lead, alcohol, rheumatism, or after fevers. In cases of hypertrophy and dilation the heart is enlarged, and this increase in size is due to the increase in interstitial substance. In contrast to this there is a diffuse thickening of the heart-muscle due to an increase in the interstitial substance; this he terms myofibrosis. When the heart of a young healthy person is examined microscopically, the muscle will be found bound together by a fine network of connective tissue which is an extension of the subpericardial and subendocardial tissue as well as the adventitia. If this is now compared with that of an older person it will be found that this network has grown thicker, and advance in years renders it more evident, until in old age is quite marked, particularly in a cross-section, where this network can be seen separating the individual muscle fibers; this is evident of a hyperplasia. Although the muscle fiber may have apparently the same thickness as in a young person, there has been some atrophy in it caused by the surrounding connective tissue. This change he terms senile myofibrosis, and is exactly like the former but not of so high a grade. These two forms of degeneration may both be observed in one heart, and where it does occur it is hard to discriminate between them. Myofibrosis is most apt to develop in the walls of the ventricles and in hearts which are hypertrophied and dilated, and to a less extent in dilation. In diseases where the stress falls on the left heart the left ventricle is the usual place where this degeneration is most marked, as in diseases of the aortic valve, while in diseases where the stress falls on the right heart the right ventricle is most affected, as in emphysema. In 10 cases of valvular disease of the heart occurring in young people (15 to 30 years) myofibrosis was in some quite well marked, and in all to some extent. In a case of aortic insufficiency and stenosis of the mitral valve, in a man of 56 years, on the left side it was well developed, and to some extent on the right. Other cases mentioned support the same idea. In 3 cases of phthisis and 2 of emphysema the right heart was more involved than the left. Although this view is not supported by most of the German writers it is by several French authors under the following groups: 1. Sclerose en foyers. 2. Sclerose diffuse rayonnante, or perificulaire. [W.M.N.]

3.—Ziemann describes the weather conditions in Kamerun, Victoria, and Togo. He found that the type of fever, when not previously influenced by quinin, was usually malignant tertian. There were some instances of what were probably continued, irregular, or remittent fever, and he believes that these forms of fever do occur in the tropics in spite of the statements of Koch. He classes the tropical parasites and the estivoautumnal together, because of their size and the size of the segmentation forms. He believes that the tropical parasites, however, are distinctly different from ordinary tertian. He has repeatedly observed cases in which the temperature scarcely rose above the normal, but in which, nevertheless, parasites were found going through their usual course of evolution. These were anemic patients who had already had fever. In still rarer cases the same was observed with the first attack of malaria. In negroes particularly the subjective symptoms of the fever were found but slightly marked in many instances. In many cases one finds marked general depression, with almost complete or complete absence of fever, the symptoms disappearing under the use of quinin. The basophilic granules, which Piehn describes as probably the cause of relapses, Ziemann considers

the results of degeneration. Clinically he considers the prognosis good if treatment is begun early and is energetic. Only 2 cases died. One of them was moribund when first seen, and the other died with severe convulsions, and the cerebral capillaries were found filled with parasites. He did not see the quartan parasite in any of his cases, and ordinary tertian parasites were seen in only one of the cases. His observations in this respect differed largely from those of Koch. He investigated a large series of adults and children among the natives and found splenic tumor and parasites in a very large number of these cases, 23% of both adults and children showing evidences of malarial infection, while of the children below 5 years, 37% showed infection. As many as 75% of the captured women of the Bulis showed infection, and 10% of the children. Splenic tumor was found in 33% of the negroes of Togo. He decides, therefore that the adults in this region did not show complete immunity, but rather an increased resistance, and the children certainly showed no immunity. He has observed cases in which a relative immunity seemed to be acquired, severe attacks giving place to mild ones. In most of the cases in negroes, spontaneous cure took place. He made 7 infection experiments on negroes, and found that in 5 malaria was produced, the incubation period being from 10 to 12 days. This is another evidence that the cases were not completely immune. An interesting observation was that the negroes with malaria often showed marked leukocytosis, the leukocytes being filled with pigment. This leukocytosis probably had something to do with the spontaneous cure. He found no places that could be considered to be free from malaria. [D.L.E.]

4.—Huisman reports a case of **parenchymatous bleeding from the colon** in a boy 12½ years old resulting in death; his family history was negative. A year previous he had a similar attack, and from that time to his present illness he enjoyed good health. The boy was carefully examined and the urine also, but without result; an injection of tuberculin was likewise negative. Coffee-colored stools, with some meteorism, continued without yielding. Treatment consisted in the use of opium, belladonna, bismuth in large doses, ergotin, injections of normal salt solution, etc. The necropsy yielded very little; all the organs were normal except the colon, which showed signs of colitis and was dark colored; ameba and anchylostoma were not found, and the blood was also normal. [W.M.N.]

5.—After a brief general review of the question of **diabetic coma and its causation** Spitzer describes a case in which there had never been any previous signs of acid intoxication, and only a mild glycosuria that was readily kept within limits. The patient, a professor, broke his clavicle. He was intensely excited by this, and the same day the glycosuria increased largely, albumin appeared in the urine, and the next day acetone and diacetic acid were present. Large amounts of alkalies were given and there was some improvement in the condition, but 6 days after the injury there was still some obscuration of the intellect, increasing restlessness, and persistence of the diacetic acid reaction; the next day the symptoms increased rapidly, and 2 days later the patient died in deep coma. There was no evidence of the presence of oxybutyric acid in the urine. The shock of the injury is believed to have brought on the fatal acid intoxication and coma by increasing the glycosuria. Spitzer is of the opinion that in both normal and diabetic persons the products of the breakdown of the carbohydrates enter into union with the abnormal acids produced from the albumins and fats, and prevent abnormal synthetic combinations of the oxybutyric acid and thus shield one from acid intoxication. The increase in the glycosuria was an evidence of increased imperfection in the assimilation of the carbohydrates, and, he believed, by preventing the breakdown of the carbohydrates the shock thus led to acid intoxication. [D.L.E.]

Neurologisches Centralblatt.

November 15, 1900. [19. Jahrg., No. 23.]

1. The Significance of the Scapulohumeral Reflex. VON BECHTEREW.
2. Imperative Vomiting. VON BECHTEREW.
3. The Subjective Response of the Colors of the Spectrum. H. SOLOMONSOHN.

4. Clinical and Experimental Contributions to the Question of the Secretion of Tears. G. KÖSTER.
5. The Destruction of the Pyramidal Tracts after Decussation. M. ROTHMANN.
6. The Neurosis of an Area of the Cervical and Brachial Plexus as a Result of a Diseased Tooth. F. HESSE.

1.—Von Bechterew, in reply to Haenel, contends that the **scapulohumeral reflex** is not a manifestation of myotactic irritability, but is really a periosteal reflex. He admits that its loss or diminution is of no clinical significance. On the other hand, its presence or exaggeration is practically of the same value as the presence or exaggeration of any of the other reflexes in the upper extremity. Haenel himself admits that it was present in 43.4% of his cases. [It appears to have escaped the acute observation of von Bechterew hitherto, that there are really 2 types of this reflex; one in which the arm is abducted, and slightly rotated, as a result of the contraction of the infraspinatus, and another, in which the reflex action is much more extensive, and involves contractions of the trapezius and deltoid, and therefore the abduction of the arm. The latter type apparently occurs only in cases in which the pyramidal tracts are diseased on the same side, and we have been able to demonstrate it in a number of cases of hemiplegia. The first form may, in conditions that give rise to increased muscular irritation, be greatly exaggerated. [J.S.]

2.—Von Bechterew reports two interesting cases. The first, a man whose occupation was singing in concerts. On one occasion on appearing before his audience, he had a slight tickling in the throat, followed by a feeling of nausea. On every subsequent occasion, upon his first entrance upon the stage, this feeling of nausea has recurred, and in some cases has been followed by vomiting. He affirmed that the consumption of a little cognac just before leaving the wings, would at least render the symptom milder, but it has gradually required more cognac in order to overcome the disability. The second case, a woman of 28, suffers from nausea every time she leaves her dwelling; this is followed by palpitation of the heart, and fear lest she should vomit. Not infrequently the attack terminates with profuse perspiration, on which occasion there is actual vomiting. This patient has also found that cognac is a valuable prophylactic. Examination of the patient failed to reveal anything excepting an exaggeration of the tendon and cervical reflexes. There is a distinct neuropathic heredity. Treatment directed to the heart with bromids and caffeine cured the patient. This form of *imperative* vomiting is similar to imperative blushing, and represents a mental condition that is manifested by a motor reaction on the part of the smooth muscle fibers not under the control of the will. [J.S.]

3.—Solomonsohn divides the causes of **chromatic vision** into extraocular and intraocular. The former are due, of course, to local variations in the atmospheric refraction. The latter may be physiologic or pathologic. In either case we may have a halo about the flame, composed of the spectral colors, or a circle, separated from the flame by a black area. The first form under pathologic conditions occurs as a result of the irritation of the eye; the second, particularly in cases of glaucoma. The communication of Adamkiewicz in a previous number of the *Centralblatt*, therefore neither describes an original observation, nor is the explanation given by that author of any value. [J.S.]

4.—In the course of his studies of Bell's paralysis, Köster has noted the following changes in the **secretion of tears**. Hypersecretion occurs only as a manifestation of irritation, and never as a paralytic phenomenon. It is much rarer than parietic secretion. The method of estimation was as follows: A piece of filter-paper of definite size was placed in the conjunctival sac of each eye, and then the mucous membrane of both nostrils tickled with a camel's-hair brush. In about 10 minutes the secretion of tears ceased and the amount secreted on either side could then be estimated by weighing the paper. The point in the course of the facial nerve at which the fibers going to the tear-ducts leave, was then determined by exclusion, to be in the neighborhood of the geniculate ganglion, or above it. The trigeminus apparently acts only reflexly, and therefore the facial nerve is probably the excitomotor element. Experiments on dogs, monkeys and cats, however, showed that in spite of destruction of the facial nerve downwards to the geniculate ganglion the lacrimal and

superficial petrosal nerves did not degenerate, and it therefore is necessary to assume that the sympathetic fibers possess an influence upon the tear secretion. [J.S.]

5.—Rothmann not satisfied with the Starlinger operation for the destruction of the pyramids in the medulla, has devised the following operation for the **destruction of the pyramidal columns after decussation**. The neck is incised on the right side of the larynx, the anterior obturator membrane exposed and incised, and the dura opened from the occipital bone to the edge of the atlas. The needle is now inserted in the middle line, and moved up and down as far as the bone allows. The animals sustain the operation well, and can be kept alive for almost an indefinite period of time. Hemorrhage is exceedingly rare, and even when it does occur, apparently is not fatal. The results show that with the exception of the pyramids and the anterior ground bundle the columns of the cord remain intact. [J.S.]

6.—Hesse reports the case of a girl who, in 1895, bit upon a shot, causing severe pain in the tooth. Subsequently there were pains in the upper and lower jaws, that soon extended to the right shoulder, breast, and arm. The duration of the attacks varied from $\frac{1}{2}$ hour to 4 hours. The exciting causes were emotional disturbances, warm or cold fluids in the mouth, or sudden jarring of the body. Two months after the **injury to the tooth, paralysis** developed in the right arm. The tooth was still painful, and as a reference to the clinical reports showed that the pulp had been exposed during filling 6 years before, it was decided to extract it. The pulp was found gangrenous, and there was some periostitis about the roots. For the first 3 weeks the pain was still present, but much milder, and after that it disappeared completely. [J.S.]

Archiv für klinische Chirurgie.

[Band 61, Heft 4.]

42. Necrosis of the Pancreas. A. BRENTANO.
43. The Treatment of Severe Cases of Scoliosis. A. SCHANZ.
44. Thrombophlebitis of the Sinus Durae Matris from a Rare Cause. H. RIESE.
45. The Form of Fractures Resulting from Direct Force. FR. RUBINSTEIN.
46. Inflammatory Strictures of the Sigmoid Flexure and Rectum. J. ROTTER.
47. A Case of Polyposis Recti et Intestini Crassi. J. ROTTER.
48. The Diagnosis and Treatment of Intestinal Occlusion. A. VON BERGMANN.
49. Statistics and the Technic of Bottini's Operation in Prostatic Hypertrophy. ALBERT FREUDENBERG.
50. The Grafting of Rib Cartilage Into the Larynx in Order to Heal Large Defects, and the Healing of Saddle Nose by Cartilaginous Transplantation. VON MANGOLDT.
51. Subcutaneous Intestinal Rupture and Its Operative Treatment. VON ANGERER.
52. Replacing of the Index Finger by the Second Toe. FREI HERR VON EISELSBERG.
53. A Contribution to the Surgical Pathology of the Omentum and Mesentery. PAUL L. FRIEDRICH.
54. Progress in the Technic of Rectal Operations. L. REHN.
55. Intussusception Caused by a Congenital Cyst of the Intestinal Wall. DR. SPRENGEL.
56. The Small Intestine Used to Cover in Congenital Ectopion of the Bladder. WILLY ANSCHUTZ.

42.—The cause of **inflammation of the pancreas** is generally a bacterial infection of the parenchyma of this gland. So long as the inflammation is limited to the gland itself the clinical symptoms are not characteristic enough to differentiate it from other diseases of this part of the human body, such as gallstones or gastric ulcer. Pronounced symptoms usually first appear when the inflammation has spread to the peritoneum or to the retroperitoneal tissues and even then the etiology of the case is most uncertain. Necrosis of the pancreas is most commonly caused by hemorrhagic infarcts developing as a result of the inflammation. The hemorrhages which are found around the gland are likewise a secondary process and are due to erosion of the bloodvessels in the necrotic areas, and for this reason are most apt to undergo suppuration. The symptoms of shock and collapse which so frequently occur during the course of acute pan-

creatitis are due to infection of the peritoneum which most commonly takes place through the perforation of a suppurative center into the abdominal cavity. Sometimes necrosis of the pancreas will bring about a septic peritonitis without exudate which rapidly proves fatal just as in necrosis of the appendix. More frequently the infection of the abdominal cavity remains limited to the bursa omentalis and the abscesses arising therefrom do not spread from the immediate neighborhood, so that a diagnosis of the same can be made and proper treatment instituted. The symptoms of intestinal obstruction which so frequently occur in acute pancreatitis are due to effusions into the sac of the omentum which cause irritation of the peritoneum. Operating in the acute stages, that is, when there are symptoms of an acute and diffuse peritonitis, is to be rigorously avoided. The fat necrosis is a consequence and not a cause of the pancreatic inflammation and is due to the action of the pancreatic secretion and an unknown accompanying agent on the fat cells. Diabetes appears when the pancreas in whole or part has been destroyed and when the remaining bits of gland have been rendered incapable of carrying on their normal functions because of shrinking, etc. [G.B.W.]

44.—Riese reports 2 interesting cases of **thrombosis of the venous sinuses of the dura mater**. The symptoms of the first case lead to a diagnosis of thrombosis of the cavernous sinus caused by an orbital inflammation which had developed from an empyema either of the maxillary antrum or of the frontal sinus. The opening of these two cavities, however, failed to reveal the presence of pus, but a large abscess was found lying to the side of the pharynx. The patient died within an hour after the operation. The post-mortem showed the presence of a suppurating thrombus of the cavernous and circular sinuses, and it seemed most probable that the course of infection had been as follows: From the original infection in the periosteum of the alveolus of the last molar tooth, it had spread to the neighboring tissues of the pterygoid fossa, thence to the pterygoid plexus of veins and from here direct to the cavernous sinus through the veins in the foramen ovale or through the middle meningeal vein. The veins of the orbit contained only post-mortem thrombi. The second case was similar in that the cause of the thrombus was an alveolar periostitis, but the patient recovered in the latter, thanks to an extensive operation by means of which almost the entire clot was removed. In this case the direction taken by the thrombotic process was first to the facial vein from some periosteal venous branch and thence to the internal jugular along which the clot readily spread to the transverse sinus. [G.B.W.]

45.—Rubinstein says that, according to his experience, when a bone is broken as the result of **direct force**, the fracture is of a triangular shape, provided the **fractured bone** is broad or flat in form or at least possesses one or more flat surfaces. The force which causes these fractures is generally applied when the bone is supported by some firm surface, just as a stick held by one hand is readily broken off by the other. He reports 6 typical cases. [G.B.W.]

46.—Rotter reports 4 cases of **inflammatory stricture of the sigmoid flexure and of the rectum**. The character of the cases were such as to demand the formation of an artificial anus, but in all but one the patient died soon after the operation. In the one successful case the patient was enabled to renew his work and by means of an enema had a fecal movement through the artificial opening every second day. The cause of the formation of cicatricial strictures in the lower rectal segment is found in the existence of complete and incomplete rectal fistula which had often existed for years. The development of the inflammation which leads to the later cicatricial contraction is explained as follows: the colon, from pressure of gas and feces becomes distended, and the openings through which the bloodvessels gain access to the mucous membrane are enlarged, so that the mucous membrane is by the internal pressure forced through them as multiple diverticulums. Masses of feces gain access to these diverticulums and by mechanical pressure and obstruction cause ulceration and perforation of the wall of the diverticulum. [G.B.W.]

48.—Von Bergmann says that the presence of a loop of intestine distended with gas can be diagnosed by simple inspection and palpation only when the large intestine is involved and then not always. Also the knowledge of the position of a distended loop is not of much service in locating

the point of obstruction, as it is very rare that the strangulated loop is the only portion of the gut distended. And again the palpation of a loop of the intestine, either distended with gas or rendered firm by peristaltic contraction, is of little importance in constriction, if the firmness disappears under narcosis. In speaking of operating he says that when it is necessary to resect, the Murphy button possesses the advantages of allowing an immediate passage of the intestinal contents in the proper direction and also prevents the distention of the freshly united surfaces from the pressure of the gas. In a few rare cases, however, an unusual amount of necrosis of the intestinal wall results from the use of the button, causing a perforation. He reports 126 cases of **intestinal obstruction** from his clinic and has arranged them into groups and sub-groups. [G.B.W.]

49.—Freudenberg says that **Bottini's operation** for enlarged prostate is not quite so dangerous a procedure as is generally supposed. He has collected from different sources some 683 cases which show a mortality of 5½%. In 666 cases the results, as far as the benefit of the operation is concerned, are as follows: No benefit in 6½%, more or less benefit in 88%, and of these latter ¾ were cured, so that the patient could urinate normally, while the other ¼ were only slightly improved. Freudenberg, in operating, at first incised the prostate with the bladder empty, but having a fatal case of peritonitis develop from burning through the bladder-wall, he adopted the method of having the bladder filled with fluid. At present, however, he inflates the bladder with air and has obtained just as good results with less current as when a fluid was used. In the after-treatment he has stopped using continued catheterization, except in cases of hemorrhage, very purulent urine, and when frequent catheterization is necessary in cases because of difficulty or pain. When the results following the first operation are not satisfactory the surgeon should not hesitate to repeat the cauterization at another sitting. The chief reason for failure to obtain good results is a lack of thoroughness in the operation, especially in the length of the incision. The length of the cut differs with the case, but it should not exceed 4½ to 5 cm., and generally from 2½ to 3½ cm. will suffice. To measure the proper length for the incision, after introduction of the instrument, the beak is turned backwards and the finger in the rectum measures the distance from this to pars membranacea, and ¼ of this distance will represent the proper length for the posterior cut and ½ for the lateral. He describes a new modification of the instrument in general use for which he claims almost perfection. [G.B.W.]

50.—Mangoldt reports an interesting case of **defect of the larynx**, covered in by transplanting a small piece of costal cartilage over the opening. The patient had originally suffered from the presence of numerous polyps in the larynx and the removal of these by thyrotomy had given rise to marked stenosis of the larynx for the relief of which 4 tracheotomies had, during the course of time, been performed. Finally the stricture was overcome, but an extensive opening remained in the larynx. This was closed by turning a flap of skin from the side of the neck over the opening with the epidermis facing the lumen of the larynx. The raw surface which was left facing outward was covered by a second flap taken from the front of the sternum, and which included a bit of cartilage from one of the ribs. The result was very satisfactory and the piece of cartilage prevented the skin from sinking inward during inspiration. A second case of laryngeal stenosis was treated on a much similar plan, except that the operation was done in 5 stages and a flap consisting of 2 layers of skin with the rib cartilage between was first made before the larynx was opened. The larynx was split and the flap so arranged that the cartilage came between the separated edges. The result was also good. In another case, one of syphilitic saddle nose, a bridge for the nose was made by slipping a piece of costal cartilage with its perichondrium attached under the skin over the nose through an incision at the glabella. The cartilage healed in all right, and after a second and correcting operation the patient had quite a presentable nose. [G.B.W.]

51.—Von Angerer says that during the past 4 years there have been 9 cases of **subcutaneous rupture of the intestine** operated on and only 2 cases recovered. Rupture of the intestine from contusion of the abdomen resembles quite closely perforating wounds of the abdomen as far as the treatment is concerned, but differs radically in that the latter

is comparatively easy to diagnose while the former is most difficult, especially in the early stages when operation will still be of benefit to the patient. Early diagnosis is of course most important in order that the abdomen may be opened and the ruptured intestine treated. After 24 hours have elapsed there is little hope to be had from operating, and the later the operation is delayed the greater are the chances of the patient dying. As to the symptoms which will enable an early diagnosis to be made: First, the kind of injury is important, a localized force such as imparted by a horse's hoof or by a stick is more liable to cause rupture than is a general contusion. In cases where the symptoms of shock do not during the course of a few hours tend to ameliorate or when they, instead of decreasing, increase, something more than pure shock should be suspected. The pulse is always an important indication, though the increase in frequency may not come on until several hours after the accident. The cessation of abdominal breathing is an indication of trouble. Vomiting coming on immediately after the injury and especially when it increases in severity is an almost positive sign of some lesion to the intestinal tract. Pain is an important symptom when it increases in severity, but many cases of intestinal rupture exist without any pain being complained of. Narcotics should be avoided in these cases because they tend to hide important symptoms, especially that of pain. Meteorism and the disappearance of normal liver-dulness are not such important symptoms as is generally supposed, because intestinal rupture often exists without either of them being present. A rigidity of the abdominal muscles is an important sign of peritoneal irritation and consequently is indicative of intestinal rupture. Paralysis of peristalsis results from contusion of the intestines and is manifested by the passage of neither flatus nor feces. Urination is also somewhat hindered. The treatment of subcutaneous rupture of the intestine should consist in operation at the earliest possible moment even when there is no *positive* proof of the lesion, but only a strong suspicion of its presence. Delay means septic peritonitis. The abdominal incision should be large enough to allow of an easy examination of the whole of the intestine as the ruptures are most apt to be numerous. If there is much contusion around the tear, or several tears exist in close proximity to each other, resection will often be the simplest way of treating the gut. When peritonitis already exists the intestine should be inspected outside of the abdominal cavity and the general cavity flushed with sterile normal salt-solution. [G.B.W.]

52.—Von Eselsberg reports a case in which he **replaced the index finger** of the right hand, which had been lost through accident, by **transplanting the second toe** of the right foot. The method adopted was that of Nicoladoni, which is briefly as follows: A square-shaped flap of skin was raised from the dorsal surface of the foot over the region of the second tarsophalangeal joint. The dorsal tendons were then cut, the joint opened, the cartilage removed from the end of the phalanx and the flexor tendons divided. The stump of the first finger having been prepared the hand was approximated to the foot; the palm of the hand to the dorsum of the foot. The flexor tendons of the toe were united to the flexor tendons of the finger, the bone of the toe was fastened to the bone of the finger by a silk suture passed through drilled holes, the extensor tendons united and the flap of skin from the foot stitched to the back of the hand. The parts were held in position by a plaster-of-paris dressing for 12 days, at the end of which time the nourishing pedicle on the sole of the foot was cut through. The wounds healed promptly both on the foot and the hand. The functional result, however, was almost nothing up to the present writing; sensation was noticeably lacking. [G.B.W.]

53.—Friedrich in a series of experiments on rabbits has shown that the removal of portions of the **omentum** or ligation of some of the omental bloodvessels is very apt to be followed by multiple anemic and hemorrhagic infarcts of the liver. This often happens even when very small portions have been ligated and when as much as ¼ or ⅓ of the whole omentum is included. The infarcts develop in almost every case. When the ligated area includes the arteria epiploica, in many cases, there will also be one or more gastric ulcers formed. Whether a true ulcer or only a hemorrhagic infiltration of the mucosa is present depends on the length of time elapsed after the ligation of the omentum. The position

of the ulcer corresponds to the distribution of the arteria epiploica inferiores. [G.B.W.]

54.—Rhen says that in **operating on the rectum** even in extensive resections, one should avoid wounding the sacrum. It is perfectly practicable to remove carcinoma of the rectum even when placed high up, through incisions in the perineum or vagina, the operation being as easily performed as by the older method of resecting a portion of the sacrum. The rectum should be loosened extrafascially, *i. e.*, the rectum and its fascia should be dissected free from the surrounding tissues together. A high amputation should be done in all cases, in the epithelioma of the anus, as well as in those cases where the neoplasm is placed higher up. The sphincter muscles should, when possible, be retained, though the mucous membrane of the anus may be sacrificed. When the growth occupies the pelvic colon the combined abdominoperineal method may be of great service. [G.B.W.]

55.—Sprengel reports a case of **intussusception** caused by a congenital cyst of the intestinal wall, presenting symptoms which lead to the diagnosis of tubercular peritonitis. At the operation an invagination of the small intestine into the colon was found and though the disinvagination was easily accomplished, 10 cm. of the large and 6 cm. of the small intestine were resected. An end-to-end anastomosis was done with a Murphy button and the abdominal wound closed. The recovery was uneventful. The method which yields the greatest hope for a permanent cure in these cases of intussusception in which the mesentery is very long and there exists a great liability of a recurrence, is resection. Fastening the intestine to the posterior wall of the abdominal cavity does not afford an equal amount of security. The exciting cause of the invagination in this case was the presence of a congenital cyst located in the ileocecal valve. The cyst was undoubtedly derived from the intestinal tract as shown by the presence of mucous membrane, elements of lymphatic tissue, and the presence in its walls of muscular fibers, but whether it was the result of some change in the ductus omphalo-mesentericus or other embryologic abnormality, it is impossible to say. [G.B.W.]

56.—Anschutz report a case of **ectopion of the bladder** practically cured by covering in the defect with an isolated portion of the colon. The steps of the operation were carried out at different times, making 4 operations to complete the procedure. At the first, the abdomen was opened just above the bladder and 12 cm. of the large intestine in the neighborhood of the cecum was isolated from the rest of the intestinal tract. One end of the isolated piece of gut was closed and the other fastened to abdominal incision. At the second, the upper edge of the bladder was fastened to the lower margin of the isolated bit of intestine. At the third a plastic operation was done on the penis to make a urethra. At the fourth the intestine was brought down over the bladder and sutured there, and after the skin had been brought over the whole field a continuous cavity was made from the meatus to the top of the new bladder. After the wounds were healed the patient was in a greatly improved condition, being able by means of a spring which mechanically compressed his urethra to control the flow of urine. No excoriations or other discomforts developed and the urine, except for an excess of mucus, became normal in character. Anschutz says that this operation should not be undertaken as a radical procedure when the ectopion is seen early in life; it is adapted rather to remedy a bad state of affairs when adults present themselves for relief from this affliction. [G.B.W.]

Deutsche Zeitschrift für Nervenheilkunde.

[Band 17, Heft 5 u. 6.]

21. Acute Anemic Paralysis with Remarks upon the Changes of the Nerves in Acute Anemia. LAPINSKY.
22. Changes in the Central Nervous System in a Case of Fatal Hemorrhage of the Bladder. RANSOHOFF.
23. Investigations upon the Senile Changes in the Spinal Cord. SANDER.
24. The Extent of Neurasthenia among the Various Classes of the Population. PETRÉN.
25. Clinical Contribution to the Knowledge of the Diseases of the Crura Cerebri. HAENEL.
26. Experimental Investigations and Studies upon the Course of the Pupillary and Visual Fibers with Discussion

upon the Physiology and Pathology of the Movements of the Pupil. BACH.

27. The Symptomatology of the Trophic Disturbances in Syringomyelia (Osteomalacia). NALBANDOFF.
28. Clinical Studies in Akromegaly. BREGMAN.
29. Periodic Oculomotor Paralysis. MÖBIUS.

21.—Lapinsky believing that a pure **anemia of the limb** might give symptoms differing somewhat from those produced by ligation of the limb, has performed a number of experiments chiefly upon rabbits. The technic consisted of the occlusion by ligature of the main arteries of the limb. The artery selected was the left common iliac and in addition the small arteries of the intestinal wall were also ligated. In one case the collateral circulation was not established for 5 days, and in the others it appeared in 4 days or less. The first animal was killed and the tissues examined microscopically. The symptoms were interesting. The limb became suddenly cold, **paralyzed**, passive movement was unaffected, there was complete anesthesia at the end of the first hour, loss of the cutaneous and tendon reflexes and rapid quantitative diminution to electricity commencing during the first hour. Typical reactions of degeneration did not, however, appear in the muscles. These changes appeared to be due to lesions of the nerve, those of the muscles, consisting of acute cloudy swelling, being apparently less important in the development of the symptoms until comparatively late in the disease. Microscopically, changes were observed in the myelin sheaths and the axis cylinders of the nerves. [J.S.]

22.—Ransohoff has had the opportunity to **study the spinal cord** and a portion of the brain from a woman that died at the age of 66 from an uncontrollable hemorrhage from the bladder due to a carcinoma. He found areas in the spinal cord in which the axis cylinders were greatly swollen and presented the appearance of the hydropic softening described by Minnich. The neuroglia in these areas also showed a moderate degree of proliferation. Compound granular cells were not present in the tissues. In the brain there were numerous minute hemorrhages in the cortex, associated with slight hemorrhagic inflammation. The changes in the spinal cord resembled very closely those found in progressive pernicious anemia, and taken in conjunction with those of the brain indicate that the process depends upon some primary lesion in the bloodvessels, probably multiple thrombosis. The changes in the white matter of the spinal cord are probably to be explained in the same manner. The only clinical symptom which can be ascribed to these alterations was probably the period of stupor that existed for 6 days before death. It is possible, however, that in more acute stages these changes would lead to psychoses. There was some heterotopia in the spinal cord, probably associated with a chronic imbecility with which the patient was affected. [J.S.]

23.—Sander has examined the spinal cords of 25 persons all dying at an advanced age. Macroscopically changes were found in the brain. In the spinal cord he observed the disposition to calcareous plates in the membranes. Microscopically, the myelin sheaths were somewhat paler, and here and there areas of degeneration were observed, that, when stained by the neuroglia method, were found to be entirely sclerotic. The cells showed an excess of pigment, and were often deformed. The neuroglia was proliferated. The bloodvessels showed the ordinary senile changes. There was no proliferation of cells in the tissue, although the process was probably chronic. Numerous areas of fresh degeneration may be observed, and in these spider cells are quite common. The process resembles rather closely that found in pernicious anemia, and is probably identical with the changes already described in paralysis agitans. He divides his cases into 3 groups. First, a mild form with slight diffuse loss of myelin sheaths, with slight secondary proliferation of the neuroglia, and moderate degeneration of cells. Second, a severe form with diffuse degeneration of the myelin sheaths, the appearance of foci of pronounced sclerosis and severe degeneration of cells. Third, a presenile form with acute processes and numerous foci. These can probably be best termed the arteriosclerotic degenerations of the spinal cord. [J.S.]

24.—Petrén has observed 285 cases of **neurasthenia** in the last 5 years in a service of 2,478 cases; that is to say, about 11.5% of all patients presenting themselves. Of these, 141 cases were men and 144 cases were women. All classes

of men were about equally affected, but there were less than half as many women in either the upper or middle class as in the lower class. It therefore appears that among the laborers the disease is practically as common among women as among men, and the explanation is to be found in the fact that the women of those classes are compelled to work quite as hard as the men physically, and are subjected to the same or even greater sources of mental strain. The causes of the disease in the lower class were various and in general were the same as those that have been generally accepted as etiologic factors among the upper classes. Among the more important were sorrow at the death of a relation or for similar personal reasons; anxiety as a result of financial loss or difficulty in obtaining nutrition; overexertion, chiefly intellectual in character; and some infectious disease, chiefly influenza, although Petren doubts that this is as serious as is commonly believed. He believes that depressing psychical influences are the most important features. Nevertheless, as all persons are exposed to these influences and only a certain proportion develop neurasthenia, he is convinced that there must be some hereditary predisposition, and he is rather inclined to suppose that alcoholic excesses on the part of the parents are of considerable weight. Improved hygienic conditions probably have a tendency to diminish the disease. It occurs very commonly among the peasants whose mode of life has not changed particularly. It is probable that the disease has always been endemic in the rural districts. He calls attention to 2 or 3 minor points. The more rapid the development of the disease the better the prognosis. It is usually associated with some other disturbances in the general condition, particularly an unsatisfactory nutrition. It is possible that occasionally it is the result of arterial sclerosis; at any rate 2 cases are reported, both men of 59, who had typical neurasthenic symptoms and moderate sclerosis of the arteries. In the second case there was a distinct history of neurasthenia in the father. In 4 of 16 cases that he carefully investigated for hyperesthesia of the skin the result was positive, and the hyperesthetic areas were found, once on the outer side in the epigastrium and 3 times on the left side in the epigastrium. [J.S.]

25.—Haenel reports an interesting case characterized by the gradual development of left-sided **paralysis**, and peculiar disturbances of sensation involving the whole of the left side; at the same time there was complete paralysis of the muscles supplied by the third nerve on the right side, and involvement of the fifth nerve in both its motor-sensory portions on the left side, the left facial, auditory and glossopharyngeal nerves on the same side; the muscles of the left side were spastic; the gait was correspondingly altered, and there were slight indications of ataxia; there was disturbance of equilibrium, and a tendency to fall toward the left; ataxia was not evident, although when the patient was recumbent there was complete anesthesia in the left hand; there was mimic paralysis of the left side of the face. The lesion is readily located in the right **crus**; the center was probably situated in the fillet, it then probably extended downward, involving the motor portion of the **pyramidal tract**, but evidently in the fibers passing to the hypoglossal nucleus escaped; it evidently extended also to the nuclei of the oculomotor nerve. The course of the lesion was peculiar: the sensory disturbances occurred first, and were most persistent, but in the course of time complete recovery occurred in the motor symptoms. It is difficult to understand either the nature of the lesion, or the changes that occurred in it. Three of the symptoms are of particular interest. The disturbance of equilibrium was evidently caused by the lesion of fibers passing to the **cerebellum**; the mimic paralysis, by involvement of the fibers of the thalamus; the anesthesia of the hand by an interruption of the cerebral fibers of sensibility. Haenel suggests that this type of anesthesia is due to the greater vulnerability of the fibers contained in the fine coordinating movements of the extremities, not to their distinct anatomic position. [J.S.]

26.—Bach contributes an article of exceptional value based partly upon some careful experimental and histologic work of his own, partly upon careful collation of the work of other experimenters in this field. He produced eversion of the eyeball upon various animals, pigeons, rabbits, cats, and monkeys, and also studied the brain of a man who had been blind in one eye for a number of years. It is impossible to do more than give a brief summary of his con-

clusions. In the pigeon there is total decussation of the fibers of the optic nerve; in rabbits, cats, apes, and men, about one-third of the fibers do not decussate; there is apparently no direct communication between the optic fibers going to the corpora quadrigemina and the oculomotor nucleus, nor between the optic fibers and the centers in the cervical cord and medulla that govern the movements of the pupil. The **pupillary fibers** that decussate in the chiasm, decussate again further back in the brain; this is proved by the **homolateral pupillary reaction** that occurs in animals that have total decussation of the optic nerves. The descending pupillary reflex tract from the primary optic ganglia to the medulla, is probably a portion of the fillet; the ascending tract to the oculomotor nucleus is almost certainly the posterior long tract. It is not necessary to accept an intimate anatomic relation between the cells for the sphincter muscles of the pupil in the oculomotor nucleus, and the various centers. [J.S.]

27.—Nalbandoff reports a case of **syringomyelia** that is interesting chiefly because there were present curious alterations in the bone that have not hitherto been described. The patient, a man of 31, had been normal until 27 years, although premonitory symptoms had preceded this period. The disease probably commenced in the left shoulder; from time to time there was severe pain and swelling, and later a considerable amount of pus was evacuated, but a subsequent incision was painless; later, repeated incisions were necessary. As the result of a slight wound to the thumb, the part commenced to swell, an abscess formed around the nail, which was lost; the thumb then began to enlarge considerably. The symptoms of syringomyelia were characteristic. Nalbandoff discusses particularly, the alteration in the thumb; although the bone was uninjured, it was softer, and as it failed to produce a shadow with the Röntgen-ray, there was probably a decalcification. It is impossible to find a satisfactory explanation for this, but it is not likely that it was the result of the abscess. [J.S.]

Deutsche Zeitschrift für Chirurgie.

July, 1900. [Band 56, Heft 3 u. 4.]

9. 1. The So-called Arterio-Mesenteric Occlusion of the Intestine. 2. Phlegmonous Inflammation of the Stomach Following Gastroenterostomy. 3. A Crural Hernia in the Labium Major. ALFRED STIEDA.
10. Complete Extirpation of the Tongue and the Floor of the Mouth. GOTTLIEB KOLTZE.
11. Hematopexy. CARL BÖTTCHER.
12. A Number of Cases of Meningeal Hemorrhage, and a Few Remarks on the Technic of Opening the Skull in these Cases. WIEMANN.
13. The Surgical Treatment of Enteroptosis. A. BLECHER.
14. Congenital Absence of Muscles of Neck. L. KREDEL.
15. Anastomosis Between the Bladder and Rectum, by Means of Resorbable Buttons. The Treatment of Ectrophy of the Bladder. JACOB FRANK.
16. Abdominal Surgery in Private Houses and in the Practice of the General Practitioner. MAINHARDT SCHMIDT.
17. The Treatment of Fracture of the Patella with Permanent Extension. LICHTENAUER.

9.—1. Stieda reports an interesting case of **occlusion of the intestine** at the duodeno-jejunal junction. The most important points gathered from a consideration of the case were the following: That chronic dilation of the stomach connected with sinking of the small intestine into the pelvis, probably cannot of itself lead to occlusion of the intestine by twist in the mesentery. This condition is much more likely to be due to acute atony of the stomach or of the duodenum. As this atony is really the cause of the acute obstructive symptoms, it should be termed acute gastric dilation of the stomach. The symptoms are very prone to occur after operation, especially on the bile-ducts. In every case in which severe and continued vomiting occurs, the surgeon should think of the possibility of gastric complications. The treatment of these cases should be the institution of a proper prophylaxis. When other means fail, the performance of gastroenterostomy should be considered. 2. This case of **phlegmonous inflammation of the stomach** occurred in a woman of 24. An operation was

done for gastric disturbance which had lasted for 2 years or more and consisted of pain and vomiting, the vomiting often consisted of "coffee-grounds." At the operation a hard tumor was found in the region of the pylorus, almost the size of an apple. Gastroenterostomy was performed, and the abdominal wound closed. Seven days after the operation the patient died. At the postmortem the suture line was found intact, not allowing any leakage. On opening the stomach an ulcer was found in the region of the pylorus, which was surrounded by a diffuse swelling of the entire thickness of the extract wall. An anatomic diagnosis was made of carcinomatous ulcer of the pylorus, with phlegmonous gastritis and purulent peritonitis. 3. **Hernia** in this case was first noticed 15 years ago. Less than a year ago the patient experienced severe pains in the region of the rupture, and on removal of the truss, which for some time had not held up the hernia as it should, the tumor was seen to be markedly enlarged and had spread into the right labium majora. At the operation, the hernia was found to be femoral and had pushed its way up under Poupart's ligament until it gained a position in the labium majora. The operation was completed after the method of Bassini, and the patient made a good recovery. [G.B.W.]

10.—Koltze reports a case of **complete extirpation of the tongue and floor of the mouth**. The patient was a man of 53. In September, 1898, a tumor developed on the point of his tongue. This was removed by Langenbeck's method, of sawing through the left side of the lower jaw. The growth, however, returned by June, 1899, and had developed to such an extent that it was considered inadvisable to operate. When examined by Rose, the tongue was found thickened, the left side more than the right, it was wrinkled and hard, and the swelling could be traced clear to the base of the tongue. The posterior portion of the tongue closely approached the soft palate, and the anterior almost touched the upper incisor tooth, so that the patient was forced to keep his mouth open the greater part of the time. Operation was done under chloroform narcosis. An incision was carried through the entire thickness of the under lip down to the bone; another cut running at a right angle from the first was carried along the edge of the lower jaw to the left angle of the mandible. A skin flap was turned upwards from the lower jaw, carefully avoiding the mucous membrane, and an exarticulation of the left side was done. The horizontal incision was then carried toward the right angle of the jaw, and the latter sawn through with a chain saw just below the ascending right ramus. The vessels were tied as soon as they were cut, including both lingual arteries and the left facial artery. Starting from the left side of the wound, the tongue, with its adjoining infiltrated tissues were cut away with scissors and knife, and that portion of the tongue and floor of the mouth still in connection with the hyoid bone was removed with Chassaignac's ecraseur, just immediately in front of the epiglottis. The diseased tonsils were removed. The mucous membrane of the epiglottis was then stitched to the remains of the mucous membrane of the under lip, and after removal of an inch or more of the soft parts of the chin, the skin of the two sides of the wound was sutured together. Feeding of the patient after the operation was done through a tube introduced by himself. In 9 days the external wound had healed, and the granulated surface in the mouth had become much smaller. Fifteen days after the operation the patient left the hospital. The patient could swallow better than before the operation, and speech was also improved. [G.B.W.]

11.—Böttcher has written an elaborate article on **hepatopexy**, considering the subject from a clinical standpoint, and he ends his article with the following conclusions: (1) In cases of hepatoptosis, the only real cure is to be obtained by the performance of hepatopexy; (2) in hepatic anteversion, that is partial hepatoptosis, hepatopexy should be done when other treatment has failed to set aside the severe symptoms; (3) in constricted liver found in persons who lace tightly, hepatopexy should be chosen in preference to resection; (4) in cases of uncomplicated hepatoptosis, splendid results may be obtained by the performance of hepatopexy; (5) when the hepatoptosis is only a part of a general splanchnoptosis, the simple hepatopexy is not indicated,—in this condition a general reconstruction of the abdominal wall as performed by DePage offers the best hope of success; (6) in those cases in which the hepatoptosis has been caused by

disease of the gallbladder in which there is a marked constriction of one or more lobes of the liver, or in which one of the lobes is floating, or in which chronic disease of a greater part of the liver is present, the cholecystotomy will afford better chances of success if preceded by hepatopexy; (7) in order to cure or to at least relieve the symptoms caused by partial hepatoptosis, it is not necessary that a complete reposition of the movable portion of the liver should be made,—immobilization will accomplish just as much; (8) in order to produce permanent fixation of a movable liver, the effort should be made rather to produce adhesions than to fasten by sutures. [G.B.W.]

13.—In speaking of surgical treatment of **enteroptosis** in general, we must remember that the movable viscera, such as the intestines and stomach, cannot be fixed firmly to a stationary support in the same way that we would stitch a kidney back into the lumbar fossa. Therefore, an ideal gastropexy for the relief of gastropoptosis should consist in the shortening of the normal supports, which, by their lengthening, allow the viscera in question to move and drop forward into various malpositions. Bier's method of operating on these cases is briefly as follows: Three or 4 sutures are passed just below the liver through the ligamentum gastrohepaticum in such a manner as to produce folding—therefore, a shortening of the ligament when they are drawn upon and tied. The shortening of this ligament brings the displaced stomach back into its normal position. The first suture is placed close to the ligamentum hepatico duodenale and includes the serous and muscular coats of the pylorus and the capsule of the liver. The remaining sutures are inserted in a direction towards the cardia. Blecher reports 4 cases in which this operation was carried out by Bier, and another case of colonoptosis in which the mesocolon was shortened in a very similar manner. In regard to indications for operating in cases of enteroptosis, Blecher concludes that all cases of floating or movable kidneys, which cause more or less distressing or serious symptoms, should be operated upon and the offending organ firmly fixed in its normal position. Enteroptosis does not demand operation in the earlier, or what might be termed, latent stages. Operation, however, is indicated when the ptosis is marked and the use of various abdominal binders are apparently valueless; various internal medications and dieting leave the condition unchanged. [G.B.W.]

14.—Kredel reports an interesting case of **congenital absence of the important muscles of the neck**. The patient, a girl, when last examined, was 10 years of age. She possessed a marked cleft palate, was of rather delicate build and showed an increasing scoliosis. The deformity caused by the absence of the muscles of the neck was a high position of the shoulders, an unusual curving of the clavicle, and thinness of the neck itself. There was complete absence of the sternomastoid on both sides, though electrical stimulation caused a muscle bundle, about 2 mm. thick, to stand out on the left, which perhaps was a rudiment of the left sternomastoid muscle. Both trapezium muscles were also absent in the back between the shoulders, as well as in the neck, and no trace of the omohyoid could be discovered. The anterior muscles of the neck, that is sternohyoid and sternothyroid, were present, and indeed hypertrophied. Perhaps the most surprising part of the whole case was that there was practically no disturbance of function, all normal movements of the head being apparently retained. [G.B.W.]

15.—Frank has made a series of experiments on dogs in endeavoring to discover a method of **establishing an opening between the bladder and rectum**. The results he obtained are important clinically, because of their application to cases of exstrophy of the bladder. The operation consisted in making an incision in the lower part of the abdomen, drawing forward the bladder and rectum and performing an anastomosis by means of a resorbable button. The button consisted of decalcified bone. Out of 15 dogs thus operated upon, 9 recovered and 6 died. He says this operation would be more favorable in men, because of the ability of carrying out proper after-care and treatment. The advantages claimed for this operation are: (1) The easy execution and the shortness of the time of operation; (2) the lack of danger of ureteral stricture through cicatrization and the absence of the possibility of necrosis; (3) the proportionately small danger of infection; and (4) the operation is applicable not only in exstrophy of the bladder, but to other pathologic changes of these organs. [G.B.W.]

Practical Therapeutics.

Under the charge of

A. A. STEVENS, A.M., M.D.

For Perspiration of the Feet.—A case of excessive perspiration of the feet, of years' duration, and of such an offensive character that the subject had contemplated suicide, was cured (*Gazette Med. de Picardie*) by Legoux in 15 days. The means employed were: The feet were first bathed for several days in a weak infusion of walnut-leaves, and then there was applied twice a day a mixture of

Glycerin	10 grams.
Perchlorid of iron	30 grams.
Essence of bergamot	20 drops.

Mix and apply as directed twice each day.

The results are surprisingly rapid and happy.—*Dietetic and Hygienic Gazette*.

Hemoptysis in Pulmonary Tuberculosis.—Hecht (*Therap. Monatshefte*, October, 1900) believes that quinin is the most valuable drug. He is skeptical as to the value of ergot, though he often prescribes it. He has had excellent results with Huchard's hemostatic pills, the formula of which is as follows:

R.—Ergotin	} of each 30 grains.
Quinin sulfate	
Powdered digitals	
Extract of hyoscyamus	

Divide into 20 pills. Five to ten pills daily.

The Treatment of Blepharitis.—Pyle (*International Medical Magazine*, October, 1900) states that in approaching the treatment of blepharitis especial attention should be directed to the causal conditions. Too great stress cannot be laid on the importance of careful refraction under cycloplegia and the prescription of spherocylindric lenses, even of low power, in these cases. Any disturbance of the oculomotor apparatus should be remedied. If, as is the rule, chronic conjunctivitis coexists, a mild stimulating astringent incorporated in a boric acid collyrium should be used. A favorite eye-lotion with the author is the following:

R.—Boric acid	40 grains.
Sodium chlorid	10 grains.
Zinc chlorid	2 grains.
Distilled water	4 ounces.

Stain with pyoktanin and doubly filter after straining.

A few drops of this solution are instilled in each eye three times a day. All scales and crusts should be carefully removed morning and night. Absorbent cotton moistened with warm water, warm boric acid solution, or warm bichlorid solution, 1 to 5000, may be used to loosen the accumulated secretions. Any underlying ulcers should be cleansed, the cilia epilated, and the cavities painted with a 2% solution of silver nitrate or lightly touched with a sharp-pointed lunar caustic pencil. The application of fatty substances facilitates removal of crusts, prevents further occlusion of the glands, softens the skin, prevents excoriation by the tears, and affords a vehicle for local medication. The author prefers as an ointment "Pagenstecher's yellow salve."

R.—Yellow mercuric oxid (amorphous)	1 grain.
Vaseline	3 grains.

Mix thoroughly and put in a collapsible tube. Rub in thoroughly a piece the size of match head, each morning and night.

Scales, crusts, dried secretions, etc., must be thoroughly removed before each application of the salve.

Treatment of Aneurysm of the Aorta.—In the Section of Therapeutics at the recent International Congress of Medicine, Golubinin (*British Medical Journal*, October 13, 19), of Moscow, said he had employed in 8 cases the method of treating aortic aneurysms by injection of gelatinized serum recommended by Lancereaux and Paulesco. The number of injections varied according to the case from 2 to 15. Of the

8 patients 4 died in a short time and the other 4 were lost sight of; in 3 of the cases belonging to the latter group the injections produced no effect. In the remaining one they were followed by slight improvement in the subjective symptoms without modification of the objective signs. Dr. Golubinin had come to the conclusion that the method did not fulfil the expectations that had been founded on it. Dr. Huchard said: In the treatment of aortic aneurysms it is a mistake to allow oneself to be hypnotized by the changes to be brought about in the contents of the sac, that is to say, in the blood, and to take no account of the containing structure. The method of gelatinized injections, which is useful, although insufficient, is open to this criticism. To complete its action, especially in persons with large heart and increased arterial tension—they are almost always at the same time subjects of Bright's disease—medicaments should be chosen which diminish arterial tension, such as potassium iodid, trinitrine, nitrite of amyl, and especially tetranitrate of erythrol, or tetranitrol, which Dr. Huchard has now used for a considerable time and which, as compared with trinitrine, has the advantage of a more durable action. Moreover, an essential point is to supervise to diet, not in regard to quantity, as in Valsalva's method, but in regard to quality. Meat, which holds too large a place in our food, contains toxins, which have an excessively powerful vaso-constrictor action. The best treatment of aortic aneurysm is still absolute milk diet regularly adhered to.

Herpes Zoster.—Lush (*Post-Graduate*) recommends light touches with the actual cautery over the angle of the rib and spine at the exit of the nerve, and the following application:

R.—Ichthyol	2 drams.
Magnesium carbonate	2 drams.
Zinc oxid	2 drams.
Water	4 ounces.

To be sopped on, after which a binder is to be applied to prevent friction. Cannabis indica and arsenic internally are sometimes useful.

Iodized Starch as a Therapeutic Agent.—Solomon (*Merck's Archives*, December, 1900) states that iodized starch may be prepared as follows: 5 parts of iodine are triturated in a small quantity of water, and 95 parts of starch slowly added and carefully rubbed until the mixture is regularly and uniformly a blue black. This is now to be slowly dried, at a temperature not higher than 104° F., and carefully rubbed until a fine, blue powder results. Prepared thus, we have approximately a 5% iodized starch, which is insoluble in water, has the characteristic iodine taste—provided it be held in the mouth a few seconds—and a slight iodine odor. It should be kept in glass-stoppered vials. It may be prescribed whenever iodine is indicated, and when the iodide would ordinarily be employed, iodized starch may be exhibited; its action is prompt, and, in proper dose, energetic. Being an important article of food, starch makes an admirable diluent or menstruum, differing from other bases, like potassium, sodium, strontium, etc., which are each, to a greater or less extent, foreign to human economy. As a rule, from 3 to 10 grains in capsule, pill, powder, or tablet, were necessary to procure a desired effect. Where large doses of the iodide had been attempted, but on account of irritation could not be continued, comparative tests showed the necessity for equally large quantities of iodized starch, as much as 1 to 2 drams, suspended in barley-water, being sometimes given. Even such heroic doses give rise to no distressing local effects on the stomach or bowel mucosa. The advantages of iodized starch may be thus summarized: Physiologically it is an active preparation of iodine, for internal as well as for external use, free from the irritant and caustic action of most iodine products. It is not objectionable to any of the special senses, and its convenience for preparing and administering in capsule, tablet, etc., adds considerably to its virtues. It is sufficiently stable to be preserved almost indefinitely under precautions known to the apothecary. There can be no doubting the absorbability of the iodine in iodized starch, but the iodide of potassium will be found a more active preparation. It is in the cases in which the latter salt or other iodide cannot be tolerated that iodized starch becomes a valuable addition to our armamentarium.

Thyroid Extract in Insanity.—Easterbrook (*Scottish Medical and Surgical Journal*, December, 1900) reports the following results: Out of 130 patients treated, 12 recovered, 29 were improved, and 89 unimproved. Twelve recoveries out of 130 cases is just over 9%. If, however, the obviously incurable cases be eliminated, namely, the 30 "congenital" and "chronic" cases, there remain 100 cases with 12 recoveries, or 12% of recoveries for all cases of insanity which were not hopeless, but were found to be intractable by ordinary methods. His experience indicates that the thyroid treatment of insanity is more efficacious in women than in men, and that the best all-round results are obtained in the insanities connected with child-bearing. His results may thus, perhaps, indicate that the thyroid gland is functionally more active in women than in men. Anatomists and physiologists inform us that the gland is somewhat larger in women than in men, and that it often enlarges during menstruation and pregnancy. He has come across no rational explanation of this physiological enlargement of the thyroid during menstruation and pregnancy, but would suggest that it is either a provision of nature to supply more thyroid secretion for the development of the embryonic tissues in their earliest stages; or more probably, that it is an expression of an increased maternal metabolism, affecting more particularly the uterus and also, in cases of pregnancy, the mammae. All the recoveries were test cases in the sense that previous treatment had been well tried, but had failed. Large doses of thyroid were used in every case of recovery. He has had no case of recovery (except the myxedematous patient) with small or moderate doses. This seems to indicate that it is the briskness and intensity of the metabolic reaction produced which is the valuable effect of thyroid in large doses in insanity, and he is inclined to think, from the clinical type of case which is most commonly benefited by thyroid, as well as from the condition of the urine during thyroidism, that the drug owes much of its value to its power of clearing out of the system various transition and probably toxic products of metabolism.

Operative Treatment of Cirrhosis of the Liver.—Friedrich Friedmann, in the *Centralblatt für die Grenzgebiete der Medizin und Chirurgie* of August 8, 1900 (*Medicine*, October, 1900), has a résumé of the recent literature of this operation. The first case in which there was a deliberate attempt to reestablish the circulation in the abdomen in a case of contracted liver was made in the Royal Hospital of Newcastle by Drummond and Morrison in August, 1894. The authors had been led to perform the operation from a case which had been observed postmortem, in which anastomosis had formed in such a way as to permit of the circulation being carried on without the blood passing through the liver. The possibilities of such communication are said to be several—namely, anastomosis between the coronary veins and those of the lower portion of the esophagus; between the hemorrhoidal veins and the hypogastric veins; a communication between the veins found in the hepatic ligament and those of Glisson's capsule; the veins of the cecum and colon are said to anastomose with the internal mammary vein. Since the first operation, 13 have been performed. Of these, 5 have recovered, 2 were improved, in 1 there was no change, and 5 died. These results point conclusively to the value of the operation, as these patients had very little to look forward to without surgical intervention. The kind of cases in which the operation is indicated are those in which there is a distinct mechanical hindrance in the portal circulation with recurring ascites. It is in this class of cases that so little is to be hoped for from operative measures, the patients having little to look forward to except a lingering illness and comparatively early death. The technic, as carried out in most of the cases, is comparatively simple, consisting of a small incision into the abdominal cavity, through which a careful exploration is made of the liver, gallbladder, and the surrounding parts. The peritoneum is curetted over the anterior surface of the abdomen, and the great omentum is attached by sutures to the abdominal wall. The peritoneum has its epithelial covering removed over the lateral and anterior portion on the left side of the abdomen, to which the spleen is likewise attached. A glass drain is then inserted, and all ascitic fluid of the abdominal cavity is removed. This drainage is continued until no further fluid is formed, which shows that the collateral circulation has been estab-

lished. The success of the operation is absolutely dependent upon a functional intact condition of the liver cells; the ascites being merely dependent upon mechanical hindrance to the onward flow of blood. Hence, in cases of cirrhosis it should be undertaken before the process in the liver has advanced so far as to involve the functional integrity of these cells.

Indications for Bleeding.—In the *Congress of Medicine*, 1900, Hayem (*Treatment*, November 1900) recommended this procedure under the following conditions:

A therapeutic measure is "indicated" when it is established that it brings about under given circumstances an amelioration more marked than any other means can procure.

The procedure of bleeding cannot then be considered as "indicated" save in those cases in which it acts with an incontestable superiority over all other therapeutic measures.

The "antiphlogistic method" of repeated bleedings appears to be definitely condemned.

The opening of a vein on one or several occasions, at relatively long intervals, deserves to be maintained as a useful and effective measure.

The cases in which bleeding is indicated are, speaking generally, those in which life is immediately endangered, either by circulatory arrangement or by toxemia, in such conditions as the following:

1. Acute edema of the lung, particularly in disease of the large vessels or of the kidneys.
2. Certain cases of pneumonia of edematous or simply congestive type.
3. Certain mechanical troubles of the circulation, due to disease of the heart or great vessels, particularly in high arterial tension, but also in some cases of evident asystole, congestive, and hemorrhage in subjects of high arterial tension.
4. Recent or acute uremia; puerperal eclampsia; intoxication of the blood by certain gases, notably carbonic oxid.

Value of Ovarian Organotherapy.—Krusen (*International Medical Magazine*, November, 1900) draws the following conclusion from 3½ years' experience with ovarian extract in selected cases: 1. The employment of ovarian extract is practically harmless; no outward effects beyond slight nausea have been noted, even when full doses have been administered. 2. In the treatment of amenorrhea and dysmenorrhea, no good results were secured; (although in some cases of the amenorrhea of obesity remarkable results have been attained by the use of the thyroid extract). 3. The best results were seen in the second class of cases for the relief of symptoms of artificial menopause, where in a few instances the congestive and nervous symptoms were apparently ameliorated. 4. No appreciable result was noticed in the use of ovarine in the natural menopause. 5. No definite or exact reliance can be placed upon the drug, as it often proves absolutely valueless where most positively indicated. 6. It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any direct physiologic action of the drug. The neurotic type of individual demanding this treatment will often be relieved by any simple remedy. 7. In those instances in which effects were noted, increase in dosage seemed to have little influence in maintaining the effect or preventing the patient becoming accustomed to its use. 8. In conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarine or ovarian extract, is based upon a wrong assumption as to the function of the ovary. In organotherapy, the best results have been attained by the use of thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and if any peculiar product is coincidentally manufactured, the isolation of this product has not yet been accomplished.

Fleischig's Opium Treatment of Epilepsy.—Séglar and Heitz (*Archives de Neurologie*, August, 1900) report the results of Fleischig's treatment in two series of cases of epilepsy. In the first series of 12 cases, 6 were able to undergo the full treatment without any serious toxic results; in 3 of these the treatment had no result, while in the other 3, watched for a year, the number of convulsive attacks was reduced by about one half. In the second series of 10 cases, the administration of the opium caused toxic symptoms in all cases, so that the treatment was not continued.

Original Articles.

A PHYSICIAN'S HOLIDAY AT KARLSBAD.

By JAMES TYSON, M.D.,

of Philadelphia.

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To THE American seeking Karlsbad, by far the most convenient route is by steamer to Hamburg and thence by rail via Berlin and Dresden, arriving in 18 hours by day or night train. A break in the journey may be made at either of the last named places. Northern Germany in somewhat flat and monotonous, but to one who travels it for the first time it is still sufficiently novel to make a day trip enjoyable. Dresden once passed, the scenery becomes more varied and attractive. First is traversed the valley of the Elbe, swiftly flowing between high and sometimes rugged hills, then the valley of the Eger to its junction with the Tepel on both sides of which Karlsbad is built. Some minutes before arriving at our destination its nearness is proclaimed by a fine view of the Stephanie Tower, erected on the summit of one of the many adjacent hills to commemorate a visit of the Princess Stephanie. Insignificant as appears the little river Tepel, to the visitor in the season, on more than one occasion freshets have washed away its bridges, while the town itself has suffered destructive inundations. So narrow is the valley in places that there is room for but a single row of houses and shops on each side. Much of the town is built in terrace-like arrangement on the mountain sides. It has grown rapidly of late years and accommodates now 15,000 permanent residents and 50,000 patients annually, exclusive of visitors and tourists. Itself over 1200 feet above the level of the Adriatic Sea, the town is further surrounded by the Karlsbad Hills, which rise from 200 to 800 feet higher. As the stream is ascended the hills separate to form a wide, luxuriant meadowed valley. This valley opens to the north, which explains the lower and changing temperature that characterizes it as contrasted with the adjacent country, and necessitates at all seasons a judicious selection of clothing. The hills are also covered with a dense growth of fir, pine, oak, and beech, which by their various shades of green add a further charm to the beautiful scenery. The hills are traversed by miles and miles of paths of easy grade provided and scrupulously cared for by the authorities for the pleasure and benefit of the patients.

It is at first a disappointment to the visitor to find that the springs are not in the center of beautiful parks, as is the case at so many of the European spas, but are in the heart of the town. In this respect it is more like Aix-la-Chapelle. The springs are, however, surrounded by imposing colonnades and halls erected for the convenience of visitors, while the missing park is more than compensated for by the walks referred to, almost every one of which leads to a picturesquely situated café, offering tempting refreshment to the pedestrian, and commonly presenting an extended view of the surrounding country.

The several springs which constitute the Karlsbad Spa do not differ essentially in the composition of their waters, the chief difference being in the temperature at which they emerge from the earth. Sodium sulfate, sodium carbonate, and sodium chlorid are the principal constituents of each, and are found in astonishingly close proportions in the different springs, as seen in the appended table:

Thus the springs are of the alkaline saline class, containing also considerable carbonic acid. The temperature of the different waters as they are discharged is as follows:

	DEG. R.	DEG. C.	DEG. F.
Sprudel.....	58.0	72.5	162.5
Franz-Josephs Quelle	51.0	63.7	146.7
Bernhardsbrunn.....	48.5	60.7	141.2
Felsenquelle	47.8	59.7	139.5
Neubrunn.....	47.2	59.0	138.2
Theresienbrunn.....	46.2	57.7	135.8
Schlossbrunn	39.2	49.0	120.2
Kaiserbrunn.....	38.8	48.5	119.3
Muehlbrunn.....	38.4	48.0	118.4
Russische Krone.....	36.4	45.5	113.9
Marktbrunn	32.8	41.0	105.8

	DEG. R.	DEG. C.	DEG. F.
Elisabethquelle	32.5	40.7	105.2
Parkquelle	32.2	40.2	104.4
Kaiser Karl Quelle	31.5	39.4	102.9
Kochberger Quelle.....	31.5	39.4	102.9
Spitalbrunnen.....	28.2	35.2	95.3

It will be seen that the water from the Sprudel Spring is the warmest, being 162.5° F. It is also spoken of as the "strongest," but it is evident that any increased activity cannot be due to increased proportion of constituents. It is probably due to the higher temperature, which favors its more rapid absorption and greater activity. It is certainly the most interesting to the casual visitor. Often totally obscured by the steam which arises in dense clouds above and around it, it suggests a huge boiling caldron. From its center spout columns of hot water which scatter the spray so widely that the water must be dipped up with cups at the end of long poles, while the girls serving it are protected with waterproof coats and jaunty rubber caps.

All the springs belong to the municipality of Karlsbad, and immense sums of money have been spent from time to time in constructing handsome colonnades and sumptuous bath-houses about them. Of the former, the finest is the Mühlbrunn Colonnade, erected at a cost of \$320,000, competing in architectural beauty with any similar structure in the world. The Sprudel Pavilion, built over the Sprudel and Hygeia Springs, is a large and handsome hall constructed of glass and iron. In connection with it are also bathhouses. The bathing establishments are the "Kurhaus," with mineral water-baths, mud baths, douches, common water baths, and carbonated water baths; the "Neubad," with Sprudel water baths and mud baths; and latest of all, the costly "Kaiserbad," completed in 1895 at a cost of nearly half a million dollars. It contains thermal and common water baths, cold douche and shower baths, mud baths, electric baths, and electric-light baths, with a complete Zander's establishment for Swedish hygienic gymnastic and massage. These fine modern buildings, some of which contain also offices and reading-rooms, were constructed in rapid succession since 1875 to meet the growing demand of annually increasing visitors, taking the place of older and more imperfect structures.

Why patients go to Karlsbad.—It is creditable to the physicians and others interested in Karlsbad, that they do not claim that the "Cure," as it is called, is applicable to all diseases. On the other hand, they publish a long list of which the contrary is stated. Thus it is contraindicated in inflammatory and febrile affections, in bronchitis and tuberculosis of the lungs, in secondary and tertiary syphilis, in carcinoma and the various degenerations, in diseases of the heart and bloodvessels, especially atheroma and aneurysm, in pregnancy, in advanced Bright's disease, in the debility of old age, or where there is decided weakness from any cause; nor, so far as I know, is any efficiency claimed for these waters in the treatment of diseases of the nervous system. Cirrhosis of the liver is also an affection for which no benefit is claimed.

Before taking up the diseases for which the treatment is beneficial, let us consider first the effect of the waters, and in what the treatment consists. As to whether they are palatable or not, is largely a matter of individual taste. To me both warm and cold waters were agreeable, and to the majority they are not unpleasant. Yet, during my visit, I met one of my Philadelphia medical friends who told me that the Sprudel water so nauseated him that he was unable to take it. This I believe to be unusual. When drunk they come first, of course, in contact with the mucous membrane of the stomach and bowels, and are said to be soothing to these surfaces, allaying pain and arresting spasm. These effects may be produced by neutralizing unnatural acidity, I see not how else. After absorption, their alkaline constituents increase the alkalinity of the blood, promote its solvent power and its mobility. Thus is counteracted any tendency to stagnation, especially in the portal circulation. This effect is further favored by the purgation which is induced in a few days, if not immediately after their use is commenced. Such facility of circulation also relieves the lymphatic vessels, and it is thought favors molecular change and the absorption of subcutaneous fat and inflammatory products. By the purgative effect, too, the bowels are flushed and cleared of mucus and accumulated feces, while normal secretion is thus stimulated.

The effect of the waters is increased when drunk on an empty stomach, when absorption is most rapid. The hotter waters are taken when more energetic action is desired, the cooler when a less positive effect is sought. The greater activity of the hotter waters is ascribed, as already stated, to their more rapid absorption. The quantity advised varies from two to six cups a day—10 to 30 ounces—and is determined by the physician who is consulted. So far as I could ascertain, the larger quantities are rarely ordered. Several minutes should be occupied in the drinking, and from 10 to 15 minutes allowed "between cups." The promenade, the music of the orchestras which play from 6 to 8 at the more popular springs—the Mühlerunn and the Sprudel—the novel surroundings which include especially peculiarities of appearance and dress characteristic of different nationalities, all contribute to make the time pass pleasantly and rapidly.

But the drinking of the waters is by no means all of the Karlsbad treatment, and it is conceded by the most enthusiastic of its supporters that if limited to this only, the treatment would be far less efficient, as well as less picturesque and pleasurable. The visit to the springs is early, between 6 and 8. Perhaps the largest number is found about 7 o'clock. After the allotted number of glasses has been drunk the patient proceeds to one of the numerous bakeries and buys the bread for his breakfast, bread the most delicious to be found. It may be a prescribed quantity in the shape of rolls, or crescents, or zwieback, or the quantity and variety may be limited only by the appetite and taste. Then he proceeds to the meat shop, where he buys his ten to twenty kreutzers worth of tempting cold boiled ham. The pink and white paper packages containing these are carried to one of the numerous cafes from half a mile to two miles distant. A table is selected always in the open air, if weather and season permit, whence, too, there is commonly a pretty outlook towards the rich green meadows and hillsides. By this time our patient is quite hungry and welcomes one of the neatly dressed waitresses who comes with a cheerful "Guten Morgen," for his order for eggs and coffee. The coffee is scarcely less excellent than the bread, and he is soon busy in the pleasurable occupation of breakfasting. So far as my observation went, this breakfast is not at all limited as to quantity, and the delightful surrounding and abundant leisure do not dispose one to eat less than he desires.

Breakfast over, there is more walking. It may be for a short distance or for miles on the many pleasant paths already described, where abundant resting places are provided, until noon is near—the hour at which the baths are usually taken, although many are prescribed for early morning hours. For it is only on the physician's prescription as to kind, duration and temperature that the baths are allowed, unless the visitor happens to be "selbst ein Arzt," when not only is he permitted to select his own baths, but also becomes the guest of the town, receiving a card which admits him to the baths free of cost, except, of course, the *douceur* to the attendant. In common with all others who remain more than a week, he must pay the music tax, which is collected by a polite official who comes direct to his rooms without ceremony. The tax is five florins, or \$2.00, for the ordinary well-to-do visitor who is termed a person of the "first class," eight florins, \$3.20, for a party of two persons, with a further reduction *per capita* for parties of large numbers.

The bath completed, dinner follows shortly. For this the neighborhood of one o'clock is advised, the late dinner hour being discouraged by the physicians. The dinner may also be more or less prescribed by the physician whom the patient has consulted, but here again, there is much erroneous conception as to what constitutes the Karlsbad diet, doubtless because years ago greater stringency was insisted upon than at present. At the present day at least the rigid dietary rules which if neglected are followed by severe punishment are a myth. For the patient under treatment the food is simple but sufficient. It may include soup, fish except salmon, beef, mutton, poultry, game without rich dressings, green vegetables, including peas, beans, spinach, cauliflower and the like. Spices and stimulating condiments, such as pepper and mustard, are prohibited. Soup is often disallowed because it occasions distention. Nor is wine always prohibited. In fact, it is sometimes ordered by the physician, especially the light wines of the country, which are good and inexpensive. So, too, the delicious Münchener

or Pilsen beer is sometimes allowed and even prescribed. On the other hand, champagnes and heavy wines are rightly prohibited. The town water of Karlsbad is pure and wholesome, though it is quite usual to drink some one of the "sauerbrunn," or natural carbonated waters, in which the vicinity abounds, especially the Giesbübler and Bliner which are also used in admixture with wines. On the other hand, waters highly charged with carbonic acid such as Apollinaris are discouraged because they are thought to distend the stomach by liberated gases. Dinner over, a short stroll followed after a brief rest by a longer walk or a drive may be taken. At four o'clock the music again invites to the garden's and café's air. Supper, especially, should be kept within bounds. Tea, bread and butter, an omelet and a little stewed fruit constitute it for the most part. In the evening for those who desire it is the opera in one of the most attractive little opera houses on the Continent, and at some of the larger hotels, like Pupp's, there is music, but by 10 o'clock most persons are in bed or at home, so that a marvelous quiet settles down on the town. Indeed nothing so much impressed as the absolute stillness which pervaded the town soon after 10 o'clock. Streets which during the entire day, and especially in the early morning and early evening, are filled with pedestrians are deserted and "early to bed" is as invariable as "early to rise" for which it is also a preparation. On the whole, the life at Karlsbad is an ideal one, with just sufficient amusement, exercise, and treatment to occupy the time pleasantly, so that it is not surprising that persons return year after year for the pleasure as well as the health-giving advantages afforded.

As to the diseases for the treatment of which Karlsbad is famous, gout and its complications are foremost. The rationale of the effect can only be inferred, but it appears reasonable to believe that the action of the waters is in the first place, depurative and neutralizing on the *materies morbi*, be it retained uric acid or something else—depurative by their aperient action, and neutralizing through the increased alkalinity of the blood resulting from their absorption. Second, the baths further increase elimination, and in conjunction with massage, tend to remove the local swellings and stiffness of joints which are responsible for so much discomfort in gout. Third, the vigorous exercise which forms an important part of the treatment still further increases elimination and contributes to the removal of the conditions referred to. Fourth, the restricted diet from which proteids and wines are excluded or reduced to a minimum, keeps out substances which go to make up the toxic product causing the disease. It is probably the combined action of these agencies which is responsible for the beneficial effect of the Karlsbad treatment on the symptoms of gout. It is said in some instances the pains of gout are increased by the first effect of the waters which dissolve out the uric acid from other situations and carry it to other vulnerable points, whence it is ultimately washed out. It is more than likely that the beneficial effect of the treatment on gout would be prolonged after the patient returns to his home if the same line—hygienic and dietetic—were kept up. It is not only the appetite and careless eating and drinking that are responsible for the retrogression, but also the trouble and difficulty of carrying out at home other parts of the treatment, which cause it to be gradually relaxed and followed by relapses which make recurring visits necessary. To be surrounded by social and business demands at home is very different from being one thousand or more miles away with nothing to do but to carry out a treatment for which expressly the journey is made.

All that has been said of gout is equally true of the tendency to uric-acid deposits and gravel, the solution of these being favored by the alkalinity of the blood and secretions.

The more usual forms of rheumatism of other than gouty origin, articular and muscular, are also successfully treated at Karlsbad by massage, exercise, the thermal baths, and especially the peat baths, which are a unique experience. Unpleasant as is at first the idea of submerging one's self in a mass of thick hot mud, yet the first unpleasantness overcome, the experience becomes a pleasant one. The usual notion of mud as something purely filthy is soon dispelled, while there is a fragrance about the organic matter of the peat which is agreeable. It is brought from some distance in the vicinity of Marienbad where the Karlsbad authorities own a tract of peat land. The peat is ground to a required degree

of fineness and then mixed with the hot Sprudel water. The bath is taken commonly at a temperature of about 28° Reaumur, or 95° Fahrenheit. Massage forms an important part of the treatment of rheumatism.

While upon the subject of baths I may as well describe the two remaining baths which seem worth special allusion. They are the electric water bath, the electric-light bath and the carbonic-acid water bath. In the electric water bath the patient is immersed in the ordinary tub bath at a temperature of about 95° F., and becomes a part of the electric circuit. With sufficient strength a tingling burning sensation over the entire surface of the body which with stronger currents becomes even painful. In a short time the skin becomes decidedly reddened. I do not know that any settled explanations of the operation of the electric water bath is proposed by those who employ it honestly for other than the mental effect. As stated the only evident effect is on the skin. It is undoubtedly counterirritating to the skin. Through this nutrition may be influenced first in the skin itself and second upon the muscular and nervous tissues below it. I think it not unlikely that this form of bath may act as a cardiac stimulus similar to that of the Nauheim bath.

The electric-light bath is an interesting bath. It consists of a cabinet in which the patient is enclosed, except his head. Numerous electric lights project from the sides of the cabinet towards its interior. The bath is a sweat bath in which the heat is derived from the electric lights, and of which the chief feature is that the sweating takes place at a much lower temperature than in a vapor or hot air-bath. My recollection is that it is about 95° F. None of the physicians with whom I conversed at the Kaiserbad were able to offer any explanations.

For the carbonic-acid bath, the sprudel spring water is charged with carbonic acid under pressure, and the baths seemed to me almost identical with the baths at Nauheim which I also visited. The little bubbles of carbonic acid collect in immense numbers on the skin precisely as in the Nauheim baths, and as the water is also a strong saline solution, the same effect of cardiac stimulation may be reasonably expected.

Next after gout—if not before—come portal congestions and gastrointestinal catarrhs. They are influenced through the depurative action of the waters, the bathing, massage, exercise, and restricted diet. Careful adjustment of diet is most important in these affections and the local physicians look closely to this, and with the happiest results.

Gallstones and hepatic colic are among affections for which much is claimed by the Karlsbad physicians, and apparently with reason. It is held that the expulsion of stones is facilitated, sometimes painlessly, but more frequently with the colicky pain usually associated with such expulsion after the thermal treatment. This seems to be generally conceded. An incontrovertible explanation has not been offered. The most likely is that the results depend upon a flushing of the gallducts by a thin bile and the free purgation which drains especially the duodenal end of the bowel. Another very interesting consequence of the reputation Karlsbad possesses in this respect is the aggregation of a large number of cases of gallstone impactions, which failing of relief by the effect of the waters come to the surgeon's hands. As a consequence many cases are received into the local hospital by Dr. —, local surgeon, who has had remarkable success.

Diabetes is another one of the ills for which Karlsbad is resorted to by large numbers. It has seemed to me that the effects are among the least satisfactory of any claimed. This conclusion is not based on observation while at Karlsbad, for I was there too short a time to justify any conclusions. But it has happened to me to send a great many diabetics to Karlsbad, and while many have been benefited, these have always been the milder cases, while the improvement has not seemed more permanent than which always took place when they first came under treatment at home and abroad, and especially abroad where the cooperation of other favorable influences is brought to bear. Indeed, the most claimed by Karlsbad physicians with whom I have discussed the matter, seemed to be as follows: In cases coming to Karlsbad where the best that could be done at home was to reduce the percentage of sugar to a fraction of 1%, the result of treatment at the Spa is to take the sugar out altogether. In cases where the home treatment removed

a portion of the sugar, but left a considerable percentage, the Karlsbad treatment reduced the percentage of glucose, but could not eliminate it altogether. This increment of effect may be the direct effect of the water drunk, probably through its alkalinity. An experiment by Salkowski, to which my attention was called by Dr. Edgar Gans, at Karlsbad, tends to confirm this probability. He noted first that the artificial digestion of starch by pancreatic extract was delayed by the addition of saccharine, and second that this inhibitory effect was counteracted by the addition of sodium bicarbonate and the digestion proceeded. On the other hand, the dietetic treatment is no less rigid than at home, commonly more so, and more strictly carried out, while the cheerful surroundings have their due influence. There can be no doubt, therefore, that to the diabetic who is not too far advanced in the disease, and who can afford a somewhat expensive journey, a trip to Karlsbad will be of service by diminishing or removing his symptoms, by invigorating and encouraging him, giving him a fresh start as it were, whence the outlook is promising and hopeful.

Obesity is one of the recognized objects of the treatment. Indeed, I never before saw so many fat men and women gathered in one place, though by no means every fat person who goes to Karlsbad goes there to be treated for obesity. The majority are altogether too deliberate in their actions, and they eat too much. The treatment for obesity is undoubtedly effective in reducing fat, but here as elsewhere the effect is only accomplished by hard work. The following experience related by the late Professor Horatio R. Bigelow in his interesting paper on Karlsbad, published 13 years ago, may be considered a sample. He says: "When I came to Karlsbad, I weighed between 186 and 190 pounds (American). As I am only 5 feet 6½ inches tall, this was too portly, even for a London alderman. Dr. Grünberger advised the *Kur*. I began with 2 glasses (March 16) of Marktbrunn daily, to which was added on March 20, 1 glass of Mühlbrunn. This was never increased during the 8 weeks of my cure. The water was sipped gradually; then, after a interval of 15 minutes, the second glass was taken, and so the third. After that a walk of from 1 to 2 hours and then breakfast. A cup of tea or coffee (with milk and sugar), 2 rusks and 2 soft-boiled eggs, then a climb of 2 or 3 hours, and home to dinner—a piece of rare meat and one vegetable with an occasional glass of Hungarian wine. Then another long walk, followed by a supper at 7, consisting of tea rusks, and cold meat. I took a few warm and vapor baths, especially when in Berlin, where I was called upon business, being absent about 10 days. While away I kept up my diet rules most strictly, but not being able to exercise as vigorously, I indulged somewhat in Turkish baths. Latterly, I have given up coffee and take no milk in my tea. At first the waters caused a natural but rather active movement from the bowels; then, for 2 or 3 weeks the discharges were more frequent (twice, and sometimes 3 times per day), and then came an interval of constipation.

"I weigh now (May 26) about 155 pounds with winter flannels. My weight, naked, at the Kur Haus bath-rooms was, on May 23, 87 kilograms—148 American pounds. I exercise 3 or 4 hours daily, and observe a vigorous self-denial in matters of diet. It will be seen that from March 4 to March 10 I lost nearly a pound per diem, but during this time I am sure that I walked between 24 and 25 miles daily. At no time have I felt unpleasantly." He says, moreover, "the share of the waters in this role must be considered a small one."

Be this as it may, I am confident that the benefits of the Karlsbad treatment are very great to fat persons, even if it does not reduce their fat, or reduces it moderately, as is more often the case. It is the fat person whose circulation is sluggish, whose bile is thick, whose gallbladder is full of faceted stones, with or without biliary colic. All of these conditions are benefited by the "cure."

The Karlsbad waters are claimed to be efficient in certain diseases of the skin. Erysipelas migrans, sclerosis of the skin, urticaria, pemphigus, and eczema in their milder forms, and furunculosis are mentioned. I did not have an opportunity to see any of these affections under treatment while at Karlsbad, but I have seen a most obstinate case of urticaria which resisted all other treatment at home, greatly relieved by full doses of the Karlsbad Sprudel salt, dissolved in hot water. At the end of 1 week's treatment a life of comparative comfort was substituted for one of misery.

A most important and comparatively recent application of

the Karlsbad mineral waters has yet to be described. It is that of Dr. J. Müller, an accomplished specialist in nose, ear and throat affections. He avails himself of the hot Sprudel water in spraying the nose and throat with powerful sprays produced by the pressure of expanding compressed carbonic-acid gas. By substituting carbonic-acid pressure for atmospheric air pressure he reduces the pressure from 7 atmospheres to $1\frac{1}{2}$ atmospheres. The spray is allowed to pass for 10 to 15 minutes into each nostril and 10 to 15 minutes into the throat. In this way a most effectual irrigation of these parts is secured as compared with which the ordinary nasal spray is as mist compared with rain. This treatment is applied for nose, throat and laryngeal affections, and I have reasons to believe that it is efficient. When in Vienna, where Dr. Müller practises in winter, he uses the Karlsbad Sprudel salt dissolved in hot water.

No description of Karlsbad and its treatment at this day should omit an allusion to the finely appointed Zander establishment for Swedish hygienic gymnastics and massage at the new "Kaiserbad" under the direction of the accomplished Dr. D. Tynauer. This probably surpasses all similar institutions of the kind, being the newest and latest. It is very interesting to watch the patients passing from one machine to another, and securing thus every conceivable variety of gymnastic exercise, everything working smoothly and spiritedly. I will conclude this paper by quoting without comment the purposes of the treatment.

1. To prevent the injurious consequences of a sedentary mode of living or of one-sided muscular action.

2. Ailments and disorders of the organs of movement, as: sprains, stiffness and weakness after fractures of bones and other injuries, crookedness of the limbs and of the vertebral column.

3. Dilations of the stomach and bowels, chronic constipation, enlargement of the liver, hemorrhoids, neuralgia (sciatica), writer's-cramp and similar affections, chorea, cases of paralysis and weakness of various kinds.

4. Obstructions to the circulation of the blood, diseases of the heart and their attendant consequences, overaction of the heart, weakness of the heart, beginning fatty degeneration of the heart, changes in the bloodvessels from old age, nervous heart complaints.

5. Diabetes mellitus, uric-acid diathesis, gout, adiposity and chronic metal-poisoning.

"In all these cases, says the published statement," a combination of the Karlsbad course of baths and waters with the mechanical treatment will be in the highest degree successful."

The Most Suitable Time for Visiting.—Karlsbad may be visited at any time, but what is known as "the season" begins with the fifteenth of April and extends to the first of October. The most popular months are June and July, and during these two months the wealthiest and most fashionable visitors are found, while the rates for rooms are higher. August is also a popular month, but towards the end of it there is quite a decided falling off in the number of patients and visitors. To a person having full control of his time, I should say complete your "Cure" by the middle of August, for although there are many lovely days after this date, the mornings and evenings become cool and the latter damp, especially in the deeper and narrower parts of the valley where the air cannot change rapidly and thoroughly, and persons subject to catarrhal troubles are apt to take cold. Moreover, although Karlsbad is an exceptionally salubrious city, in which no epidemic has ever prevailed, it is reasonable to suppose that the coming and going of 50,000 visitors must have an effect towards the end of the season in contaminating the purity of the air and drainage, while occasionally a case of typhoid fever does crop out towards the end of the season.

The Committee on Scientific Research of the American Medical Association desires to announce that it has available the sum of \$500 for the assistance of researches to be undertaken in the next 6 months, and that the money will be appropriated if applications be received within the month of January, 1901. Applicants should state clearly the character of the research to be undertaken, and the facilities at their command, addressing Dr. H. C. Wood, chairman, 1925 Chestnut St., Philadelphia, Pa.

PRIMARY BRANCHIOGENIC CARCINOMA.¹

By FREDERICK SHIMANCK, M.D.,

of Milwaukee, Wis.

THE following case, although rare, may prove interesting if not instructive. The very fact of infrequency makes it incumbent upon us to consider it more or less in detail. It is very discouraging indeed to one who possesses an investigating turn of mind to encounter disease which may be never or rarely exhaustively treated by medical authors.

Before we proceed to the description of the case under consideration it may be profitable to briefly set forth the anatomy and embryology of the development of the neck. It is not necessary to enter into a minute exposition of this very interesting subject; I merely desire to point out some of the salient facts in order to bring out more prominently some of the practical sides of embryologic teaching. The branchial arches and clefts are the primordial structures of the neck and face; they enter into the construction of the jaw, hyoid bone, thymus and thyroid glands; styloid process, the stylohyoid ligaments, and assist in the formation of some of the other soft tissues of the neck, etc. With the completion of all of those parts the last vestiges of embryonic structures gradually disappear, with the exception of the first one, from which the external auditory canal, the cavity of the tympanum, and the eustachian tubes are developed. From the difference in the rapidity of growth of some of the arches, various cavities are formed as follows: Sinus cervicalis, fundus præ-cervicalis, fundus branchialis, sinus pyriformis. These are lined with ectodermal or epithelial elements. These enter into the formation of the thymus and thyroid glands, etc. Abnormalities in the development may lead to fistulas, dermoids, cysts, or other tumors, malignant or benign. All of the sinuses and pouches should become obliterated in the formation and development of the hyoid bone, the thymus and thyroid glands, etc. Should nature fail in her physiologic functions we may find enclosed in the depths of the neck epithelial elements which are the prerequisites in the formation of primary carcinoma. The first and second branchial arches and clefts by their more rapid growth overlap the third and fourth, thus forming a space lined with epithelial cells, called cervical sinus; other sinuses are formed in a similar manner.

From this short and superficial review it may be very readily seen why epithelial tissues are at times found in the depths of the neck where nothing of the sort, under natural histologic conditions should ever exist, and the reason for the development of primary epithelioma.

In making differential diagnoses between tumors of the neck it is important to remember that branchial tumors, springing as they do from embryonic remnants of the branchial clefts and arches, are situated always primarily anterior to the sternomastoid muscle, between that muscle and the hyoid bone. The second cleft and arch, which are nearly always concerned in the development of the neoplasm, are situated between that muscle and the hyoid bone, whence the tumor spreads posteriorly, etc., until finally the entire lateral aspect or the neck may become involved. Of course, this is not the only point of importance, but, I think, one of greatest weight. The depth of the tumor,

¹ Read before the Wisconsin State Medical Society, June 2, 1900.

its firm adhesion, more properly speaking, intimate amalgamation, for it forms part and parcel of the bloodvessels and nerves of the neck, are perhaps the most important conditions from a pathologic standpoint.

The case occurred in a male, aged 49, a farmer. Up to 5 years ago the history showed perfectly health; the family history was negative. Then a tumor developed in the right half of the lower lip, which became indurated, and eventually ulcerated, destroying a considerable part of the lip.

Diagnosis of epithelioma was made, and excision of the ulcerated and indurated mass followed. The union was good and the result all that could be desired, *i. e.*, no recurrence in the scar up to the present time, or nearly 5 years; but 1 year subsequent to the operation an enlarged gland of about the size of a hazel nut was found situated over the right submaxillary gland, painless and movable. No other glands were at that time, or at any other time, discovered. The physician who had the patient in charge considered it carcinomatous and removed it. No microscopic examination, to my knowledge, having been made, it is impossible to state what its construction was; but, judging that it was solitary, freely movable, and absolutely painless after having attained the size of a hazel nut, it is reasonable to conclude that it was not malignant. At the beginning a secondary gland tumor is generally movable because the infectious material is still confined and limited to the glandular parenchyma, the capsule eventually becoming involved and destroyed, when fixation and infiltration of the surroundings rapidly follows.

In the very beginning, then, mobility of a gland tumor is not a feature to be regarded in favor of benignity, but mobility and solitariness of a gland tumor, after having existed some time and having attained considerable size, is, in my opinion, evidence against malignancy.

It is fair to assume that in regional infection involvement of several glands takes place simultaneously or in rapid succession, since many lymphatic vessels are taking up microbes or cells from the ulcerating surface, it is usual, therefore, to find many, or a whole chain of lymph nodes enlarged. Carcinoma being of epithelial origin it never occurs primarily in the glands of the neck.

The conclusion irresistibly points to adenitis, probably of an infectious nature, from the throat or mouth.

In June, 1899, or about 4 years after the glandular episode, the patient presented himself for treatment of a tumor of the right side of the neck. On examination it was found that a round, smooth, and an elastic tumor of about the size of an orange, apparently fluctuating, existed in the right upper triangle of the neck, situated between the hyoid bone and mastoid process, beneath the sternomastoid muscle, of about 2 months' growth. It was insensitive to pressure, nor was it causing any great subjective phenomena, excepting some neuralgic pain, not, however, of sufficient moment to disturb his rest. It appeared to be quite movable, but that must be understood in a relative sense on account of a great looseness and mobility of the tissues of the neck—any tumor there situated will be comparatively movable unless there is great induration from inflammatory or malignant infiltration.

Nothing else could be discovered. At first thought, from the history as given by the patient, diagnosis of malignant tumor was made with, however, considerable reserve, owing to its smoothness, painlessness, and lack of infiltration.

An exploratory incision was made over it parallel to the anterior border of the sternomastoid, and, as this was gradually deepened, suddenly a gush of yellowish transparent

fluid took place, followed by a complete collapse of the tumor.

The interior of the sac was lined with an irregular membrane; the prominences or proliferations apparently consisted of granulation tissue. The whole of the interior was thoroughly curetted, and subsequently painted with iodine.

The diagnosis of carcinoma remained undecided, and further opinion was withheld pending the microscopic examination of the scrapings by Dr. Evans, of Chicago, who pronounced it epithelioma.

After closure of the opening rapid refilling of the cyst took place as also a considerable enlargement of the entire tumor. One month later a second attempt at removal was made at the most urgent solicitation of the patient, however, against my advice and convictions. This operation consisted in freely laying open the field of operation through a large U-shaped incision, which commenced anterior to the sternomastoid below the angle of the jaw, and was continued downward below the tumor, then backward across the neck in a curved direction, thence upward and terminating near the external occipital protuberance.

This incision extended through the skin, the superficial fascia, platy-ma, and the sternomastoid muscle. This large flap was raised from below upward, exposing a very large area which afforded a beautiful view of the entire interior surface of the cyst.

Its walls were composed of a tough membrane of about the thickness of a postal card, on whose surface sprouted, here and there, granulation-like masses, the surrounding tissues, or those tissues being in intimate relationship with the neoplasm appeared to the naked eye and to the touch normal; no enlarged glands were palpable either in the immediate neighborhood of the tumor or elsewhere. An attempt was made to dissect away the cyst wall, but it soon became evident that nothing short of a removal of the entire side of the neck would suffice, and so the operation was discontinued.

As has appeared above from the embryologic considerations that those neoplasms of branchial origin enter, so to speak, into the constitution of the normal histology of the neck, the extent of malignant dissemination in carcinoma is beyond estimation.

I do not see the philosophy of those extensive and hazardous procedures when no hope can be entertained of ultimate recovery, or even of the prolongation of life or of alleviation of suffering.

The growth of the tumor increased very markedly after this attempt, and in about 8 months from that time the patient succumbed to hemorrhage from the tumor. From the situation of the tumor, from its cystic character, with an epitheliomatous degeneration, diagnosis of branchial carcinoma had been made, and probably of primary origin.

From the history of this case this would at first sight seem highly improbable, but if we take into consideration the time—5 years—which had elapsed since the appearance of the lip epithelioma, and secondly, no gland involvement following it which could be regarded with any degree of certainty, it must be admitted that the branchial carcinoma simply developing later than that of the lip does not prove its dependence upon the latter.

Tilman says in speaking of the prognosis of carcinoma:

"We make distinction based upon their mode of origin, between continuous and regional recurrence; the former spring from portions of the primary tumor which were left behind at the time of operation, while the latter (regional appearance) are looked upon as independent new tumors in the cicatrix or its vicinity. The second kind sometimes make their appearance only after the lapse of years."

All recurrences which occur later than 2 years after operation should be considered, according to Snow, "new independent tumors resulting from new injurious agencies." In looking up the literature one is struck with almost the entire absence of anything definite

upon the subject. Jordan¹ of Heidelberg, in Bergman's, Bruns', and Mikulicz's Surgery, which is now being published, contributes a very interesting and practical article from which I have translated as follows :

Deep carcinomas of the neck are generally situated in the upper triangle, and fully correspond in construction with those of the skin. There being, normally, no epithelial tissue in the place of their occurrence, Volkman, who first, in 1882, described 3 cases, considering their origin from epithelial remains of branchial clefts, therefore named these carcinomas branchiogenic or branchial.

As a proof of the correctness of this observation the following two points may be produced, first, the topography of the tumor; second, the fact that the development of carcinomas from the epithelium of the cysts of branchial clefts has several times been proved.

As a rule, the tumor is situated in the upper triangle of the neck, and occupies the place between the hyoid bone and the sternomastoid, whence the tumor develops posteriorly and lies beneath the deep fascia of the neck, forming adhesions with the great vessels, the vagus, and sympatheticus. The location of the tumor with its accepted origin corresponds to the second branchial cleft, the cervical sinus, and the relation which it bears to the bloodvessels is clearly demonstrated by the upward course along the carotids of a branchial fistula.

In isolated cases the tumor appeared in the middle and lower part of the anterior region of the neck, a fact, considered from the developmental history, and from their relationship to bloodvessels, is not clear.

The carcinomatous degeneration of the branchial cysts has been observed in the following cases :

CASE 1.—Bruns reports a case of a 57 year old man who, since 6 months, had noticed a swelling in the upper neck triangle, which on operation was found to be a cyst with hard proliferating walls, situated between the hyoid bone and the large vessels. Microscopic examination showed a pavement epithelial carcinoma, etc.

CASE 2.—Also observed and treated by Bruns. A cystic tumor of 5 months' existence situated at the division of the carotids, which on puncture gave vent to a considerable quantity of yellowish-dark fluid containing epithelial cells. Incision showed the internal surface of a papillary construction; microscopic examination showed pavement epithelial carcinoma with proliferation into the external wall, composed of connective tissue.

CASE 3.—Bruns-Richard. A congenital branchial cyst suddenly suppurated; a fistula with induration remained after incision which after a year's time enlarged and became hard. Microscopically it proved to be an epithelioma.

CASE 4.—Quarry-Silcock incised a tumor of 5 months' growth on the right side of the neck of a man 56 years of age, which proved to be a cyst lined with papillary tissue: microscope showed it to be an epithelioma.

CASE 5.—Observation by von Quarry-Silcock: in the lower third of the sternomastoid of a man 32 years old was located a cyst whose inner layer presented carcinomatous degeneration.

Branchiogenic carcinomas are rare; beside the 8 cases already mentioned are also Gussenbauer's 8 cases; von Reynault's 1 case; Mayor's 1 case; von Eigenbrodt's 1 case; also, possibly, 2 cases reported by von Langenbeck who described them during his time as vessel-sheath tumors; as, also, 1 case published by von Regnault (Czerny) of pavement epithelial carcinoma situated at the place of division of the carotids.

In 1898 I observed 1 case in the left upper neck triangle of an old man which had all of the characteristics of a branchial carcinoma. The extirpation with a resection of the internal jugular and the external carotid was successfully accomplished. Microscope

showed pavement-epithelial carcinoma. The patient succumbed two months after the operation from recurrence in the neck, also gangrene of the leg from thrombosis necessitated an amputation, the autopsy proving the diagnosis of a primary branchial carcinoma.

Symptomatology: So far all of the cases observed have occurred in males and generally in those of advanced years, between 40 and 65. The tumor was oftener located in the right side of the neck. A swelling appears in the typical location which, in the beginning, without causing any pain, slowly enlarges, but in a very few months commences to grow much faster, producing neuralgic pains, radiating particularly into the occipital and ear regions and may be so intense as to rob the patient of sleep. The patient's attention is often directed by the pain to the yet deeply located and slightly prominent tumor.

After a longer progress of the case we may find a neoplasm covered with normal skin, irregular and very hard, situated between the sternomastoid, to which it is firmly adherent, and also fixed to the underlying tissues. On the lower and upper poles may, at times, be felt the pulsation of the carotids.

The regional glands are indurated and the tumor gradually spreads over the entire half of the neck; the skin adheres to the tumor and breaks through the surface, suppurates and produces hemorrhages; internally it ruptures into the great bloodvessels, particularly into the internal jugular, thus leading to metastasis into internal organs. Through the latter, or as a result of local complications, exitus letalis follows.

The course of the disease is rapid, extending from one-half, or at the farthest, to one and one-half years. Diagnosis is very difficult and can only be positively made from the outcome of the case after extirpation, i. e., a cure or an autopsy.

The probable clinical diagnosis is founded upon the discovery of a tumor in the indicated location, sub-fascially situated, whose construction closely resembles a carcinoma, and whose secondary development can be excluded. It is to be remembered that there are hidden carcinomas, for example, in the nose, larynx, esophagus, etc., which it may be impossible to find, while the secondary gland tumor becomes prominent.

The following observation, which I had a chance to make in August, 1898, in this respect, is instructive :

In a man of 63, two hard tumors of about the size of an apple were situated in the right half of the neck, the one of which lay in the upper triangle, and was firmly adherent to the sternomastoid, while the other one appeared some time after the existence of the first and occupied the supraclavicular region.

Because the histologic construction coincided with carcinoma, and, after the most painstaking examination of the cavity of the mouth, of the larynx, and of the esophagus, no primary carcinoma could be discovered, I decided that we had a branchiogenic tumor to deal with, with gland metastasis in the lower triangle of the neck. The extirpation could only be accomplished with the resection of the common, the external and internal carotids, the internal jugular, the vagus, and of the sympathetic. In the jugular a tumor thrombus was found. Death from pneumonia on the fourth day. Autopsy revealed a small carcinoma in the lower third of the esophagus developed in a longitudinal direction and occupying only a small part of the circumference, not at all producing a stenosis of the esophagus, and only infiltrating its walls to a small extent. Above the cardia a cherry-stone-sized carcinomatous gland existed.

The secondary gland carcinomas may frequently be distinguished in the beginning from branchiogenic carcinoma by remaining painless longer, circumscribed,

and movable, while the branchial carcinomas from the beginning are attached to the large bloodvessels, to the nerves, and to the sternomastoid, and early produce pain.

The histologic structure being the same the origin can be shown only when gland tissue is found in the carcinoma. In a case of neck tumor larger than an apple situated in the typical location, which was referred to our clinic with the diagnosis of branchial carcinoma, which, however, seemed doubtful because an examination of the larynx was difficult on account of edematous swelling, a microscopic examination of the extirpated tumor showed pavement epithelial carcinoma with typical lymph follicles in the stroma. It was decided that we had a metastasis of carcinoma in the glands, and later successful laryngoscopic examination demonstrated the existence of carcinoma of the larynx.

The secondary gland carcinomas are to be differentiated from the very rare carcinomas originating from separated lateral offshoots from the thyroid gland whose topography and clinical appearance may very closely correspond with branchiogenic carcinomas. The differentiation of this form of tumors, of which Berger described a typical example, is only histologically possible. Of noncarcinomatous tumors, lymph sarcomas, tuberculous glands, and actinomycosis may, under certain circumstances, be mistaken for branchial carcinomas. The sarcomas are generally of a softer consistency; tubercular glands may be very hard in consequence of fibrous periadenitis, and, since in advanced age they often appear isolated, they might awaken suspicion of malignancy and exploratory incision may have to be resorted to. The combination of hard infiltrations and softened places is characteristic of actinomycosis. The skin becomes involved in the early stages of the disease. The neuralgic pains are not so pronounced in the above-mentioned diseases as in carcinoma. The prognosis is very grave. It appears that extirpation has been followed by only one cure (case of Eigenbrodt).

From the uselessness of other therapeutic measures operative removal should be attempted as early as possible. The operation is difficult as well in the early period of the disease on account of the intimate relation of the tumor with the vessels and nerves. The results of the operation depend upon laying the field widely open; it really means an anatomic preparation, and therefore the utilization of flaps or cross-cuts of Bruns and Gussenbauer recommend themselves. The first cut runs parallel with the anterior border of the sternomastoid; the second runs from the middle of the chin obliquely, or in the shape of a bow, to the middle of the sternomastoid, and eventually to the acromion process of the scapula. The sternomastoid is divided and the four flaps are reflected in the various directions. Should the muscle be involved it must be removed or resected, if free it is tied with catgut. The incision given by de Guervain is to be recommended. It runs along the anterior border of the sternomastoid down to the sternum, thence at an acute angle outward along the clavicle with severing of the sternomastoid about $1\frac{1}{2}$ cm. above its insertion, and with the reflection of the platysma, because it enables one immediately to encircle the large bloodvessels at the lower angle of the wound with silk loops. Owing to close adhesions the internal jugular must always be resected and the carotids many times; one is at times forced to remove the

vagus and sympathetic nerves, which is not serious because of the change in these structures due to the long compression. Considering the difficulties of the procedure and the patients' advanced age, the mortality of the operation is not great. Out of the 8 operated upon by Gussenbauer, only 1 died post-operation from the effects of the ligation of the carotid. The chances of a lasting result are bad.

The only one who remained free from recurrence was the patient of von Eigenbrodt, whom he exhibited at the Twenty-third Surgical Congress. Of the cases of Gussenbauer, 2 died from 5 to 8 weeks after discharge, from recurrence; about the others no report has been made.

Radical operations being impossible in many cases, we are then limited to palliation and symptomatic treatment, curetment, chlorid of zinc, and cauterization.

In the *Surgical Review* (Paris), according to the *Journal of the American Medical Association*, is an article on "Branchial Epithelioma of the Neck," by V. Veau. The following is an abstract:

Six personal observations, added to the 48 on record, show that "malignant branchioma" is not so rare as generally assumed. The treatment should be preventive in case of branchial fistulae, cysts and mixed tumors, by removal before malignant transformation. If ablation of the branchioma is possible it should be extensive. The veins will have to be ligated, but this is free from danger. The artery should be respected, its ablation may entail cerebral accidents, and ligating it to prevent or arrest hemorrhage caused the death of one of Veau's patients. The vagus may have to be resected: this is less dangerous than ligating the primary carotids. It is best not to attempt autoplastics. The branchioma may develop from various elements of the branchial arches and may be located in the parotid and submaxillary glands, or in the thyroid gland, possibly, also, in the mediastinum, but it is most frequent and most typical in the neck.

THE RESOURCES OF MODERN MINOR GYNECOLOGY.*

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THIS paper has been suggested by the growing tendency to lose sight of the capabilities of minor gynecology as shown by the assertion of some men that they find little use for it, but after examining their patients, they are sent to the hospital.

Is gynecology becoming a surgical specialty? If so, I desire to enter an earnest protest. There is much we can accomplish by minor gynecology. There are many gynecological disorders that are curable by office treatment.

But the man who limits his resources to glycerin tampons and iodine applications, is truly in a sad plight and there are few cases that he can cure without resort to surgery. It must be admitted that not all gynecological disorders are amenable to nonsurgical treatment, and I would not be understood as being opposed to surgical gynecology. I am heartily in favor of any method of treatment that gives the best results for the patient. But the growing indifference to nonsurgical treatment or minor gynecology seems to me an error. The multiplicity of our modern gynecological resources shows that we are better equipped than we were 15 or 20 years ago. Yet many of these cases

* Read at the meeting of the New York State Medical Association held at New York, October 15 to 18, 1900.

were cured even then. May we not, by exercising a little more patience and perseverance, avoid much needless surgery? Is it not our duty to conserve, rather than to destroy?

It has occurred to me that it might be profitable to enumerate some of our modern gynecologic resources and consider what they may aid us in accomplishing. Our resources may be divided into diagnostic and therapeutic.

DIAGNOSTIC RESOURCES.

Microscope.—Foremost among diagnostic resources is the microscope. It occupies the position of a preventive resource, since by the early detection of infection through its aid, many of the more serious gynecological disorders may be averted. I believe I am not demanding too much when I say no man should practise gynecology, or even examine gynecologic cases, unless he possesses this means of investigating the character of vaginal discharges, and the knowledge to employ it intelligently. This applies to the general practitioner as well as to the specialist. It is unnecessary to remind you that many lives have been wrecked and many lost, by neglect of proper investigation of vaginal discharges, both in women and children. This is a diagnostic resource that none of us can afford to neglect, or be without, and is one very important advantage we have over our predecessors of a quarter of a century ago.

Uterine Endoscope.—This is comparatively a new diagnostic instrument, and the one I show you, which illuminates the field by means of a small electric light carried down to nearly the end of the tube, is one which I presented in connection with my paper on the "Treatment of Endometritis by Drainage and Irrigation" last year at the Columbus meeting of the American Medical Association. The advantages of this instrument as an aid to diagnosis in conditions involving the interior of the uterus, cannot be appreciated until it has been used. One of its chief advantages is in showing when curettage is necessary and when it is not necessary, and also showing when the work has been done thoroughly.

Cystoscope.—It is not necessary to enter into the details of the uses of this instrument. Its utility is now very generally recognized and no well-equipped specialist in this line is without one. It is positively indispensable for diagnosis of diseases involving the interior of the bladder.

Steel Dilators.—After the sponge-tent was abandoned, because of its liability to cause sepsis, the steel dilator came more generally into use, and there are a dozen or more varieties on the market. The advantage of this instrument, as a means of diagnosis, by affording facility for exploration of the interior of the uterus, is too well recognized to require more than passing mention. The usefulness of the two-branch dilator is, however, limited, since with it only a comparatively small degree of dilation can be accomplished. When the cervix is rigid, sufficient dilation to permit the introduction of the finger for exploration cannot be accomplished with this instrument. The four-branch dilator has been made to extend the degree of dilation of the cervix, and answers the purpose better than any of its kind that I have used. It is, however, a powerful and dangerous instrument in careless hands and should be used with extreme caution.

We have never had anything that produced such

thorough and satisfactory dilation of the cervix, as the sponge or laminaria-tent, and I am sure that I am not alone in feeling deep regret in being obliged to abandon them. Very frequently cases are encountered in which exploration of the cavity with the finger is desirable, yet the cervix is too rigid to be dilated safely with the steel dilator.

Recognizing this, I was induced to devise a plan of employing them in a manner that would be perfectly aseptic. The outcome is this rubber tent-cover that is made for me by the Miller Rubber Company. To fully appreciate its advantage, we must consider why a sponge or laminaria-tent could never effect aseptic dilation of the cervix when used bare. It is certainly possible to render the tent aseptic, but its expansion depends upon absorption of the secretion from the surface with which it is in contact. Hence the secretion from the cervical glands, which so frequently harbors bacteria, is taken up by the tent and conveyed to the cavity above, where the bacteria find a fertile field for development.

By using the tent-cover, this is avoided, because the tent expands within it. A strip of gauze is carried up along the side of the tent and over the end, one end of the gauze being left long. This is wet and the cover is slipped on over it and it is then introduced into the cervix. One end of the gauze is left hanging from the mouth of the cover in the vagina. The vagina is now filled loosely with gauze and this is made thoroughly wet. The capillary action of the gauze carries the moisture from that in the vagina to the tent and causes it to expand within the cover. Therefore, even if the vagina is not sterile, there is no risk of infecting the endometrium from that source.

Anesthesia.—Anesthesia, whereby unconsciousness of pain and relaxation may be acquired to facilitate examination by palpation in doubtful cases, where the patient is too sensitive to permit a satisfactory examination, is of inestimable value, as a means of diagnosis. This advantage is only too self-evident. Increased dexterity in bimanual palpation acquired by practice, and the positions of the patient which have been found to facilitate these examinations, make examination under anesthesia less frequently necessary than formerly, but this can only be attained by a few who have unusual facilities and know how to utilize them to the best advantage.

Greater familiarity with the pelvic organs and abnormal growths in the pelvis, afforded by abdominal section, is one of the many advantages we, of the present day, possess, and which was denied us before these operations became so frequent. The immense aid this is to one's diagnostic ability cannot be appreciated until one has had this experience.

Exploratory Abdominal Section.—Finally may be mentioned exploratory abdominal and vaginal section. This is a diagnostic resource of great value, since it is now a recognized procedure in doubtful conditions within the pelvis or abdomen, where it has been impossible otherwise to reach a conclusion.

THERAPEUTIC RESOURCES.

It is a mistake to think that our therapeutic resources are few. I find them more numerous and more efficient than when I began this line of work 16 years ago. I regret that I have only time to give a brief review of those that seem to me the most important.

The Vaginal Tampon and Local Applications of Iodin.

—The vaginal tampon and local application of iodine are given first place, not because they are the most invaluable or the most indispensable of our therapeutic resources, but rather because they have held first rank to long. It cannot be denied that they still serve a very useful purpose in the treatment of gynecologic disorders, especially those of a chronic inflammatory character, and I do not wish it to be inferred that I discredit their usefulness, but I think too much is attributed to them and they are often misapplied.

The application of iodine to the vaginal vault is certainly beneficial in certain chronic inflammatory conditions about the uterus and bladder. It relieves pain and soreness, stimulates absorption of inflammatory exudates, and is the most reliable local antiseptic that can be employed. Therefore, it is particularly useful in counteracting infection about the cervix and even within the uterus when it is properly applied. It should not be applied to the interior of the uterus, however, in full strength, nor upon a cotton-wrapped applicator, but should be diluted with water and applied through a double-current irrigator, when the canal of the cervix is sufficiently patulous to permit free drainage afterwards.

Tampons soaked with glycerin are useful for effecting depletion of the pelvic structures, but they cause discomfort and do harm if not properly used or if they are retained too long, by exerting pressure upon sensitive structures. There are some improvements in the method of using this agent that have been suggested by personal experience. For instance, if the glycerin is applied on a strip of absorbent gauze that is distributed loosely and evenly against the vaginal vault around the cervix, there is less discomfort than from the application of tampons soaked in glycerin. The patient should be placed either in the Sims' or knee-chest position for its insertion. In some instances, when even less pressure than this latter exerts can be endured, I have employed glycerin by placing the patient in the knee-chest position, inserting a perineal retractor and pouring about half an ounce of glycerin into the vagina from a small test-tube. Then a flattened tampon of nonabsorbent cotton is placed just within the vulvar orifice to retain it in the vagina. The patient, when possible, should retain the recumbent position for an hour or two afterwards.

I have found glycerin and iodine combined, in the proportion of 1 part to 32, more satisfactory than boroglycerid, or ichthyol and glycerin. It is an excellent astringent and possesses all the advantages of the other two remedies mentioned, with none of their disadvantages.

The dry-wool tampon is a very useful elastic support for the uterus, when the pelvic structures are too sensitive for the unyielding pressure of a pessary, and by applying it at first, the parts are prepared for a more permanent and reliable support. Thus the sensitive structures are gradually made accustomed to pressure and the uterus is lifted in the pelvis, thereby relieving the obstruction to the return circulation and reducing the weight of the organ. When used for this purpose, the surface of the vagina and tampon should be coated with some bland, nonirritating antiseptic powder, to keep the tampon from becoming foul and prevent irritation of the vaginal surface.

These tampons are best introduced with the patient in the knee-chest position, and care must be taken to adjust them so they will support the uterus in the de-

sired position, without exerting unequal pressure at different points.

Pessaries.—The pessary is certainly a very useful artificial support for the uterus, but it should be regarded only as an auxiliary to other measures in effecting a cure. Unaided, it can accomplish little. Unfortunately, past teaching has caused too much to be expected of it. An enumeration of its uses and abuses would constitute a chapter in itself and would take up too much space here.

Uterine Irrigation.—I regard uterine irrigation one of the most important additions to our gynecologic resources, because it is the only reliable method of cleansing the uterine cavity and it affords the most effective method of application to the surface of the endometrium. If it has not already done so, it should supersede all other methods of application to the interior of the uterus. The clinical irrigator which I show you makes it possible to employ this method without previous dilation of the canal of the cervix and without an anesthetic. Therefore it may be used in office or clinical work, without discomfort to the patient and without risk if asepsis is observed. It is small enough to be introduced, in most cases, with ease, and when it does not pass the internal os readily, it is converted temporarily into an electrode, by slipping a piece of rubber tubing over it for insulation and connecting it with the negative pole of the battery (galvanic). By using 10 M. for half a minute or a minute, the obstruction is overcome. If the current is continued while the irrigation is going on, thorough relaxation of the canal is produced for subsequent drainage. The outer tube of this instrument is made long, that the outflow may escape outside the vulvar orifice. It can be employed in the dorsal or lateral position.

It would consume more time than I am allowed to enumerate the advantages of uterine irrigation. They should be sufficiently self-evident to make it unnecessary.

Electricity.—Despite the fact that the purely surgical gynecologists have tried to kill it, that they have repeatedly declared it dead, that the enthusiasts have mortally wounded it by their exaggerated claims, and that it has failed or done harm when employed indiscriminately and incompetently, it is still very much alive and is doing much good. The gynecologist who does not employ electricity, neglects one of the most valuable gynecologic resources. It will not be possible here to give you more than a mere suggestion of its capabilities in gynecologic disorders.

Galvanism.—Galvanism, or the direct current, will relax the cervical canal and promote drainage of the cavity above and of the submucous glands of the cervix as well, establishing thereby a condition essential for the cure of endometritis, which cannot otherwise be done except by surgical intervention. It will dispel pelvic congestion, relieve pain depending thereon and promote absorption of exudates and effusions more satisfactorily than any other agent, except faradization. It will relieve the symptoms and reduce the size of certain varieties of fibroid growths in the uterine wall and when they have not attained too great a size, or have not acquired extraneous nutrition through organized adhesions with adjacent structures, they sometimes disappear under its use.

Faradization.—In faradization we have a most effective remedy for the relief of pelvic pain and congestion; for promoting rapid absorption of effusions and

exudates, and for the cure of both acute and chronic inflammatory conditions in and about the uterus. As a remedy in the above named conditions, it is without an equal. I cannot consume the time here to explain how it produces these results. A correct appreciation of its physiologic action will render such explanation unnecessary.

Internal Medication.—The administration of remedies that act through the general circulation and exert some special action upon the generative apparatus, is very generally understood. It is only necessary to warn against expecting too much of them to the exclusion of local measures, as the busy practitioner is inclined to do. There are a few internal remedies which, from personal observation, I have found particularly valuable as auxiliaries that deserve special mention here.

A combination of bromid and potassium iodid (10 grains of the former and 5 of the latter), given in water 3 times a day, is particularly beneficial as a sedative for painful conditions in the pelvis and for promoting absorption of inflammatory exudates.

The ordinary compound cathartic pills, given one every second or third night, is one of the most satisfactory remedies for chronic constipation so common in this class of cases. Unlike other cathartics, the dose does not have to be increased, but owing to their stimulating action on the liver, it is kept active and they can soon be dispensed with. I have never observed any undesirable action from the calomel they contain.

The bromid of gold and arsenic I have found very serviceable as a sedative to the pelvic circulation and to the generative apparatus in general; particularly when there is ovarian irritation, and in anemic conditions. It produces marked diminution in the menstrual flow, even where the endometrium is in a condition to demand curettage. For this reason it is effective in menorrhagia and metrorrhagia, but it would not be appropriate where menstruation is deficient except when due to anemia.

I fully realize that I have not done my subject justice and I have omitted much that is important. My excuse is the limited time at my disposal here. But if what I have said proves an incentive to renewed efforts in the line of minor gynecology, which I feel has been much neglected of late, I shall be repaid for the effort I have made in this direction.

THE HOME MODIFICATION OF MILK FOR INFANT FEEDING.

By L. EMMETT HOLT, M.D.,
of New York.

EVERY physician who engages in infant feeding must know something of milk modification. The milk laboratories have taught us the great advantage of accuracy and definiteness, and the percentage method has been of very great assistance in the modification of milk at home. While it may be said that accuracy carried to small fractions of a percent is not absolutely necessary for practical results, it is a matter of the greatest importance that the physician know very approximately what he is feeding. There is great need of a simple method of calculating readily the proportions of fat, sugar and proteids, in formulas to be made up at home. It must be easy also to vary the proportion of these different ingredients separately. A method to be really useful at the bedside must be one requiring the minimum

amount of arithmetical calculation, and so simple as to be grasped by the average nurse or mother who is to prepare the food. While all of the 3 or 4 different methods proposed secure, I have no doubt, equal accuracy with the one here given, most physicians have found them too complex for use. It is greater simplicity which is aimed at in this paper.

No method of home modification secures more than approximate accuracy; since the exact composition of the elements—milk and cream—which are used, it is not ordinarily possible to know. There are, however, some general facts, which may prove of great assistance to the physician in making his calculations. The composition of herd milk, or mixed milk of a number of cows, is practically constant except in the proportion of fat, this varying from 3.50% to 5.50%; in the ordinary samples used 4% perhaps may be taken as the average, except that from Jersey herds. As regards the proteids, it seems certain from recent analysis, that in assuming 4% as the average we have made a mistake, and that 3.50% is much nearer the truth. Some of the foreign authorities place it as low as 3.40%, others at 3.60%, but very few as high as 4%. The sugar is not far from 4.30% to 4.50%. We shall therefore assume in our discussion the composition of average herd-milk to be: fat 4%, sugar 4.50%, proteids 3.50%.

It is necessary to know also the percentages of sugar and proteids which are present in cream containing different amounts of fat. The following table, taken chiefly from the analyses made by Adriance, and confirmed by other observations, may, I think, be taken to represent pretty nearly the composition of creams of different density:

	I.	II.	III.	IV.	V.
Fat	4.	8.	12.	16.	20.
Sugar	4.50	4.35	4.21	4.05	3.90
Proteids	3.50	3.40	3.30	3.10	3.05
Salts . . . . .	.75	.70	.65	.60	.55

In most of the modifications of milk for young infants it is required that the fat be considerably higher than the proteids. A simple plan would seem to be first to raise the percentage of fat to such a point, that, when the milk is diluted to reduce the proteids to the required figure, the fat shall also be reduced to the percentage which we wish to use. Really the important part of the modification consists in finding the best way of introducing the extra fat desired. It may be done by the addition of cream, or by using the upper milk after it has been standing for a given length of time.

If cow's milk from a mixed herd is put into bottles soon after it is drawn and rapidly cooled, it will be found that after 4 hours the upper fourth will contain nearly all the fat that will rise as cream; and that the upper layers will have nearly the same percentage of fat, whether the milk has stood for 4 hours, for 8 hours, or over night (16 hours). This has been demonstrated in a series of experiments made for me by Messrs. Upton and Jeffers at the Walker-Gordon Farm at Plainsboro. After standing under the conditions mentioned, fat tests were made with the Babcock apparatus of the different four-ounce layers of bottled milk which were carefully removed with a siphon, with the following results:

	After 4 hours.	After 8 hours.	Over night.
Upper 4 ounce.	20.50% fat.	21.28% fat.	22.00% fat.
Second "	6.00 "	6.50 "	6.50 "
Third "	1.50 "	1.40 "	1.00 "
Fourth "	1.20 "	1.00 "	.30 "
Fifth "	1.10 "	1.00 "	.05 "

Each of the above percentages represents the averages, each test having been repeated many times, 110 different

varies between 4.05% and 4.50%. A mixture which contains $\frac{4}{20}$ milk will have, before any sugar has been added, 80% or 90% sugar. If one ounce of sugar is added to each 20 ounces of the mixture, which alone would make the sugar 5%, it will now be raised to 5.80% or 5.90%, according as we use the primary formula of series A or E. In practice this may be considered as a 6% sugar.

If we take a formula containing $\frac{9}{20}$ milk, the milk mixture will give 1.85 or 1.95 sugar, according to which primary formula we are using. The addition to this of one ounce of sugar to each 20 ounces of the mixture will raise the total to 6.85% or 6.95%, practically the 7% sugar.

Lower percentages of sugar, when desired, are readily secured by making the quantity added less than 1 ounce to each 20 ounces of food.

In measuring the milk-sugar it is to be remembered that 1 ounce by volume is very nearly 1 ounce by weight. If the measuring is done with the tablespoon, one even tablespoon may be calculated as 3 drams, or $2\frac{1}{2}$ even tablespoonfuls as 1 ounce. If cane-sugar is used, the proportions should be about one-half that which has been mentioned, *i. e.*, one-half ounce to each 20-ounce mixture; as there are few infants who will bear cane-sugar in the proportion of 5% to 7% in their food.

Lime Water.—It is generally agreed that 5% lime water has the average alkalinity which is required. This is easily secured by adding 1 ounce of lime water to each 20-ounce mixture. More than this may be used without disturbing the calculation.

Diluent.—For my own part I prefer boiled water as a diluent for the first months of life. However, the method of modification is not affected if anything else is used. One may, if he prefers, use one-half or one-quarter of barley water, or the dilution may be entirely with this. The milk sugar is, of course, to be dissolved in the diluent whatever it may be.

In all the formulas given the amount of water or of the diluent is to be added in a sufficient quantity to make up 20 ounces, this unit being the most convenient one for calculation. The quantity of the mixture may be increased to 25, 30, 35 or 40 ounces by simply using of each ingredient, $\frac{1}{4}$ more, $\frac{1}{2}$ more, $\frac{3}{4}$ more, or twice the amount.

The foregoing detailed description of the different steps in the process of modification may, perhaps, make this method seem very complex. However, the practicable application of the results is very simple. Below are given the various proportions derived from the different primary formulas, carrying out the principles thus described. I have written out those which contain the fat from about 0.5% to 4.0% with the combinations in the proteids with which they are likely to be used. Of course, the number of these derived might be indefinitely increased.

SERIES A.—Ratio of fat to proteids 5:1.

Primary Formula.—16% milk (or cream) containing fat=16, sugar 4.05, proteids 3.20%. This being the upper 6 oz. of 1 quart of bottled milk, as above described, or the ordinary gravity cream.

Derived Formulas Giving Quantities for a 20 oz. Mixture.

I.	{ Sugar 1 oz. Lime water 1 oz. Water q. s. 20 oz. }	with 1 oz. 16% milk	fat .80, sugar 5.20, proteids .16%
II.	" " " " 2 oz. " " "	" 1.60, " 5.40, "	.33%
III.	" " " " 3 oz. " " "	" 2.40, " 5.60, "	.48%
IV.	" " " " 4 oz. " " "	" 3.20, " 5.80, "	.64%
V.	" " " " 5 oz. " " "	" 4.00, " 6.00, "	.80%

If more than the 20 oz. mixture is needed, it is convenient to calculate the amount as 25, 30, 35, 40 oz., etc., thus using

16% milk	2 oz.	To make	Milk	24 oz.	To make	Milk	8 oz.
Milk sugar	1 oz.	25 oz.	Sugar	1 1/4 oz.	30 oz.	Sugar	1 1/2 oz.
Lime water	1 oz.	add	Lime water	1 1/4 oz.	add	Lime water	1 1/2 oz.
Water q. s. 20 oz.	1/4 more.	Water q. s. 25 oz.	1/2 more.	Water q. s. 30 oz.			

If the formulas intermediate between these are needed, the increase in the 16% milk may be made by $\frac{1}{2}$ ounce instead of 1 ounce; *e. g.*, a formula between II and III may be obtained by using $2\frac{1}{2}$ ounces, which will give fat 2%, proteids .40%.

SERIES B.—Ratio of fat to proteids 4:1.

Primary Formula.—13% milk = fat 13.0; sugar 4.15; proteids 3.25% obtained (1) as upper fourth of bottled milk; or (2) by mixing 1 part milk (4%) and 3 parts cream (16%).

Derived Formulas Giving Quantities for 20 oz. Mixture.

I.	{ Milk sugar 1 oz. Lime water 1 oz. Water, q. s. 20 oz. }	with 1 oz. 13% milk=fat 0.65, sugar 5.20, proteids .16%									
II.	" " " "	"	2 oz.	"	"	"	1.30,	"	5.40,	"	.33%
III.	" " " "	"	3 oz.	"	"	"	2.00,	"	5.60,	"	.50%
IV.	" " " "	"	4 oz.	"	"	"	2.65,	"	5.85,	"	.65%
V.	" " " "	"	5 oz.	"	"	"	3.30,	"	6.00,	"	.82%
VI.	" " " "	"	6 oz.	"	"	"	4.00,	"	6.25,	"	1.00%

In this series as in the preceding one, formulas intermediate between those given can be readily made; the directions for making mixtures of 25 ounces, 30 ounces, etc., are also the same, *viz.*, by taking one-fourth more, or one-half more of each of the ingredients.

SERIES C.—Ratio of fat to proteids 3:1.

Primary Formula.—10.0 milk = fat 10%, sugar 4.30, proteids 3.30% obtained (1) as upper one-third of bottled milk; or (2) equal parts of milk (4%), and cream (16%).

Derived Formula Giving Quantities for 20 oz. Mixture.

I.	{ Milk sugar 1 oz. Lime water 1 oz. Water q. s. 20 oz. }	with 1 oz. 10% milk	= fat .50, sugar 5.20, proteids .17%
II.	" " " " 2 oz. " " "	" 1.00, " 5.40, " .33%	
III.	" " " " 3 oz. " " "	" 1.50, " 5.60, " .50%	
IV.	" " " " 4 oz. " " "	" 2.00, " 5.85, " .66%	
V.	" " " " 5 oz. " " "	" 2.50, " 6.05, " .83%	
VI.	" " " " 6 oz. " " "	" 3.00, " 6.25, " 1.00%	
VII.	" " " " 7 oz. " " "	" 3.50, " 6.50, " 1.17%	
VIII.	" " " " 8 oz. " " "	" 4.00, " 6.70, " 1.35%	

SERIES D.—Ratio of fat to proteids 2:1.

Primary Formula.—7% milk = fat 7.00, sugar 4.40, proteids 3.40% obtained (1) by using the upper one-half of bottled milk, or (2) by using 3 parts of milk (4%) and one part cream (16%).

Derived Formulas Giving Quantities for 20 oz. Mixture.

I.	{ Milk sugar 1 oz. Lime water 1 oz. Water q. s. 20 oz. }	with 1 oz. 7% milk	= fat .35, sugar 5.20, proteids .17%
II.	" " " " 2 oz. " " "	" .70, " 5.40, " .35%	
III.	" " " " 3 oz. " " "	" 1.05, " 5.60, " .52%	
IV.	" " " " 4 oz. " " "	" 1.40, " 5.80, " .70%	
V.	" " " " 5 oz. " " "	" 1.75, " 6.00, " .87%	
VI.	" " " " 6 oz. " " "	" 2.10, " 6.20, " 1.05%	
VII.	" " " " 7 oz. " " "	" 2.45, " 6.45, " 1.22%	
VIII.	" " " " 8 oz. " " "	" 2.80, " 6.70, " 1.40%	
IX.	" " " " 9 oz. " " "	" 3.15, " 6.90, " 1.55%	
X.	" " " " 10 oz. " " "	" 3.50, " 7.10, " 1.73%	
XI.	" " " " 11 oz. " " "	" 3.85, " 7.30, " 1.92%	
XII.	" " " " 12 oz. " " "	" 4.15, " 7.50, " 2.07%	

SERIES E.—Ratio of fat to proteid, 8:7.

Primary Formula.—Plain milk = 4.00; sugar, 4.50; proteids, 3.50%.

Derived Formulas, Giving Quantities for 20 oz. Mixture.

I.	{ Milk sugar 1 oz. Lime water 1 oz. Water, q. s. 20 oz. }	with 2 oz. 4% milk	= fat 0.40, sugar 5.40, proteids 0.35%
II.	" " " "	4 oz. " " "	0.80, " 5.80, " .70%
III.	" " " "	6 oz. " " "	1.20, " 6.20, " 1.05%
IV.	" " " "	8 oz. " " "	1.60, " 6.70, " 1.40%
V.	" " " "	10 oz. " " "	2.00, " 7.10, " 1.75%
VI.	" " " "	12 oz. " " "	2.40, " 7.60, " 2.10%
VII.	" " " "	14 oz. " " "	2.80, " 8.10, " 2.45%
VIII.	" " " "	16 oz. " " "	3.20, " 8.50, " 2.80%

Formulas marked with the asterisk in the last two series are the only ones in which a special calculation of the sugar needs to be made; the usual amount of sugar, 1 ounce to a 20-ounce mixture, gives, as is seen, too high a percentage. It is seldom that infants taking the high percentages of fat and proteids of these formulas require the sugar to be even as high as 7%. A good working rule for the average case is to add only $\frac{3}{4}$ ounce to each 20 ounces for a formula containing $\frac{1}{20}$ or $\frac{1}{20}$ milk; and above that not more than $\frac{1}{2}$ ounce.

Application of these Formulas in Infant Feeding.—This is by no means so simple as their calculation. I seldom use series A and B with healthy children of average digestion. They are inserted here because they are occasionally advantageous; but for the vast majority of

healthy infants it is rarely necessary to have the fat more than three times the proteids.

For healthy infants, the first 15 months may be considered as made up of three feeding-periods. For the first one, extending from birth to the end of the third or fourth month, the best results are obtained in my experience when the fat is three times the proteids, or the ratio existing in good breast milk.

The second period extends from the end of third or fourth month to about the end of the tenth month. During this time the increase in the strength of the food should be made chiefly of the proteids. With most children the best results are obtained in this period when the fat is twice the proteids.

The third period extends from the end of the tenth month to the beginning of the fifteenth. During this the proteids are gradually increased until they are nearly equal to the fat, or, in other words, until the child is taking whole milk.

For the first period the formulas of series C are to be advised. No other primary formula than the 10% milk need be considered until the infant is three or four months old. The newly-born child can usually begin with No. II of this series—fat 1.00, sugar 5.40, proteids .33%—but seldom, I think, with a higher formula. The percentages are gradually raised as the child becomes accustomed to taking cow's milk, until No. VI or No. VII, 3.5—6.5—1.17, is reached. From this point a healthy infant would probably pass to No. VII of the series D, and the proteids would be rather rapidly raised until No. IX is reached. This with Nos. X and XI will carry a healthy infant until the end of the tenth month. From this time until the child is able to take whole milk such formulas as Nos. VII and VIII of series D may be used.

The low percentages of fat and proteids given in the first three or four formulas of the last two series are applicable for those infants who in the early months have special trouble with the fat, and, at a later period, for many who suffered from fat-indigestion. For many of these abnormal cases, the fat must often be made, at least for the time being, nearly or quite as low as the proteids.

The formulas of Series A and B, where the fats are very much higher than the proteids, are useful in a few infants during the early months who have special difficulty in digesting the proteids, but who are able at the same time to take without difficulty relatively high fat. Both these series of formulas I find occasionally of service for short periods, but I do not think they are so generally useful in the early months as the slightly lower fats of series C.

Conclusions.—In the foregoing discussion we have considered only the modification of the milk elements. All other discussion of infant-feeding is foreign to our purpose.

Three primary formulas can be made to do duty for the entire year for the vast majority of healthy infants.

By the method of calculation here given on the basis of $\frac{1}{20}$ it seems to be much easier to pass from one formula to another of the same series than by other methods. Since the additions of sugar and lime water are constant, it is necessary only to calculate the percentage milk is increased by an ounce in each 20-ounce mixture. The diluent water is in all cases added in sufficient quantity to make the total.

Larger quantities than 20 ounces can easily be calculated if our increase is made by 5; e. g., for 25 ounces

$\frac{1}{2}$ more of the milk, the sugar and the lime water; for 30 ounces $\frac{1}{2}$ more, etc.

In securing the primary formula my preference is either for milk fresh from the cow, or the bottled milk, rather than for the mixtures of milk and cream, mainly for the purpose of securing greater freshness. Where milk is obtained fresh from the cow, if it is placed in a bottle and rapidly cooled in the manner indicated, not only will the cream rise quickly so that the food may be made up when the milk is only 4 hours old, but at the same time this rapid cooling is of the utmost advantage in checking the early fermentative changes in milk.

In taking the milk from the top of the bottle it is to be remembered that the entire number of ounces specified for the primary formula should be taken, although it may not all be needed to make up the milk for weaker formulas.

A CRITICISM OF THE DIAGNOSIS "COMPOSITE TERATOMA OF THE OVARY" MADE IN THE "PATHOLOGICAL REPORT" OF DR. E. A. JONES.

By S. W. BAUDLER, M.D.,

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In the PHILADELPHIA MEDICAL JOURNAL of December 22, Dr. Edgar Allen Jones reports, through the courtesy of Dr. W. E. B. Davis, "A Composite Teratoma of the Ovary," accompanied by a pathologic report. This so-called "teratoma" contains more recognizable bones than any other teratoma whose description I have observed. Besides, the cranial bones were recognized and "parts of the lung, liver, the stomach, and about 60 cm. of the intestine" were found. A teratoma is simply a solid dermoid cyst, and it is a question of interest to correctly classify this tumor. We are told that "the tumor filled up the left side of the pelvis and was attached to the uterus by a large pedicle," and that "the fetus has the appearance of having reached the sixth or seventh month of fetal development." We are not told, however, whether the tumor was firmly imbedded, whether adhesions were present, whether it was intraligamentous, etc. As no mention is made of placenta macroscopically, and no mention is made of the examination of the entire specimen for such tissue, we are left in doubt as to this side of the question. Though called "teratoma" of the ovary, the microscopical examination makes no mention of the presence of ovarian tissue in the capsule, but an anatomical diagnosis is made of "composite teratoma, combined with cystic adenoma of the ovary." Although certain portions of the tumor contain skin, no mention is made as to whether the skin covered the fetus or lined the cyst cavity.

The statements, however, concerning the presence of vertebrae, of too well developed scapula and other skeletal bones are so positive that we are supposed to take their presence for granted. Going on this supposition I cannot believe that the case is one of teratoma. With the exception that no mention is made of the presence of placental tissue, I see no reason why the author changes the opinion conveyed in the following statement: "The most interesting feature of this case is the fact that the fetus was so large, and, on casual observation, so well formed, that it could easily be mistaken for ectopic gestation which had ruptured into the

cavity of a preexisting ovarian cystoma. As has been stated above, the diagnosis of ectopic pregnancy had been made from the history of the case." Referring to the history given by the author, it is evident that such a diagnosis was quite naturally made, and I see no reason in any portion of the report for changing this view. Dr. Jones mentions the various theories as to the origin of dermoids and teratomata, and says: "The theory of the development of an ovum without impregnation—parthenogenesis—has some supporters. Cohnheim's theory of embryonal remnants, capable of producing different kinds of growths (dependent upon the type of the cell), is reasonable, but it is strange why so many of these growths occur in the ovary. The theory which has the greatest support by the greatest number of observers is that of fetal inclusion, *i. e.*, the inclusion within the body of a developing fetus, the remains of an imperfectly developed twin. This, too, is subject to the criticism applied to Cohnheim's theory, but it seems more plausible than any of the others. Finally, it must be admitted that the pathogenesis of the teratomata is very obscure."

The inclusion, within the body of a developing fetus, of the remains of an imperfectly developed twin, and especially the development of such an inclusion in the ovary, is a theory which is today no longer earnestly considered. The prevailing idea as to the origin of dermoids and teratomata of the ovary depends on the statements of Wilms and Pfannenstiel that these tumors contain products of all three blastodermic layers, if not macroscopically yet microscopically. This theory rests further on the microscopical investigations of Wilms, who believes that he finds the various structures in an arrangement corresponding to that in the normal fetus, such as scalp, brain, central canal, respiratory tract, etc. This theory is further defended by the descriptions given by various authors of the presence in dermoid cysts of fingers, mammae, eyes, ribs, pelvic bones, trachea, intestinal-like structures, etc.

The statement of the possibility of a parthenogenetic development of an ovum is supported by Wendeler. He considers the further growth of a nonfertilized human ovum to be possible on analogy with the segmentation observed in the nonfertilized ova of the frog, the hen, and the rabbit.

The following may be said against these statements:

1. No dermoids or teratomata of the ovary or ligamentum-latum contain more than the products of ectoderm and mesoderm. Entoderm is never present.

2. The arrangement and order of the above-mentioned microscopical areas is only an accidental grouping and has nothing to do with the formation of a fetus, as may be seen from the drawing No. 130 in Martin's "Diseases of the Ovary," 1899.

3. All the above-mentioned organs and structures have been described because of "a resemblance." Küster found in a dermoid situated between the bladder and the uterus a bone "which without doubt may be called a rib," and a flat bone "which I cannot definitely classify, perhaps a pelvic bone." Baumgarten mentions a formation "which has a slight resemblance to a fetal eye." Concerning other areas he says: "All in all, sections furnished a no slight resemblance to sections through the embryonal stomach and intestine."

In this manner, without any positive proof, the theory of parthenogenesis has been built up. Even though we were to grant the occurrence in ovarian dermoids of various tissues of the head, and other portions of the

body, it would still remain an inexplicable question why these various structures occur singly, and why more complete arrangements are not present. Those areas which resemble the stomach and intestinal glands are nothing but cystadenomatous areas, and are in harmony with the real explanation of the origin of dermoid cysts. They are, like them, due to the development of regressive structures or displaced cells.

4. The authors whom Wendeler quotes and who have observed the segmentation of nonfertilized ova say "that these ova always go to destruction." Hensen, whom he quotes, says that this segmentation has nothing in common with the division of a fertilized ovum, and that a parthenogenesis is not to be thought of. Spee and Nagel say the same. The previously accepted view of a parthenogenetic segmentation of the hen's egg is now proved to be due to a fertilization by dying spermatozoa. Barfurth and Lau have shown that the parthenogenetic development of the bird's egg is only an irregular segmentation. Sobotta asks whether, after all this, we can really sensibly believe in such a process in the ova of mammals.

The most peculiar tissue found in dermoid cysts is represented by teeth, which may be milk or second teeth. Since I absolutely deny the origin of these tumors through parthenogenesis it is necessary to explain the origin of these tumors. These tumors result from displaced ectodermal and mesodermal cells, and wherever ectoderm and mesoderm are present teeth can be formed. They are found in dermoid cysts of the brain, of the eye, of the neck, of the mediastinum, of the abdomen (retroperitoneal), of the ovary, etc., and have as such no specific value. These ectoderm and mesoderm cells are displaced into the ovary by the Wolffian duct and the Wolffian body. It is generally granted that the Wolffian duct originates near the ectoderm, but Spee has shown that it originates from the ectoderm and that the Wolffian body as well as the germinal epithelium of the ovary are of ectodermal origin. In this way the ovary, the tube (duct of Müller) and uterus, *i. e.* the epithelium of the two latter, are of ectodermal origin, and not, as is generally believed, mesodermal. It would indeed be strange if we were to continue in the belief that mesoderm is capable of producing epithelium. The Wolffian duct, and the Wolffian body, which takes an important part in furnishing the ovary with its stroma, may carry then into the ovary ectodermal and mesodermal cells, for they originate from ectoderm and lie in mesoderm. The Wolffian duct and the Wolffian body are situated at the hilus of the ovary as the parovarium and the paro-phoron, and not infrequently their tubules are found to penetrate into the structure of the ovary itself. The development of these tubules alone is the cause of the ovarian cystic tumors, especially the cystadenomata. If ectodermal and mesodermal cells are likewise displaced, we find then a dermoid cyst or a teratoma, very frequently combined with a cystadenoma in the same or other ovary.

As regards the teeth, Olshausen says: "They have, like the teeth of the mouth, a crown sloping toward the median line of the body, so that from the teeth the side from which the cyst was removed may be diagnosed." Holländer called Olshausen's attention to this fact, and every time that the latter put him to the test Holländer diagnosed correctly the side of the cyst. Twelve cysts containing teeth were examined for me and in no case were right and left teeth found in the same cyst. In

all the cases (six) in which the history stated the side from which the cyst was removed, the statement of Waldberg, who examined the teeth, was found to be correct. Since ectoderm, cartilage, and bone are present in practically every dermoid cyst of the ovary, teeth are easily formed, for, as Hertwig says, "the teeth are originally nothing but ossified papillae of the skin and mucous membrane."

The suprarenal bodies lie close to the genital organs in the early embryonal period, and it is said that the sexual band of the Wolffian body is concerned in the formation of the suprarenal body. When we consider that portions of the suprarenal bodies may be found in the ligamentum-latum, it is easy to grant that cells or cell-groups of the ectoderm and mesoderm which are in the closest relation to the Wolffian duct and the Wolffian body may be displaced by them into the hilus ovarii. For that reason, too, a dermoid cyst may be found in the ligamentum-latum without involvement of the ovary.

In the dermoid cysts of the ovary ectoderm products are present as squamous epithelium, sweat glands, sebaceous glands, hair, glia tissue, etc., and as glandular structures lined with squamous epithelium, ciliated epithelium, or cylindrical epithelium. Mesoderm products are present as cartilage, or bone, or teeth (partly ectoderm), connective tissue, muscle (almost never striated muscle), fat tissue, etc. *No organs, as such, are present, and pancreas, liver, and lung have never been described, though Wilms makes indefinite statements concerning the lung.*

The following reasons are therefore to be raised against the theory of parthenogenesis: 1. The dermoid cysts of the ovary contain products of ectoderm and mesoderm only. 2. The development of the various structures without placenta. 3. The continued growth of such a rudiment with the formation of long hair and second teeth. 4. The frequent occurrence of bilateral dermoids. 5. The occurrence of several dermoids in one ovary. 6. The occurrence of dermoids in the ligamentum-latum without involvement of the ovary. 7. The decided growth of these tumors at or after puberty, and their occurrence in the newly born and in children. 8. The occurrence of the same tumors in the testicle. 9. The presence of only isolated, so called "organs and bones." 10. The structures are always of one side. 11. The frequent combination of these tumors with cystadenomata. 12. The so-called "parthenogenetic fetus" does not form a lithopedion.

As I have said before, the case of Dr. Jones contains too many well-defined organs to be considered a teratoma, and I see no reason why, if we judge from the report, the case is to be considered anything but an ectopic gestation, even though complicated by the presence of a cystic adenoma of the ovary. The finding of chorionic villi in the tumor would prove a definite solution, though as reported its classification seems clear.

SOME CASES OF TETANY IN INFANCY.

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In 1898 I presented a paper to the American Medical Association on tetany in infancy and reported six cases. Certain conclusions were arrived at in this paper which form the basis of the statements to follow.

Tetany, like epilepsy, must be regarded merely as a nosologic entity and not as a definite disease. The only pathognomonic symptom of tetany is spontaneous, intermittent, paroxysmal, muscular contracture. The term "tetany" should be applied, therefore, only to those cases in which this symptom is present, and no cases of increased reflex excitability in which this symptom does not occur should be regarded as examples of the disease. Laryngospasm, Trousseau's symptom, Erb's symptom and the facial phenomenon are not pathognomonic of tetany and do not, either singly or in combination, afford sufficient ground for the diagnosis of this disease, because they are not constantly present in tetany and occur in many other conditions.

Etiology.—It is probable that there is no single pathologic cause for tetany, but it may arise from many causes. In improper hygienic surroundings, in rickets, in gastrointestinal diseases, in acute diseases, and in various intoxications are found conditions capable of causing the formation of various toxic substances. The action of all these poisonous substances may show itself by a special modification, rather functional than organic, of the central or peripheral nervous system. The various lesions of the nervous system which have been found in tetany are not inconsistent with this conception.

Frequency.—Griffith was able to find but 77 cases reported in American literature previous to 1894. In a careful review of American medical literature from January 1, 1894, to January 1, 1898, I was able to find but 13 additional cases, to which I added 6 of my own. In a hasty review of American literature since that time I have been able to find but few reported cases; one by Crandall in an infant, 1 by White in a child of 3½ years, 1 by Hand in a child of 3 years, 1 by Hubbard in a child of 14 months, and 2 by myself in infants of 7 and 7½ months. In 1898 the conclusion was drawn that the disease was a very unusual one in Boston. As I have seen 7 cases since that time in addition to those reported by Drs. White, Hubbard and myself, it would seem as if that conclusion was unwarranted or that the disease is becoming more common. It may be that it really is becoming more common, but it is also possible that the increase is only apparent, the condition being looked for and recognized more often than formerly.

The 7 cases are reported somewhat in detail, as they seem of interest not only as examples of the condition, but also as throwing some light on its etiology.

CASE 1.—Dominico G. was born January 13, 1900, at full term, after a rapid labor. He was fed partly on the breast and partly on condensed milk and did fairly well until the 15th of February, when he began to have 3 or 4 green movements daily. There was no vomiting. On the 19th of February he began to cry constantly. He was seen on the 20th of February by Dr. J. N. Coolidge, and the feeding regulated. At that time spasm of the hands was noted, although it had not been previously noted by the parents. I saw him with Dr. Coolidge on February 24. The digestive symptoms were almost relieved.

Physical examination. He was fairly developed and nourished. His hands and arms very often took the position characteristic of tetany. There was but little spasm associated with it, however. Neither Trousseau's nor Chvostek's symptoms were present. Kernig's symptom was absent. The reflexes were normal. The physical examination was otherwise normal.

He was seen again March 1st. The digestive symptoms were then entirely gone. His general condition was improved. The spasmodic condition of the arms was still present, but disappeared within the next 2 weeks.

In this case the cause was undoubtedly located in the digestive tract.

CASE 2.—Harry F. was bottle-fed and began to have diarrhea about the middle of July, 1899. In spite of careful feeding he continued to have a typical fermental diarrhea. There was no vomiting until October 1, after which he vomited constantly. He was admitted to the Infants' Hospital, October 12, aged 11 months, when I first saw him.

Physical examination: Small, emaciated; skin dry and covered with a papular eruption. Head flattened on top. Frontal eminences large. No teeth. Marked rosary. No craniotabes. Heart, lungs, liver, and spleen normal. Abdomen considerably enlarged.

He was fed carefully and held his weight. He did not vomit. He continued to have from 3 to 5 loose, usually yellow, movements, containing no curds, and rarely mucus, but usually very foul. With no apparent cause, the night of



Tetany in Infancy.

October 21 he began to have spasms, in which the hands and feet became rigid. They were in the position typical of tetany. Opisthotonos was present, and he cried constantly, as if in much pain. The spasms continued during October 22, and the temperature rose to 39° C. A hemorrhagic eruption appeared all over the body and extremities. Trousseau's symptom was very marked, but Chvostek's symptom was absent. The spasms continued during the night, and he died at 6 A.M., October 22.

Although there were signs of rickets in this case they were slight and evidently chronic in character, and could not well account for the acute onset of the tetany. The hemorrhages in the skin showed that there must have been marked toxic absorption. This absorption was presumably from the digestive tract, as no other organs were involved. It seems reasonable to suppose that the tetany was due to these same toxic products.

CASE 3.—Ida P. was an only child, and breast-fed. She began to refuse the breast on April 8, when 8 months old,

and developed a typical fermental diarrhea, with some vomiting. She had several convulsions on the ninth and began to cry constantly. She was admitted to the Infants' Hospital April 16th, the diarrhea, vomiting, and crying unchecked.

Physical examination: Large, fat baby. Head of normal shape. No craniotabes. No teeth. A marked rosary. Heart, lungs, liver, and spleen normal. The hands and feet were held in the typical position of tetany, with but few intermissions. Trousseau's symptom was very marked. The facial phenomenon was not present. Kernig's symptom was absent.

She was under observation for a week. She took food poorly, vomited a little, and had from 1 to 3 yellow or green movements containing mucus, but not foul, daily. The temperature ranged from normal to 40° C. She improved for 3 days, when the convulsions recurred again. Washings from the stomach and bowels at this time contained much mucus. The convulsions increased in frequency, and the spasm rarely let up. She was taken home against advice, and nothing is known as to the further history.

In this case, also, the rickets evidently had no part, the onset of the tetany being simultaneous with that of the diarrhea.

CASE 4.—Christina E. was badly fed until she was 8 months old, and had various digestive symptoms. During the next 3 months she was fed on modified milk and improved steadily. On October 13, 1899, while her digestive canal seemed in perfect condition, she began to shake her head constantly. On October 16 she had 2 convulsions, after which her cheeks swelled. Her digestion was still normal. She had another convulsion on October 18, and was first seen by me on October 19.

The general physical examination was entirely negative. There were no evidences of rickets. The hands were held intermittently in the typical position of tetany. There was no pedal spasm. The facial phenomenon was absent. Trousseau's symptom was present but not marked. Both cheeks were swollen and somewhat thickened. The gums were swollen over the lower lateral incisor teeth which had not erupted. She had one convulsion the night of October 19, but none after that. Stiffness continued in the hands until October 28. Trousseau's symptom was first absent on October 30. During all this time digestion was normal and there was no loss of weight. The swelling of the gums was the same after the relief of the tetany as in the beginning.

In this case there was no evident cause for the tetany except dentition. The swelling of the face, however, would seem to point to some toxic absorption from somewhere, although its source was not evident. It may have been in the digestive tract, although there were no symptoms of indigestion.

CASE 5.—Jacob A. was always badly fed. He began to cry constantly on October 20, 1900, and his legs and arms began to swell at the same time. There was no vomiting, and the movements were normal. He was seen October 22, when 10 months old.

Physical examination: Well developed and nourished. Head rather square and flat on top. Fontanel level. No craniotabes. Two teeth. Heart, lungs, and abdomen normal. The epiphyses at the wrists were slightly enlarged. There was a rather tense swelling of the feet and legs half way to the knee, and of the hands and lower halves of the forearms. This swelling was not hot, tender or red. It did not pit on pressure. The hands were held in the typical position of tetany. There was moderate pedal spasm. He was evidently suffering pain. Trousseau's symptom could not be tested because of the spasm. The facial phenomenon was absent. Babinski's and Kernig's signs were also absent.*

* He was admitted to the Infants' Hospital and improved rapidly. Trousseau's symptom being present during the first attacks. The swelling of the joints disappeared on the 23d. On the 24th the temperature rose to 40° C. with a face evidently due to a slight inflammation of the middle ear which disappeared after 24 hours. On October 27 the temperature suddenly rose from normal to 41° C. and the respiration to 100. Spasms of the hands and feet recurred and were followed by rigidity of the whole body. He became unconscious and died in 8 hours. Physical examination showed nothing abnormal except rigidity.

Here also, the rickets, although moderately marked, probably did not account for the symptoms. There was nothing in the digestive tract which pointed towards the absorption of toxic products from there. The swelling of the arms and legs was practically certain proof of the presence of toxic substances in the circulation. The only source for those products which was evident was the inflammation of the middle ear. It seems hardly probable, however, that this was the source.

CASE 6.—John M. was fed with great difficulty for the first 7 months. After this he did very well until March 23, when he was 14 months old. He then had influenza, as had the rest of the family. Abdominal symptoms were marked and profuse diarrhea developed. He did not do well and on March 30 the physician was discharged and he was given absent treatment by a clairvoyant. He was fed on albumen-water and beef juice. He did not vomit and had a few green movements with mucus daily. The night of April 7 he had a slight convulsion and his hands became rigid, at first intermittently and then continuously. The morning of April 8 he collapsed, and the physician was called again. He was seen that noon with Dr. W. G. Curtis, of Wollaston.

Physical examination: He was small and emaciated. The fontanel was very large. He had 8 teeth. The two lower molars were bulging the gums, which were inflamed. The tongue was fairly clean but red. The heart and lungs were normal. The abdomen was full but not tense or tender. There was no enlargement of the liver or spleen. The hands and arms were in the typical position of tetany and the feet showed a tendency to spasm. Chvostek's symptom was present. Trousseau's symptom was not tested. Kernig's symptom was absent. The patellar reflexes were not obtained. The temperature was 99° F.

It is possible that the teeth may have had some influence here in increasing the nervous excitability. The digestive disturbance, however, seems more important. It is possible, too, that the influenza may have been the first and perhaps the sole cause.

CASE 7.—Willie O.'s history was negative as to syphilis. He had been fed on various foods and never did well. He vomited off and on and was always constipated, never having a movement unaided. He began to have convulsions about the middle of February, 1900, the convulsions occurring about once a fortnight. They lasted from 1 to 10 minutes and were accompanied by frothing at the mouth, rigidity of the body and working of the hands and feet. He was admitted to the Infants' Hospital April 14, when 7 months old.

Physical examination: Fairly developed and nourished. Head normal. Fontanel large and bulging. Marked snuffles. No craniotabes. Marked rosary. Heart, lungs, liver and spleen normal. Genitals normal. No paralysis or spasm of extremities. Patellar reflexes not obtained. Kernig's symptom absent. Facial phenomenon absent. Trousseau's symptom present.

The child remained under observation about 6 weeks. During the first 3 weeks there was no improvement. He lost weight, vomited occasionally and was very constipated, the movements, however, being normal, although sometimes offensive. The temperature ranged from subnormal to 39° C. A small amount of adenoids was removed by Dr. A. Coolidge with no relief of the snuffles. He had no convulsions. The hands and feet were in the position of tetany the greater part of the time. Trousseau's symptom was always present. The facial phenomena were never obtained. He apparently suffered pain much of the time, which was increased by movement of the extremities. He whimpered all the time. At times his cry resembled that of laryngismus stridulus. Lumbar puncture was performed May 5 and a clear fluid, sterile in smears and cultures, was obtained.

There was no evidence of syphilis except the snuffles and the failure to gain. As he had not improved under other methods of treatment, inunctions of mercury were begun as a last resort. There was no improvement for about two weeks. Improvement then began and continued steadily to complete cure, not only of the tetany but of his whole general condition. The spasms had ceased by May 16 and Trousseau's symptom disappeared soon after.

The signs of rickets were slight in this case, and probably unimportant as they still remained after the cure of the tetany. The digestive symptoms may have accounted for the tetany, but the tetany was not relieved with the relief of the digestive symptoms. It was relieved completely, however, under specific treatment. The syphilis, therefore, must be considered as the probable cause of the tetany in this case.

On summing up these cases it is evident that there was no common etiologic factor. Digestive disturbances occurred in all but one. In one case they seemed the only factor. In two others they seemed the only important factor. In two more their influence could not be excluded. In one they were apparently unimportant.

Slight evidences of rickets were found in three and moderate signs of rickets in one. In no case were the signs marked. In no case were there craniotabes. In every case the signs of rickets were accompanied by other conditions capable of causing tetany. The absence of craniotabes and the slight degree of the other rachitic changes confirm the opinion that craniotabes is not a cause of tetany and that rickets is not a direct cause of tetany. Rickets probably acts only indirectly by weakening the resistance of the nervous system or may be merely a result of the same case as the tetany.

In two cases the gums were distended by teeth. In one of these no other cause of tetany was evident. The gums were in the same condition, however, after recovery. In the other case influenza and diarrhea were also possible etiologic factors. It does not seem possible, therefore, that difficult dentition alone can cause tetany. It may favor its development, however, by exaggerating the excitability of the nervous system.

Influenza seemed the possible cause in one case. Syphilis was apparently the cause in one case, as recovery did not take place until after the use of specific treatment, the tetany not improving when all the other conditions except the syphilis were relieved.

In every case but one, conditions were present evidently capable of causing toxic products. In this case also it is impossible to exclude some such condition, possibly digestive. Absorption of these toxic products into the circulation, with the resulting action on the nervous system, seems to offer the most reasonable explanation as to the cause of the disease. It is evident, too, that these toxic substances may be of various sorts and the results of many varied conditions. The conclusion seems warranted, therefore, that tetany is due to the action of the toxic products of many diseased conditions on the nervous system.

Treatment.—As tetany is almost certainly due to the action of toxic substances on the nervous system, treatment must be directed to the cure of the primary disease, to the prevention of the formation of toxic products, and to their elimination, if already formed. Symptomatic treatment to relieve the pain and discomfort is also important. It is not curative, however, and must never be used to the neglect of the treatment of the causative condition.

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Tuberculosis in Germany.—Of the 1,120,000 deaths recorded in the German empire in 1899, 110,200 were caused by tuberculosis.

THE RELATION OF STATE AND LOCAL BOARDS OF HEALTH TO OUTBREAKS OF DIPHTHERIA.*

By G. E. TYLER, M.D.,
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Secretary of Colorado State Board of Health.

THE presence of one case of genuine diphtheria in a community is an occurrence of sufficient importance to demand the earnest attention of those responsible for the prevention of the unnecessary spread of disease. For a single mild case may mean many severe ones and the death of not a few individuals. If Pasteur's now famous aphorism, "It is in the power of man to cause all parasitic diseases to disappear from the world," be true, there is need of greater ability in applying our present knowledge concerning this one. As diphtheria is a disease for which there exists a positive method of diagnosis and a specific treatment, Pasteur's prophecy ought to have a fair testing in its management. It is my purpose to attempt to set forth the methods to be used by health officials in their battle with this disease.

There should, at all times and in all places, be offered competent bacteriologic facilities free of charge to every citizen. The absolute uncertainty of clinical phenomena for mild or atypical cases has been repeatedly proved. The throat may present but the faintest hyperemia, yet the culture may be positive. In well-marked cases the clinical appearances are sufficiently distinct to warrant a positive diagnosis without the aid of a bacteriologist, but it cannot be too strongly emphasized that the greatest skill in clinical work is not sufficient to detect mild cases of genuine diphtheria. Because of this fact no obstacle should be placed in the way of obtaining a prompt bacteriologic diagnosis. On the contrary, every facility should be offered the interested person, whether he be a physician or an anxious parent. Culture outfits in convenient form should be placed at accessible supply depots, each outfit being accompanied by plain printed instructions as to the method of use. In cities messengers should be provided to collect the outfits as soon as the cultures have been taken. Whenever requested, an officer of the local board of health should be sent to take the culture. In small communities it is quite out of the question to maintain a bacteriologic laboratory. It then becomes the duty of the State Board of Health to supplement the work of the local board by furnishing the necessary facilities. To accomplish this, the State Board of Health must have a competent bacteriologist, not appointed for political reasons. It must also provide all incorporated towns which have no local laboratory with culture outfits, and there must be prompt communication between the supply depots and the laboratory. The culture outfits should be as complete as possible, in order that the cost of sending them may be reduced to the minimum. The former regulations of the Post Office Department required a clumsy outfit which was poorly adapted to the work, and which required 12 cents postage every time it was mailed. Through the efforts of the Colorado State Board of Health, assisted by others interested, the regulations were so modified as to permit the use of a much smaller outfit. It was formerly the custom to treat these specimens as fourth-class mail, but the new order directs that they be treated as letter mail. This may mean a difference of 12 hours in the receipt of the specimen. Every State Board of Health should be granted sufficient funds to establish these supply depots. The State Board

of Health of Colorado had such depots established in every county about September 1, 1900. The service of the laboratory is free of charge to every citizen and reports are made as promptly as possible. In every positive case immediate report will be made by telegraph. A like prompt report will be made in negative cases when requested. In sending specimens the name of the patient should be given as well as that of the person sending the specimen.

Physicians should take cultures in every case which looks at all suspicious. Much tact is required to secure the active participation of some in this movement, but the wise health officer will so protect the interests of the profession that all, except the few who are by habit opposed to everything, will see the advantage to be gained by frequent use of the laboratory.

Free antitoxin should be provided for all infected individuals who cannot afford to buy it. The early use of antitoxin is of such extreme importance to the successful management of diphtheria that physicians should be given to understand that whenever they have a case which demands it, antitoxin sufficient for the patient can be had for the asking. As the State Board of Health has no funds for such purpose, local boards must supply this.

Every case of diphtheria should be reported to the health authorities and a record of it be made by them. Physicians outside the large cities of Colorado do not seem to know that the law requires immediate report of all cases of contagious disease, but they have usually been willing to make such reports when informed of the law. The State Board of Health furnishes blanks for such reports free of charge, and is seeking to make complete and accurate record of all cases. The record made by the health authorities should show the exact location of the patient, the number and names of the rest of the family, and all others known to have been exposed. The local boards should make note of the milk, water, and ice supply, and, if there are children in the family, the school and Sunday-school should be recorded. The officers of such schools should have early notification of the existence of the disease, the public librarian should be notified in order to see whether any books are in the family, and care should be exercised to prevent the spread to other families by the milk-supply. For the protection of the public, every house in which diphtheria is present should be distinctly placarded. Some have questioned the necessity of the placard, but every person visiting a house has a right to know before he enters whether he will encounter diphtheria by entering. If every infected house is placarded without favor to rich or poor, the community will appreciate the value and justice of the regulation. The regular notification of public school and Sunday-school officers does much to educate public sentiment. Furthermore, the record of such data often enables the intelligent health officer to trace the different cases to a common source.

The great value of keeping record of the milk-supply has been demonstrated many times.

The question of quarantine is important. Who shall be quarantined, and for how long? The patient must be quarantined until his throat is free from bacilli. This seldom occurs under 3 weeks, and because people grow restive under repeated positive reports it is wise to fix the minimum period of quarantine at 3 weeks, and to take no secondary cultures during this time. The Colorado State Board of Health has adopted the following rule:

* Read before the Colorado State Medical Society, June 21, 1900.

"In all cases where the bacteriologist reports the diphtheria bacilli present, the patient should be absolutely quarantined. A second culture should be taken 21 days after the first and forwarded for examination. Quarantine must be maintained until the bacteriologist reports the throat free from diphtheria bacilli. No children from the family should be allowed to attend school until 2 weeks after the throat is free from diphtheria bacilli."

The breadwinners need not be kept from their work, unless they be school teachers, or others who mingle much with children, but they should be cautioned to be little in the sick-room, or else to be careful to change their clothing and bathe with antiseptics before leaving the house. Before a nurse employed in a diphtheria case goes to another patient a culture from her throat should be examined and her clothing should be disinfected. In fatal cases of diphtheria the funeral should be private and under the supervision of a health officer.

Those exposed should be given immunizing doses of antitoxin, and this should be repeated in two weeks if exposure continues. With the present state of public opinion, it is not wise for health officers to insist upon immunization of the exposed, but they should do all in their power to encourage it. Some day the custom of immunization after exposure to diphtheria will be as common as vaccination after exposure to smallpox.

The State or local board of health should have circulars for public distribution, and one of these should be placed in the hands of the head of the family where the disease appears. The following is from a circular on this subject issued by the Colorado State Board of Health, it being identical with one previously issued by the Denver Bureau of Health:

"Diphtheria is a disease which manifests itself especially in the throat. It is so dangerous and so difficult of identification, that every sore throat should be regarded as suspicious, and the person suffering from it kept out of school until the throat has been examined by a competent person and the nature of the sickness determined. The State Board of Health determines absolutely the existence or nonexistence of diphtheria by a bacteriologic examination of the secretion from the throat, and this examination is made at the request of any citizen without charge. Children from houses in which diphtheria has occurred should not be allowed to resume school attendance until 2 weeks after a bacteriologic examination has shown the throat of the sick person to be free from diphtheria germs, as certified by the health authorities."

Toys with which the sick child has played should be destroyed or soaked in a strong antiseptic. Books should be burned and all articles which will stand it should be separately boiled. The necessity for thorough fumigation is apparent. For disinfection of the room the Colorado State Board of Health recommends five pounds of sulphur to each 1,000 cubic feet of space with exposure for twelve hours; or formaldehyd sprinkling, using five ounces of the 40% solution for each 1,000 cubic feet of space. The objection to the former is its corrosive action and to the latter its poor penetration.

The constant use of the bacteriologic test, the prompt application of the serum treatment, complete isolation of infected individuals, immunization of all exposed, and thorough disinfection—these are the methods which intelligently applied will prove the truth of Pasteur's aphorism.

Courtenay C. Parsons, M.R.C.S., L.R.C.P., Civil Surgeon South African Field Force, died of enteric fever in Harrismith, on December 2.

Surgery of the Pleura and Lung.—H. Verneuil (*Annales de la Société Belge de Chirurgie*, 1900, 18me Année, p. 121) gives an interesting review of this subject. He finds that many affections of the pleura and lung formerly considered incurable are now greatly benefited by surgical intervention. He mentions particularly empyema, traumatic lesions, tumors of the lung and pleura, and encysted collections within the lung, particularly abscess. The diagnosis in these conditions is usually difficult. Percussion and auscultation, which are often sufficient for medical diagnosis, are too incomplete to locate accurately intrapleural lesions for surgical intervention. Exploratory puncture often gives valuable information; in case fluid is found it permits bacteriologic examination and makes diagnosis possible in many cases of hydatid cysts, collection of blood, tuberculosis, or cancerous pleurisy. The character of the expectoration is of some importance, but in many cases the expectoration is moderate in amount from a very large cavity, while with a small cavity there is abundant expectoration. In cases of doubt, exploratory operation is many times justifiable with direct palpation of the lung either through the pleura or after opening the pleura. But the information obtained even by exploratory operation is sometimes uncertain. Verneuil considers the x-rays among the most important and precise means of diagnosis and he believes that the importance of their use is increasing. In many doubtful cases where it is impossible to make a diagnosis by auscultation and percussion and exploratory puncture the x-rays have given exact information. In case of injury to lungs and pleura, hemorrhage and the presence of pneumothorax are the indications for operative intervention, but the determination of the time when that intervention is desirable is often very difficult. Very often the patient is in an extremely bad condition, almost livid, the pulse small, and there are signs of a large effusion. It is not uncommon, however, to find that the condition of these patients is completely transformed 24 hours later. The amount of blood constituting the hemothorax is not decreased, but the pulse is better, the general condition improved, the dyspnea entirely disappeared and a perfect recovery results without operative treatment. Operations undertaken under these conditions offer very few chances of success when one considers the intense traumatic shock and usually the imperfect preparations for intervention. Operation is considered justifiable only when there is the conviction that hemorrhage is continuing either from the thoracic wall or from the lung. In such cases a wound in the lung may be sutured or an injured intercostal vessel may be ligated successfully very frequently. The tamponing of the pleural cavity, it is thought, should be abandoned. Timid intervention is condemned as a result of much observation. Once the operation has been decided upon it should be extensive. In many cases of empyema it is believed that Estlander's operation should be resorted to earlier than is now generally the case. If it is found that after sufficient drainage for a reasonable length of time improvement does not result, costal resection should not be delayed. In the case of an old empyema Schede's or Delorme's operations are frequently indicated. Primary tumors of the lung with the exception of hydatid cysts and actinomycosis are extremely rare. Primary cancer of the pleura or lung is rarely recognized in an early stage and later on it is inoperable. Actinomycosis has been successfully treated by thoracotomy and resection of the lung. Hydatid cysts are best treated by incision, disinfecting, and packing. In cases of abscess of the lung, bronchiectasis or gangrene of the lung, drainage will be necessary. The simplest forms of drainage are usually the best. Puncture is rarely sufficient in case of abscess of the lung. Some favor the turning back of an osteoplastic flap, others costal resection. Verneuil considers the latter the preferable method of operation in most cases. In operating for bronchiectasis the results will be more favorable, the nearer the condition approaches that of pulmonary abscess. Some surgeons advocate the maintenance of a bronchial fistula. Pneumonotomy in pulmonary gangrene has not given very encouraging results. If the patient recovers from the immediate effects of the condition the later results seem more encouraging. Pneumopexy is advocated in cases in which there is not adherence of the parietal pleura as a means of avoiding the dangers of pneumothorax. Except in very rare cases, surgical intervention is not considered justifiable. [M.B.T.]

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Parasitic Hemoptysis in the United States.—The Marine-Hospital Service calls the attention of health officers and physicians to the important fact that the United States Bureau of Animal Industry has found more than 50 cases of infection in hogs by a lung fluke known as *Paragonimus westermanii*. Heretofore, this parasite has been observed but rarely in America, although it is quite common in some parts of China and Japan, and possibly in the Philippines. Drs. Stiles and Hassall are about issuing a report of their investigations, from advance proofs of which the following facts are gleaned. This parasite was originally described by Kerbert (1878) in the tiger, by Manson (1880) and Baily (1880) in man, by Railliet (1890) in the dog, and more recently by others in the cat. A full zoological description of the paragonimus is given by the authors, from which we learn that it is a fluke worm, 8 to 16 mm. long, 4 to 8 mm. broad, and 2 to 5 mm. thick. It is found encysted, usually two individuals in each cyst, with eggs, and its habitat is the lungs of mammals. It seems to be identical as observed in the various mammals—tiger, dog, hog, cat, and man—in which it has thus far been found. Its life history is still very obscure. According to Stiles and Hassall the complete life cycle of the lung fluke has not yet been experimentally demonstrated. It seems clear that the egg does not develop until it leaves the host in the sputum. Manson and Nakahama each succeeded in hatching the eggs in warm water, but the natural environment is yet unknown. Beyond this miracidium stage nothing is positively known, but the presence of cilia indicates an aquatic life, and all analogy points to the probability of some intermediary host. Certain of the invertebrates, such as the mollusks (snails, etc.), have been under suspicion; as have also chickens and their eggs, for chickens are well known to eat human sputum. This whole subject of the life history of the *Paragonimus westermanii* is discussed in detail by the authors.

The symptoms of parasitic hemoptysis vary according to the location of the parasite. The lung infection is the usual form. Spitting of blood is common. A sputum, very similar to that of pneumonia, and of a dirty red or brown color, due to the presence of eggs of the worm, is raised during the intervals between the hemorrhages. The only constant and specific characteristic is the presence of the eggs in the sputum. As

many as 12,000 eggs may be expectorated daily. The brain also may be infected. Epileptiform attacks, of a Jacksonian or cortical type, result. These and other brain symptoms are caused by the presence of the worm or its eggs, or from emboli in the arteries. The liver and other organs also may be involved.

Drs. Stiles and Hassall state that two cases of this disease were recorded in the United States in 1894 and 1895; one in a cat in Michigan and the other in a dog in Ohio. It was hoped that the infection would not spread, but this hope has been disappointed, for the meat inspectors of the Bureau of Animal Industry, stationed at Cincinnati, have, on repeated occasions, discovered lesions in hogs which Stiles and Hassall have determined were due to the presence of this parasite. The worms collected from hogs in Cincinnati are identical with those found by Manson in man. Dr. Stiles thinks the parasite has been introduced into this country from China or Japan, and he fears that our troops returning from the East will add to the infection already here by bringing sporadic cases of the disease with them. Treatment so far is inefficacious, although patients may live for many years.

Science Between the Acts.—A report comes from Paris that Dr. Hanriot, of the Academy of Medicine and the Board of Health, is creating a sensation among theater goers, as well as consternation among theater managers in that city, by a series of experiments undertaken to prove that the air of Paris theaters is loaded with microbes. When these experiments were begun last winter, the preliminary results were so alarming that the French Government interfered for fear of their injurious effects upon the approaching exposition as well as upon the theaters. So paternal is the Republic over there that it even controls the ventilation of the theaters and the distribution of bacteria. Now that the exposition is a thing of the past, Dr. Hanriot is once more at work. His method is rather sensational, as becomes the atmosphere of Paris. He arrives in the midst of a performance and settles himself in a box with his apparatus and assistants. As the apparatus makes a loud buzzing noise he graciously sets it going only during the intervals between the acts. He and his assistants then talk in a loud tone in order to drown the noise of the machine. The immediate effect on the audience is not described; but the scientific results,

as announced by Dr. Hanriot, are important. He says that the air of some of the Paris theaters is "little better than dusting." His recommendations are for better ventilation and for the substitution of leather for plush upholstery. This latter point seems to be one of great importance, for Hanriot's observations go to show that those theaters which are upholstered in plush are the most infected.

Cystitis Typhosa.—The elimination of typhoid bacilli through the kidneys has been known for a long time. Smith and Gwyn in this country have made some very interesting studies in regard to the possibility of the dissemination of the disease by this method, although the earliest statements on the subject date from Konja-jeff and J. Neumann, and since their publication in 1889 the subject has excited considerable interest on the part of various investigators, such as Petruschki and Curschmann. Lately the latter has again taken up this subject,¹ and draws a sharp distinction between the mere presence of the typhoid bacilli in the urine, eliminated by the kidneys without harm to the individual, and the existence of a true inflammation of the mucous membranes of the bladder, produced by the action of the microorganisms. To the latter he gives the name "cystitis typhosa." This condition is, comparatively speaking, rare, in view of the fact that in anywhere from 6 to 100% of all cases of typhoid fever examined by different investigators, typhoid bacilli were present in the urine, and as the number of cases hitherto examined exceeds 1,000, and the average percentage is about 30, the frequency with which typhoid bacilli are found in the urine is extraordinarily great. Curschmann has had an opportunity of studying 3 cases in which the ordinary symptoms of cystitis were present; that is to say, large quantities of pus-cells were found in the urine together with typhoid bacilli, whose nature was proved by cultural peculiarities, and their reaction to typhoid blood. The curious features about these forms of cystitis are the acid reaction of the urine, the absence of epithelium from the kidneys, or the renal pelvis, and the absence of any true signs of nephritis, although in the early stages of the disease, a transient albuminuria, probably febrile in character, is present. In the first case, an interesting feature was the presence of virulent bacilli in the urine after the cystitis had completely healed. The third case showed certain peculiarities. The inflammatory process lasted more than 4 months, and was finally cured by injections of a solution of silver nitrate, followed by the complete disappearance of the typhoid bacilli or, rather, their replacement by the colon bacilli. Curschmann calls attention to a few of the characteristics of this disease. It can only develop after an attack of typhoid fever, of course after a bacteriuria has occurred. Why this bacteriuria produces

cystitis in such a small proportion of all the cases, it is difficult to say, for the disease occurs in perfectly healthy, vigorous individuals as well as in the aged. The subjective symptoms are very slight. The patients complain of practically no pain, and do not have dysuria, excepting in rare cases. There is no febrile elevation of the temperature; the urine has an acid reaction, is cloudy and contains the bacteria and pus. The disease does not extend to the ureters, nor to the kidneys. The course is variable; usually brief, but it may be exceedingly chronic. The prognosis is favorable in all respects, and the treatment consists of the administration of salol, lavage of the bladder with a solution of silver nitrate, or the administration of urotropin. (Horton Smith's method.) All these measures are also useful in overcoming the simple bacteriuria. The chief feature about this condition is of course the fact that on account of the absence of subjective symptoms, the condition may be overlooked, particularly as it often occurs after convalescence is well started, and there is no apparent reason for continued examination of the urine. The possibility of the dissemination of the disease by this method has already been insisted upon by Gwyn in these columns.

Influenza and Hay Fever.—The prevailing epidemic of mild influenza revives, even in midwinter, the perennial subject of hay fever. Some persons think they have made the discovery that the two diseases are in a sense antagonistic; or, at least, that the victims of hay fever are not so prone to the grip as are the rest of the world. This fact, if true, would seem to indicate that hay fever, as well as influenza, is a disease of microbic origin, and that the infecting organism of the one has the power of rendering its victim immune to the action of the other.

The theory that hay fever is a neurosis is perhaps not well based on the observation of facts, and is likely to succumb to the all-dominant microbe. It would perhaps be more reasonable to claim, as Dr. A. O. J. Kelly has done in the case of arthritis deformans, that it is an infectious trophoneurosis. The fact is well established that the disease is curiously under the influence of mental impression, and is sometimes controllable by agencies that control the pure neuroses. This has been well demonstrated in this city in recent years by a man of independent means, who was himself a victim of hay fever. After traveling every year to different resorts in a vain search for relief, he determined at last to fight it out in his city house, where he could at least have the comforts of home. He accordingly returned every August to his city house and locked himself in. Strange to say, the customary attack was averted. This experiment has proved absolutely successful now for three years in succession. Such a case, it may be thought, only goes to prove the truth of the pollen theory—a theory which was so elaborately

¹ *Munchener med. Wochenschrift*, October 16, 1900.

worked out by Blackley in England in 1866-78. And yet pollen is probably not absent from the air of cities.

If a genuine antagonism could be demonstrated between hay fever and influenza, it would be interesting to note what use the bacteriologists could make of the fact in the way of establishing a prophylaxis.

A New Treatment for Tuberculosis.—From the standpoint of its pathology the ideal method for the cure of tuberculosis would be to render the lungs aseptic. Taking into consideration the nature of the air-passages and their constant exposure to the bacteria-laden atmosphere, this is manifestly impossible, at least if attempted by the inhalation of vapors containing antiseptic substances. Maguire (*British Medical Journal*, December 15, 1900) proposes to employ the blood-vessels to render the lungs aseptic. After experimenting with cyanide of mercury, iodide of potassium, perchloride of mercury, diastase, and nuclein, he decided that formic aldehyd was the most likely to prove of use as a germicide that could be injected into the peripheral veins, and that would pass thence to the lung through the pulmonary artery, diluted only by the contents of the right ventricle. He found that a solution of one part pure formic aldehyd gas in 2,000 parts of normal salt-solution could be employed with safety and that he could inject 2 cc. in the space of 5 heart-beats. He calculated that by this process in the space of 5 heart-beats, the lung would be washed out with a 1:500,000 solution of formic aldehyd. Still further attempts developed a manner of using a more rapid process of injection and for a longer time, so that he now believes that he can sluice the lungs during a considerable number of heart-beats with a 1:50,000 solution. For the injection he employs a buret at the lower end of which is a soft rubber tube bearing a hypodermic needle of large caliber. A bulb, similar to the one used on the Pacquelin cautery, is attached to the upper end of the buret by a cork. The patient's arm is ligated as for venesection and under aseptic precautions, the needle is plunged boldly into a vein, the ligature loosened and the tap of the buret turned. He advises that not more than 50 cc. of the 1:2,000 solution be injected daily. Larger quantities which he had the hardihood to inject into his own system caused albuminuria, copious hematuria, and finally thrombosis of a vein in the arm. As a result of this treatment cough is generally increased and the expectoration becomes more frothy and mucous. Of 70 patients who have been submitted to this method of pulmonary aseptis, nearly all showed some improvement and in some there has been demonstrated absolute disappearance of tubercle bacilli from the sputum. It seems to us that the treatment suggested is, to say the least, heroic. Making due allowance for the strength of the solution, the action of formic aldehyd on the organs after they have been removed from the body should be borne in mind. It

would seem reasonable to fear that after the continued use of a weak solution even, a cirrhotic process might be induced in some of the other viscera, if not in the lungs, thereby setting up a second serious disease while curing the primary lesion. It would seem wise, before this method is generally employed, to study carefully the action of such a solution of formic aldehyd on the red blood-corpuscles outside the body; because it does not seem out of the range of possibility that long exposure to such a solution might seriously harden the stroma of the cells and thus interfere with their oxygen-carrying power.

The Plague in Manila.—The state of health in our recently acquired Philippine Islands is a subject of special interest now to all American physicians. The Government has new problems to face both in hygiene and in practice. It thus happens that the recent report of Surgeon-General Sternberg on the prevalence of plague in Manila brings home to us a topic of great moment from several standpoints. We are not only interested in plague as it has prevailed in Manila, but also as it may possibly be imported into the United States from that center of infection. The pest made its first appearance in Manila in December, 1899, little more than one year ago. The first cases were reported as instances of typhoid fever. One death occurred in December, 11 in January, 35 in February, 49 in March, 44 in April, 17 in May, and 11 in June, while during each of these months from 40 to 80 Chinese died from causes unknown, they having been without medical attendance. The reported cases all told numbered 225 of which only 58 recovered. It thus appears that there was a well-established epidemic of the disease in the city of Manila.

Only two white men contracted the disease and only one American died of it—an employe of the quartermaster's department. The epidemic was confined almost exclusively to the native and Chinese population. It is reassuring, in this connection, to read Surgeon G. L. Edie's confidently expressed opinion that but little difficulty will be experienced in controlling the disease in any intelligent community with modern sanitary methods. This opinion is hardly sustained by experience with plague in other quarters of the globe, and yet Dr. Edie, who is the Health Officer in Manila, had ample opportunity to form an opinion in this epidemic. That he can come to such a conclusion after combating plague in an Asiatic community, is certainly noteworthy. He speaks highly of the intelligent and efficient help rendered by the Chinese. The prompt detection of cases among these people was largely due to the vigilance of the Chinese Consul and the Chinese merchants. The latter furnished 40 inspectors [from their own number, and contributed funds for] building and maintaining a pesthouse. The Filipinos also were pressed into service as inspectors and did efficient

work. The disease was combated in a thoroughly scientific way—such as usually characterizes the Government's medical work. But Dr. Edie says that he and his assistants were not favorably impressed with either Haffkine's prophylactic or Yersin's serum, but he acknowledges at the same time that a thorough test had hardly been given to either. He says it is almost impossible to use them on the Chinese or natives without resorting to force.

The Essential Nature of Whooping-cough.—The efforts to determine the nature of whooping-cough, and its etiology, began with the first reported appearance of cases of the malady early in the sixteenth century. Its contagious character was made manifest by the great epidemics which spread over Europe during the latter part of this period. Many theories have been offered in explanation of the condition, and in many instances these have been utterly irreconcilable. However, it is interesting to take careful notice of the evolution of medical opinion. We must not dismiss old dogmas with a wave of the hand, but with careful judicial mind must sift out these theories, and glean whatever of truth there is in them. It is well to remember that medical thought advances in cycles, and too often we have discarded as valueless what has subsequently been readopted, after, perhaps, years of vain groping, and found to contain the essentials of truth.

The prevailing humoral theory of the eighteenth century sought to attribute spasmodic seizures to digestive disturbances, and explain the symptoms by an irritating action exerted upon the diaphragm and the respiratory organs. It was Linnæus, the botanist, nearly two hundred years ago, who attributed the condition to the inhalation of a *contagium animatum*. We find that by many the disease has been regarded as a simple bronchitis, of a form involving mainly the finer bronchioles and the alveoli. (Broussais and Desruelles, 1824.) Löschner (1868) held the same view, but explained the spasms of coughing by the reflex irritation caused by the decomposing secretion. Beau advanced the theory that a mechanical irritation of the larynx was sufficient to produce the symptoms, and held that inflammation of the laryngeal mucous membrane was the cause. In 1870, Letzerich promulgated the theory of the inhalation of spores, and believed that upon their multiplication the seizures could be brought about. Canstatt and Lebert held that the disease is of zymotic origin, affecting the general system, and that the paroxysms only indicate the respiratory system was most involved. This theory was advanced, on account of the frequent concurrence of measles with whooping-cough. Henoch, among others, gives force to the theory that pertussis is a neurosis, affecting the respiratory nerves and the sympathetic system. He reminds us of the aura which is present, in the fact of the child's anticipating the attacks. He concedes the catarrhal condition of the mu-

cous membrane present, but gives an important place to the nervous element of the disease, as indicated by the spasmodic violence of the expirations, by the apnea, and the crowing sound of spasmus glottidis. He calls particular attention to the fact that in many cases the vomiting is the major symptom, and the cough but slight in intensity, and further states that it is an open question whether the reflex irritability of the medulla acting through the vagus is to be blamed here.

As to the pathologic condition, it may be stated that the characteristic lesions found in an uncomplicated case of whooping-cough are a catarrhal inflammation of the respiratory mucous membrane, which, according to von Herff and Myer-Hünn, is most severe in the nose, larynx, and trachea, although it may extend into the small tubes. In certain cases, however, Rossbach has found all the parts of the trachea and larynx normal. Rehn found the anterior laryngeal wall to be the portion most involved, while others held the opinion that the posterior wall of the antihyarytenoid region seems so be the general focus. The constant occurrence as laid down by Beau and Gendrin of catarrhal inflammation at the entrance of the larynx, has been proven to be too broad a statement. It appears that in most of the cases the catarrhal inflammation is found in the infraglottic region, but so varied is the description of the localized point of inflammation that it would seem reasonable to assume that the site of the inflammation is dependent upon the locus minoræ resistantiæ of the membrane. In the majority of cases the larynx is involved, or the bronchial tubes at their bifurcation. It is quite generally conceded that pertussis is an infectious disease, and bacteriologists have been energetic in their efforts to isolate the specific microorganisms. The names of Deichler (1886), Cohn and Newman (1895), Kurloff (1896), Czapslewski and Hensel, Ritter and Afanasieff and, finally, Koplik are foremost among those who claim to have isolated the specific cause. The manifold complications of the condition are perhaps exceeded by no other disease. Bronchopneumonia, emphysema, tuberculosis, and measles are especially important. We find the inflammation of the bronchial glands a very constant feature, and many have assigned to them etiologic importance. The most acceptable explanation of this condition, however, is that it is a sequela and due to the accompanying catarrh of the mucous membranes. The leukocytosis, which so constantly is present in whooping-cough, affects especially the lymphocytes, but we must not forget that lymphocytosis is common in other conditions in childhood. It would seem a reasonable explanation, at least in part, to concede that the specific organisms having gained entrance, upon some favorable site elaborate a toxin, and that this toxin, being absorbed and accumulating in virility, acts particularly upon the superior laryngeal and vagus nerves. The fact must finally be borne in mind that the postmortem

lesions found, both of the nervous and general system, vary widely, and that we are forced to regard them as complications rather than a part of the specific process. There is unquestionably an infectious agent present with its point of secretion in the respiratory mucous membrane, and that an intoxication is produced, as the disease progresses, would seem borne out by the burden of proof.

A New Medical Journal.—We extend a cordial welcome to the *New York State Journal of Medicine*, the first number of which lies before us. The new journal is the official organ of the New York State Medical Association, and will appear monthly. Its initial number is highly creditable, and its succeeding numbers we doubt not will be still better. In the announcement, its editor, Dr. J. H. Burtenshaw, says that the new enterprise marks a distinct era in the affairs of a State medical organization. We must call his attention in this connection to the fact that the Pennsylvania State Medical Society has long had an official organ in the excellent *Pennsylvania Medical Journal*.

Correspondence.

THE COMMON FLY AS A FACTOR IN THE TRANSMISSION OF DISEASED GERMS.

By JOSEPH LEIDY, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

It has occasioned no little surprise to the writer that while the profession and laity have shown a natural interest in the relation which the mosquito (*Anopheles quadrimaculatus*) bears to the etiology of malaria as the host through which the germ finds its way into man, so little attention has been given to the relation which the common fly holds as a factor in the transmission of disease.

The writer has taken the opportunity of examining the contents of the stomach and proboscis of a number of flies caught at random in the reception ward of the Pennsylvania Hospital, and of a number which have been allowed to feed upon the discharge from suppurating wounds, surgical dressings, fresh and dried blood preparations, and various kinds of decomposing vegetable and animal matter.

The results obtained from a series of experiments in this direction suggest interesting problems, and firmly convince the writer that the fly may become an important factor in the transmission of diseased germs.

This preliminary note is made for the purpose of calling your attention at this time to a pest which it would not be wise to overlook while we are making our attack upon the *anopheles*.

In the Proceedings of the Academy of Natural Sciences, Philadelphia, 1871: "Professor Leidy remarked at this time (during the prevalence of smallpox) he was reminded of an opinion he had entertained that flies were probably a means of communicating contagious diseases to a greater degree than was generally suspected. From what he had observed in one of the large military hospitals, in which hospital gangrene had

existed during the late rebellion, he thought flies should be carefully excluded from wounds. Recently he had noticed some flies greedily sipping the diffuent matter of some fungi of the *Phallus impudicus*.

"He caught several and found that on holding them by the wings they would exude two or three drops of fluid from the proboscis, which examined by the microscope were found to swarm with the spores of the fungus. The stomach was likewise filled with the same liquid, swarming with spores."

PREVENTION OF TUBERCULOSIS.

By P. A. SHEAFF, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

MEASURES for the prevention of tuberculosis is a subject that justly calls for consideration and thought, not only on the part of the medical profession, but by every one interested in their own or others' welfare.

Not until the public at large becomes acquainted with the facts in regard to the care and necessity of properly disposing of tubercular sputum, and heeding the same, can efforts in this direction prove of much avail.

Efforts instituted for the prevention of a disease so widely distributed and affecting so many persons should receive the consideration of every right-minded individual, and with all due respect and reverence to religious teachings and customs may I call attention to the prevailing method in regard to the passage of the communion cup in vogue in many of our churches?

True it is that some congregations have adopted the individual-cup method; but are they many, compared to those who have not?

Is it man's moral and religious duty to knowingly place himself in a position where he may be the means of infecting others or becoming infected himself?

It is not in condemnation of the performance of this most solemn religious rite that I speak, but in observance of the same in a manner that would accord with hygienic teaching.

Teaching Anatomy.—Shepherd (*The Montreal Medical Journal*, November, 1900) insists on the oft-repeated statement that the dissecting-room is the place for the medical student to learn anatomy. The lecture is little more than a demonstration; and its retention is the survival of a method in vogue when subjects were obtained only with difficulty and at long intervals. Morphology, however interesting and instructive, has small place in the crowded course in anatomy. Osteology, the anatomy of the nervous system and the viscera, are the most important. During recent years the anatomy of the lymphatics has increased in importance, and that of the bloodvessels has decreased, except from a purely surgical standpoint. The author questions the wisdom of teaching histology in a separate course from anatomy and physiology. He says as a teacher he is daily amazed at the small amount of anatomy retained by the average fourth-year man, and even by those who did well in their second-year examination. Attention is called to the fact that the present-day teacher of anatomy is too much specialized, and that the student should be taught the practical points and these insisted upon. [From the tone of the author's address it is exceedingly doubtful whether he would favor placing the whole course of anatomy in the student's first year, as is now being done by a few schools. A.B.C.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. H. C. Catell Resigns.—Dr. Henry C. Catell, pathologist to the Pennsylvania Hospital, has resigned.

Dr. Anselme Walker, of Freehold, New Jersey, died January 6, from pneumonia. He was one of the founders of the New York Pharmaceutical Association.

Antiseptic Telephoning.—A Philadelphia firm is putting upon the market an antiseptic mouth piece for telephones. The contrivance has been adopted by several corporations.

Dr. John M. Brister, who left on Monday for the Mare Island Navy Yard, where he was assigned as assistant surgeon, United States Navy, was given a farewell dinner on Saturday evening at the home of his brother, Dr. F. Elmer Brister.

Nurses Graduate at Philadelphia Hospital.—The graduating class for the Training School of Nurses at the Philadelphia Hospital, comprising 13 nurses, received their diplomas. This makes the sixteenth anniversary of the Training School.

A Practitioner of High Standing Dead.—Dr. D. R. Bardin died of Bright's disease, at Avondale. He had been practising since 1866. Dr. Bardin was born in Dalton, Mass., February 10, 1820. In 1842 he graduated from the New York University. He obtained his medical degree in 1856. The deceased will be buried in Woodland Cemetery.

Death of a Famous Army Nurse.—Mrs. Anna Morris Holstein, who had obtained considerable fame as an army nurse, died at her home at Red Hill, near Norristown, Pa., at the age of 76. She was matron-in-chief of a hospital in which there were 3,000 seriously wounded after the battle of Gettysburg. She was instrumental in the purchasing of the army headquarters of Washington at Valley Forge.

Physicians Choose Officers.—At the meeting of the College of Physicians held last evening, the following physicians were elected officers: W. W. Keen (reelected), president; H. C. Wood, vice-president; William F. Norris, R. A. Cleemann, Arthur V. Meigs, and S. Weir Mitchell, censors; Thomas R. Neilson, secretary; Richard H. Harte, treasurer; Frederick A. Taggart and Elliston J. Morris, councillors.

Death of Dr. Richard Linderman.—We regret to announce the death of Dr. Richard Johnson Linderman, in this city, who was not only well known in his profession, but who represented Bucks County in the State Senate from 1869 until 1870. He had been ill for 3 years with cardiac disease. He was president, until about 20 years ago, of the Quaker Town City Bank, and also connected with various other public as well as medical associations.

Cooper Hospital Physicians.—At the annual meeting of the trustees of the Cooper Hospital the following were elected as the visiting staff of physicians and surgeons: Medical—Drs. W. A. Davis, E. L. P. Godfrey, W. R. Powell; surgeons—Drs. Daniel Strock, Joseph Nicholson, Paul M. Mearay, and E. A. Y. Schellinger; ophthalmologist—Dr. W. R. Powell; gynecologists—Drs. Dowling Benjamin and J. S. Baer; laryngologist—Dr. E. S. Ramsdell; pathologist—Dr. S. Bray.

Course in Neuropathology.—An elective course in neuropathology has been opened in the University of Pennsylvania by Dr. W. G. Spiller, who has recently been appointed demonstrator of that branch. The course is open to a limited number of graduates and students and will comprise the study of pathology of the central nervous system and preparation as well as examination of microscopic preparations. This course is of especial value to prospective neurologists who wish to combine with their clinical knowledge a part of the pathologic manifestations of nervous diseases.

Berks County Medical Society, at its banquet, January 8, following the annual meeting, had as its guests Dr. Martin, professor of surgery at the University of Pennsylvania; Dr. Forbes, professor of anatomy at Jefferson Medical College, and Dr. John Shoemaker, professor of therapeutics at the Medico-Chirurgical College. The Society elected Dr. S. S. Hill president; Dr. James W. Keiser, recording secretary; S. Banks Taylor, corresponding secretary, and Dr. A. S. Raudenbush, treasurer.

The Medical Society of the County of Erie held its eightieth annual meeting January 8th, electing officers and delegates to the State Society. The following program was presented: **A county health officer**, by Dr. E. H. BALLOU, president; **A review of legislation in reference to tuberculosis**, by Dr. J. H. PRYOR; **A brief resume of the grosser animal nature, and its application in medicine**, by Dr. GEO. N. JACK; **Gastro-intestinal disease in children**, by Dr. W. C. CALLANAN.

Errata.—In the PHILADELPHIA MEDICAL JOURNAL of January 5, page 24, the prescription credited to Dr. Walter L. Pyle, should read: Yellow oxide, 1 grain; vaseline, 3 drams, instead of yellow oxide, 1 grain; vaseline, 3 grains. In the PHILADELPHIA MEDICAL JOURNAL of December 29, 1900, page 1237, in the article entitled "Rotary Lateral Curvature of the Spine; Their Diagnosis and Treatment," Dr. Daniel W. Marston should have been mentioned as the associate in the article of A. M. Phelps, A.M., M.D., instead of A. W. Marston, M.D.

Vital Statistics of Philadelphia for the week ended January 5, 1901:

Total mortality	453	
	CASES.	DEATHS.
Inflammation of appendix 4, brain 13, bronchi 8, kidneys 16, liver 1, lungs 60, peritoneum 4, pleura 1, stomach and bowels 17, tonsils 1		125
Inanition 13, marasmus 10, debility 3		26
Tuberculosis of lungs		61
Apoplexy 16, paralysis 6		22
Heart—disease of 31, fatty degeneration of 5, neuralgia of 2		38
Uremia 15, diabetes 2, Bright's disease 8 . . .		25
Carcinoma of breast 3, face 1, liver 6, stomach 1, throat 1, uterus 1, jaw 1, tongue 1		15
Convulsions		8
Diphtheria	118	20
Brain—softening of 2, congestion of 1		3
Typhoid fever	95	16
Old age		14
Burns and scalds		6
Teething		2
Dysentery		2
Suicide		3
Cirrhosis of liver		6
Alcoholism		4
Cyanosis		2
Gangrene of foot		2
Scarlet fever	92	3
Liver, abscess of		1
Abscess of stomach 1, asthma 4, atheroma 1, casualties 7, cerebrospinal meningitis 1, congestion of lungs 1, puerperal convulsions 1, croup, membranous 2, dropsy 1, erysipelas 1, fistula 1, hematemeses 1, hernia 3, influenza 7, jaundice 1, leukemia 1, locomotor ataxia 1, intestinal obstruction 1, pyemia 1, rheumatism 1, arterial sclerosis 1, septice-mia 1, sarcoma of liver 1, sarcoma of neck 1, suffocation 1, tumor of chest 1, ulceration of stomach 1, whooping cough 3, umbilical hemorrhage 1, dropsy 1		50

Pediatric Society.—At the meeting of January 3, Dr. S. M. HAMILL exhibited an infant, 6 months of age, which is suffering from severe anemia with leukocytosis. The child has been breast-fed since birth. The liver is slightly and the spleen considerably enlarged. Emaciation is moderate. Examinations of the blood show about 3,000,000 erythrocytes, leukocytes varying from 29,000 to 23,000, hemoglobin 42%. There is a great increase in the lymphocytes, nucleated reds are present, and there is marked poikilocytosis. There are no symptoms of rickets or scurvy and no syphilitic or tuberculous family history. There being no underlying disease on which to base a diagnosis of secondary anemia, the case was presented as belonging to one of the unclassified varieties between leukemia and pernicious anemia.

DRS. J. A. SCOTT and H. M. FISHER reported a case of **leukemia** in an infant 17 months of age. Leukocytosis has been as high as 105,000, and nucleated red cells and myelocytes are present. The spleen is hard and extends below the umbilicus. Large doses of *nux vomica* have seemed to give good results.

DR. E. E. GRAHAM exhibited a specimen showing **malformation of the bowel**. The anus was a blind pouch 1 inch in length, the lower end of the large bowel being 1 1/2 inches above this. An opening in the bowel was made when the infant was 4 1/2 days old, but death followed in 48 hours.

DR. E. J. MILLER showed a case of **nodding spasm**. The nodding has lately diminished, and nystagmus is present. There are evidences of rickets in the case, and Dr. Miller believes that disease to be the cause in the larger number of cases.

DR. WILLIAM PEPPER showed specimens from a case of **sarcoma of the liver** and right suprarenal capsule. The child lived 6 1/2 weeks, the increase in size of the abdomen being very marked. The liver was found to be enormously enlarged, weighing 2 pounds 8 ounces. The growth proved to be a typical lymphosarcoma, the suprarenal capsule being much more hemorrhagic than the liver. Dr. Pepper finds 5 other cases recorded, the time of beginning, the symptoms, appearance, and duration of life being strikingly alike in all of them. The cases differ from ordinary sarcoma of the suprarenal capsule, one point being that no pigmentation of the skin was present. The case is believed to have been one of congenital malignant disease.

Philadelphia County Medical Society.—The subject discussed at the meeting of January 9 was **typhoid fever**. DR. A. O. J. KELLY read for DR. J. H. MUSSER and himself the report of a case of **hemoglobinuria complicating typhoid fever**. The patient was a colored laborer, 21 years old, who had undoubted typhoid. During the first 6 days after his admission to the hospital, hemoglobinuria was present. This condition being present on admission excluded ice as a causative agent, and its use did not seem to increase the hemoglobinuria. The blood showed only 15% of hemoglobin for some days. There was no history of malarial fever in the case and recovery followed the attack.

DR. WILLIAM OSLER, of Johns Hopkins University, who was present by invitation, read a paper upon **Perforation and perforative peritonitis in typhoid fever**. Dr. Osler stated that physicians could not congratulate themselves on lessening the incidence of typhoid fever in this country, but that they could on the reduction of the mortality which should not now be above 7.5% for hospitals. This reduction in mortality is due to better nursing and treatment, there being a special class of formerly fatal cases which are greatly influenced by modern nonmedicinal treatment, namely, those suffering from toxemia. But of every 100 deaths from typhoid fever only 50 are due to asthenia, while 30 are the result of perforation and 20 are caused by other complications. There has been no material reduction in the mortality of perforative cases. Perforation is more apt to follow ulceration high in the bowel, but this situation is better for the surgeon. The most difficult cases are those where perforation is low in the bowel and occurs early in the course of the attack. Two clinical features are to be emphasized, first, the uncertainty and variability of perforation and, second, the necessity for a complete revision of the methods of recording cases by the medical man. The points to be considered are the perforation itself and the consecutive peritonitis. It is important to recognize the condition and operate within 12 hours after perforation. Three cases were detailed, each illustrating a certain class. The first class had the following symptoms suggesting perforation: Sudden onset of pain, persistence of pain, tenderness on pressure, muscular rigidity, increasing distention of the abdomen, movable dullness in the flanks. Against these, however, were: No fall in temperature, no increase in pulse-rate, no leukocytosis, no collapse. Operation was performed 9 hours after the symptoms began, and a perforation was found and sutured. The patient died in a day or two afterward. The wound in the bowel had almost healed. This patient is believed to have died of typhoid fever and not of peritonitis. The second case was one having hemorrhages. Operation revealed such a necrosed condition of the gut that sutures would not hold. The patient died on the table. In this case the symptoms

were attributed to hemorrhage when they should have been attributed to perforation. A point which should have been more noticed was that the liver-dullness was obliterated, though there was abdominal distention at that time. This belonged to a class of cases in which fatality is inevitable no matter when operation is done. The third case was a child operated upon 8 1/2 hours after perforation, an uneventful recovery following. The conclusion reached after a study of cases of which the above are types, is that sweating, hippocratic facies, feeble running pulse, collapse, etc., are not symptoms of perforation, but of peritonitis. What is needed is a fuller knowledge of the early symptoms of perforation. Dr. Osler does not believe that much is to be hoped for as regards the recognition of the so-called perforative stage; but it is the duty of the physician to study most carefully the earliest symptoms in perforation. In studying hospital notes, it is apparent that many points which should have been noted are left out. It is essential that every serious case of typhoid fever should be watched by a careful physician who is in constant touch with a surgical colleague. It is better that these patients be visited by a skilled resident-physician rather than by an interne. To leave them to the care of attending physicians is to lose cases. To direct attention to certain definite points, and aid in the early recognition of perforation, Dr. Osler gives the following specific statements to hospital physicians: 1. When a patient has abdominal pain, the night-superintendent or nurse is instructed to at once notify the physician of the onset of pain, hiccough, vomiting, rise of pulse, increase of respiration, collapse, or sweating. 2. The character of the pain (A) as to its onset—whether it is an aggravation of previous pain or whether it is sudden. Also whether it yields to ordinary treatment or recurs in paroxysms. (B) As to its locality—whether diffuse or local, in the iliac fossa or in the hypogastric region, if it radiates to head of penis, etc. 3. The state of the abdomen. (a) Inspection, whether flat, scaphoid or distended. If the latter, is it uniform or in the hypogastric or other region alone, note respiratory movements; (b) Palpation—note degree of tenderness, muscle rigidity or spasm; (c) Percussion—note the condition of the flanks and extent of liver-dullness; the latter should be marked out every 3 hours, remembering that obliteration may occur in a flat as well as in a distended abdomen; (d) Auscultation—the amount of peristalsis present and the occurrence of a friction sound; (e) Examination of the rectum and stools. 4. The general condition of the patient: (a) Change in expression—pallor, etc.; (b) pulse; (c) temperature; (d) respirations; (e) sweating—onset, etc.; (f) vomiting, relation to onset of pain; (g) hiccough. 5. Blood examination: leukocytosis, whether stationary or rising. The leukopenia of typhoid fever must be remembered in this connection. These statements should be of help to hospital physicians. It is in the hands of the profession to reduce the mortality of typhoid fever. One important preliminary to this result is practical, firsthand instruction in typhoid fever to senior medical students. This does not mean lectures or recitations but the actual seeing of cases and watching their progress throughout the attack. There are many lessons for physicians to learn, and one of the most important is that it is necessary to watch in severe cases for symptoms of perforation and to operate early. In this way it is probably possible to save one-half of the cases. One class of cases of perforation die whether operated upon or not, and a second class is saved from the peritonitis but dies of the fever itself, but it has been demonstrated by the surgeon that a third class exists which can be saved by operation. Eleven cases of perforation occurring in the wards of the Johns Hopkins Hospital have been operated upon with 5 recoveries. Out of 5 additional cases brought in and operated upon at once there was one recovery. In the discussion of the paper, DR. ERNEST LA PLACE stated that there must be a closer association of the physician and surgeon. The surgeon should from the first have a part in the treatment of typhoid fever as he does in appendicitis. Typhoid fever must in the future be more and more a hospital-treated disease, where nurses, physicians, and surgeons can watch the cases and where operation for perforation can be done promptly and under proper conditions. DR. JOSEPH PRICE agreed that young clinicians should receive more practical education in typhoid fever. Hospital training before a diploma was granted would be an ideal solution of the problem.

He would not hesitate to open the abdomen and ligate the bleeding vessel in a case of severe hemorrhage. Out of 22 operations for suspected perforation only 2 failed to relieve that condition. Ten of these patients are now well. The surgery practised by many surgeons is too much, the least possible being the best. Resection of the bowel is not recommended. When it will not hold sutures it is better to simply make the toilet of the abdomen and place a cofferdam of gauze. In 4 to 6 weeks afterward the resulting fistula can be repaired. In many cases of contaminated peritoneum and feeble pulse the patient leaves the table in better condition than before operation if that procedure be confined to the toilet and open treatment. DR. M. H. FUSSELL places the most confidence in obliteration of the liver-dulness as a symptom, yet this occurred in 1 case without perforation. In 1 case of perforation and death a marked peritoneal friction-sound had been present. DR. W. L. RODMAN believes that recovery after perforation is more common than is generally thought. Late reports of military surgeons regarding conservative treatment of gunshot wounds of the abdomen and intestines should have some bearing on the perforation of typhoid fever. Until the medical man tells more accurately how to diagnose perforation the surgeon must be rather pessimistic as regards operative results. In closing the discussion DR. OSLER stated his belief that recoveries following perforation are very rare. He does not remember a case recovering where the diagnosis was clear and peritonitis was present. A third year student can diagnose peritonitis 36 to 48 hours after perforation, but early diagnosis is needed. The clinician must go over the ground again and again and must be able to advise operation before general peritonitis is present. What if a few mistakes in diagnosis be made and no perforation be found? These patients bear operation well and should be given the benefit of the doubt. The clinician and general practitioner should be awake to the possibility of saving 30% to 50% of the cases of perforation. The practitioner can seldom say of any case that it would not have recovered without his aid, but the surgeon in many of these cases can say "I saved that life."

NEW YORK.

The New York State Medical Association has just issued the first publication of its monthly Journal.

Dr. Knapp's Gift.—Dr. Herman Knapp presented to the New York Ophthalmic and Aural Institute as a gift the buildings now occupied by that institution.

The State Board of Health in its monthly bulletin discusses the outbreaks of smallpox in 17 places in New York State, and believes that a troupe of traveling minstrels was responsible for the ingress of the disease.

New Children's Ward.—A committee was appointed by the Board of Health, at its meeting on December 27, to call on John N. Keller for the purpose of requesting that a new children's ward be established on Randall's Island.

Tuberculous Hospital.—The Legislature will be asked to appropriate \$100,000 for the erection of the first pavilion of the Tuberculous Hospital, which is to be located at Raybrook, about 4 miles east of Saranac Lake.

Prize.—Dr. M. Hartwig, President of the Buffalo Academy of Medicine, has offered a prize of \$50.00 for the best paper contributed by any member of the academy during his term of office. Papers must be handed in by July 1.

Dr. Lucius J. W. Lee died at his home in Brooklyn, on January 6, of pneumonia, aged 65 years. Dr. Lee was a great-nephew of the late Dr. S. D. Gross, of Jefferson Medical College, Philadelphia. He was a prominent practitioner in New York and Brooklyn for 27 years, having devoted the latter part of his years to the study of diseases of the stomach.

The New York City Board of Health.—The New York City Board of Health intends to establish regulations among barbers which will require the employment of clean tools and a fresh towel for each customer and the abolition of sponges and powder puffs. The frequent cases of barbers' itch that have resulted, due to the infection from unclean barbers' utensils, have made it necessary to establish these restrictions.

A Large Fire at the Rochester Orphan Asylum.—Twenty-eight bodies lie at the morgue and 12 others more or less seriously injured lie at the different hospitals in the city as a result of the terrible holocaust which occurred January 8 at the Rochester Orphan Asylum. Of the dead 26 were children, and 2 were adults. The fire was doubtless caused by an explosion of natural gas in the boiler room. It spread so rapidly that many of the 109 inmates were overcome by the flames and smoke, almost without warning.

Dr. G. T. Stewart Appointed Head of Bellevue.—The *New York Herald* of January 8 prints the following: Ordered—That Dr. George T. Stewart be and he hereby is transferred from the Metropolitan Hospital to Bellevue Hospital, with sole power to superintend Bellevue, Fordham, Gouverneur, and Harlem hospitals, and with power to suspend any interne, nurse, or other employe of the Department of Public Charities assigned to duty in Bellevue, Fordham, Harlem, or Gouverneur hospitals, whenever in his judgment the interests of the service shall demand such suspension.

Transactions of the New York Obstetrical Society.—Regular meeting held December 11, 1900, DR. J. H. BOLDT, president, in the chair. DR. E. P. CRAGIN presented specimens from two cases of **tumor complicating the puerperium** and requiring removal. Case 1, an ovarian cyst, the pedicle of which became twisted during the puerperium and requiring removal, occurred in a primipara. After delivery an ovarian cyst was found high up on the right side of the abdomen. On the fourteenth day of the puerperium fever set in and continued with fluctuations for some time; vomiting set in on the thirtieth day. An uneventful recovery followed the removal of the cyst on the right side, together with the left ovary, which was also the seat of a dermoid cyst.

Case 2 was that of a woman of 44, delivered at full term after a prolonged labor by means of low forceps application. The placenta had to be extracted manually. The woman, who had lost 38 ounces of blood, was in a very poor condition. Before the delivery a large hard tumor the size of a fetal head was found on the right side of the fundus of the pregnant uterus, and this tumor was removed on the thirty-second day of the puerperium by an abdominal hysterectomy. The uterus with the tumor weighed 8 pounds and 2 ounces. Discussed by A. PALMER DUDLEY.

DR. BRETTAUER showed a **specimen of ruptured tubal pregnancy** which had been removed from a woman of 29, married 6 years. The entire ovum was found free in the abdominal cavity. The patient died on the fourth day owing to a septic infection which emanated from necrosis of the abdominal fascia. Discussed by DR. BROTHERS.

DR. EDGAR showed a **metal pelvis and a metal fetal head attached**, as a contrivance to be used in the teaching of obstetrics; also several bottles and jars to be carried in a canvas case by the obstetrician. Discussed by DR. DICKINSON.

The paper of the evening was read by DR. MALCOLM MACLEAN entitled, **A plea for the recognition of some of the factors in the mechanism of labor.** He believed that in many cases injuries have resulted from ignorance of the principles governing the mechanism of labor, in which case the patient, child and physician were affected. He avoids too hasty interference when the mother's tissues are unprepared and rigid. The membranes should be left intact until the dilation is complete. When the latter has occurred and the membranes are stretched flatly across the mouth of the uterus with every pain, instead of protruding to the point of rupture, unnecessary delay may be avoided with propriety, by rupturing the sac. The importance of employing the fetal envelope as a rubber glove in intrauterine manipulation is emphasized, for if in this manner germs are introduced by the operator they will not reach the fetus but will subsequently come away with the membranes. According to the writer, douching after labor is not indicated since the sinuses are filled with sterile clots and these should not be disturbed in the endeavor to remove germs that may not exist. He advises chloroform when there is a too violent advance of the presenting parts through an unprepared vulva, but the anesthetic should only be given to the degree of obstetric anesthesia excepting in delivery by means of instruments. Discussed by DRs DICKINSON, EDGAR, SIMON MARX, and closed by DR. MACLEAN.

NEW ENGLAND.

Mercy Hospital.—At the annual meeting of the Mercy Hospital Corporation, of Springfield, Mass., held at the Hospital on January 2, the only change in the staff was the election of Dr. J. P. Black to the staff of assistant surgeons.

Thurber Medical Association.—At a meeting of the Thurber Medical Association, of Milford, Mass., on January 3, Dr. E. H. Trowbridge of Worcester, read a paper on "The Medicolegal Aspect of Fractures," reciting a large number of cases and presenting a collection of skiagraphs.

CHICAGO AND WESTERN STATES.

Dr. W. W. Cole, of Columbia, Ohio, has been appointed Director of Public Safety of that city.

New Hospital.—A charity hospital will be built at Eureka Springs, at a cost of \$5,000, by Mrs. R. C. Kerens, of St. Louis.

Resignation of Dr. Regensburger.—Dr. A. T. Regensburger has resigned the professorship of dermatology of the College of Physicians and Surgeons in San Francisco.

Missouri State Board of Health.—The following were elected at a meeting held at Jefferson City, January 4: Dr. C. K. Elkins, president; Dr. J. T. McClenachan, vice-president; Dr. E. C. McElwee, secretary.

Fire in Children's Free Hospital.—On the evening of January 3 fire broke out in the Children's Free Hospital of Chicago, resulting from the ignition of a Christmas tree. Several nurses, who, by their coolness, succeeded in removing all from danger, were slightly burnt during their efforts.

Smallpox in Kansas.—The schools of Columbus, Kan., as well as the District Courts have adjourned upon order of the State Board of Health, on account of the epidemic. There are 200 cases in Cherokee County. Almost the whole of the southeastern portion of Kansas is affected with this epidemic.

The College of Physicians and Surgeons, of Chicago, has received an endowment of \$25,000 from the dean of the school, Dr. W. E. Quine, for the purpose of the college library, and an endowment of \$25,000 from Dr. D. K. A. Steele, to be devoted toward the endowment of the pathologic laboratory.

Dr. William H. Sloan died on January 1, aged 54, having been an active member in Moline for 20 years, where he stood at the head of the profession. He was a member of various medical associations, and also took quite an interest in educational matters. He was a member of the Board of Education for 12 years.

Inherited Tendency to Tuberculosis.—The Indiana State Board of Health in its monthly bulletin cites the following: A farmer of Adams County died January 1, 1900, of pulmonary tuberculosis at the age of 80 years. His son died of the same disease on May 15, 1900, and the daughter of the latter died December 11, 1899, the cause of death also being pulmonary tuberculosis. It is remarked that it is possible that the elder farmer may have infected the home himself.

SOUTHERN STATES.

Dr. Foster Resigns.—Dr. George W. Foster has resigned his position at the Elizabeth Hospital for the Insane at Washington to accept an appointment as Superintendent for the Second Hospital for the Insane at Bangor, Maine.

Columbian University.—There was a meeting of the hospital board on January 3. The following officers were elected for the ensuing year: Dr. F. A. King, president; Rev. Dr. S. H. Greene, vice-president; Mr. S. W. Woodward, treasurer, and Dr. E. A. de Schweinitz, secretary.

Memphis Medical Society.—At the annual meeting for the election of officers held Friday evening, December 28, Dr. Frank A. Jones was elected president; Dr. Alfred Moore, vice-president; Dr. J. L. Andrews, secretary; Dr. Richmond

McKinney, reporter. The annual banquet was given at the Nineteenth Century Club.

St. Louis Academy of Medical and Surgical Sciences.—At the last meeting the following officers were elected for 1901: President, Dr. Emory Lanphear; senior vice-president, Dr. Carl Pesold; junior vice-president, Dr. H. S. P. Lare; secretary, Dr. O. L. Suggett; treasurer, Dr. G. M. Phillips; orator, Dr. William Porter, and librarian, Dr. H. G. Nicks.

Richmond Board of Health.—Dr. Greer Baughman, who for the past 2 years has been studying medicine in Vienna, has returned home. Recently he was elected demonstrator in physiology in the Medical College of Virginia.

Out of 24 cases of typhoid-fever reported for December, 4 were fatal; there were 5 cases of diphtheria with 1 death.

Senses Hospital.—At a meeting held on January 2, 1901, the Board of Trustees of the Senses Hospital of New Orleans, approved the appointment of Dr. Gordon King as surgeon in charge of the throat, ear, and nose department. An entertainment for the benefit of the hospital to be held at the French Opera House on January 18 is under preparation. Dr. E. Denegre Martin was appointed consulting physician of the hospital.

A New Drug Concern.—Arrangements have just been completed for the establishment of a new drug house in New Orleans. The senior member of the company is S. P. Nickels, who has been manager and local representative of the Parke, Davis & Company for the last 5 years. It will be the only concern of its kind south of Baltimore, and will devote its attention to the output of fluid extracts, tinctures, elixirs, etc., with a full plant for testing the physiologic action of various drugs.

MISCELLANY.

The rumor of President Elliot being about to resign has been officially denied.

Obituary.—HARVEY H. BURKAM, aged 61, at Foxville, Frederick County, Md.

Smallpox in Soldiers' Home has broken out in Leavenworth, Kansas, jeopardizing 3,000 veterans located there.

The Röntgen-rays succeeded in locating a \$5 gold piece which had been swallowed by a boy of Wabash, Ind., five years ago.

State Examination.—Out of the 19 physicians who took the recent Connecticut State examination, 14 were successful.

A new medical journal has been issued at Havana known as the *Revista de la Asociacion Medico Farmac. de la Isla de Cuba*.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended January 4, 1901:

SMALLPOX—UNITED STATES.			CASES.	DEATHS.
DIST. COLUMBIA:	Washington . . .	Dec. 15-22 . . .	1	
FLORIDA:	Jacksonville . . .	Dec. 15-22 . . .	1	
ILLINOIS:	Cairo . . .	Dec. 15-22 . . .	3	
"	Chicago . . .	Dec. 22-29 . . .	2	
KANSAS:	Wichita . . .	Dec. 22-29 . . .	2	1
NEBRASKA:	Decatur . . .	April 1-Dec. 14 . . .	416	4
N. HAMPSHIRE:	Manchester . . .	Dec. 22-29 . . .	14	
NEW YORK:	New York . . .	Dec. 22-29 . . .	11	2
OHIO:	Ashtabula . . .	Dec. 22-29 . . .	5	
"	Cleveland . . .	Dec. 22-29 . . .	20	
RHODE ISLAND:	Central Falls . . .	Dec. 26 . . .	1	
TENNESSEE:	Memphis . . .	Dec. 22-29 . . .	2	
"	Nashville . . .	Dec. 22-29 . . .	1	
TEXAS:	Galveston . . .	Dec. 17 . . .	1	
"	Houston . . .	Dec. 22-29 . . .	25	1
UTAH:	Salt Lake City . . .	Dec. 22-29 . . .	52	
W. VIRGINIA:	Wheeling . . .	Dec. 15-22 . . .	3	
WISCONSIN:	Green Bay . . .	Dec. 23-30 . . .	1	

SMALLPOX—FOREIGN.

			CASES.	DEATHS.
ARGENTINA:	Buenos Ayres	Oct. 1-30	22	14
AUSTRIA:	Prague	Dec. 1-8	26	
EGYPT:	Alexandria	Nov. 26-Dec. 10 .	4	4
ENGLAND:	London	Dec. 1-15	2	
FRANCE:	Paris	Nov. 24-Dec. 1 .	103	17
		Dec. 1-8	152	14
GREECE:	Athens	Dec. 1-8	1	
INDIA:	Bombay	Nov. 21-27		1
	Calcutta	Nov. 17-24		8
	Madras	Nov. 17-23		1
ITALY:	Licata	Dec. 8-15		1
MEXICO:	Vera Cruz	Dec. 15-22		1
RUSSIA:	Moscow	Nov. 24-Dec. 1 .	3	1
	Odessa	Dec. 1-8	23	7
	St. Petersburg . .	Dec. 1-8	5	3
	Warsaw	Dec. 1-8		15
SCOTLAND:	Glasgow	Dec. 15-21	67	3

YELLOW FEVER.

CUBA:	Havana	Dec. 8-22	6
MEXICO:	Vera Cruz	Dec. 15-22	1

CHOLERA.

INDIA:	Bombay	Nov. 21-27	2
	Calcutta	Nov. 17-24	35
	Madras	Nov. 17-23	1

PLAGUE.

INDIA:	Bombay	Nov. 21-27	58
	Calcutta	Nov. 18-24	4
JAPAN:	Osaka	Nov. 30-Dec. 4 .	4
MADAGASCAR:	Tamatave	Oct. 29-Nov. 18 .	1

Dr. Eduardo Wilde, the Argentine Minister, one of the most distinguished representatives from South America, now in Washington, is also a physician. He has been chosen a delegate to the Pan-American Congress which will begin its session in Havana, Cuba, February 4, 1901. Dr. Wilde intends to present a new plan for establishing sanitary regulations in the ports of the whole of America.

Changes in the U. S. Marine-Hospital Service, for the week ended January 3, 1901:

PURVIANCE, GEORGE, surgeon, relieved from duty at Baltimore, Md., and directed to proceed to Washington, D. C., reporting at the bureau for duty. December 29.

WERTENBAKER, C. F., passed assistant surgeon, to proceed to Shreveport, La., for special temporary duty. December 28.

STIMPSON, W. G., passed assistant surgeon, to proceed to Denver, Col., for special temporary duty. January 1.

BROWN, B. W., passed assistant surgeon, relieved from duty at Cape Charles Quarantine, and directed to proceed to Baltimore, Md., and assume command of the service, relieving Surgeon George Purviance. December 29.

WILLE, C. W., assistant surgeon, to assume temporary command of Cape Charles Quarantine, relieving Passed Assistant Surgeon B. W. Brown. December 29.

AMESSE, J. W., assistant surgeon, on being relieved by Assistant Surgeon L. H. P. BAHRENBURG, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty. January 2.

LLOYD, B. J., assistant surgeon, granted leave of absence for 18 days from December 11. January 3.

BAHRENBURG, L. P. H., assistant surgeon, bureau order of December 27, 1900, directing him to proceed to Manila, is revoked, and he is directed to proceed to Honolulu, H. I., reporting to the chief quarantine officer for duty. December 31.

BREADY, J. E., acting assistant surgeon, granted leave of absence for 4 days from January 2. December 28.

KOLB, W. W., hospital steward, granted leave of absence for 30 days from January 29. January 2.

OLSEN, E. T., hospital steward, granted leave of absence for 5 days. January 2.

CASUALTY.

BOOTH, A. R., acting assistant surgeon, died at Shreveport, La., December 27, 1900.

Changes in the Medical Corps of the U. S. Navy, for the week ended January 5, 1901.

CRANDALL, R. P., surgeon, detached from the U. S. T. S. "Constellation," upon reporting of relief, and ordered to recruiting duty at Milwaukee, Wis., and then home to wait orders.

McCLURG, W. A., surgeon, detached from the "Indiana," and ordered to the Naval Training Station, Newport, R. I.

BRISTER, M., J. assistant surgeon, ordered to the "Independence," January 13.

The unveiling of the busts of **Graefe** and **Schweiger** took place on the 16th of December, 1900, in the amphitheater of the University Eye Clinic.

Foreign News and Notes.

GREAT BRITAIN.

Dr. Arthur Robinson has been elected lecturer on anatomy at King's College.

New Zealand Medical Journal.—A medical journal has been established at Wellington, edited by J. Malcolm Mason, and issued by the New Zealand branch of the British Medical Association.

CONTINENTAL EUROPE.

Professor Wollenburg has succeeded Professor Siemerling in Tübingen.

Influenza in St. Petersburg.—Influenza has appeared in epidemic form in St. Petersburg.

The Saxon Ministry.—The ministry at Saxony now requires that physicians, hospital managers, and keepers of boarding-houses report all cases of tuberculosis.

At a meeting of the Société de Chirurgie of Paris, M. Chaput related a case in which a woman had a tampon removed from the abdomen that had been there for seven years.

Artificial Spectrum.—The Zeiss optical works in Jena are producing an artificial spectrum, which consists of four colored glass prisms. The colors employed can be combined so that almost any desired shade can be produced.

The oldest qualified physician in the world resides in Karlsbad, who is the son of Gallus Ritter von Hochburger, M.D., royal councillor of the Austrian Court. He is 97 years of age, has been in practice for 71 years, and he is in the full possession of his mental faculties.

Medical University at Beyruth.—The final examination by the faculty took place a short time ago in Turkey. Seventeen students obtained their diplomas. The course lasts four years, the annual tuition fee being 160 francs. The diploma confers the authority to practise medicine both in France and Turkey.

Tea and Alcohol in Russia.—The New York Sun, in a recent issue, states that tea was first imported into Russia in 1838. Nearly one pound per year is now consumed on an average by each inhabitant. The total consumption of tea in Russia is 106,000,000 pounds, and the total cost thereof about \$88,000,000. For brandy, beer, and wine, \$550,000,000 are expended. It seems that the use of tea is increasing rapidly relative to the alcoholic beverages. It is worthy of mention that this has taken place since the introduction of machine-made teas from Ceylon and India.

Death from Embolus, with Autopsy.—Robinson (*The Medical Age*, November 25, 1900) reports the case of a woman of 46, upon whom he did a vaginal hysterectomy for hypertrophic myometritis. The ovaries and tubes were surrounded with adhesions, which were broken up, but these organs were not removed. She did well for 17 days after the operation, when she complained of pain in the right leg and thigh. To test the sciatic, the author flexed the leg on the thigh and extended the leg, but no pain was elicited. In about 2 to 4 minutes thereafter the patient screamed with pain in the chest, the pulse rose to 140, the breathing to 47 and pallor supervened. She died in 45 minutes. At the necropsy an embolus was found at the bifurcation of the pulmonary artery. The left ovarian vein was filled with a fibrous coagulum about the thickness of a lead-pencil. The left kidney contained an elongated calculus, which accounted for pus in the urine. The gallbladder contained about 150 hepatic calculi, which had given rise to no symptoms. The author considers it remarkable that the left renal calculus should cause pain in the right leg and thigh. The pain suffered by the patient was continuous and severe. The lesson to be drawn from this is that patients operated upon should remain quiet for a sufficient length of time after the operation. [A. B. C.]

The Latest Literature.

British Medical Journal.

December 22, 1900. [No. 2086.]

1. Clinical Lecture on Syphilitic Diseases of the Tongue. CHRISTOPHER HEATH.
2. Abstract of a Clinical Lecture on Recurrent Appendicitis. F. A. SOUTHAM.
3. Quantitative Color Tests. KARL GROSSMAN.
4. Remarks on Chronic Enlargement of the Pancreas in Association with or Producing Attacks, Simulating Biliary Colic. GILBERT BARLING.
5. A Case of Congenital Hypertrophy with Stenosis of the Pylorus. H. D. ROLLESTON and R. CROFTON-ATKINS.
6. Further Observations on Epidemic Arsenical Peripheral Neuritis. E. SEPTIMUS REYNOLDS.
7. The Strength of the Hypertrophied Bladder. D. W. SAMWAYS.
8. Intraperitoneal Rupture of the Bladder. W. PERCY BLUMER.
9. Notes on a Case of Profuse Hydroperitonium Complicating Uterine Fibroids. A. C. BUTLER SMYTHE.
10. Otomycosis in the Tropics. H. CAMPBELL HIGHER.
11. Some Points in the Treatment of Spinal Abscess. A. H. TUBBY.
12. A Case of Restoration of the Lower Lip After Almost Complete Excision for Epithelioma. ROBERT KENNEDY.
13. Two Cases of Blindness Due to Sphenoidal and Ethmoidal Sinus Disease. G. VICTOR MILLER.
14. Complete Prolapse of the Rectum Successfully Treated by Intraabdominal Fixation. THOMAS S. KIRK.

1.—Heath in a clinical lecture on **syphilitic diseases of the tongue** calls attention to the fact that induration of the sore in this location may not be present to the degree that it is on the genital organs. Sores upon the lips and tongue that are accompanied in the young by rapid lymphatic enlargement under the jaw are strongly suggestive of chancre. The communicability of syphilis by mucous membranes is not questioned today, and, therefore, a specific infection of the tongue or of the lip may innocently be produced, although it is possible that abominable practices are often responsible for direct inoculation into the tongue. **Drinking utensils and pipes** may also convey the virus. He presented a patient with a secondary eruption of syphilis and of mucous tubercles similar to the mucous plaques seen about the female genitals. As in the female genitals, the author considers that various mucous surfaces in the mouth which frequently are brought into apposition may mutually infect each other. Several illustrations were presented showing syphilitic ulcerations of the tongue. **Thickening of the tongue** is a frequent associated factor and may cause the patient considerable alarm, and for treatment of this condition he pushes mercury in the form of a mercurial mouth-wash of perchlorid of mercury, from 1:2000 upward, to be held in the mouth for 5 minutes by the watch. Mercury at the same time is also given internally, and most satisfactorily by inunction. The sulphur baths at Aix-la-Chapelle are not responsible for a cure, although very pleasant, but it is the daily inunction of mercury by the attendants which is fruitful of the beneficial results that have been so frequently obtained. Syphilitic affections of the tongue may occur, which appear to border between secondary and tertiary stages; these are in the nature of lacerations that are not actually gummatous in character. In discussing **tertiary syphilis** of the tongue, he mentions a case where throughout the substance of the tongue there were disseminated little nodules consisting of syphilitic deposit which did not yield to antisiphilitic treatment, malignancy being suspected. The whole tongue was excised, and upon microscopic examination a distinct epitheliomatous condition was found in addition to the gummata. The author believes that any continued irritation, such as a pipe, may give rise to epithelioma. **Leukoplakia** may occur entirely distinct from syphilis, tobacco being usually the cause. He believes that the addition of tobacco will greatly aggravate a subject already affected by syphilis. **Hyper-**

trophy of the papillae of the tongue should not be confounded with syphilitic warts that are frequently seen at the back of the organ. [M.R.D.]

2.—Southam reports 50 cases operated upon, of which 35 were males and 15 females. The **duration of symptoms** varied from several months to 6 years. The majority of cases occurred in persons between 20 and 30 years of age. In forty cases the patients had had 3 or more **recurrences**. Operation is advised when a second attack has made its appearance, notwithstanding that local symptoms may not be present during the interval of quiescence. **Suppuration** occurred in 15 cases and was usually found accompanied by a perforation of the appendix. **Fecal concretions** were found in 7 cases, but only in one instance was a true foreign body found in the shape of a pin. **Adhesions** were present in most of the cases, but their presence or absence were at variance with a number of attacks or their severity. In nearly every case there was thickening of the walls of the appendix and sometimes entirely occluding its lumen. [M.R.D.]

3.—Grossman considers **color testing** by means of **Holmgren's wools** as insufficient in many cases, as it is only a daylight test as used at present. The variability of the quality of light, and the disadvantage at times owing to **dark days** are both considered by the author to give rise to inconvenience. The solution is found by employing a set of colors adapted for a certain artificial light. **Central color scotoma** is a very serious objection, especially because it may be acquired or even transient, as in tobacco amblyopia. It sometimes occurs that the color-blindness is overlooked by the faulty examination (Holmgren) and only subsequently detected while the individual is performing his actual requirements. If a color signal be sufficiently close to the observer it may be strong and large enough to exceed the area occupied by the scotoma, and therefore the test-object must be, (a) variable in color, (b) variable in size, (c) variable in intensity. [M.R.D.]

4.—Barling states that the diseases of the **pancreas** are not well understood for two reasons: First, on account of the position of the organ, it cannot be easily examined, and, second, at autopsy the organ is not often examined. He reports 4 cases in which enlargement of the head of the pancreas was found when operating on the gallbladder or the ducts, 2 of the cases being errors in diagnosis as the symptoms were attributed to **gallstones** which were not found at the time of operation. The feature in these cases was enlargement of the head of the pancreas, producing a blocking of the common bile-duct and associated attacks of colic. It is further stated that on account of the relation of the head of the pancreas to the common bile-duct and the pancreatic duct, obstruction may be produced from swelling of the head of the pancreas probably as result of inflammation. It is also stated that colic is rarely encountered from pancreatic calculi owing to the **feeble muscular power** of the duct of Wirsung. Colic due to a pancreatic calculus is characterized by the position of the pain, which is either between the xiphoid cartilage and the umbilicus or in relation to the left costal arch. It is not unreasonable to infer that owing to the anatomic relation of the pancreatic duct and gland, that infection is liable to occur from invasion of the microorganisms of the intestines into the organ, causing an inflammatory swelling of the gland, such as often occurs in the salivary glands. The common bile-duct may in this way be compressed, giving rise to jaundice. [F.J.K.]

5.—Rolleston and Crofton-Atkins report a case of **congenital hypertrophy of the pylorus** producing **stenosis** in a full-term infant, which showed no external abnormalities. The early symptoms were vomiting and convulsions which developed when the infant was a fortnight old. Diarrhea developed a week afterwards. Subsequently the vomiting increased, the vomited material being highly acid. The child lost weight, and constipation became a serious and troublesome symptom. Death occurred when the infant was 7 weeks and 5 days old. At the autopsy, great hypertrophy of the pylorus was found with almost complete obliteration of the lumen. The wall of the pylorus measured 8 mm. The circular muscular coat measured 4 mm., the longitudinal coat 2 mm., and the mucous coats 2 mm. in thickness. Upon microscopic examination it was found that the mucous membrane of the pylorus was healthy, and the circular muscular coat showed some small-celled infiltration.

The mucous membrane of the stomach revealed catarrhal inflammation. The gastritis was believed to have been a late manifestation, as blood was found in the vomit 5 days before death. [F.J.K.]

6.—Reynolds states, in discussing the cause and symptoms of **epidemic arsenical peripheral neuritis** amongst beer-drinkers, that he has ascertained the source of the arsenic—the arsenic being found in the sulfur compounds from which sulfuric acid is made. The arsenic has also been found in the urine of patients after partaking of beer. In acute cases diarrhea occurred, and in the suckling infant diarrhea and vomiting developed. The nails were affected in a few cases. A few symptoms are reported which he has not yet seen described. In fair complexioned individuals the skin pigmentation is absent or is but slight and showing itself as a deeper pigmentation of preexisting freckles. The eruption is in many cases at first erythematous, then becomes darker, later marked pigmentation develops, and finally this is followed by desquamation that persists for several weeks. Bullae are rare. Herpes zoster occurs in a number of the cases and is not very uncommon. One case of partial anesthesia of the left fifth cranial nerve was observed, and a few cases of neuralgia of some of the spinal nerves without herpes. Marked cardiac asthenia, shortness of breath, exhaustion upon slight exertion, sometimes substernal and epigastric pain were noted and in many cases bronchitis and dilation of the heart were distinctive features. Even hemoptysis was noted in a few of the cases. Hoarseness was attributed to the swelling of the vocal cords and not to paralysis. He reports having seen 150 cases since November 13, 1900, and since that time 4 deaths which were due respectively to the following causes: Heart failure (one case); dilation of the heart with edema and bronchitis (one case); and gradual heart failure, exhaustion and extensive paralysis (two cases). He states that it is impossible at present to determine which symptoms should be attributed to the arsenic and how many to the alcohol. The differential diagnosis between beriberi is difficult and he believes that the skin lesions of arsenical neuritis are the distinguishing features. Severe heart failure and some mental confusion does not develop to the extent as is so common in alcoholic paralysis. As to treatment he endorses, with a few exceptions, the plan as directed by Dr. Judson Bury in the *British Medical Journal* for December 8, 1900. Sodium salicylate, antipyrin, and potassium iodid he believes should not be employed because of their depressing effects. Rest in bed, small doses of digitalis and liquor strychniae in tonic doses are recommended in the early stages. Bismuth and soda are used in cases that present symptoms referable to the stomach, and morphin is given in small doses for the relief of pain. [F.J.K.]

7.—Samways believes that, as the strength of the **hypertrophied bladder** is considered to possess no greater preventative power against rupture than the bladder in a normal condition, that there is, therefore, a greater risk for rupture in a bladder that is hypertrophied. It appears that the bladder usually hypertrophies in such a way that there is no increase in its resisting power. He compares the mucous membrane between the fasciculi to the netting covering a thin rubber ball as seen in spray apparatuses. As such netting guards against a too great expansion of the ball, so the fasciculi act in a similar manner. Mathematically the strength of a segment is increased inversely to the size of the sphere of which it is a part. A hypertrophied bladder therefore is strengthened throughout its whole wall. Should spontaneous rupture occur it is probably due to additional pathologic changes rather than errors of disproportion in mechanical resistance. [M.R.D.]

8.—Blumer reports a case of **intraperitoneal rupture of the bladder**, occurring in a laborer of 35, in consequence of a fall. The patient fell striking his abdomen on the curbstone, followed by inability to micturate. Upon examination there was considerable distention of the abdomen, tenderness on pressure and absolute dullness on percussion across the whole of the abdomen, and extending a little above the umbilicus. Upon catheterization, 196 ounces of bloody urine were evacuated. The diagnosis having been established, laparotomy was performed under chloroform-anesthesia. A vertical tear at the posterior wall of the bladder, extending into the peritoneum, was sutured. At the end of the tenth day, the whole length of the wound burst open and a large slough was taken out. Cystitis now set in, but

rapidly healed under boracic-acid irrigations, and salol internally. The case is unique on account of the little trouble caused by the large amount of fluid in the abdomen, and also, as the history shows, that the patient walked over 2 miles, 4 days after the injury. The absence of symptoms of peritonitis is also worthy of mention. [M.R.D.]

9.—Butler-Smythe records an interesting case of profuse **hydroperitoneum** in a woman 40 years of age, the fluid resulting from the presence of an immense fibromyomatous tumor. He believes that the hydroperitoneum resulted directly from an injury to the peritoneal covering of the tumor following an accident, the patient having been knocked down by a cart, thereby receiving contusions of the abdomen and lower extremities. Aspiration had to be performed 5 times in six weeks, and about 20 pints of fluid was evacuated at each time. Upon removal of the tumor through the usual supravaginal incision, it was found to be a simple multinodular fibromyoma without signs of malignant or other degeneracy. The peritoneal lining, however, was thick and injected; the tumor was not edematous. The symptoms disappeared rapidly after the removal of the growth. This case is of unusual interest because of the rarity of this complication in patients otherwise free from thoracic or abdominal disease. [W.A.N.D.]

10.—The growth of fungus in the external auditory meatus is apparently a rare disease in temperate climates, but according to the author's 8 years of experience it is very common in the tropics. The symptoms vary from simply a sensation of **occlusion of the ear** to a considerable amount of watery discharge. The disease is usually bilateral. The physical signs in typical cases are, occlusion of meatus by a soft wool-like substance of a pale lemon yellow or yellowish-green color. There may be some desquamation of epithelium at the walls of the canal. In chronic cases, in addition to soft masses of recent fungus there may also be inspissations resembling sodden newspaper. Microscopic examination reveals *penicillium glaucum*, *aspergillus*, and, more commonly, the *mucor mucedo*. Complications are diffuse inflammation of external auditory meatus, acute serous and chronic catarrh of the middle ear, perforation of the membrana tympani, swelling and even abscess of lymphatic glands at angle of jaw, and eczema of the meatus and pinna. Diagnosis—settled by microscope. Prognosis—favorable, if treated by physician himself. Treatment—remove as much of fungus as possible, syringe with warm solution of bichlorid of mercury 1:5000, dry, and sponge with solution of bichlorid of mercury and alcohol 1:1000. Plug with sterile cotton-wool. After fungus ceases to grow, insufflate a powder of boric acid, 2 parts; bismuth salicylate, 1 part; oxid of zinc, 3 parts. Prophylaxis consists in preventing entrance of sea water to the ear. [M.R.D.]

11.—Tubby emphasizes the following points, in the treatment of **spinal abscesses**: 1. Do not wait to open a spinal abscess until the skin is reddened and involved. 2. So far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. 3. Wherever evacuation is decided upon, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. 4. Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. 5. Avoid drains of all kinds. 6. Be careful to carry out perfect aseptic measures from first to last. When patients are placed at rest with the hopes of causing absorption of fluid, the abscess often makes its way to the surface. For irrigation he employs a modification of Jones' solution, viz: Menthol 1 grain, rectified spirits 1 ounce, parolein $\frac{1}{2}$ pint. He sutures the wounds, avoiding drains, because of secondary infection with pyogenic bacteria, and because a drainage tube frequently converts a healthy incision into a tuberculous sinus. [M.R.D.]

12.—For restoration of the lower lip following excisions of epitheliomata, Kennedy considers the flaps taken from the side with bases below to be the best. The author's case was a man of 78, who had a warty and partially ulcerated growth of lower lip that had recurred after 16 years. An illustration of the patient is presented, showing the restoration after excision of entire lower lip. In former operations there was a scarcity of mucous membrane and difficulty in occluding the gaps which remained after raising the flaps to the level of the lip. [M.R.D.]

13.—Miller reports 2 cases of blindness due to sphe-

noidal and ethmoidal sinus disease. The clinical course of the author's first case consisted of cœna, necrosis of the nasal septum, sphenoidal and ethmoidal sinus disease, cerebral complication and death. The turbinates were considerably atrophied and there was considerable discharge of fetid pus from the ethmoidal cells. The perpendicular plate of the ethmoid was considerably affected by the necrosis. After unconsciousness and convulsions, the patient became blind within 48 hours; pupils reacted slightly to light, of which, however, there was no perception. Paleness of both discs was now observed. In the second case reported, illness began with a small **sore in the roof of the mouth**, followed by failing vision about 2 months later, with entire blindness within 4 or 5 days. There was a history of a **nasal discharge** 3 months before admission. In this case there was a very large perforation of the nasal septum, and granulation tissue invaded the ethmoidal region. The sphenoidal sinus was punctured 1 month after admission. Beginning atrophy of the optic nerves was then noticed. The necropsy showed that the ethmoid was soft and considerable pus present in the ethmoidal cells. Throughout the whole brain there was a general softening, but without fluid in the ventricles. The author surmises that in these cases there was not a true cœna on account of the extensive loss of bone tissue. He believes that cases of this nature should be considered as **syphilitic ones**, and that surgical intervention is the only means of relief or cure. [M.R.D.]

14.—Kirk reports an operation for complete prolapse of the rectum by intraabdominal fixation, the patient being a male child of 1 year of age. He prefers this method to the operation commonly performed in these severe cases—namely complete removal of the prolapsed portion of bowel—on account of the success attending the similar operation of ventral fixation of the uterus, and on account of a dislike to mutilate the lower part of the rectum for fear of giving rise to stricture or incontinence. The only objection to this apparently ideal operation is the risk of a subsequent ventral hernia, and this can be minimized to a great extent by splitting the muscles and aponeuroses as far as possible, and not cutting them. The child made a rapid recovery and the laparotomy scar has remained quite firm. [W.A.N.D.]

Lancet.

December 22, 1900. [No. 4034]

1. A Lecture on Pulmonary Tuberculosis in Early Childhood. With Special Reference to its Prevention and to its Diagnosis from Other Wasting Disorders. ARTHUR LATHAM.
2. On Some Disappointments of Surgery. D'ARCY POWER.
3. Observations on Compressed-Air Illness. FREDERICK R. WAINWRIGHT.
4. Interesting Surgical Cases. E. PAGET THURSTAN.

1.—Latham believes that one of the most important factors in tuberculous infection in childhood is a contaminated milk-supply, the bacilli entering from the intestinal tract. This appears to be first infected by the fact that the first signs of tuberculosis usually occur in the lymphatic glands, and infection usually takes place in childhood, during the period of milk-feeding, that is to say, the disease is quite common from the age of 6 months to 2 years, and then rapidly diminishes in frequency. It is interesting to note that with the improvements in the hygienic conditions, particularly in regard to the milk-supply, that has taken place in the last 20 years, there has been a gradual diminution in the number of cases of tuberculosis occurring in childhood. Apparently during this age the general method of distribution throughout the body is through the lymphatic system, and it is not, as commonly supposed, in the direction of the lymphatic stream, but against it. Not infrequently the infection occurs in the tonsils. In 45 tonsils removed from children varying from 3 months to 13 years, 7 produced tuberculosis in guinea-pigs into which they were inoculated. Among the varieties are: Tuberculosis of the bronchial glands, miliary tuberculosis, and tuberculous bronchopneumonia. The first rarely causes symptoms. There is sometimes harsh breathing, with prolonged expiration; dulness may be made out in the back from the spines of the second to the fifth dorsal vertebra, and occasionally the compression may be so severe as to interfere

with entrance of air into one of the lungs, or partial occlusion of a vein may give rise to a venous hum, or edema of the face or arms. Miliary tuberculosis is characterized by wasting, moderate temperature, and towards the end, hurried respiration, cyanosis, and rales in the lungs. Tuberculous bronchopneumonia gives rise to physical signs similar to those of simple bronchopneumonia, although the fever is ordinarily not so high. It usually commences more insidiously, there are periods of remission, and often a crop of downy hair on the back of the child, although the relation of this in the disease is not understood. Not quite as frequently we have pulmonary tuberculosis similar to the form that occurs in adults. The treatment consists of the avoidance of further infection, fresh air, sunlight, abundant food, the avoidance of fatigue, and occasionally small quantities of stimulants. Among the drugs, cod-liver oil (if it is absorbed), creasote, and iodid of iron may be used. [J.S.]

2.—Power calls attention to various **disappointments** that occur after the simplest operations, and after such which generally lead to a permanent cure. Some of the disappointments in **circumcision** are removal of too much foreskin and retraction of the glands. In the operation for **hare-lip**, disappointments arise from the formation of a notch at the lower portion of the scar in the lip. **The recurrence of adenoids.** He mentions a case of **atresia of the anus** operated upon, in which it was found that the rectum opened into the vagina. **The renal calculi** imbedded in the substance of the kidney are sometimes impossible to detect, and even after exploratory incision into the kidney, disappointments are in store for the operator. The fixation of **movable kidneys** may give rise to disappointments to both patient and surgeon. Exhaustion may be so profound during internal strangulation of the bowel that operative procedure, although well performed, may fail to relieve. One should be guarded in making promises when operating upon the vermiform appendix, as the latter sometimes cannot be found, even after extensive dissection and careful exploration. **Mental disturbances** after surgical procedures give rise to many surgical disappointments. The author mentions the various disasters following **fractures**, formation of **conical stump** after amputation, especially in children. Some **dislocations** cannot be reduced, and others with great difficulty in spite of the apparently easy methods of reduction as described in textbooks. [M.R.D.]

3.—Wainwright in discussing the effects of compressed air upon the human body, calls attention to a possible etiological factor in the high temperature of the compressed air, having often observed a rise of from 60° F. to 115° F. during locking in. During the work on the Baker Street & Waterloo R. R. excellent ventilation was obtained by the escape of the compressed air, and by providing artificial ventilation when this was impossible. As an additional prophylactic the men were obliged to put on dry clothing after leaving the tunnel, were kept for some time in a well-warmed room, and given hot coffee. Altogether 47 cases of illness occurred in 120 men from May to October. The symptoms were, pains in the ears, in the nasal sinuses, and in carious teeth. In rare cases there was rupture of the tympanum. Upon leaving the lock the patients sometimes suffered from pains in the joints, most frequently the knee-joint, and occasionally from pains in the muscles. This pain was sometimes so severe that the patient became pallid, perspired freely, had a hard rapid pulse, and cried and groaned. It sometimes persisted for several days or even weeks. It did not always appear immediately after leaving the tunnel. Among the cerebral symptoms were headache, giddiness, and flashes of light before the eyes. In one case typical paraplegia occurred with involvement of the bladder and rectum. No cases of sudden death occurred. Among the interesting cases he records the following: The patient, a man of 50, somewhat stout, a half an hour after leaving the tunnel had severe pain in the front of the chest, there was then dyspnea, a sense of impending death, cyanosis, with rapid feeble pulse. Upon auscultation there was a harsh creaking and tearing sound heard throughout the whole respiratory course in the front of the chest. Percussion was negative, and in a short time the peculiar sounds disappeared, the man was re-compressed to 18 pounds and immediately relieved. Pressure was gradually decreased, and the patient left the lock perfectly well, and had no subsequent symptoms. The factors concerned in producing these symptoms are: Deficient

ventilation, too rapid locking out, too long a sojourn in the compressed air, and of course the condition of the patient; age, alcoholism, and obesity being serious predisposing factors. Regarding the way in which these symptoms are produced, Wainwright states that the exhaustion theory does not accord with the observed facts, neither is there any reason to suppose that there is excessive congestion of the central nervous system. There does seem to be reason to believe that the blood discharges the excess of gases it contains upon release of pressure, and that this may produce the various symptoms. This explains satisfactorily the immediate relief of the symptoms if the patient is replaced in the lock. In one case marked arterial sclerosis was observed in a man who had worked for 7 years at high pressures; otherwise no possible remote effects were observed. The treatment consists essentially of recompression; nothing else is really required. In conclusion Wainwright reports 8 additional cases, in one of whom there was apparently emphysema of the arm. [J.S.]

4.—Thurston describes 24 surgical cases occurring in the practice of Dr. E. J. A. Haynes, and the author, in Western Australia, each of which present features of special interest: 1. **Left ovarian cyst** in a woman of 21, in whom the peculiarity was a severe menorrhagia which in its severity rather indicated uterine than ovarian affection. Uninterrupted recovery after ovariectomy. 2. **Carcinoma of the liver** with no symptoms generally indicative of this affection. The diagnosis was made after the exploratory incision. Death a few months after. 3. **Extrauterine fetation**; laparotomy; death. 4. **Perinephritic abscess**; abdominal section. In this case, after the abdominal incision, a tense tumor containing considerable pus was found, making it doubtful whether it was a localized psoas abscess or a perinephritic one. As no harm was done to the spine, or any other symptoms present indicating a psoas abscess, it was presumed that it was a perinephritic one. 5. **Left extrauterine fetation**; laparotomy; death. 6. **Left extrauterine fetation**; anti-laparotomy; pelvic cellulitis; death. 7. This interesting case was one of **hydatids of the brain**. Upon trephining over the region of the fissure of Roland hydatid fluid and cysts were found. The convulsions and hemiplegia which had existed improved. Extensive involvement of the brain caused death within three months following the operation. An early diagnosis might have led to recovery. 8. This case of double pyosalpinx even after abdominal sections refused to subside until hydrogen peroxid and formalin were employed, when rapid improvement followed. A collection of pus in Douglas' sac was subsequently evacuated per vaginam. 9. Medical treatment having failed to benefit a **tuberculous kidney**, the left kidney was removed. Abscesses were found in the organ and the peritonitis which followed showed that **purulent infection of the kidney** must necessarily be followed by involvement of the perineum. 10. In a married woman a tumor with fluctuation was located, situated in the right epigastrium. Uninterrupted recovery followed an abdominal section for the growth, which proved to be a hydatid cyst. 11. In this case upon abdominal section, three **uterine fibroids** were found attached to the fundus, the posterior portion of which was adherent. The patient, a married woman, being in very low condition from previous hemorrhages, hysterectomy was not performed, but the patient made an uninterrupted recovery after the **removal of both ovaries**. 12. Appendicitis with suppuration; evacuation of pus without appendicectomy; recovery. 13. A woman who had been treated for appendicitis, upon abdominal incision was found to have a **patent Meckel's diverticulum** adherent to two coils of ileum, from which it was successfully, but with considerable difficulty, dissected; complete recovery. 14. A married woman from whom an ovarian tumor had been removed in the usual method, was seized on the third night after the operation with dyspnea and pain in the left chest. Death resulted probably from pulmonary embolism. 15. A married woman having been afflicted with constant **epileptiform paroxysms**, which had failed to subside under the administration of a great variety of drugs, was relieved by the removal of both ovaries. 17. After the removal of both ovaries from a married woman who was slowly bleeding to death from an enormous **uterine fibroid**, uninterrupted recovery set in, with shrinking of the tumor to half of its former size. 18. In this case a woman who was almost moribund from hemorrhage due to carcinoma of the cervix

uteri was still able to get about 12 months after the **removal of the blood-supply**, which was accomplished by tying the ovarian arteries on both sides with the round ligaments, as well as the arteries of the uterus. 20. A patient with pain in the abdomen, vomiting, and convulsions, who had a tumor an inch above M. Barney's point, was found upon abdominal section to have had an **internal strangulation** in the ileocecal fossa into which a loop of the ileum had passed. The bowel was withdrawn and uninterrupted recovery followed. 24. Recovery followed ligature of the vein and artery for **traumatic varicose aneurysm** of the thigh. [M.R.D.]

New York Medical Journal.

December 29, 1900. [Vol. lxxii, No. 26.]

1. The Treatment of Tuberculosis in Sanatoria. P. H. BRYCE.
2. Hyperidrosis of the Axilla; Its Treatment with the Thermocautery. LOUIS KOLIMINSKI.
3. The Eustachian Bougie. LORENZO B. LOCKARD.
4. The Ear as a Factor in Causing Systemic Disturbance. JAMES L. MINOR.
5. The Importance of Postoperative Treatment after Removing Spurs of the Nasal Septum. E. F. SNYDAGER.
6. Observations on Nitrogenous Metabolism in a Case of Nephritis. WALTER C. KLOTZ.

1.—With our present knowledge and the actual practice of the public in the matter of seeking medical advice, not more than 25% of patients are brought under **treatment for pulmonary consumption** until the disease is well advanced. It is quite clear, therefore, that in considering the **sanatorium treatment** of consumption we must have 2 distinct objects in view; (1) the cure of the disease, and (2) the prolongation of the lives of patients and the removal of infectious cases from surroundings in which they are a menace to the health of others. Bryce calls attention to the fact that if municipal sanatoria are established, provision must be made for patients who are in an advanced stage of the disease as well as for those who are in the primary stage. The erection of cottage hospitals, therefore, is a necessity. In such an institution one of the first rules that must be insisted upon, if the desired results are to be accomplished, is that patients shall not be allowed to discuss their own or other cases with persons other than the proper officials. Systematic means must be taken to provide wholesome mental employment for the patients. Consequently, the patient's time should be carefully divided and each one should keep a time card on which the daily routine, previously prescribed, is kept recorded as regularly as one should keep a diary. Actual treatment should begin with the arrival of the patient, when he should be put to bed and kept there if the afternoon temperature rises to above 100°. During his stay in bed the patient should be wheeled daily to an open window or protected balcony. Symptomatic treatment of the pyrexia is, as a rule, not necessary. When the fever has been reduced for several days, the patient is allowed to recline on an adjustable reclining chair on a protected balcony. This treatment in some sanatoria is continued from 9 A.M. to 9 P.M., after which the patient goes to his bedroom where, even in winter, the window is left open all night, a screen keeping off the wind. The condition of the patient must determine when gentle exercise may with advantage be added to the treatment. As an adjunct a more or less elaborate system of hydrotherapy may be adopted. A generous and nutritious diet of well-cooked and palatable food which is easily digested is productive of the best results. The utility of fats and oils depends upon three factors: 1. They serve, owing to their oily nature and to their being broken up in the intestine into fatty acids and glycerin, as laxatives and lubricants of the intestinal walls. 2. They are but slightly acted upon by bacteria, although in the absence of bile and pancreatic juice they may be decomposed into fatty acids and be largely discharged unabsorbed. 3. When absorbed by the columnar epithelium of the villi, they are carried directly to the central lacteals, and thence directly to the thoracic duct, instead of going, as in the case of starches and proteids, into the portal circulation for elaboration in the liver. Except in patients with strong di-

gestions, alcohol is contraindicated except as a temporary stimulant, owing to its disturbing effects upon the glycogenic function of the liver. If, however, ales and porter are well borne they will prove of value as productive of heat and energy in the reconstruction of tissue. Meat, milk, eggs, and similar articles of diet should be used up to the limit of their assimilation by the system. In patients who are deprived for a time of the privilege of active exercise the value of massage as an aid to the metabolic changes taking place in the tissues cannot be overestimated. Reduced air-pressures are a direct means of deepening the inspirations and of setting unused corners of the lung tissue to work; if scientifically practised, this method will probably develop a definite therapeutic value. The personal hygiene of the patients is a very important part of the routine. In very few instances can patients return to the sedentary pursuits of city life. [J.M.S.]

2.—In the treatment of several cases of **hyperidrosis of the axilla** Kolipinski has adopted the following routine: The base of the axilla is washed and shaved. Then the **thermocautery** is applied with its flat side, from 10 to 20 times, to the space from which the sweat is seen to ooze, and burns of the second and third degree are produced. A dry bismuth or zinc oxid dressing is applied and the patient may resume his ordinary occupation in a few days. The history of a case is given. [J.M.S.]

3.—Lockyard considers the use of the **eustachian bougie** indicated only in two conditions, viz., **tubal stenosis** and **tinnitus**. This does not include electrical treatment with copper bougies or insulated catheters. After discussing the anatomic structures and situation of the eustachian tube, and especially the folds in the mucous membrane at its lower portion, mentions several methods of employment. These are the use of **graduated bougies** and rubber capsules fastened to the catheter and inflated after their introduction. A case is mentioned of a man, aged 46, who had been subject to increasing deafness in the right ear, combined with subjective noises, and in whom 7 months had passed without a recurrence under the employment of bougies, after many other methods had failed. The dangers are acute otitis media, emphysema, perforations of the membrana tympani, dislocation of the ossicula; aggravation of the existing symptoms and of the local trouble, faintness, and fainting. The results are uncertain, but when beneficial are due either to pressure upon cicatricial tissue or by reflex influence upon the auditory center. [M.R.D.]

4.—The frequency of middle-ear disease in infancy is astonishing. That the ear can be so frequently affected in infancy without attracting attention to that organ is easily accounted for by the fact that the patients are often too young to indicate what they are suffering from. The general symptoms may so far outweigh the local ones that the ear is overlooked in our search for their cause. Then, too, there may be suppurative inflammation of the middle-ear, with little or no pain, and without physical signs, such as redness and bulging of the drum membrane, which are relied upon for the diagnosis of such trouble. This is more apt to occur in infancy, when the eustachian tube is short, thereby allowing pus to escape by that channel, rather than to accumulate or escape through a perforation in the membrana tympani. The frequent presence of adenoid tissue or masses near the eustachian orifice in the throat of infants is another reason why children so often suffer from ear disease. The treatment of cases of middle-ear disease in the early stages is by dry heat and gentle douching of the ear itself with some hot antiseptic solution. If the symptoms continue without perforation, a paracentesis of the drum should be made. The nose and the throat usually require treatment; sometimes, indeed, adenoids require to be removed. The remote or **systemic effects of disease of the ear** are symptoms of meningitis, acute intestinal derangement with cerebral symptoms, septic fever, continued high fever and attacks of bilious fever. [J.M.S.]

5.—Snydacker in discussing the importance of **postoperative treatment**, after removing spurs of the nasal septum attributes failure of relief to the substitution of the original obstruction by the formation of cicatricial tissue after the operation. In cases where spurs have been removed there is sometimes observed the formation of a new mucous membrane which however in functioning power is inferior to the original tissue. **Postoperative granulations** should be

cauterized until they cease to form. The treatment should not be discontinued until the wound is entirely covered by mucous membrane. The patient should be impressed with the necessity of **postoperative treatment**, and the influence it exerts upon the subsequent cure explained to him. [M.R.D.]

January 5, 1901. [Vol. lxxiii, No. 1.]

1. Observations on Lateral Curvature of the Spine; Pathological, Clinical, Mechanical. A. M. PHELPS.
2. The Mesial Relations of the Inflected Fissure; Observations upon 100 Brains. EDWARD A. SPITZKA.
3. The Importance of a Knowledge of Ear Disease to the General Practitioner. WILLIAM H. THOMSON.
4. Some Observations upon Specialism in the Arts and Sciences Generally, and upon Specialties and Specialists in the Science and the Art of Medicine Particularly. WILLIAM BODENHAMER.
5. A Contribution to the Symptomatic Treatment of Pulmonary Tuberculosis. J. R. L. DALY.
6. A Case of Acromioclavicular Dislocation and its Treatment. BERNARD E. HENRAHAN.
7. Sexual Intemperance. JENNIE G. DRENNAN.

1.—Phelps has made a careful study on the dissecting table on a case of lateral curvature of the spine. He found that the superficial erector spinae muscles upon the side of convexity were entirely destroyed by atrophy and fatty degeneration, while those upon the side of concavity were not so much affected. He also found that quadratus lumborum, and the erector spinae of the group of muscles of the deeper layer were entirely disturbed by fatty changes and atrophy on the side of convexity, while on the side of concavity the corresponding muscles, although somewhat degenerated, were not so much so as upon the side of convexity. The fatty changes and atrophy on the convex side were evidently due to the pressure of the muscles by the bending of the bones of the spinal column, putting the groups of muscles on the stretch, whereas the degeneration and atrophy on the concave side were produced by contraction of these muscles and their tendons. When the spinal column bends, producing disturbance of bone and intervertebral cartilage, and by pressure, the ribs are distorted and overlapping, and the muscles between the ribs have been joined by shortening, atrophy and degeneration, it is claimed that a cure of such a lateral curvature is impossible. In order to accomplish a cure, not only must the resistance offered by a wedge shaped bone of the vertebral column be overcome, but the distorted ribs must be rotated in order to cure the curve. The most that can be hoped for at the present time from treatment is to prevent the increase of the curvature, to remove the physiologic curve, and to give the patient strength. This can be partially accomplished under anesthesia by applying tremendous force to the thorax or the spine, either by machinery or by hand, the resisting muscles and fascia being divided by the knife. The patients are then enveloped in plaster of Paris, put to bed and kept there 2 or 3 weeks, after which the operation is repeated. Phelps prefers an aluminum corset as a substitute preparation for many of the braces and corsets now worn in the acute forms of Pott's disease and lateral curvature. [W.A.N.D.]

2.—Spitzka has examined 100 brains of dissecting muscle subjects for the purpose of determining the mesial relations of the inflected fissure. The brains were in formalin and were in a good state of preservation. It was found that in 40 hemispheres of the 200 examined the inflected fissure was wanting. Its absence was symmetric in 6 grades, or 3%, while it occurred 22 times on the left and 18 times on the right-side half. All further data were based upon the 160 hemispheres in which the fissure was presented as equivalent to 100 in 91%. The inflection was situated on a plain caudad of an unmistakable cephalic paracentral limb, while in the remaining 9% this limb had become separated from the main paracentral stem by a narrow isthmus or slight vardum. In all cases, however, the inflected fissure indented and lay partly within the paracentral gyrus. In 63% of all cases there was only one such limb or ramus, binding the paracentral gyrus cephalad. This arrangement occurred a little oftener on the left half than upon the right. In 22% there was an additional ramus, intraparacentral in nature, and probably also in origin,

situated just caudad of the inflected fissure. In the remaining 6% the ramifications and disturbances of fissuration were so varied as not to allow readily of any classification. In the large majority of the hemispheres examined the inflected fissure ended upon a meson as well as upon a dorsum in a simple manner. At times a bifurcated appearance was produced. [W.A.N.D.]

3.—The author's illustrations of the importance of a knowledge of ear disease to the general practitioner are based upon an experience of 35 years. He emphasizes the importance of this knowledge by referring the reader to deaf and dumb asylums, where the havoc wrought by neglected cases of otitis media can be easily seen. Chronic ear disease may prove fatal without the complication of an intracranial abscess. He calls attention to the fact that there are special forms of bacteria which at times pervade in an accumulation of pus in the ear, and which break through all barriers. Bacteriologic examinations therefore of ear discharges are absolutely essential. **Myoclonus** is an early manifestation of an **organized exudate** situated within the cranium, and he believes that this symptom is often erroneously considered by neurologists to be of spinal origin. **Vertigo** is described as consisting of four varieties—gastric or digestive, cardiovascular, ocular, and aural. Thomson concludes his article with a plea to medical institutions to practically train their students in otologic examination and diagnosis. [M.E.D.]

5.—Daly recommends camphor 2 grains, heroin $\frac{1}{2}$ grain, and creosote 1 drop, prescribed in pill form, as a remedy in phthisical coughs which have proven intractable, especially the cough which is hard with scant tenacious mucus and little expectoration. He reports 7 cases in which the remedy was used with success. He remarks particularly the value of the camphor in those cases accompanied by nervous depression. In the obstinate diarrhea of phthisis Daly has found the following combination, in tablet form, to be of service: Bismuth subnitrate 15 grains, guaiacol carbonate 1 grain, heroin $\frac{1}{2}$ grain. The persistent irritability of the stomach has been also greatly relieved by these tablets. [T.L.C.]

6.—In the great majority of dislocations of the **acromioclavicular articulation**, the acromion process is displaced downward and inward beneath the clavicle, the outer end of the latter bone riding on top of the acromion, and the cases are very rare where dislocation of the acromion takes place upward with the clavicular injury beneath the process. This fact is readily understood when the structure of the joint is borne in mind and the character of the clavicular injury received. The dislocation is of sufficient frequency to make it one of the surgical pathological phenomena for which the practitioner must be constantly on the alert. The recognition of the luxation is not difficult, yet it closely resembles a dislocation of the humerus forward. The rotundity of the shoulder will be outside and the projection of the overriding clavicle may be mistaken for the apparent projection of the acromion in the shoulder-joint dislocation. When it is remembered that the shoulder-joint is carried slightly forward and inward; the hand of the injured side may easily be carried to the shoulder of the side when the elbow is on the chest; that by following the lines of the clavicle the normal relations of this body with the acromion are disturbed, the clavicle being on top; that there is no marked fossa upon the head of the humerus and that the projection of the clavicle is fully within one inch within the line of the humerus. The actual condition should be easily recognized. Henrahan regards a case of this accident, and adopts the treatment of reduction and retention of the limited articular surfaces in position until union of the torn capsular ligaments are established. The latter is accomplished by placing a pad on the axilla, a folded towel of heavy texture placed over a broad area at the side of the injury, and a strap 2 inches wide is drawn across the shoulder and under the elbow, a pad of absorbent cotton producing a great pressure on the elbow. The strap is drawn as tightly over the shoulder as the patient can bear. [W.A.N.D.]

7.—Drennan believes that **sexual intemperance** is not to be considered as a minor form, and that it is generally ignored, in comparison to liquor and other forms of intemperance, and that the abuse of the sexual act is wrongly shielded by matrimonial bonds. [M.E.D.]

Medical Record.

January 5, 1901. [Vol. 59, No. 1.]

1. The Prevention and Relief of Postoperative Intestinal Obstruction. CLEMENT CLEVELAND.
2. A Case of Estivoautumnal Fever with Unusual Symptoms. GEORGE L. PEABODY.
3. Intestinal Indigestion. A. P. STONER.
4. On the Effect of Topical Applications of Excessive Strength and Improper Diet and Hygiene in Prolonging and Causing Skin Diseases in Infants and Young Children. S. SHERWELL.
5. The Clinical Value of the Heart Reflex. ALBERT ABRAMS.
6. A Case of Perforating Gastric Ulcer. A. B. ATHERTON.

1.—Clement Cleveland discusses **postoperative intestinal obstruction** and the methods for its relief. He refers here, not to the adynamic type, due to intestinal paralysis from peritonitis, nor to that due to opium, but to those forms of intestinal obstruction which occur from the handling of the intestines during the operation. The peritoneum, a most sensitive and delicate membrane, causes the excretion of plastic lymph upon irritation, and adhesions are very apt to form as a result of this. Speaking of the measures for its prevention, he advocates placing patients in the Trendelenburg posture during the operation. He advises protecting the intestines with the omentum, as far as possible, and covering them carefully with wet pads of gauze and forcing the intestines into the upper abdominal cavity. He also mentions favorably the present custom of surgeons in leaving the cavity partly filled with decinormal salt-solution, which serves, by its rapid absorption, rather better than an intravenous infusion of the same solution. It may also lessen the amount of plastic lymph thrown out, and thus lessen the possibility of adhesions. He quotes 5 cases in which the insufflation of oxygen has been used for the relief of postoperative obstruction. Oxygen is administered per rectum, and great relief has followed its use. The writer believes that this acts not merely by the power of straightening out the intestines and opening the lumen, but serves as a stimulus to peristalsis. Four of his cases were desperate ones, and the insufflation made the difference between life and death. Oxygen used by the bowel must be absorbed to some degree and enter the general circulation, serving in this way as a stimulant and tonic, but Cleveland has used it solely for its mechanical effect. [T.L.C.]

2.—Peabody describes the case of a man of 34, who had for 11 years lived in New York City and had been nowhere else during that time excepting in Pennsylvania. He had daily attacks of severe headache subsequently accompanied by severe abdominal pain in the neighborhood of the umbilicus radiating toward the left kidney. The pain was greatly relieved by vomiting; the condition had become so distressing as to lead to great reduction of health. The spleen was increased in size, was hard, was tender to pressure, but did not move with respiration. Examination of the blood showed malarial crescents. The use of quinin brought about entire cure and the spleen subsequently became immovable. The abdominal pain was considered to be due to adhesions of the spleen to the diaphragm. Traction upon this when the spleen was increasing in size under the influence of malarial poisoning was thought to have caused the pain. [D.L.E.]

3.—Stoner gives a general review of digestive processes, noting that primary digestion in the stomach is incomplete, that the chief part of digestion and particularly of absorption takes place within the small intestine, and that the facility of absorption is dependent upon the vitality of the cells of the intestinal mucosa. He notes the unfavorable influence of gastric hypochlorhydria upon intestinal digestion, and the similar influence of glutony. The most prominent symptoms of intestinal indigestion are distress and abnormal fullness in the hypogastric or gastric region without definite tenderness. There is a constant desire to eructate, but the stomach is found to contain no gas. There is flatulence and usually constipation, and the urine may contain a trace of bile with excess of urates and indican. There is often marked depression of spirits. There is intolerance of starches, fats, sweets and wines. Treatment consists chiefly in prohibition of the latter forms of foods. Lean meats should be allowed in moderate quantities. Antacids are useful. [D.L.E.]

4.—The remarks which Sherwell makes are chiefly that topical applications are usually used too strong in the treatment of skin affections of children, and may have very damaging results. Even vaseline is frequently irritating, particularly in children. In relation to food and clothing, he considers that children of various ages, particularly infants, are frequently overfed, and fed too frequently; they are also commonly clothed too warmly, particularly in summer, and this irritates the skin. The fear of washing eczematous areas is also something which he considers silly. He recommends a gentle washing once daily with water made slightly alkaline with borax or soda, and bran bag. In older children it is often necessary to stop the use of tea, coffee, and a large variety of indigestible foods, and salines are often valuable. The skin usually needs soothing treatment. [D.L.E.]

5.—The heart reflex is best determined by the use of the fluoroscope. After irritating the skin over the heart by various means, best by active rubbing with a lead eraser, the size of the heart shadow may seem to grow much smaller. This may be determined upon percussion also. A portion of the decrease in size is due to the lung reflex, which consists in dilation of the lung, thus partially covering the cardiac dulness. This latter factor soon disappears and then the cardiac dulness may be found much smaller than previously, and this is due to actual contraction of the heart itself. Abrams thinks that it is this skin-irritation which produces the greatest effect in the Schott baths, and he has found direct irritation of the skin over the precordia valuable in the treatment of cardiac dilation, and considers it also a valuable sign in the differentiation of dilated heart from pericardial effusion. [D.L.E.]

6.—The case reported occurred in a man of 62 who was operated upon 10 hours after the occurrence of perforation. An opening the size of a lead pencil was found on the anterior surface of the stomach, near the pylorus. The perforation was closed by two rows of Lembert sutures. The man did fairly well for about 3 weeks, when he vomited some dark liquid with blood in it. After this his recovery was continuous. He died, however, about a year afterwards, of lung trouble it was said. [D.L.E.]

Medical News.

January 5, 1901. [Vol. lxxviii, No. 1.]

1. A Study of 81 Cases Operated upon Under Analgesia Obtained by Subarachnoid Spinal Cocainization. GEORGE RYERSON FOWLER.
2. The History, Aim, and Purpose of the Medical Societies of the State and Counties of New York. FRANK VAN FLEET.
3. Pneumonia: Its Etiology and Treatment. D. L. BURNETT.
4. On the Prognosis of Hysteria: A Contribution to the Question of Fatal Hysteria. JOSEPH FRAENKEL.

1.—Fowler believes that the delay in the employment of subarachnoid spinal cocainization is due to the favorable results that have been given by other anesthetics when properly administered. The author's experience of this form of anesthetics comprises 81 cases which have been divided up as follows: Operations involving the peritoneum, 26; operations in the pelvic region not involving the peritoneum, 34; operations upon the lower extremity, not included in the above mentioned cases, 13; amputation, 5. In the 3 cases of inguinal hernia there was pain when the areas supplied by branches of the ileoinguinal and ileohypogastric nerves were attacked. In a case of acute appendicitis, handling of the inflamed appendix gave rise to such pain that a general anesthetic had to be administered in addition to the spinal one. In 2 cases of varicocele, pain was produced by handling the cord, and general anesthetics had also to be administered in addition to the spinal anesthesia in a case of anterior colporrhaphy and perineorrhaphy. In one case the patient hearing the call of a surgeon for the second knife, after a previous absolutely painless procedure, was very sensitive to the slightest touch thereafter. He believes that the technic of the lumbar puncture is not as simple as might be supposed. In stout individuals the spinous processes are difficult of palpation, and even in cases where there was not considerable fat a patient that was very nervous when placed in a direct posture would throw the muscles

into such rigidity as to render it almost impossible to fix the point of the spinal process. Unless the lumen of the needle had become occluded in its passage through the soft parts, cerebrospinal fluid flows without any difficulty. In some cases aspiration either with the syringe that is being employed or a special suction will still more facilitate the outflow of the cerebrospinal fluid. He generally allows a full minute for the injection, thus giving ample time for the solution to thoroughly mix with the cerebrospinal fluid. The solution should be freshly prepared with a menstruum of sterilized water and boiled for a full minute before using. It is believed that a concentrated solution of a definite quantity will not produce disagreeable symptoms any more than the same dose in a diluted solution and that the effect will last longer. The result seems to have been affected but little as far as the position of the patient was concerned during the injection. Analgesia is present in the soles of the feet from 1 to 5 minutes, and in from 5 to 15 minutes extends to the umbilicus. In none of the author's cases did he fail to reach the umbilicus when the solution proved at all effective; in 2 cases it reached to the vertex. In none of the cases did the analgesia subside below the umbilicus under 27 minutes. The amount of cerebrospinal fluid present in each case has probably direct bearing upon the extent of the analgesia. With a reliable solution it is believed that a failure to produce analgesia depends upon the failure to introduce the solution into the spinal cord. In the greater number of cases disagreeable features were present, among them being vertigo, nausea, vomiting, headache, chills, elevation of temperature and increased pulse-rate, pallor, cold sweat, and involuntary urination and defecation. The case of Tuffier in which death occurred was found upon a postmortem examination to have been affected with cardiac and pulmonary lesions. Such complications, however, have been disregarded by the author in experimenting with this anesthetic. In some cases there were even heart-murmurs present, and in one case there was gangrene of the lungs. The author considers that insensibility to the surgical procedure is not all that should be required of an ideal anesthetic, and that on the other hand such features as the knowledge by patient of what is taking place around him and the perception of the gravity of the operation are to be distinctly avoided. A further trial and conscientious study of a large collection of cases is still required to ascertain the danger that may accompany employment of this form of anesthesia. [M.R.D.]

2.—Frank VanFleet gives a historical resumé of the medical societies of the State and County of New York from their inception in 1806. He also takes up with considerable detail the rupture of the societies from the American Medical Association on account of their unwillingness to subscribe in full to the ethics of the American Medical Association with a special reference to consulting with those who practise exclusive dogma. [T.L.C.]

4.—Fraenkel discusses the prognosis of hysteria, and reports 4 fatal cases. He divides hysterical conditions in 3 separate groups from a clinical point of view, and remarks that these are not fixed by strict boundary lines and can show many interchanges and mutual displacement. First, the predominantly mental forms, hysterical psychoses with more or less pronounced somatic symptoms. Second, predominantly cerebrospinal forms; symptoms of this group are mainly composed of phenomena of irritation, or paralysis of motor or sensory nerves. Third, predominantly splanchnic forms, the symptoms of which are mainly phenomena of irritation of the motor or sensory apparatus supplied by the splanchnic or sympathetic nervous system. Around these 3 groups is wound the symptom-complex of hysterical seizures—grand ou petit mal hystérique. He believes that the prognosis in the first 2 groups is more favorable than the third, in which his 4 fatal cases were classed. [T.L.C.]

Boston Medical and Surgical Journal.

January 3, 1900. [Vol. cxliv, No. 1.]

1. Experiment and Experience with the Rife. HENRY G. BEYER, U. S. N.
2. Clinical Notes and Comments: Degenerative Disease of the Spinal Cord Associated with Anemia. ROBERT T. EDES.

3. The Differential Diagnosis of Intestinal Obstruction. Z. BOYLSTON ADAMS.

1.—Beyer reviews the experimental work of Kocher and others in regard to the effects produced by rifle bullets, and then shows, by reviewing the experience of surgeons in the Spanish-American and Anglo-Boer wars, that the damage done to the human body by the modern bullet confirms the work of the experimenters. Recent experience show the proportion of killed and wounded to be about the same as in the past—one to four—but of the wounded many more now recover, due to septic and antiseptic treatment. Kocher showed experimentally, and experience has confirmed it, that, the “explosive” effect of bullets is due, not, as was formerly supposed; (1) “to deformed and deforming bullets; (2) to indirect or ricochet shots; (3) to the rotation of bullets; (4) the melting of the lead of the bullet;” but that this effect is in proportion to the **velocity** of the bullet. The bullet develops its greatest velocity a few feet from the gun, after that it gradually decreases until it reaches the ground. In firing bullets through glass plates Kocher found that “a 10 mm. lead bullet and a 7.5 mm. steel bullet, moving alike at a velocity of 595 m., produce like effects.” In experiments on tin cans filled with marbles he found that the same amount of explosive effect was produced by hard bullets fired from smooth-bore guns as by lead bullets from rifles, provided they possessed the required velocity. This does away with the old idea that rotation or deformable bullets were required to obtain lateral or explosive effects. “Kocher’s explanation of the nature and production of the lateral or explosive effect is, that the energy of the bullet is transmitted from the parts struck, first, in the direction of the line of fire; next, with increasing velocities, in a funnel-shaped direction towards the exit, and, lastly, with still greater and the greatest velocities, in all directions.” Experiments with cans filled with water or substance saturated with it, went to show that the more liquid the contents of the vessel the greater was the lateral or explosive effect, which was increased with increase of the velocity, regardless of the kind of bullet used. Experiments with the water box showed that leaden bullets made greater penetration under lower than under higher velocity. A leaden bullet creates its own resistance in the water—the higher the velocity the greater the resistance. From the moment the resistance reaches a point so as to cause deformity, explosive effect also becomes apparent. From that time on the effect is increased with the velocities used, and at last it results in the bursting of the box and in the water spurting up to the height of 10 feet. He concludes, “that the destructive effects of our modern high velocity bullets upon organs containing a large percentage amount of fluid are produced by hydraulic pressure.” Salzman and Kocher agree that the enclosing capsule is not necessary to the explosive effect from hydraulic pressure, but, that this and the deformed and deformable bullets increase the effect, which is most of all dependent on the velocity of the bullet. The loss of velocity in penetrating different aims is dependent on the hardness of the bullet and its caliber, and the large part of the loss of velocity being converted into lateral or explosive effect. The reduction of the caliber of the bullet and the hard metallic jacket has resulted in making small skin wounds and lessening the hydraulic effect in soft parts at close range, but the injury to the bone remains much the same as from the old bullets. It is not unusual to find a small wound of entrance and exit and overextensive damage of soft bone, as of an epiphysis, for instance. Many favorable prognoses were made during the late war because of the small wounds of entrance and exit, and yet many of these patients are now invalided from service from extensive subcutaneous injury, resulting in the deposition of large amounts of callus or extensive adhesions of muscles, etc. Sir William MacCormac attributes the benign character of many of the abdominal wounds in South Africa to the fact that in most instances the alimentary canal was empty and, therefore, the hydraulic effect was at a minimum. Since the “amount of destruction experienced by any part of a bone depends principally upon the amount of resistance which it opposes to a bullet,” Beyer argues that bone injuries from bullets should be classified according to Kocher, as of the epiphysis, the diaphysis, or of the metaphysis, as the resistance offered by these parts differs so much. He objects to

the term “expansive” and thinks “explosive” the proper word as describing the lateral effect of a bullet. “The highest velocity shots upon skulls, filled with brain, show that they are attended by a high degree of explosive or hydraulic action.” Nerves and bloodvessels sometimes show remarkable escape from injury even with the modern bullet, but only when velocity is low. An undeformed modern bullet passing through a lung even at the highest velocity shows better lateral action. [J.H.G.]

2.—Edes considers those spinal degenerations not usually recognized as belonging to the well-marked system-diseases and which are accompanied by states of malnutrition of the blood. He cites 4 cases illustrating this class of degenerations with the results of one necropsy. The general symptoms presented by such cases are those of severe anemia, weakness of motion and coordination (rather than especial groups of muscle-paralyses). At first the deep reflexes are apt to be exaggerated; later there may be absolute paralyses, extensive anesthesia and loss of deep reflexes. The sensory symptoms include numbness of the extremities, inability to use the hands for fine work, and sense of coldness in the lower extremities. The notes of the partially incomplete autopsy given state that to the naked eye the brain seemed normal and was not examined further, except the medulla in its lower portion, and some sections of the cord. The author concludes that the degeneration in this case would seem to follow the system-fibers, unlike the majority of such cases, in which there is a tendency to the formation of focal lesions. [T.L.C.]

3.—Z. B. Adams discusses the general causes of intestinal obstruction and quotes a list of 56 cases, which in 27 was diagnosed incorrectly. He presents certain important points in the differentiation of the various conditions. First, between **obstruction** and **dysentery**; second, between **chronic** and **tuberculous peritonitis**, especially in young subjects. He states that the most important differential diagnosis lies between **strangulation** and **impaction**, or occlusion of the lumen, whether from within or without. He abjures the use of **opium** or purgatives before the diagnosis is made and insists upon routine examination by the rectum and the persistent use of high injection as valuable aids in making the diagnosis. He points out that **celiotomy** in experienced hands is a comparatively harmless operation, which has undoubtedly saved many lives. [T.L.C.]

Journal of the American Medical Association.

January 5, 1901. [Vol. xxxvi, No. 1.]

1. Specialties and Specialists. JOSEPH ZEISLER.
2. Etiology of Dysentery. SIMON FLEXNER.
3. Notes on Tropical Dysentery. JOHN HERR MUSSER.
4. Case of Malignant Endocarditis with Recovery. M. S. DAVIS, JR.
5. External Drainage of Lung Cavities. LEMOYNE WILLS.
6. Surgical Errors in Skiagraphy. CARL BECK.
7. Walled Off. JOHN B. DEEVER.
8. The Army Surgeon in the Philippines. WILLIAM J. LESTER.
9. A Normal Acoumeter. E. AMBERG.
10. Amblyopia Following the Intoxicating Use of Jamaica Ginger; Subsequent Recovery of Vision. EDWARD STIERIN.
11. The Douche in the Treatment of Ophthalmia Neonatorum. E. E. HOLT.

2.—Flexner, discussing the classification and etiology of dysentery, sums up our present knowledge by stating: (1) That no bacterial species yet described has the especial claim of being regarded as the chief microorganism concerned with the disease; (2) it is not likely that any bacterial species normally present in the intestine or environs of man, except where the disease is endemic, can be regarded as the probable cause of epidemic dysentery; (3) the relations of sporadic and epidemic dysentery are so remote that it is improbable they are produced by the same cause; (4) the pathogenic action of the *Ameba coli* in certain examples of tropic and sporadic dysentery has been disproved by the discovery of the *ameba* in the normal intestine. *Ameba* are commonly present, and are concerned with the production of the lesions of subacute and chronic dysentery. They

have yet to be shown to be equally connected with the acute dysenteries, even in the tropics. Shiga has made a careful bacteriologic study of Japanese dysentery. From his cases examined a bacillus was isolated which fulfilled the requirements of a causative agent of this form of dysentery. Flexner, during 3 months' residence in Manila, carefully studied the dysentery of the Philippine Islands. He describes two main forms of the disease, acute and chronic. Ameba were not found in the stools. In chronic, ulcerative forms they were variable in number. Upon bacteriologic examination Flexner isolated two types of organism found especially in the acute cases. The first organism is a bacillus, somewhat of the colon-typhoid type, with peculiarities of growth described. This gave the agglutination test many times with the blood of persons suffering from the disease, whether the host or another individual. Type 2. Present in all cases. Its properties agree with that of *B. coli communis*. With this organism the agglutination test was frequently positive with the host and rarely with other individuals. This organism was found to be absent from healthy dejecta or in the stools of the natives suffering from beriberi. Flexner concludes this bacillus to be identical with that described by Shiga. The results with the agglutination test were positive in cases of the acute disease in which infection with the bacilli was established. It was also present in a case of Porto Rican chronic dysentery, but was inconstant with blood from other chronic cases. With several cases of chronic amebic dysentery under Osler's care the test was negative. As to treatment, Flexner expects great benefit from a species of vaccination and witnesses the effect of injecting the dead bacilli in cholera. The method and details will have to be carefully evolved. [T.L.C.]

3.—Musser reports a fatal case of Porto Rican dysentery occurring in a soldier of 32 years. The pathologic findings indicated dysentery, ulcerative and pseudomembranous colitis, possible infarction of the lung and a universal anemia. A positive test was obtained with cultures of the bacillus of Shiga—a point of value, since the case might have been mistaken merely for one of aggravated scurvy, the inter-currence of which occurred during the period of observation. The course was afebrile. There was extreme emaciation, strikingly sallow skin and a profound toxic state terminating in the typhoid condition. Bacteriologic examination revealed the presence of an organism corresponding with the *Bacillus dysenteriae* isolated from cases in Manila. [T.L.C.]

4.—N. S. Davis, Jr., reports a case diagnosed as malignant endocarditis. The patient had for 7 years following an attack of grip failed perceptibly in health and came to the hospital suffering from headaches and gastric disturbance with occasional attacks of dyspnea. Examination on admission was negative save a slight epigastric tenderness. Under treatment the gastric symptoms subsided. Then fever was observed, which for a few weeks indicated a typhoid curve. The spleen became moderately enlarged, but plasmodia were not found, nor was the Widal test positive. After the first week there was a gradual decline in temperature. At this time a marked weakness of the first heart-sound was observed and a roughening of the second aortic sound. This roughening gradually developed into a distinct murmur. The patient then suffered from two severe chills followed by profuse sweating and a third cold stage but no distinct chill. Up to the time of the first chill the patient had been treated by the Brand method. The chills greatly reduced the patient's general condition, which appeared desperate. Unguenti Credé was now employed and a gradual recovery followed. The aortic murmur disappeared, but the second sound remained rough. The diagnosis seems to have been made upon the exclusion of typhoid, malaria and tuberculosis and the septic character of the temperature at the time of the chill, as well as the cardiac symptoms with the disappearance of the aortic murmur with convalescence. The urine contained but a trace of albumin, the leukocytes were normal and there was no report of a bacteriologic examination of the blood. The diazo reaction was positive. There was no history of septic emboli; an intercurrent phlebitis recovered promptly. An incomplete list of reported cases of recovery from malignant endocarditis is added. [T.L.C.]

5.—Wills advocates external drainage of the lung-abscesses as conservative surgery and reports two cases operated upon for this condition. The first case was a man, 45 years of age, and muscular. When first seen he had a cavity in the

left lung extending from the sixth interspace to the ninth rib and apparently from the spinal column to the midaxillary line. The patient gave a history of dyspnea with vomiting of from a half to one pint of pus every morning. Examination of his sputum showed the presence of tubercle bacilli; he also had septic temperature. External drainage of the lung advised but declined. Six months later the patient returned for treatment; condition much worse; had lost a great deal of flesh. He was expectorating large quantities of pus continuously. Examination of chest showed evidence of inflammation of chest wall extending over the fifth, sixth, and seventh spaces, from the anterior axillary line forward to and below the left nipple. This area was red, painful, and presented all the signs of a suppurating focus. The supposition was that the abscess had ruptured into the pleural cavity, and was approaching the surface. The patient's general condition was very bad. An inch and a half of the sixth rib was resected, pleura found thickened, but when opened contained no fluid; lung congested. Patient's condition became so precarious that operation was stopped; rubber drainage tube inserted in the pleura; wound closed. Ether anesthesia; patient reacted from operation with some difficulty. Nine days after the operation the patient was suddenly seized with a fit of coughing, and a sudden gush of pus poured from the mouth and at the same time poured through the drainage-tube from the wound. Profuse discharge from the wound kept up, requiring frequent dressing. Bichlorid solution 1:4000 was used twice daily in irrigating the cavity; patient showing no physiological effect of the drug from its use in this way. The patient was able to taste the irrigating fluids. The patient went home, took care of the wound himself, washing it out with bichlorid solution. Eighteen months after the operation the patient was practically well; no cough, gained flesh, was able to do manual labor. The second case was a man, aged 30, not very robust. Examination showed a cavity which extended from the end of the scapula as far down as the last rib and from 2 inches of the spinal column to the midaxillary line on to the right side. No expectoration of pus. Temperature varied from subnormal to 103° F. Operation advised. Ether was administered. Two inches of the eighth and ninth ribs were resected. The pleura found healthy and empty. Patient's condition became so bad that the operation had to be stopped. The wound was closed. Six days after the operation, wound perfectly healed, but skin distended. Fluctuation was noticed. Wound was opened, and nearly 2 pints of brownish, fetid pus gushed forth. On digital exploration, the finger entered directly into the lung cavity. The pleura was adherent to the edges of the wound so that its cavity was not implicated. After this, temperature remained about normal. Patient's condition improved. Within a month following the operation, the patient was coughing up pus and tasted irrigating fluids. Patient has not improved since. The abscess cavity is still discharging a small quantity of pus. He calls attention to the fact that both the patients took ether badly and almost collapsed on the table. [J.H.G.]

6.—Beck calls attention to the fact that a Röntgen-ray picture is by no means an ordinary photograph of an object, but a silhouette only, and to interpret such properly, a thorough knowledge of anatomical conditions and relations must be had. This is particularly true of bones; those of the carpus and tarsus being especially hard to understand. He gives instances of supposed fracture about the wrist and ankle where the supposed fracture was due to denseness of shadow produced by some of the small bones. The greatest diagnostic difficulties are offered by the joints. The more complicated a joint is, the greater the difficulty in understanding a skiagraph of its various positions; this is especially true of the elbow and hip joints. The older the fracture is the less conspicuous the fracture-line will appear, being more or less overshadowed by callus. Hence, if a case fails to be skiagraphed shortly after the injury, no evidence of the fracture may be subsequently obtained. Callus formation on the other hand may be so abundant that, in spite of the absence of displacement, the fullest evidence of fracture may still be furnished months after. In supposed fractures involving joints, a skiagraph should also be made of the corresponding healthy articulation. In studying skiagraphs of the bones and joints of children, he urges the necessity of the knowledge of the time of their ossification. He also urges making the skiagraph of more than one position and

illustrates this necessity by recalling a case of oblique fracture of the tibia in the middle third, a skiagraph of which, taken from before backwards showed no evidence of fracture, but one taken from side to side showed the fracture very distinctly. Skiagraphs of foreign bodies vary in size according to the distance from the tube, and in skiagraphing oblong bodies great errors as to their extent may be committed. Mechanical and chemical errors must also be considered. [J.H.G.]

7.—Deaver discusses, under this heading, appendicular abscess. Opening and draining an appendix abscess does not insure the patient immunity from subsequent attacks; in fact, recurrent attacks are more likely to follow a partial operation on account of the retention of a diseased appendix. He does not believe that in the case of the walled-off abscess, the appendix is "frequently discharged as slough." Few abscesses are completely walled off. Many cases are lost by postponing operation 24 hours; but few, if any, by too early surgical interference. He says he knows but two things in a case of appendicitis: that the appendix is inflamed and that it should come out. To foretell the extent of the disease is impossible. He divides abscesses of the appendix into 5 varieties: 1. Postcecal, or postcolic, the pus being formed between the layers of the mesocolon; it is walled-off, but not so walled-off as to avoid infection of the peritoneum during its evacuation. He does not approve of draining such collections through the loin space. 2. Where the pus is found directly beneath the parietal peritoneum, being limited by the cecum, coils of small intestines, the omentum, the appendix, the parietal peritoneum, and masses of lymph binding these together. In this form a communication with the pelvis is frequent. 3. The collection of pus is confined to the pelvis and shut off from the general peritoneal cavity. The evacuation of such an abscess from the vagina or rectum is heartily condemned. 4. This variety is found located near the median line of the abdomen and the inner side of the cecum. The retaining wall being composed of cecum, appendix, small intestine, mesentery, omentum, and the sigmoid flexure of the colon. In this variety of walled-off abscesses it is sometimes necessary to make a second incision to protect the peritoneal cavity. 5. In the last variety of appendicular pus, there is no attempt on the part of nature to confine the pus. It is the most unfortunate variety, and if the patient is not operated upon immediately, the chances of recovery are reduced to nil. He then instances a case of an interne at the German Hospital, who was taken sick with abdominal pain on September 30; started to work the next day, but was obliged to return to bed with recurrence of pain at noon. At 1 o'clock he was operated upon, and the abdominal cavity was found filled with serofibrinous exudate, and the appendix distended with pus. Recovery was interrupted. He gives the mortality of operations done in the presence of pus as from 10 to 18%, while in the presuppurative stage the mortality is 5%. "There is no choice as to the time of operation in appendicitis." He urges operation as soon as diagnosis is made. He closes with the following conclusions: 1. Pus is an avoidable complication in the treatment of appendicitis. 2. The patient's welfare is best preserved by avoiding any of the complications incident to pus-formation. 3. The walled-off abscess is not the blessing to be sought, but rather an evil to be avoided by prompt surgical interference as soon as the symptoms of appendicitis manifest themselves. 4. Operation on cases of walled-off pus imperils the patient's chances for recovery, on account of liability to infection of the peritoneal cavity. 5. Fecal fistula, as a result of a walled-off appendicular abscess, is an unavoidable sequel to appendicitis, and should not be permitted to occur. The latter statement is true of all complications and sequels of appendicitis due to pus-formation. [J.H.S.]

8.—Lyster says that as troops were sent out from Manila post-hospitals were established at regular intervals along the route. Base-hospitals were converted out of public buildings in the small towns which were most accessible to Manila. At Manila there are large general hospitals, one containing as many as 1,400 patients at one time. To this hospital are sent patients from the crowded base-hospitals. There are also a number of hospitals for the treatment of special diseases; for surgical cases; for those convalescing from malarial fever; for medical cases and all diseases of the eye; and for soldiers who are to be sent to America for treatment. From this

latter the patients are transferred to the general hospital at San Francisco. Contagious diseases are looked after by a special board of investigators. Medicines, foods necessary for the sick, instruments, and even ice, are now promptly supplied to sick soldiers, and it is hoped to equip each base-hospital with an ice-machine. There is a school of instruction for the hospital corps, men giving them instruction in the handling of injured and also in the nursing of the sick. Two hospital ships are under the orders and immediate control of the medical department, one having a capacity of 260 beds. Several small light-draft vessels could be used with advantage in removing the sick from points along the more shallow streams. The only railway in Manila is supplied with two special cars, fitted out with cots. A surgeon accompanies each trip. A difficult problem in Manila is public vaccination. The American soldiers have been remarkably free from smallpox because of the frequent vaccination at home; but with the natives it is far different, many showing the signs of the disease. Prejudice and ignorance here interfere with vaccination as they do in America and England. Vaccine farms have been established in Luzon, the lymph being procured from the caribou. In this manner the vaccine can always be had fresh. The medical department has done a great deal to improve the hygiene of the cities and towns throughout the island. The efforts of the department have resulted in limiting the bubonic plague to a marked degree. It has been prevalent in Manila for several months, but no cases have been heard of outside of the city limits. The use of the odorless excavator has been introduced into Manila. The inspection of the abattoir, of the markets and the foods for sale in them, are duties which develop on the medical officers. The house and person of the native Filipino are remarkably clean, but he is indifferent as to his surroundings and whence his water supply comes. Typhoid is endemic in the islands, and garrisons have to be most careful in the selection of their water supply. Leprosy, probably introduced from China, has spread until there are in Northern Luzon some 12,000 natives and Chinese afflicted with the disease, and so far it has been unrestricted. A special commission is searching for an island on which to establish a leper colony. [J.H.G.]

9.—Amberg describes a normal acoumeter. The instrument consists of a steel ball of given weight falling at a given distance on a metallic block. The instrument is considered to be of value on account of the accuracy that can be obtained, independent of the dissimilarity in the voices of individuals. [M.R.D.]

10.—Stieren reports a case of amblyopia following the intoxicating use of Jamaica ginger, with subsequent recovery of vision. The patient was a contractor who, when first seen, was totally blind. After a heavy debauch, being unable to obtain liquor of any kind, he consumed about 12 ounces of Jamaica ginger. This was followed by stupor, total blindness and excessive thirst. Upon examination there was found extensive mydriasis, unaltered by light or accommodation. The media were clear and no change was seen in the disc beyond a slight haziness of the edge, due to slight retinal edema. V. = perception of moving hand at 12 inches. The cornea was almost entirely anesthetic. The vision improved progressively under hot footbaths, compound jalap powder, and pilocarpin hypodermatically. [M.R.D.]

12.—Holt, in discussing the application of the douche in the treatment of ophthalmia neonatorum, believes that this mode of therapy fulfils the requirements of cleanliness which are so essential in this disease. He describes a critical case that had been treated by the usual methods, such as ice compresses, silver nitrate, etc., and which recovered under systematic irrigations by means of the douche, the solution employed being 1% of boric acid. The same fortunate result has been obtained in other cases of the author by means of this method when other well known methods had failed. In the first case extensive involvement of the cornea was believed to have been present. [M.R.D.]

American Gynecological and Obstetrical Journal.

November, 1900. [Vol. xvii, No. 5.]

1. The Relative Advantage of Vaginal and Abdominal Section: An Illustrative Case. B. F. BAER.

2. Further Contribution to the Study of Pelvic Hematocele and Its Relation to Tubal Pregnancy. GEORGE TUCKER HARRISON.
3. Injuries to the Bladder and Ureters in Radical Surgery of Cancer of the Uterus. J. WESLEY BOVÉE.
4. Sarcoma of the Ureters Associated with Fibroma of the Round Ligament: Report of an Unique Case. JOHN G. CLARK.
5. A Fibromatous Uterus in Labor. FRANK A. STAHL.
6. Report of Interesting Cases. FRANK W. TALLEY.
7. Ophthalmia Neonatorum; Its Prophylaxis and Treatment. JOHN E. WEEKS.
8. A Further Contribution to the Study of Full-Term Ectopic Gestation. EDWIN B. CRAGIN.

1.—Baer reports a case to illustrate the relative advantages of vaginal and abdominal section. The patient, a woman of 30, presented urgent symptoms of pelvic suppuration and septic intoxication, with a hard tumor in the right iliac region. Her condition making an abdominal section too hazardous, the pus was evacuated by vaginal incision. This relieved the acute symptoms, the patient's condition improved, and 19 days later an abdominal section was made and the tumor was with difficulty enucleated from its attachment to the uterus and its many adhesions to intestines, and removed. Complete recovery resulted. [W.K.]

2.—Harrison, in this contribution to the study of pelvic hematocele, agrees with Fehling in his estimate that in 95% of the cases, hematocele is due to a tubal pregnancy, and that incomplete tubal abortion with a resulting hematocele constitutes the most frequent termination of such pregnancy. In tubal abortion that causes hematocele, the tubal tumor is first of all hard, because coagulated blood dissects its way between chorion villi and tube. Hardness, in fact, is proof of the death of the fruit. The blood-sac develops gradually, accompanied by the symptoms of pain of a more or less paroxysmal character, and the discharge of blood per vaginam at irregular intervals, and of a dark color. In such cases the indications for operative interference would seem to be clear, unless absorption occurs rapidly and there is no serious disturbance of the health. The operation to be preferred is laparotomy, its advantages being that you have a more complete survey of the field of operation, can decide with certainty as to what is diseased and what not, and are better able to control the hemorrhage. Moreover, convalescence is much more rapid, as a rule, and pus-formation and the retention of pus are not likely to occur in laparotomy. [W.K.]

3.—Bovée says that although statistics are not available, there can be no doubt that injuries to bladder and ureters are more frequent in radical surgery for cancer of uterus than in ordinary hysterectomy, as the dissection is so much wider, embracing, as it does, removal of tissues surrounding the ureters and bladder, while in the ordinary hysterectomy for benign conditions one scarcely sees a ureter. Also these injuries are more frequent in vaginal than in abdominal hysterectomy. Prevention of such injuries is of the first importance, but Bovée considers Kelly's plan of placing sounds or catheters in the ureters and leaving them there during the operation as inadvisable; because of the extra strain on the strength of the patient incident to the necessary manipulations. He prefers to isolate the ureter except from the peritoneum early in the operation, then it can be brought into view and its injury avoided. If the ureter be occluded by a ligature, cut the ligature and religate the other tissues if necessary. If it be compressed by a forceps, resection may be necessary; but usually the reparative power of this duct can be relied upon to overcome the condition. Longitudinal or partial transverse incisions should be sutured at time of operation. Complete transverse section will require anastomosis with itself if high in the pelvis and with the bladder if in its lowest 2 inches. In bladder-punctures or incisions immediate closure with permanent bladder drainage for a few days will usually suffice. In late bladder sloughs and bladder injuries discovered after operation, a second operation is usually needed, though frequently permanent catheterization cures. [W.K.]

4.—Clark reports an unique case of sarcoma of the uterus with fibroma of round ligament occurring in a woman aged 59. Sarcoma of the uterus is very rare, only 154 cases being

on record. The one here reported was a sarcoma from its inception and was on the uterine wall. In view of the fact that careful examination of the bloodvessels showed no traces of round cells sowing blood infection, the prognosis is extremely favorable. This case is quite unique and a similar one may not occur in 1,000 cases. The 2 types of tumor were quite distinct, and one could make out without the slightest trouble the pure round cell sarcoma and the fibroid tumor. [W.K.]

5.—Stahl reports a case of fibromatous tumor in labor. The tumor was a pedunculated fibroid springing from the cervicocorporeal junction, producing at one time great pain and serious reflex disturbances from pressure against the superior strait to the right anteriorly, and was first seen in the fourth month of pregnancy. The acute symptoms were relieved by palliative treatment, the pregnancy continued through the seventh month when premature labor was induced by climbing high steps in very warm weather. The labor was normal and a well-developed 7 months' fetus was spontaneously delivered, but it succumbed 6 hours after birth. The puerperium was normal and Stahl is of the opinion that the patient can now stand the operation of the vaginal enucleation far better than at the fourth month. [W.K.]

6.—Talley reports 2 cases, one of which was an instance of gonorrheal salpingitis with coexisting pregnancy, in which the pathologic study showed advancing gonorrheal infection, proceeding from the fimbriated end of the right tube toward the uterine cornua; in the second case, an ovarian cyst had been carried high in the abdomen by the pregnant uterus, forming an attachment to the liver, and giving symptoms immediately after delivery through the shrinkage of the uterus and tension on the pedicle. [W.K.]

7.—According to Weeks the cause of ophthalmia neonatorum is usually the gonococcus of Neisser, and the treatment should be: 1. Mechanical. The conjunctival sac should be cleansed frequently, the more so because of the absence of tears. This should be effected by the employment of a nonirritating aseptic or mildly antiseptic solution. Many consider a 3% solution of boric acid as most desirable for this purpose. 2. The conditions for the development of the microorganism should be made as unfavorable as possible; this can best be done by reducing the temperature of the conjunctiva. This is comparatively easy by the application of little cold pads changed every 1 or 2 minutes, and in the acute stage used from 1 to 4 hours, 3 times daily, but discontinued as soon as the swelling of the lids subsides. 3. The destruction of the microorganism as far as is possible by the application of a germicide to the surface of the conjunctiva. Weeks uses a 1% solution of silver nitrate, applying it once a day after removing all secretion from the conjunctiva. 4. Constitutional treatment, which should be directed to the general improvement of the child's condition. [W.K.]

8.—Cragin reports a second case of full-term ectopic gestation in which the child was delivered alive; and he believes that the viable ectopic fetus is worth saving; that within certain limits attempts to save the child do not seriously increase the mortality or morbidity of the mother; hence in the treatment of full-term ectopic gestation the child should receive more consideration that it at present enjoys. [W.K.]

Centralblatt für Gynäkologie.

November 10, 1900. [No. 45]

1. Spiritus Saponis as a Hand Disinfectant. An Answer to "Correction" of Paul and Sarway. F. AHLFELD.
2. Vaginal Infection. An Open Answer to Dr. Kronig's "Remarks." F. AHLFELD.
3. An Early Indication of Ascites. L. LANDAU.
4. A Jointed Phantom for Demonstration in Obstetrical Instruction. LUDWIG KNAPP.

1.—In answer to the conclusion of Paul and Sarway that hot water and alcohol would not disinfect the hands, Ahlfeld replies that in his experiments with spiritus saponis, as advocated by them, the results do not compare in efficiency with those obtained by hot water, soap and alcohol (76-96%) and that alcohol, although much diluted, is the effective agent in the disinfection by spiritus saponis. [W.K.]

2.—Abfeld quotes a series of experiments to show that of 38 tests, in 28 cases the hands were made germ-free by means of alcohol, so that in scraping them no germs could be obtained which would develop in culture media, and that in 22 of the 28 cases the hands were still sterile an hour afterward. Hence as a practical result of these experiments he concludes that contrary to Kronig's opinion, we can undertake, not only a mere examination, but a long-continued obstetrical operation without fearing that the field of operation will in this time be infected by germs set free from the hands. [W.K.]

3.—In Landau's opinion it is very important to recognize the existence of ascites in its early stages, and he shows how to make the diagnosis before the disease is far advanced. When the measure of fluid in the abdomen is small, it is impossible to grasp around the uterus while the patient is lying in the ordinary horizontal position, since the somewhat drawn back uterus presents to the fingers the feeling of lying on an air or water cushion. But if the patient be placed with flexed thighs and knees, as the pelvis is elevated the conditions are completely changed, the water recedes to the diaphragm and the palpating fingers now touch each other around the uterus. The bladder must be carefully emptied before the examination. As the disease advances and the amount of fluid increases, naturally the difference of palpation in the two positions is diminished, but then there are other indications present. But the one above described he considers of great importance for early diagnosis of ascites. [W.K.]

4.—Knapp treats briefly of the advantages derived from the use of a jointed phantom in obstetrical instructions. Thus all the various positions before and during delivery may be clearly demonstrated to the student. [W.K.]

November 17, 1900 [No. 46.]

1. A Very Rare Form of Perineal Rupture. F. ENGLEMANN.
2. Vaginal Obliteration for Prolapse. S. STOCKER.
3. A "Gebärmantel." An New Apparatus for Increasing Abdominal Pressure During the Period of Expulsion. ALFRED JAKS.
4. A Very Simple Leg Support. KALABIN.

1.—Englemann reports a rare form of perineal rupture occurring in connection with the spontaneous delivery of a large child. The attendant said there must be an inner rupture since the child was born with a sudden jerk, and there was no external injury present. Examination showed a perineum 8 cm. in breadth, intact, except in the frenulum there was a small tear and near the anus an irregular opening communicating with the vagina, a kind of inner perineal laceration. Knowing that a central rupture may heal spontaneously, Englemann trusted that this would also, his only fear being that the fistula might become a passage for lochial secretions, but the fear proved groundless and in 14 days the fistula was completely closed. [W.K.]

2.—In 1896 two new procedures were shown as remedies for prolapse in elderly women. One by Freund relieved the prolapse in nonmenstruating women by drawing downward the uterus and stitching it to the vagina, the secretions being discharged through a new opening in the fundus. In the same year Wormser published a procedure by P. Muller in which the prolapse was remedied by excision of the vagina and the inclusion of the uterus and reported many cases thus treated with good results. Stocker fearing that hydrometra might develop in the uterus thus devoid of any external passage, devised a modification of the method, adapted to elderly women who still menstruated. He reports the case of a patient, aged 52, describes the operation, the first step of which was to make a long incision in the left side of the vaginal portio. The edges of this wound were stitched with catgut, uniting the mucous membrane with that of the cervical canal. Then a strip of the vaginal mucous membrane on the left side, about 5 cm. broad, was allowed to remain; all the rest was removed and the denuded surfaces united with sutures, thus leaving a very small passage for the discharge of all secretions. This operation was quickly and easily performed, and the results very satisfactory. [W.K.]

3.—Jaks, realizing that a proper position of the woman in labor is a great advantage in securing the necessary abdominal pressure at the period of expulsion, has contrived an

apparatus which serves the purpose of securing the best position. In an illustrated article he describes the apparatus, showing how by means of some strong material passing under the shoulders and hips and secured to the footboard of the bed by 2 sets of straps, support is given to the back, hips and shoulders, the symphysis is brought nearer to the chest, great contraction of the abdominal muscles secured, and the abdominal cavity lessened. The diagrams make clear its other advantages and the writer thinks it not improbable that by the help of this apparatus the forceps can be dispensed with in many cases in which they would otherwise be necessary. [W.K.]

4.—Kalabin describes a very simple leg support which he has used for 14 years and which serves as an assistant in many operations. It is of service especially in all perineal or vaginal operations, making it possible to do the work with one less assistant. The apparatus is simple and inexpensive. [W.K.]

November 24, 1900. [No. 47.]

1. Case of Chorioepithelial Vaginal Tumors. H. SCHMIT.

1.—It has been stated in numerous publications that after the conclusion of pregnancy, at the point of placental attachment, there are sometimes primarily developed chorioepithelioma, which are of a very malignant nature, and quickly lead to metastatic growths on the vaginal walls or in the lungs. Pick and Schmorr have added 2 new facts: First, that after molar pregnancy through migration of the vesicular fragments, a metastatic tumor may appear in the vagina; and second, that in other cases after pregnancy, multiple tumors appear in lungs, liver, and intestines, and cause death without their being any primary tumor of the uterus. Schmit gives a full description of a case of his own, and reports 2 others. 1. The case of Schmorr, in which there was a normal delivery at the end of pregnancy. The uterus was sound, but multiple chorioepithelioma in vagina, lungs, liver, kidney, and intestines caused the patient's death. 2. The case of Schlagenhauser was one of incomplete abortion. The uterus was sound, but there was an isolated vaginal tumor, from which the patient recovered. 3. Schmit's case was a molar pregnancy with spontaneous delivery. The uterus was sound and healthy, but there were 2 vaginal malignant syncytial tumors, the removal of which was followed by the patient's recovery. In both the last cases the tumor limited to the vagina could be determined early and operative help brought at the right time with resultant recovery. Now the question remains whether or not in both these cases a migration of fragments into the other organs had taken place. The probability is that it had not, since the inner organs remained healthy, but we must remember the possibility that such fragments might be carried through the blood to other organs and then pass away without doing any injury, as Schlagenhauser remarks, that not alone the anatomical, but also the individual disposition of the organism and its peculiar tissue must determine the existence or non-existence of metastasis. [W.K.]

Archiv für klinische Chirurgie.

[Band 62, Heft 1.]

1. A Study of Surgery of the Stomach. GEO. KELLING.
2. Stricture of the Pylorus Following Corrosion. F. v. EISELBERG.
3. A Research Into the Suture of Bloodvessels and Nerves, and the Uses in Surgery of an Absorbable Metal. ERWIN PAYER.
4. Displacement of Intestinal Loops Following Gastroenterostomy. W. PETERSEN.
5. The Operative Treatment of Habitual Dislocation of the Shoulder. O. SANTER.
6. Pseudo Voice Following Total Extirpation of the Larynx. GEORGE GOTTSTEIN.
7. Acute Inflammatory Atrophy of Bone. P. STUCKE.
8. The Operative Treatment of Cysts of the Pancreas. F. B. HAGEN.
9. The Technique of Operations for Umbilical and Ventral Hernias. F. B. HAGEN.
10. The Pathogenesis and Therapy of Various Forms of Gangrene of the Lower Extremities. BUNGE.

11. A Contribution to the Surgery of the Spleen. F. B. HAGEN.
12. The Radical Operation of Rectal Carcinoma. HEINRICH WOLFF.

1.—Kelling has carried out an elaborate research on the stomach, which is divided into two parts. The first deals with **gastroenterostomy** and the second with resection of the stomach and gastric ulcer. In his work on gastroenterostomy, his research consisted in experimentation on some 30 dogs. It was found that the pressure of the stomach during digestion in a dog was equal to a column of water from 3 to 10 cm. high. During vomiting this was increased $\frac{1}{2}$, sometimes $\frac{3}{4}$. On exciting the vagus nerve, the pressure reached 10 to 18 cm. The greatest danger for the suture lies in the possibility of introduction of solid bodies. According to Chlumsky, the sutures in this position may hold a pressure from 37 to 68 cm. Peritonitis lowers considerably the strength of the suture. It was found that gastroenterostomy in the fundus of the stomach allowed a more rapid emptying of the organ, and because of the frequent presence of large particles of food, there existed a tendency to dilation of the fistula. If there is an angular fixation between the pyloric portion of the stomach and the upper duodenum, the emptying of the stomach is greatly hindered, and in cases where this angular flexion exists, pyloroplasty should not be done. Gastroenterostomy performed with a button possesses many advantages over that of simple suturing; chief among these is the prevention of the formation of a ring of mucous membrane which projects into the stomach. Murphy's button presents disadvantages in that it acts as a large and heavy foreign body, and is therefore better to use some form of button which can be absorbed. [G.B.W.]

2.—Von Eiselsberg reports 6 cases of **stenosis of the pylorus** following the corrosive action of some chemical. In 2 cases hydrochloric acid was the chemical, in 1 sulfuric acid, in another nitric acid, and in 2 the substance was unknown. The patients appeared in from 4 to 12 weeks after the accident. The diagnosis was in all cases easy, and there was always typical symptoms of stenosis of the pylorus present. In 5 of the cases, the pylorus was alone injured, the esophagus remaining free. In 1 case both pylorus and esophagus showed the effects of the corrosion. For the relief of this condition, resection of the pylorus was done once, gastroenterostomy 4 times, and in 1 a second laparotomy was necessary. One case died from suppurative bronchitis, the rest were cured, 3 for 2 years, and 2 for a few months at least. The operation of choice in case of corrosive stricture of the pylorus, is gastroenterostomy. Resection is the simplest procedure, but in many cases it is contraindicated on account of the length of the stricture. Simple jejunostomy is seldom more than a palliative operation. [G.B.W.]

3.—Payr after a long research on animals and careful study of clinical cases, suggests the following method of **uniting severed bloodvessels**, which seems most practical and easily carried out. First, it is necessary to provide for temporary closure of the artery or vein. This is best done by means of a small spring forceps, the blades of which should be covered with rubber tubing. Supposing the artery to be severed transversely, if the artery be of small size, 3 fine silk sutures are passed through the whole thickness of the vessel-wall at the distal end. A small metal tube, slightly larger than the artery, is slipped over the threads and over the end of the bloodvessel; by means of the thread the artery is then turned cuff-like back over the tube, so that the intima faces outward. The tube possesses a groove so that by a circular ligature the bloodvessel may be securely fastened to it. The peripheral end is secured in a like manner by 3 sutures, and drawn over the distal end and fastened there by means of a circular ligature. This brings the intima of the distal and of the peripheral ends of the bloodvessel into direct relation with each other, so that a broad and firmer union may readily take place. The metal tube should consist of **metallic magnesium**. By a number of experiments it was found that magnesium when imbedded in the living tissue, is comparatively quickly absorbed. The disappearance of the metal is due to the formation of a soluble magnesium salt formed by the oxygen and carbonic dioxide, which are present in the tissue. Payr also presents another apparatus for closure of bloodvessel, resembling somewhat a Murphy button, and which has the

advantage of being somewhat more easily used than the above described method, but it does not give quite so satisfactory results. Also in suturing nerves, the use of magnesium tube presents many advantages, because of its being absorbed by the tissues. As to the rapidity with which the magnesium disappears when placed in living tissues it has been found that a piece of magnesium wire, 1 mm. in thickness, would in 15 days be broken into a number of pieces, and the thickness lessened $\frac{1}{3}$ to $\frac{1}{4}$ of its original diameter. [G.B.W.]

4.—Petersen reports 3 interesting cases of **malposition of the intestines following gastroenterostomy**. In all the cases the new position of the intestine was the same though different in degree. The condition consisted, first, in the twisting of the axis of the displaced intestinal loop to about 90°; and, second, that the displaced gut, which consisted of the efferent limb of the anastomosis, passed through a ring formed by the stomach, the afferent limb and the posterior abdominal wall. This displacement did not lead to direct strangulation of the intestine, or to a disappearance of the intestinal circulation. The important pathologic condition consisted in a twisting, bending, and bruising of the mesentery, which necessarily followed the gut through the opening. In the first place, the displacement was so slight that no positive clinical symptoms were manifest. In cases 2 and 3, so much intestine was drawn through the ring that extensive thrombosis of the mesenteric veins was caused, giving rise to hemorrhagic infarct, paralysis, and beginning necrosis of the intestine. In the second case, the thick and twisted mesentery so pressed upon the duodenum as to obstruct its lumen, and cause retention of the bile to such an extent that the distention following caused the suture to give way, perforation and peritonitis resulting. Peterson, after looking through the literature carefully, could find no case exactly corresponding to the above. He believes that the most important element in the production of this displacement of the intestines is to be found in the technic of the operation. This is especially true when use is made of the Murphy button. When simple suture is done, the intestine is fastened to the stomach, one lying parallel to the other, and the early stitches prevent displacement, but when one uses the Murphy button, the twisting and pushing which attends the operation places the intestinal loops in such a relation to each other as to predispose the condition above cited. He further says that sometimes the gauze tampons are so placed as to involve some intestinal loop, so that its withdrawal may bring the efferent loop through the ring above described. The lessons to be learned from his study are, first, that the field of operation should be sufficiently large to enable the operator to clearly see the position of the loops concerned in the anastomosis; and, secondly, that all openings caused by the operation should be closed as far as possible. [G.B.W.]

5.—Samter describes the following **operation for the treatment of habitual dislocation of the shoulder**. The first step consisted in establishing a free approach to the joint; the usual oblique incision on the anterior surface of the shoulder, between the pectoralis major and deltoid, does not suffice for this purpose, and should be supplemented by a transverse incision running from the upper end, the first incision horizontally outwards, and which is combined with loosening of the deltoid from the anterior angle of the clavicle. Second, the joint capsule should be opened in every case, as otherwise the opportunity for inspection of the joint itself, and the chance of the discovery of foreign bodies would be lost. Third, the capsule should be folded upon itself, as recommended by Mikulicz, and a suture placed through the lower edge of the incision in the capsule is carried through the coraco-acromial ligament and tied; also the tendon of the subscapular muscle should be fastened by a suture to the capsule. In cases where the bone is very much changed, the shortening of the capsule is often favorably combined with some slight osteoplastic operation on the ends of the bone. [G.B.W.]

6.—The case reported by Gottstein was remarkable in that the patient after **complete removal of the larynx** was finally able to speak, apparently without the use of the lungs and the ordinary sound-producing organs. The man was 47 years of age and had been suffering for 4 years from a gradually increasing hoarseness until lately dyspnea developed. Pain had never been present, even in swallowing or

coughing. The laryngeal examination and endolaryngeal removal of a portion of the tumor for diagnosis showed the growth, which involved the greater part of the larynx, to be carcinomatous. The operation was done under chloroform. Laryngotomy was performed and the growth was seen to be so extensive that total extirpation of the larynx only could be considered. After dissecting the larynx free from the surrounding muscles, the trachea was cut through just below the first cartilage, and the larynx turned upwards and removed just below the epiglottis. The tracheal stump was stitched into the lower part of the wound. The mucous membrane of the pharynx was closed by a layer of catgut, and the muscles united over it by another catgut suture. The greater part of the second wound was also united by sutures. The patient stood the operation well and was discharged from the hospital with a specially adapted talking apparatus. The apparatus consisted, first, in a piece which fitted into the tracheal opening; second, in a rubber tube stiffened by spiral wire; and, third, in a metal tube which reached into the mouth to the last molar tooth, and which possessed an oval opening on the side near the internal end, through which the air coming from the trachea found exit into the mouth. In the rubber tube two small apparatuses were placed. One was a valve which enabled the air during inspiration to enter directly into the tube, without first passing through the mouth, and the second was a vocal apparatus, by which an artificial sound was produced from the air passing through the rubber tube. With this apparatus the patient could talk loud and distinct, though in a somewhat monotonous voice. As this apparatus caused more or less annoyance to the patient, advantage was taken of the fact that the patient was able to produce certain sounds by the mouth alone, and after training and much exercise in vocal maneuvers, the patient returned one day to the hospital able to speak in a distinct and loud voice without any sort of artificial apparatus. After more practice, the patient was enabled to change the pitch of his voice to the extent of almost a whole octave. A study into the production of this voice, showed that the tone itself was produced by the muscles of the larynx contracting in the region of the epiglottis. The air, which set in vibration the tone-producing folds, was obtained from a space which had formed just below the epiglottis. This wind-chamber was filled and emptied by the muscles of the neck. It was also found that a second space had developed below the first air-chamber, and this reserve depot enabled the patient to utter a number of words one after another without drawing in new air. [G.B.W.]

7.—It is a known fact that in the region surrounding tuberculous disease of the bone, a marked **atrophy** or disappearance of the bone substance takes place, not only in the diseased bone itself but in the adjoining and otherwise healthy portion. This atrophy is diagnosed by the use of the x-rays, and Sudeck reports a number of cases of atrophy of the bone following inflammatory disease of the surrounding soft parts. In these cases the condition was very acute, developing within 6 or 8 weeks, but disappearing in time under proper treatment. This condition is not one of functional atrophy following a lack of use of the part, nor can it be ascribed to atrophic changes, as the result of reflex irritation through the spine. It is most probable that an inflammatory irritation exists to a much greater distance than the diseased area itself, and this irritation brings about certain disturbances in nutrition which lead to the atrophic changes. [G.B.W.]

8.—Hagen reports a most interesting case of **pancreatic cyst** occurring in a boy 13 years of age. Before the operation the diagnosis was possible only in so far that an inflammatory fluid was thought to be present either in the abdominal cavity or in one of the abdominal organs. Laparotomy was performed and after opening the abdomen, a cyst about the size of a child's head was found, posterior to the stomach, firmly surrounded by adhesions, so that it was impossible to bring the cyst wall in contact with the abdominal wall, and equally impossible to remove the cyst as a whole. The only hope of saving the child's life, however, was in the evacuation of the cyst. Approach to the cyst was finally gained by first incising the anterior gastric wall, and then through the cavity of the stomach the posterior gastric wall was reached and the cyst opened. The contents of the cyst were easily removed. A finger passed in through the openings found the least external resistance on the left

side of the cyst, and with difficulty the stomach was here displaced a little towards the right, so that pushing firmly on the abdominal wall the cyst could be brought in contact with the parietal peritoneum. The 2 wounds in the stomach were sutured, first that on the posterior wall, and afterwards that in the anterior wall. In order to allow the abdominal wall to fall in to a sufficient extent to come in contact with the cyst, it was found necessary to resect a part of the ninth and tenth rib cartilages. The cyst was then sutured to the abdominal wall, and opened. Examination of the cyst showed that it was evidently the result of a chronic interstitial inflammation of the pancreas. The patient stood the operation well, and 2 months afterwards the cyst had disappeared and the pancreatic fistula had closed, and the patient had gained 20 pounds in weight. [G.B.W.]

9.—Hagen proposes the following procedure for the closure of **ventral and umbilical hernia**. He based his operation on the idea of covering the defective and thin cicatrix by muscular flaps. After incision through the abdominal wall, the peritoneum and fascia are united by sutures. After extensive lateral loosening of the skin, the external sheath of the rectus is divided at about the middle of the belly of the muscle; carefully avoiding the nerve-branches, a portion of each muscle is loosened so that it may be turned inwards, placing the external portion of the muscle against the already sutured fasciae. These muscular flaps are sutured in place and the skin united over them. Hagen says that he has had great success in the practice of this operation. [G.B.W.]

10.—After an examination of 15 specimens of gangrene of the lower leg obtained by amputation, of which 5 were senile gangrene, 5 diabetic gangrene, and 5 spontaneous gangrene; Bunge comes to the following conclusions: In cases of arterial sclerosis, a high grade sclerotic proliferation of the intima was apt to be found, causing stenosis of the lumen of one or more of the chief vessels of the extremity. This condition was either diffuse, or occurred as multiple, more rarely single, circumscribed stenotic proliferations, sometimes causing a complete obliteration of the lumen of the vessel. This primary stenosis threatened the life of the extremity, first in that the exit of the branches from the vessel involved were closed by the process, thus preventing the establishment of collateral circulation and secondly in that a secondary progressive thrombosis was apt to develop on the changed arterial wall. In certain cases, especially those of senile or diabetic gangrene, a circumscribed petrification of the arteries sometimes forms, and which has the same clinical importance for the circulation, as the already stated conditions. In these cases of gangrene, the only treatment is amputation, though often it is not necessary to go above the knee for the point of selection. [G.B.W.]

11.—Lately the operation of **splenectomy** has been growing rapidly in favor, and as the operative technic improves, the mortality percent has greatly lessened. It has been shown by experiments on animals and by observations on persons, that it is entirely possible to remove the spleen from an otherwise healthy man, without having any serious symptoms develop. Hagen has quoted 360 cases of extirpation of the spleen, 138 of which were followed by death. In another series of cases quoted, 97 operations before the year 1890 showed a mortality of 42.02%, and 164 between 1891 and 1900 showed a mortality of only 18.9%. Total extirpation of the spleen should never be done for leukemic hypertrophy, as statistics show a mortality of 71.4%. In cases of traumatic rupture of the spleen, extirpation offers the best chance of saving the patient's life. Splenectomy gives even more favorable results in cases of splenic abscess. In tuberculosis, the spleen should be removed when the organ is surrounded by an accumulation of pus, and is not fastened by any particular adhesions to the surrounding structures; in other words, when there is no danger of causing a general infection of the abdominal cavity. Echinococcus cysts occurring in the spleen generally demand removal of the whole organ. Also in cases of neoplasm, complete splenectomy should be performed. In cases of floating spleen, splenectomy should be given the preference over splenopexy. Of late years, the operation in cases of malarial hypertrophy has shown a great decrease in the mortality, and even affords brilliant results, not only in relieving the patient of a large tumor, but in bettering his general condition. In primary hypertrophy of the spleen, associated with interstitial hepa-

titis, the operation of splenectomy should be performed as soon as possible before serious change has been able to develop in the more important organ. For similar reasons, a spleen which shows simple idiopathic hypertrophy, should be removed in order to protect the liver from severe and incurable disease. Hagen reports a case of primary hyperplasia of the spleen, associated with interstitial hepatitis, occurring in a woman of 26. The case was greatly benefited by the removal of the spleen, and from month to month she continued to show progressive improvement in her general condition. Furthermore, Hagen reports 2 cases of metastatic inflammation of the spleen, one following a gangrenous chancre, and the other a epityphilitic abscess. In the first case there was suppuration and necrosis of almost the whole of the spleen, and the case recovered perfectly after splenectomy. In the other case there was multiple abscess following the appendicitis with marked symptoms of sepsis. Splenectomy with partial extirpation of the spleen, after resection of the ninth and tenth ribs, was done, and the case recovered. [G.B.W.]

12.—Wolff says, regarding the indications for operation in **carcinoma of the rectum**, that much depends upon the individual merit of the surgeon, and upon the peculiarities of the case. Bergmann operates in even those cases in which there are numerous adhesions to the surrounding structures, and practically refuses operation only where old age and general condition forbid any surgical procedure. Where the tumor occupies a high position, and where there is much glandular involvement, the operation required is most extensive and difficult. The best methods of operating in all cases, except in those where the carcinomatous process is limited to the lower part of the rectum, is through a dorsal incision. Just how far the new abdominosacral method, suggested by König and others, offers more advantages, still remains to be seen. The temporary resection of the sacrum and coccyx, as suggested by Schlange, opens a wide path to the seat of the disease, but presents the disadvantages of severe hemorrhages, and of leaving a large wound to heal. [G.B.W.]

II Policlinico.

(Sezione Pratica.)

November 17, 1900. [Anno vii, Fasc. 3.]

1. On Exomphalos. S. FERRANTI.
2. Transactions of Congresses.
3. On the Best-known Colorimetric Methods for the Quantitative Determination of Nitric Acid in Water. V. BARONE.

1.—Ferranti relates a case in an infant in whom **umbilical hernia** developed 30 hours after birth. The tumor attained to a large size, yet was reduced in the course of a few days by the simple application of a bandage. He discusses the theories of the production of umbilical hernias and the distinctions between them and diverticular hernias and urinary omphaloceles. The various methods of treatment he resolves into two, the first consisting in the reduction of the hernia and the closure of the ring or sac by sutures (annulorrhaphy), the other in the removal of the umbilical ring and suture of the parietes, as in a laparotomy (omphalectomy). The indications for and against surgical intervention are stated and treatment by bandaging recommended in suitable cases. A bibliography is appended. [G.S.B.]

2.—At the congress of the Italian Surgical Society, Fummi opened a discussion on **medullary anesthesia** with a report of 40 cases operated upon in Montenovise's wards at Santo Spirito. Encouraged by experiments on dogs he used a solution of cocain in glycerin for injection and obtained anesthesia in the thorax, neck, and upper limbs as well as in the lower part of the body. Owing to the high specific gravity of the solution in glycerin it is enabled to ascend through the cerebrospinal fluid as high as the cerebral ventricles. Bastianelli and Fioretti related their experience of the method from a total of 35 and 25 cases respectively. The former surgeon laid stress upon the need of a full muscular relaxation as one of the contraindications to its employment. Damascelli read a "Contribution to the His-

tology of some Tumors of the Jaw," tracing their origin to the paradental epithelial residence found in the adult jaw which are germs of the embryonal dental membrane. Catterina showed a periosteal angiosarcoma removed from the palate, and a carcinoma of the parotid, the origin of both of which he ascribed to embryonal germs. Maffucci described the symptoms and postmortem appearances in a case of primary malignant lymphoma of the stomach, remarking on the rarity of such growths and the fact that many of them are undoubtedly of infective origin. Dalla Vedova related the results of experiments on dogs from which he concluded that by injury to the extrinsic sympathetic innervations of the stomach (celiac plexus, splanchnics) ulcers strictly analogous to those in the human subject might be produced. At the Obstetric and Gynecologic Congress Marocco read a paper on hysteropexy without suture, and Ferrari and Caturani contributions on the surgical treatment of posterior displacements of the uterus, for which the latter proposed a new operative procedure by vaginal fixation of the round ligaments. Vicarelli advocated the tamponage of the uterus in cesarean section (Sänger's operation) as a means of preventing subsequent hemorrhage and infection. Truxxi suggested some changes in the technic of the unilateral operation for removal of the uterine adnexa. D'Alessandro described a new instrument for the permanent and bloodless dilation of the external or internal os uteri. Amadei and Ferri presented the statistics of placenta prævia in the *Guardia Ostetrica*, of Milan, from January 1, 1897, to September 30, 1900. Out of a total of 5,136 cases there were 97 of placenta prævia (1.89%), central in 28, and marginal in 69 cases, with a maternal mortality of 5 cases, and a fetal mortality of 41 cases out of the 80 cases in which the fetus was viable. Turning was employed in 42 cases, the forceps in 7 (all marginal), and embryotomy in 3 cases. [G.S.B.]

3.—While the method of Schulze and Thiemann is admittedly the most accurate for the **quantitative determination of nitric acid** in water, its difficulties of execution have led chemists to employ by preference various calorimetric methods as being shorter and more simple. Of these Barone prefers the reaction with diphenylamin of Hoffmann, which is in general use as a qualitative test for nitrates in water, and he has attempted to utilize it for quantitative purposes by comparing the tint produced in the sample of water with that formed by the action of diphenylamin and sulfuric acid upon different dilutions of known strength of specially prepared nitric acid. The sources of error are, however, so numerous that even then the colorimetric method is not to be recommended as an exact one. [G.S.B.]

A Case of Atrophic Cirrhosis of the Liver with Preascitic Edema.—Morano (*Gazz. degli ospedali e delle clin.*, 1900, No. 117) attributes the preascitic edema in atrophic cirrhosis of the liver to circulatory disturbances in the vascular tone of the vena cava, resulting from the hepatic inflammation. The vena cava can also have its lumen decreased by the sclerosis in the liver lobules in which the vessel is imbedded. The resulting edema varies in intensity according to the rapidity with which the collateral circulation is established. [M.R.D.]

Akromegaly.—Bregman (*Deutsche Zeitsch. f. Nervenheilkunde*) reports a case occurring in a man 41 years of age. In childhood both thumbs were exceptionally large and thick, apparently a family peculiarity. The disease commenced about the age of 38, the earliest symptoms being weakness, especially on the left side of the body, and excessive thirst; the symptoms were in general quite typical; the skin was greatly thickened on the hands, and there was considerable desquamation, and falling out of the hair on the left side of the body; in addition there was glycosuria, and extreme atrophy of the left half of the tongue; the whole left side was slightly paretic; there was no indication of the presence of a brain tumor, in particular no disturbance of the eyesight, excepting that due to a moderate glycosuric retinitis. The cause of the condition is probably some congenital defect; it is possible that the severe labor to which he was subjected, contributed in some way. [J.S.]

Original Articles.

A CASE OF URETHRORECTAL FISTULA CURED
AFTER A THIRD OPERATION.

By ORVILLE HORWITZ, B.S., M.D.,

[of Philadelphia, Pa.]

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URETHRORECTAL fistulæ are the most infrequent of any of the maladies connected with the urethra. All authorities agree upon the extreme difficulty of curing this disorder. I am in accord with Simon Duplay when he says: "There are some examples of spontaneous recovery of urethrorectal fistula; it must be acknowledged that most frequently they last indefinitely and the chances of cure by surgical interference are extremely few."

The literature on the subject throws but little light on the matter and leaves the student in doubt as to the best method to be pursued in order to obtain a cure. Surgical authorities differ widely as to the most suitable operation to be performed, each having its advocates as well as its detractors, and I have thought that by giving a brief account of the difficulties and failures encountered whilst attempting to remedy a case of urethrorectal fistula which came under my care, it might not only be of interest to the profession, but serve as a guide to other operators in search of the best method to be pursued when dealing with cases of this nature.

Urethrorectal fistulæ are, in their origin, either traumatic or pathological. Fistulæ may result from the lodgment of foreign bodies in the rectum or urethra; they have occurred after perirectal lithotomy, and from wounds and abscesses in the prostate gland, especially if the latter condition be due to tubercle. Pressure from stone in the prostate gland or the impaction of a calculus in the posterior urethra has been known to cause them. Cancer of the prostate, or abscess of the rectum, the latter usually associated with an hemorrhoidal condition, has given rise to fistula. In two instances, whilst performing the operation of prostatectomy by means of a perineal incision, I have been so unfortunate as to wound the rectum, resulting in a urethrorectal fistula in each case; they both, however, fortunately healed spontaneously.

So far as I can discover the cause in the case I am about to recount is unexampled. An attack of acute posterior urethritis gave rise to an abscess which was connected with the membranous urethra, finally rupturing into the rectum, and forming a fistulous connection between the two canals.

The patient was brought to me by Dr. Henry Heilerman, with the following history: He was 22 years old, by occupation a car conductor; he had contracted his first attack of gonorrhea during the month of October, 1898. At first there was profuse discharge from the urethra, with little pain; the discharge then became very slight, with a frequent desire to micturate, followed by the voidance of blood at the termination of each act; this condition was associated with pain in the perineum together with spasm at the neck of the bladder, and difficulty of urination. The temperature rose to 103°. He complained of constant pain in the rectum, with tenesmus, and a continual desire

for defecation, which, being associated with irritability and spasm at the neck of the bladder, caused the agony to be unendurable.

A digital examination of the rectum disclosed a fluctuating swelling of considerable size, very tender to the touch, presumed to be an abscess of the prostate gland; 24 hours later there was a sudden discharge of pus and blood from the bowel, followed by instant subsidence of pain, together with fall of temperature. After this the greater portion of the urine was passed per rectum instead of by the urethra.

When admitted to the Jefferson Hospital the patient was in very poor physical condition. He was pale, anemic, had lost weight, passed his urine every hour and suffered constant pain both in the rectum and at the neck of the bladder. The two-glass urine test showed both to be cloudy, containing pus, epithelium and a trace of albumin. The bladder could not contain more than one ounce of urine at any one time. When this amount had accumulated the fluid would begin to dribble, and to flow over the buttock and thigh, which were in consequence continually moist and

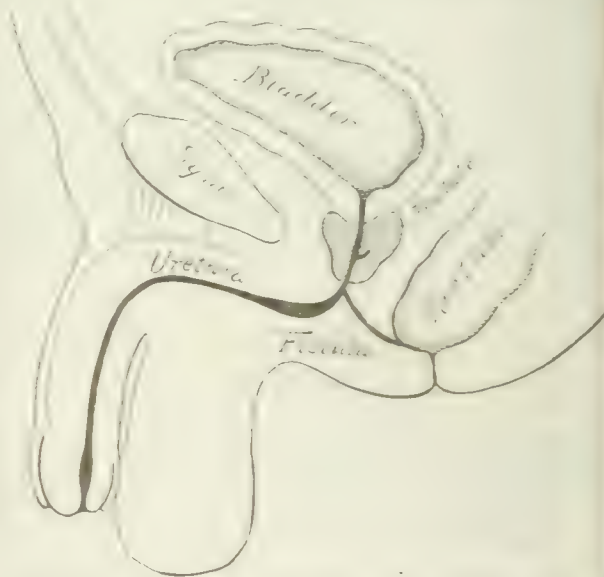


FIG. 1.—Showing the fistulous connection between the rectum and urethra.

excoriated; in spite of every effort to keep the patient clean a most disagreeable odor was constantly present.

After a rest in bed of 10 days, with the necessary preparatory treatment, the condition of the patient had so much improved that it was considered safe to make a urethral and rectal examination. A 24 F. bougie was passed into the urethra, and the patient placed in the "knee-chest" posture; on inserting a bivalve rectal speculum a fistulous opening could be seen on the roof of the rectum, about 1½ inches from the sphincter muscle, apparently at the junction of the membranous and prostatic urethra. A filiform bougie was readily inserted along the fistulous tract from the rectum into the urethra. The fistula was found to run upward and backward and enter the membranous portion of the canal. An endoscopic examination of the urethra showed that the opening of the fistula into the urethra was smaller than that at the rectal orifice. This, together with the fact that the course of the fistula was upward and backward, accounted for the flowing of the urine so readily into the rectum, and at the same time rendering the passage of fecal matter from the rectum into

the urethra or bladder impossible. Occasionally flatus could be passed by the urethra.

On consulting the various authorities in order to determine upon the most satisfactory operation to be elected whereby to effect a cure, I found that the many articles that have been written on the subject are in the main quite unsatisfactory.

Owing to the size of the rectal orifice of the fistula, together with the position and length of the sinus, I decided against the employment of either chemical caustics or electro- or thermocautery. Not only do all authors agree that they more frequently fail than succeed, but that this method of treatment is only suitable to the very narrow fistula. The various plastic operations suggested by Sir Astley, Cooper, Desault, Duplay, Brown, and others did not appeal to me, and I decided to try an entirely different expedient than any hitherto suggested.

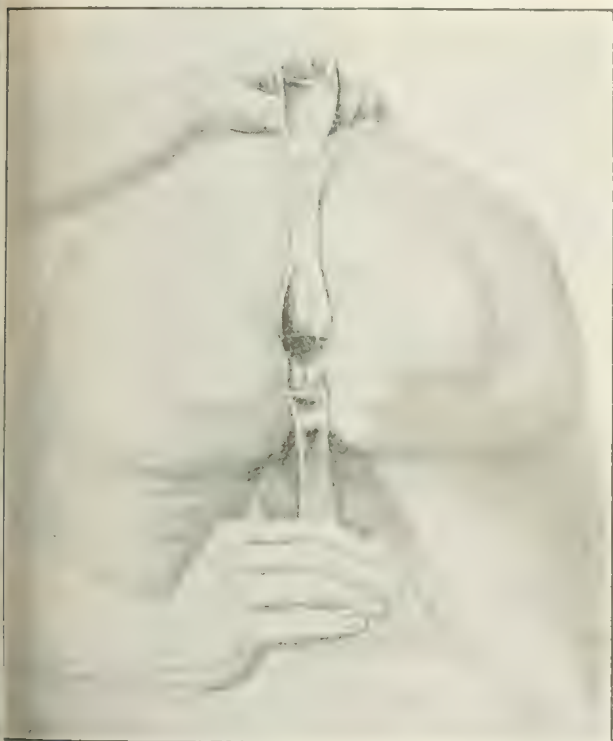


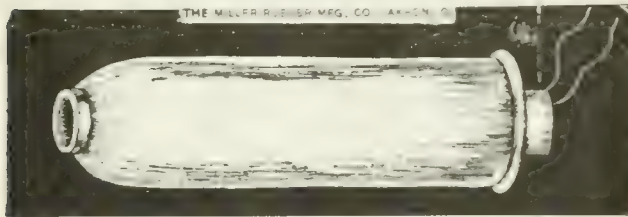
FIG. 2.—Showing filiform inserted in the fistulous opening in the rectum passing through the urethra into the bladder.

The patient was prepared for operation in the usual manner, etherized, and placed in the lithotomy position with the buttocks well elevated above the operating table. A 24 steel bougie was passed into the urethra. A horse-shoe incision was made, beginning midway between the tuberosity of the ischium and the sphincter ani at the right side across the middle of the perineum, then downwards to a corresponding point on the opposite side from which it started. The rectum was then dissected free from the surrounding tissue until the fistulous communication between the rectum and urethra had been separated. The fistulous opening in the bowel was freshened, and after a great deal of trouble the opening was closed by means of 6 silk sutures. An incision was then made in the median line of the perineum, opening the membranous urethra just as is done when performing the external perineal urethrotomy by means of a guide. This was done

with a view to freshening the edges of the fistulous opening in the urethra. The bougie was now removed and a soft rubber catheter inserted and allowed to remain in situ, thereby establishing continuous drainage. The perineal wound was packed with iodoform gauze so as to shut off all communication between the rectum and urethra. An effort was made to keep the bowels confined for one week after the operation; unfortunately on the fifth day the desire for defecation became imperative. During the bowel movement the catheter was expelled from the urethra. Unfortunately my trained clinic nurse was absent on his summer vacation and the individual on duty had had but little experience in urethral surgery, and in his efforts to insert the catheter, reopened the wound in the bowel so as to again establish the fistulous communication. For some time after this the patient suffered from a urethro-perino-rectal fistula, both urine and feces discharging from the perineal wound as well as from the rectum. Gradually the wound in the perineum closed, leaving the patient in the same condition as before the operation except that the rectal orifice of the fistula was much smaller and nearer to the external sphincter. Dr. Keen, who saw the case at this time in consultation, advised that the actual cautery be tried. Acting upon this suggestion, the patient was again placed under the influence of an anesthetic, and a preliminary suprapubic cystotomy performed in order to deflect the urine from the urethra and thus give the fistulous tract a better chance to heal. The rectum was exposed by means of a Sims speculum; the fistulous opening thoroughly seared by means of the thermocautery. The bladder was drained by means of the suprapubic opening for the space of about 3 weeks, by which time it appeared as if the communication which existed between the urethra and rectum had become obliterated. The suprapubic wound was allowed to close and for about 10 days no urine passed from the urethra into the rectum and the case was looked upon as cured. Suddenly, however, a small abscess appeared at the site of the old opening in the rectum, which, on rupturing, reestablished the old fistulous tract. The patient was sent home for a couple of months in order to recuperate before attempting another operation for his relief. On his return to the institution a third operation was performed, which proved successful.

On examination, the general condition was found to be about the same as before the second operation was undertaken. Then it was decided to attempt to close the fistula the third time by employing a method similar to that pursued when repairing vesicovaginal fistula, and known as the "American method;" that is, by denuding the margin of the opening and approximating its edges by suture. In order to place the patient in proper condition for the operation he was kept in bed for a week, he was placed on light diet, the bowels being kept freely open by means of laxatives. Continuous drainage was instituted so that the parts might become accustomed to this condition, as it was proposed to make use of this method so as to keep the wound free from the urinary discharge after the operation. At the end of 10 days the patient was placed in the lithotomy position, the sphincter ani well dilated, and the Sims speculum inserted. The anterior wall of the rectum was drawn down by means of the hemostatic forceps, the edges of the fistulous opening, as well as the mucous membrane within a quarter of an inch surrounding the orifice, were denuded. This procedure

was found difficult to accomplish, as the operation was necessarily frequently interrupted in order to control hemorrhage which obstructed the view of the field of operation. The denudation was finally completed and the opening closed by means of 5 silkworm-gut sutures, starting on the mucous membrane, a little beyond the denuded margin on one side, and passing out at a corresponding point on the other. Inserting the sutures was the most difficult part of the operation; the threads were allowed to remain about 4 inches in length, and to protrude outside the sphincter muscle. This was rendered necessary that they might be easily reached when it was desired to remove them. The bowel was irrigated with a saline solution and "Pennington's hollow rectal tampon" inserted. The tampon served not only to prevent spasm of the sphincter muscle, keeping the parts at rest, but served at the same time to protect the wound, and, what was most important, provided for rectal drainage. Had a movement of the bowel become necessary it could have taken place without pain, and the wound would have been protected from the danger of infection. By means of the deodorized tincture of opium the bowels were rendered quiescent for 7 days after the operation, when they were moved by means of repeated doses of sulphate of magnesia and a large enema of hot water. The tampon served to drain a large quantity of serum, some liquid feces, and to permit the escape of flatus during



the time it was in place. The stitches were removed on the eighth day after the operation, when it was found that firm fibrous union had taken place. The urine was disposed of by means of continuous drainage for 2 weeks after the sutures were removed. The patient was discharged cured, and has remained in perfect health ever since.

In studying the history of this case there are two points pertaining to it that attract attention. The first is the fact that as soon as the gonorrheal infection spread to the urethra the temperature rose to 103°, showing that almost at the start there must have been a periurethral inflammation with a tendency to the formation of abscess, as it is well known that in uncomplicated cases of acute posterior urethritis there are no constitutional symptoms. The second is that although the patient had a healthy rectum and sphincter ani, yet as soon as urine to the amount more or less of one ounce accumulated in the rectum, dribbling took place, keeping the parts constantly wet. This would seem to indicate that in cases of malignant disease, or of extrophy of the bladder, where resection becomes necessary, with implantation of the ureters into some portion of the intestinal canal, that it would be wiser to have recourse to the sigmoid flexure, instead of to the rectum.

My experience gleaned from this case would seem to lead to the conclusion that when dealing with a similar condition of affairs, it would be proper to keep the patient on a light diet for at least 10 days previous to the opera-

tion; the bowels to be frequently freely moved, so that they may be controlled after the surgical procedure at the same time a continuous drainage to be instituted so that the individual may be accustomed to the method of drawing off the urine, and the urethra become tolerant of the presence of the catheter. If the rectal orifice be large, and situated some distance from the sphincter ani, the operation that was resorted to primarily is considered preferable, and is recommended. It would have doubtless succeeded in this instance but for the bungling of an incompetent nurse. If the opening in the rectum be situated in the vicinity of the sphincter the plastic operation, which was here so successful, is to be preferred.

FALLACIES CONCERNING THE MENOPAUSE.

By GEO. ERETY SHOEMAKER, M.D.,

of Philadelphia.

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In the year 1779—121 years ago—John Fothergill, M.D., F.R.S., in writing a paper for the Medical Society in London, used these words: "The various and absurd opinions relative to the ceasing of the menstrual discharge, and its consequences, propagated through successive ages, have tended to embitter the hours of many a sensible woman. . . . Some practitioners, other respects able and judicious, if they have not favored these erroneous and terrifying notions, seem not to have endeavored to correct them with the diligence and humanity which an object like this requires."¹

The terrifying opinions referred to by John Fothergill were such as this: That the normal menstrual flow was an evacuation of morbid material or "humor," and that its failure to escape from the body by reason of the onset of the menopause, must be injurious, as noxious material was retained. Again, it was thought that the flow at this time had a special defiling or injurious magical influence on persons or objects.

Such views have long been abandoned by the medical profession, though large numbers of women still think that some serious disorder is liable to set in at that time of life. It would seem, in fact, that medical opinion has swung entirely too far in the opposite direction, so that at the present day, any disorder occurring near the menopause, so far from exciting the slightest apprehension on the part of physicians or patients, is apt to be entirely neglected, as though it were all in the disordered course of Nature. The consideration of fallacies regarding the menopause, prevalent at the present day, must deal, therefore, not with the terrors of the condition, but with an almost fatalistic neglect of real disease.

In large numbers of instances, where women over 50 years of age apply to the gynecologist with any sort of pelvic disease accompanied by hemorrhage, they will state that they have for a long time attributed the symptoms to the change of life and were finally driven to seek relief by the increase of the trouble. Too often they state that their physician, without making any investigation, has assigned the same origin to the symptoms. Indeed, for a period of 25 years in a woman's life, i. e., from 35 to 60 years of age, it would seem that "the change of life" is popularly supposed to cover every pelvic or abdominal symptom. To this state of affairs, rather than to any other one cause,

due the prevalent large fatality from cancer. Cases are not investigated soon enough to allow of real help. A few months ago a woman was sent for an opinion by her physician. She complained of constant severe bleeding and was about 45 years old. Asked whether she had had the change of life she replied: "Oh, I am going through that now." She had a large fungating epithelioma of the cervix, but absolutely refused operation. The first and greatest fallacy therefore is, that persistent and severe symptoms of any kind, aside from obviously nervous flashes of heat and the like, attend the normal menopause. The menopause is not a disease, nor is it attended by disease. It is simply a period of readjustment extending over a term of one, two, or three years usually, and accompanied by vasomotor disturbances and a few functional nerve-symptoms.

The view is most dangerous that uterine hemorrhage, persistent and severe, is a symptom of the menopause, and that it may be neglected on the theory that time will cure it.

The total loss of blood in a given series of months is never excessive under normal conditions. If no flow is seen for 2, 3, or 5 months, and then a single free bleeding occurs, even if the quantity is great at this one time, there is nothing necessarily abnormal. By questioning it will be learned that the total quantity divided by the total number of missed months would not be excessive for each month. There is, on the contrary, no justification for considering a flow physiological, when it recurs nearly every day, or every week, or every 2 weeks, for months, or years; nor when by comparing a number of months, say 6, it is found to be steadily increasing; nor when the total quantity amounts to 4 or 5 napkins a day for prolonged periods, and when these periods occur too often in the year. Yet this error is constantly made.

Dr. John Milton Duff questioned 482 healthy women over 52 years of age in regard to bleeding during the menopause, and found that out of this number only 39, or 8.2%, had any history of what might be called hemorrhage.²

Owing to the prevalent idea among women that hemorrhage is to be expected, they allow excessive flowing to go on for a very long time without consulting a physician. When they do finally become alarmed or suspicious, they commonly spend some months in overcoming a modest hesitancy in speaking about it. When at last they do this, it is apt to be in a casual way, and with a ready-made diagnosis that it is the "change of life coming on." This they do with the hope that the physician will agree with them, and that no examination need be made. The physician may avoid a blunder which will afterward cost him much in reputation, and his patient much in welfare, if he will at once proceed to find out definitely whether or not she is bleeding too much by methodical questions along the following lines:

a. What was the normal for that patient in early life—that is, how many days' flow? At what interval? Did she use more or less than 3 or 4 napkins per day?

b. Establish the approximate time when she left her normal, and the average flow increased. This will often lead back several years, to a miscarriage, or a pelvic inflammatory attack, and will at once increase the probability that the excessive flow antedated the menopause and has no relation to it.

c. Show that the loss of blood is or is not progres-

sively increasing, taking months or years together. If it is steadily increasing, the periods becoming longer and nearer together, a local condition involving at least the endometrium is almost certain, provided of course that the total quantities are pathological.

d. Put down in figures the dates of all recent periods for a year or more as far as the patient can remember; beginning thus: How many times were you ill last month? How long each time? *How many napkins?* How many times the month before? etc., etc. This will often bring out a history of very serious hemorrhage, into the details of which the patient would not otherwise enter, but simply say she "loses too much." It will often be found that the patient has bled almost daily for many months. That she cannot measure the quantities by napkins, but goes to bed and uses a folded sheet, that she hurries to the water closet and passes large vaginal clots followed by a gush of blood, or, as one patient expressively said a few days ago, she "could use a bucket." It may show that she has not actually missed any periods, or, worst prognosis of all, that the cessation definitely occurred and that in a year or more flowing began again. Malignant adenoma or other form of malignant disease is then almost invariably present. Such a definite investigation patiently made will usually indicate whether an examination is called for. The physician will remember that a normal period lasts 4 or 5 days. The napkins may number daily from 2 to 5 moderately wet. The interval should not be less than 3 weeks, and that any marked deviation, to be normal or physiological for that person, must extend back into the period of young womanhood.

If an examination is indicated let it be made at once, and thoroughly, as a normal cervix does not exclude cancer. Three times during the past year I have operated by vaginal hysterectomy in cases of well-marked carcinoma of the fundus uteri where the cervix appeared absolutely free from the disease, and where a superficial examination which depended only on what could be seen through a speculum would have failed to detect the cancer. Nothing can be more dangerous to the patient than deferring examination until all the classical symptoms of cancer are present, namely: odor, pain, flocculent watery discharge in addition to bleeding. By the time these have appeared operation is often useless as far as freedom from recurrence is concerned. Examine all cases which have unnatural bleeding, and do not wait.

Another fallacy is that with fibroid tumors of the uterus which are growing or causing disturbance, the patient will do well to wait for the menopause. This idea arose when the mortality after fibroid hysterectomy was over 50%. Now, when it is 6% or less, in cases without heart and kidney lesions or pus tubes, and when hemorrhage has not brought the patient to the verge of the grave, the question of operative treatment stands on a different basis. The hope that the menopause will cure the case is in itself fallacious. These patients bleed till they are 55 or more years of age, thus waiting 20 years for the menopause if they begin to wait at 35, as some do. Meanwhile they are subject to peritonitic attacks, to tube degenerations (and few fibroids are accompanied by normal tubes), and to pressure effects on iliac veins, kidney, bladder, bowel. Their heart-muscles degenerate, while anemia directly invalids them besides aggravating all intercurrent disease. Many die while waiting for the menopause. Should some survive till after a long belated

² *Amer. Jour. Obstetrics*, November, 1899.

change has stopped the bleeding, the tumor diminishes but little usually, while the secondary lesions remain. There is no regaining of robust health. The 10, 15, or 20 years of invalidism while waiting do not bring a reward of returned youth and strength.

Let it be understood that it is not claimed that small fibroids require removal when they neither grow nor bleed nor cause symptoms. It is claimed that when these symptoms are present, waiting for the menopause to cure them is usually a losing game, because the menopause is deferred and all that makes life worth living is taken away by complications in the meantime.

The moral is operate early by removal, for fibroma of the uterus which is growing, which bleeds badly, or which by complication threatens the health of the individual.

It may be partly a coincidence, but the writer fails at this time to recall a case of uterine fibroid which gave trouble during menstrual life and which was cured after the menopause; where, in other words, it paid to wait. The cases not operated upon which did well after long waiting have been small, uncomplicated tumors which did not grow or bleed. Cases which found themselves rapidly going down hill and which dared wait no longer even though more than 45 years of age, have been numerous. These briefly illustrate:

Mrs. K, aged 52, widow, Ipara. Menstruation normal till aged 41, 9 years ago. Gradually increased in quantity since, till now almost constant bleeding. Very severe hemorrhage at periods, putting her to bed from weakness at that time. Losing flesh decidedly. Unable to work on account of weakness from bleeding. Formerly a strong, industrious hard-working woman. Right foot and leg swell. Bleeding steadily worse in spite of her physician's treatment. Operation, hysterectomy for adherent fibroma extending above umbilicus. Cured.

Mrs. T, aged 52, married, Ipara. Menses scant till age of 50, then severe bleeding began. Now pale, cachectic from anemia. Hemoglobin 39%. Has lost greatly in health and weight. Mucous stools for a year, alternating with constipation. Urination frequent and painful for a year. Both legs and feet swollen badly for a year. Very short of breath on walking. No heart-murmurs. *Diagnosis:* Multiple fibromata of uterus. After getting hemoglobin up to 47%, vaginal hysterectomy by morcellation. Cured. Nine months later shortness of breath had disappeared and nearly all edema of feet, by improvement in blood. Note that this patient's bleeding began after she was 50.

Mrs. D, aged 48, has a tumor reaching above the umbilicus, which has bled till her strength is gone. Her hemoglobin is 45%. She comes for treatment during her first attack of peritonitis. Temperature 102°, pain, tympany, etc. She has bled every day for two months. Her tumor is adherent, her general appearance poor. The feet swell and there is pressure pain in the lower extremities. What but hysterectomy offers her anything? How much more it would have offered her before the anemia was extreme and before this attack of peritonitis? She is now in the Presbyterian Hospital taking mammary extract and getting ready for operation.

H., aged 48. Widow, 7 children. Strong and vigorous till one year ago when hemorrhage from fibroma began. Gradually increased till dangerous. Only a few days between periods. Severe attack of catarrhal pneumonia never fully recovered from; still coughs. Steadily increasing weakness and hemorrhage. Hysterectomy; catarrhal pneumonia again set in. Death. Her trouble began at 47, and in one year had brought her into a desperate position.

S, aged 56. One child, 7 miscarriages. Fibroma for an unknown number of years. Menopause delayed until aged 54. One year later hemorrhage began again and rapidly became severe. Shown on operation to be due to adenocarcinoma of fundus, complicating the fibroma.

The number of cases like the last which appear in the experience of most men raises the question whether the

irritation produced by the fibroma is a contributing cause of the later development of the cancer.

It is unnecessary to multiply examples where the most serious conditions have menaced the life of the patient who has a fibroma after the time of the expected menopause. Yet patients, often under advice, continue to look in vain for its help.

WOUND OF THE TRACHEA. WITH SUTURE AND UNION BY FIRST INTENTION.

By E. S. GOODHUE, M.D.,

of Honolulu, H.I.

WOUNDS of the neck in which the trachea is involved are by no means infrequent. Usually they are self-inflicted by some insane or frenzied hand, unguided by knowledge or consideration of the relation of the tissues concerned. Hence, the head is thrown back, bringing the larynx into prominence, and leaving the important vessels of the neck out of reach of a carelessly-used instrument.

In exceptional cases the tissues of the neck are completely severed—carotids, trachea, esophagus, to the vertebrae—but, as a rule, the wound is superficial, owing to the extension of the neck, cartilaginous resistance, collapse of the thorax, or want of determination on the part of the would-be suicide.

In the case of a barber, aged 57, that came under my notice, the wound was made with a sharp razor, beginning at the right ear, and passing over the suprahyoid space to the extreme left—from "ear to ear," through all the tissues of the neck, including esophagus, and causing almost instant death. The question arose as to whether such a thing could be self-inflicted, but here was the case with absolute proof of suicide.

Generally, danger from hemorrhage is not so great when the larynx or trachea are much injured, as the large vessels lie outside of the path of such a wound; but cases are reported where the cut, beginning well under the ear, passed directly over the cricothyroid space. However, wounds of the larynx may be rendered serious by spasm and edema of the glottis, inflammation, or the passage of food into the trachea.

Hemorrhage occurs freely when the soft parts lying above the hyoid bone are severed. Often there is penetration into the cavity of the mouth, allowing the tongue or epiglottis, or both, to fall over the air-passage, thus causing death; or the lingual and facial arteries are cut, flooding the trachea. But greater hemorrhage is likely to occur when the carotid or thyroid arteries, the anterior, external or internal jugular veins, or the thyroid gland, are wounded in the lower part of the neck. Here, some of these vessels are generally involved, and if the trachea is completely severed, there is great danger that the freely-flowing blood will find its way into the lungs. This condition is made more serious by the fact that the trachea, upon being cut, retracts, the ends remaining difficult to approximate, while each inspiration and expiration renders the operation still more trying. These well-known facts are supported by the following case:

At 8 A.M., Sunday, July 25, I was summoned by telephone to Waikapu, a small village two miles from Makalani Hospital where I was. In less than half an hour, I reached the spot with my assistant, Dr. Wilbur McConkey, and found there Deputy Sheriff Scott, and a native policeman, waiting for us.

Lying on her back, near the house, was a Japanese woman with her throat cut, and life extinct. Nearby was the body of a little girl of four years, her head attached to the trunk only by a narrow strip of skin in the back, while, between the two, was the murderer, Sagata, a Japanese laborer, aged 39, with an ugly cut just below the cricoid cartilage, blanched, pulseless at the wrist, but still breathing.

When the officers arrived on the spot half an hour previously, Sagata lay on his face in a pool of blood with a dagger in his throat. He was then unconscious, as he was when I arrived. We at once placed the patient on his back, while I proceeded to examine the wound, at the same time requesting my assistant to give him a hypodermic injection of aqua ammoniae fort. 20 minims, in little over a dram of water.

I found a jagged cut half an inch wide, and about one and one half inches long, just below the cricoid cartilage, the opening being stretched by the knife, upon which the patient had lain.

The vessels were not bleeding much by this time, and there was no fresh hemorrhage when I removed the clots of blood and probed the wound. The superficial tissues were all cut through, and blood still oozed from the thyroid gland. The trachea, between the second and third cartilages, was completely severed, one inch or more existing between the retracted portions.

I was surprised to find very little blood about the inner edges of the trachea, but with each expiration, mucus from the trachea, and blood from the external parts, were blown out with a whistling, puffing sound. About five minutes from the time the first injection of ammonia was given, the dose was repeated, when the patient slowly opened his eyes. I quickly cleansed the wound with aseptic sponges and forceps, twisted the ends of the few vessels that still bled slightly, then attempted to bring the separated ends of the trachea together. This was not so easily done, although I finally succeeded in making a continuous suture with chromicised catgut. I included the inner and outer covering of the tube, in this continuous stitch, then to make provision against the tendency to reaction, I tied the cartilages together with three stitches, so that the approximated edges might be held as closely together as possible. I was much hindered by the smallness of the opening of the wound, which, however, I enlarged somewhat, making it nearly two inches wide.

Sagata now opened his eyes, looked around in a bewildered way, and asked for a drink of water, which we gave him with some brandy.

I now closed the external wound upon a small drainage tube, making the stitches with silk, covered this with aseptic dressings, absorbent cotton, and bandages, when the patient was taken to the hospital. Here he was placed in a ward prepared for him, and given special day and night nurses and attendants. After careful dressing of the wound by the nurse, the patient was placed in bed with his shoulders raised, and his head moderately flexed by bandages. At this time, 3 P.M., temperature was 100° F., pulse 85. Patient was given liquid food which he appeared to relish, and his bowels were moved by an enema, while he was also given a saline laxative.

July 26, 10 A.M. Patient slept well preceding night. Bowels moved at 1 A.M. Temperature 100°. Pulse 80. Felt "maitai" (well). There was considerable blowing through the tube, with mucus and blood, so we removed the tube, inserting another in its place. Patient improved daily, his temperature and pulse gradually decreasing until August 1, when both had become normal.

The air came less and less through the wound, and the external opening closed up so quickly that I had to irritate the edges in order not to have it entirely heal up.

In three weeks the wound was healed, the patient eating, sleeping and carrying on other functions as usual.

I was curious to see the result of my suture, but did not consider that I should be justified in opening the external wound to satisfy myself, and so had removed the tube and allowed nature to do its perfect work.

About midnight, August 26th, I was called to the hospital, where I found that our patient had in some way eluded the vigilance (?) of his attendant, got hold

of a jack knife, and ripped open the old external wound, besides inflicting several slight wounds on his abdomen. He had evidently tried to do the Japanese suicide act. Then I was able to look upon my united trachea. It appeared to be as good as ever, and the stitches were fast disappearing. I at once sewed up the flesh-wound, and on the morrow we sent our patient to Honolulu to await his trial.

In the following December he was tried, found guilty of murder on one charge, and sentenced to death, which he met in Honolulu, March 28, 1898. At the trial, Mr. Dole, the prosecuting attorney, expressed his regret that the attending surgeon had seen fit to put the Hawaiian government to so much additional expense.

LEUKEMIA AND SPLENIC PSEUDOLEUKEMIA.*

By EVERETT J. BROWN, M.D.,

of Decatur, Ill.

THE object of this paper is to present two cases of the more common form of leukemia, known as the splenomyelogenous variety (one of which has just come to autopsy), and a third case of the much rarer and very interesting form of disease known as splenic pseudoleukemia or splenic anemia. It is to the latter case that I wish to call especial attention, for although now regarded as a rare disease, yet I anticipate that with the revival of interest which has been created recently in its study by the two papers of Osler,¹ and the critical summary of the literature by Sippy,² and his report of a recent case, many more cases will be brought to light, and its clinical recognition be made easier; in fact, such has already been the effect, and in the issue of the *Boston Medical and Surgical Reporter* for April 26 there appeared three articles on the subject, with the report of four additional cases of the disease.

The leukemias may be divided into two great classes: the *true* and the *false*. Of the true leukemias there are three subdivisions—the lymphatic, the splenic, and the myelogenous; clinically, however, we cannot make this sharp division, for the most commonly observed type is a combination known as the splenomyelogenous variety; of the pure myelogenous form there are only two cases on record, hence its existence may be doubted. The pure lymphatic form, although comparatively rare, is quite often observed, while the pure splenic variety, without lymphatic or medullary involvement, is also quite rare. An acute form of true leukemia is now quite frequently seen, although its proper place in the study of these blood-conditions has been hardly yet established.

Of the false leukemias, Hodgkin and Bonfils (quoted by H. C. Wood³) named two varieties: lymphatic pseudoleukemia, or Hodgkin's disease, and the lymphosplenic pseudoleukemia. Wood (1871) recognized the third variety: the splenic pseudoleukemia. The relationship existing between pseudoleukemia and leukemia is still in doubt, and it is possible that in time they will be found to be only phases of the same disease; they have the same clinical history, the same lesions of solid organs, the same general course, and differ only in the existence or absence of a marked leukocytosis with some qualitative differences in these leukocytes; this similarity, together with the occurrence of leukocytosis during the course of a pseudoleukemia,

* Read before the Illinois State Medical Society, May 18, 1900, at Springfield, Ill.

make one wonder if the diseases are not identical. There is one fact, however, that points very strongly against this supposition, and that is the effect of the operation for the removal of the spleen, which in leukemia is almost universally fatal, while in splenic pseudoleukemia quite a number of successful results are recorded.

Leukemia may be defined as a disease affecting the blood-producing functions of the body, characterized by a marked quantitative and qualitative change in the leukocytes, and by peculiar changes either in the spleen, bone-marrow or lymph-glands, or in all of these structures, running occasionally an acute, but usually a chronic course, and exhibiting a progressive anemia, a marked tendency to hemorrhages and a fatal termination. The pseudoleukemias answer in a general way to the same definition, with this difference, that there is no marked leukocytosis and no peculiar forms of leukocytes. Splenic pseudoleukemia therefore, which is especially interesting us today, on account of this revival in its study, may be defined as a primary splenic hypertrophy with a progressive anemia, without involvement of the lymph-glands and without marked increase in the white blood-cells. For purposes of comparison I will first report the two cases of true leukemia:

CASE 1.—*Spleno-myelogenous leukemia; pregnancy, with abortion at six months, followed by double phlegmasia alba dolens*—Mrs. G., aged 31; a farmer's wife; sent to me on March 14, 1900, with a diagnosis of ovarian tumor; family history negative, no malarial history; has had seven children, four living and in good health. Six months ago she noticed a "lump" in the left side just under border of ribs; it was distinct from the abdominal enlargement due to the pregnant uterus. On January 4, she miscarried at six months, and in one week developed fever, and a week later, phlegmasia in both legs, which continues to the present time. At the time of miscarriage the tumor was the size of a teacup, but since then it has increased steadily in size. No enlargement of lymph-glands. She has had recurring epistaxis, bowel hemorrhage and metrorrhagia. She is somewhat emaciated, pale, with well-marked melanoderma resembling Addison's disease. Temperature 100.5° F., pulse 100. Physical examination shows a large tumor in left side of abdomen. The dullness begins at the ninth rib in the axillary line and merges into the tympanitic sound at a point half way between the last rib and the crest of ilium; the tumor-mass extends to the umbilicus and downward to a point midway between the umbilicus and symphysis; above the umbilicus the dullness is continuous with that of the left lobe of the liver; a distinct notch is felt half way between the ensiform and umbilicus. Spleen moves vertically, not diagonally, with respiration; it is tender on pressure and the heart-sounds are transmitted through it; no bruit; heart apex in fourth space on nipple line; lung-liver border at sixth rib; sternum and tibiae tender on percussion.

Blood examination: Hemoglobin 75%; red cells, 3,600,000; white, 250,000; differential count; myelocytes, 38.5%; polymorphonuclears, 53.3%; lymphocytes, 7%; eosinophiles, 1.2%; numerous nucleated reds, some with double nuclei.

Eye examination made by Dr. S. E. McClelland shows normal vision, but a pale retina, with both fields of vision contracted.

Urinanalysis: Color, yellow; albumin, sugar, bile, indican and diazo negative; chlorids 19%; phosphates 5%; urea 2%; sediment; amorphous phosphates.

May 1. At present writing she has entirely recovered from the phlegmasia, is up and around and able to work, is taking arsenic, and appears much less anemic; spleen remains the same size giving her the appearance of a seven months' pregnancy; she has occasional slight fever, good appetite, epistaxis at times and metrorrhagia when on feet much. Her weight is 136 pounds; in health it was 165 pounds. A recent blood-examination shows: hemoglobin, 70%; white cells, 128,000; in 2,000 there are 12 nucleated reds, all normoblasts.

CASE 2.—*Spleno-myelogenous leukemia, uncontrollable priapism lasting 26 days; nearly fatal epistaxis; death from exhaustion; autopsy*—Jno. C., aged 40; farmer; seen first on September 2, 1899. Father died of gastric cancer; one sister of phthisis. Patient not well for 2 years; noticed spleen enlargement 10 months ago. Has been in bed for 3 weeks on account of the very painful priapism, which is not affected by treatment, but requires the use of the catheter and prevents sleep; a painful urethritis has now developed. Spleen occupies the larger part of the left half of the abdomen; no edema or ascites; patient is very anemic; temperature and pulse normal; no involvement of lymph-glands; no melanoderma. Urine shows a specific gravity of 1.015; albumin and sugar negative; sediment of pus-cells and bacteria.

Blood examination: Hemoglobin, 75%; red corpuscles, 2,940,000; leukocytes, 556,000. Differential count; polymorphonuclear neutrophils, 56%; myelocytes, 41%; lymphocytes, 2%; eosinophiles, 1%.

Eight months later he died; had been up and around most of the time since the attack of priapism which lasted 26 days; he had had several slight attacks of this complication before, but each time it lasted only 6 or 8 hours; at all times there was no sexual erethism. Three days before death he became totally deaf; his vision had been greatly affected for months. Duration of life after discovery of enlarged spleen, 1½ years; total period of ill health, 2½ years.

Autopsy: Eighteen hours postmortem; with the assistance of Drs. W. T. Patterson and Will. Chenoweth. Emaciation not extreme; purpuric spots on arms at site of hypodermic needle punctures; abdomen quite flat, in marked contrast to the enlargement before death; pleurae and lungs negative; pericardium contains 2 ounces of clear yellow fluid; heart not enlarged, filled with semifluid chocolate red blood, valves competent but showing on mitral and aortic leaflets patches of atheroma. Upper third of the greatly enlarged spleen firmly adherent to the diaphragm and to left lobe of liver; it is smooth and uniformly enlarged and its right border presents three distinct notches; it is 15 inches long, 8 inches wide and 3½ inches thick; longer circumference 31 inches; shorter, 19 inches; weight, 10 pounds.

Liver: weight, 7 pounds; right lobe, 8½ by 10 by 3½ inches; left lobe, 9 by 3½ by 2 inches. Left kidney floating, smaller than right. Stomach, intestines, mesenteric glands and bladder normal.

Histology: Spleen, increase of cellular elements. Malpighian bodies indistinct. Leukocytes abundant in lymph spaces and free in stroma. Liver shows slight cirrhosis; capsule thickened, with small hemorrhages beneath; lobules show chronic congestion. Infiltration of leukocytes between liver cells. Kidney: Some increase of connective tissue and atrophy of glomeruli. Hemorrhage into straight tubules. Increase of leukocytes is seen in capillaries and between the tubules.

The third report is the case of splenic pseudoleukemia previously mentioned.

CASE 3.—*Greatly enlarged spleen; profound anemia; advancing to cachexia; no leukocytosis; great ascites and edema; death from exhaustion; autopsy*—C. T., male, American, aged 54; farmer; married. First examined by me in May, 1898. His father is living at 80 years; mother died of heart disease. One brother died at 55 of some abdominal cancer; another brother is living, but has Bright's disease, and one sister is living at 55, but with anemia and some stomach-disease. He belongs to the better class of farmers, being well to do, and from a very intellectual family; his habits have been good; no alcohol, but an excessive user of tobacco; fond of condiments and a good eater; no venereal history. He had a very severe and prolonged attack of malaria 15 years ago.

Present illness: For 3 years he has not seemed well. was irritable and easily tired and at times had backache when standing; has been pale and yellow for over a year; 6 months ago he coughed or spit blood (6 or 7 large mouthfuls), and two or three times later he has done the same, but at no time was there severe hemorrhage; has dyspnea on exertion, and some heart palpitation. Edema of ankles appeared first about 4 months ago, gradually extending up the legs and into the abdomen; more or less cough exists and there is constipation. Examination: A very large man, but having lost considerable in weight; the anemic appearance is

marked. Is up and around most of the time and oversees his farm work; mind is clear and active and in spite of his forced levity one observes in him an intense anxiety as to his disease. Skin is dry and rough and subcutaneous tissues flabby; temperature normal. Pulse 70 to 90. A tumor mass (not large) is felt under the left costal border; ascites and edema considerable. I made a diagnosis of cirrhosis of the liver, from the ascites, moderately enlarged spleen, vomiting of blood, etc. On July 5 he was examined by a Chicago specialist who concurred in a tentative diagnosis of cirrhosis, but mentioned the possibility of malignancy or of pernicious anemia; the blood-count, which was as follows, excluded leukemia. Hemoglobin (Fleischl) 35%; red corpuscles 1,450,000; white corpuscles 6,300; no nucleated reds. Microcytes and macrocytes somewhat abundant.

October 24, spleen is enlarging and is felt as a large firm mass with smooth surface protruding out from under the left costal arch and extending to a point beyond the umbilicus and downward to a point within a hand's breadth of the pubic bone; it moves with respiration in a diagonal direction, its edge is easily felt and the whole tumor can be quite readily grasped with the hands and moved in a lateral direction. Urine 1.020; no albumin. I lost sight of the case for 6 months while I was in Europe, and on my return in June, 1899, all his symptoms were increased: larger spleen, more anemia, more dropsy. Four days before his death his abdomen was tapped and a large quantity of slightly pink fluid removed. Death from exhaustion. Duration of disease, two years and five months.

Autopsy: Eighteen hours postmortem. The subject, a very large man, showed a high grade of emaciation; the subcutaneous fat was greatly reduced, the subcutaneous tissues were edematous, the feet and legs were swollen and the abdomen greatly distended by the ascites and the greatly enlarged spleen. There was no decided enlargement of the lymph-glands either externally or in the abdomen. The ascitic fluid was estimated at 1½ gallons, and when held to the light in a test tube showed a slight pinkish tinge. The organs were only examined in situ, and sections removed from them for microscopic examination. The spleen was greatly but uniformly enlarged, filling the greater part of the left half of the abdominal cavity; the surface was smooth and showed no peritoneal adhesions; the small notch at right border was well marked; the liver was somewhat enlarged and presented a smooth surface and no visible signs of cirrhosis; pancreas, kidneys, stomach and intestines negative. *Histology:* Pancreas, small cell infiltration and postmortem necrosis. Liver: no cirrhosis, but localized collections of lymphoid cells in the capillaries and a moderate atrophy. Spleen: marked hyperplasia of the finer stroma, with collections of lymphoid cells throughout, similar to those in the liver. Throughout the stroma there are also numerous giant cells with nuclei arranged centrally. The above report was kindly made for me by Dr. A. S. Warthin, in Dr. Dock's laboratory at Ann Arbor.

The *Index Catalogue* gives few references under the caption "Splenic Anemia," hence the literature must be sought under several other heads, such as splenic hypertrophy, anemia, Hodgkin's disease, etc., but as far as I have been able to find there are recorded, before the case which I report today, only 51 cases of this disease. The number of autopsies is even smaller, being only 18 recorded. Sippy was able to select from the literature 7 cases in which the spleen had been removed for this disease; of these 5 recovered; since then Osler has reported 1 additional case which terminated in recovery; these excellent results lead one to hope that the operation may be established as a regular procedure in all primary enlargements of the spleen, the main contraindication seeming to be only a great leukocytosis or a far advanced cachexia.

In looking up the literature of this subject it is surprising to see how much the older writers knew on the subject and how much has since been forgotten about it; for years no textbooks mentioned the subject and several of the recent ones have nothing upon it. This

may be due to the fact as Shattuck⁶ recently said, that we are classifying away ahead of our knowledge, and that our ignorance of the so-called splenic anemia is yet great, and that it is not even a clinical entity. Musser⁹ in his latest edition on Medical Diagnosis does not mention splenic pseudoleukemia, but speaks of a secondary or so-called splenic anemia which in no case exists as a primary anemia, but which is distinguished from leukocythemia by the lesser frequency of hemorrhage, by the absence of leukocytosis and by the special characteristics of the leukocytes. As regards hemorrhage, most other observers differ from this opinion and speak of the various hemorrhages as being a special characteristic of splenic anemia. Osler gives a short article on splenic anemia in his textbook and says it is a disease characterized by great enlargement of the organ, profound anemia without leukocytosis and without the coexistence of malaria, rickets, or other states in which enlargement of the spleen is secondary. Yet in his above-mentioned report, which appeared in January, 1900, he includes 4 cases of undoubted malarial history.

Stengel⁸ in his article in the "Twentieth Century Practice" mentions *splenic anemia* under the list of synonyms for Hodgkin's disease, he dismisses the subject in a few lines by saying: "Splenic hypertrophy may be unassociated with changes in the lymphatic glands or other structures. Such cases constitute the splenic anemia of Griesinger and Strümpell, or the splenomegalia primitive of Debove and Bruhl. More commonly the splenic enlargement is followed by some involvement of the lymphatic glands, and the latter may become the more conspicuous feature of the disease." In another place he says that cases spoken of as splenic anemia are widely different in nature, some belonging to the symptomatic anemias, others being cases of Hodgkin's disease.

Sahli,⁶ in his recent *Klinische Untersuchungs Methoden*, recognizes the two pseudoleukemias, viz., pseudoleukemia lienal, and pseudoleukemia lymphatica.

Eichhorst⁷ mentions the three forms of pseudoleukemia—the lymphatic, the splenic and the myelogenous; the first being the more common, the two latter quite rare. He also refers to H. C. Wood's case in 1871.

That some obscure relationship exists between leukemia and splenic pseudoleukemia there can hardly be a doubt, but the fact that surgical intervention in the case of pure leukemia is always fatal, while in the false form it is often successful, makes one believe in their distinct entity.

Sippy gives Banti the credit for first describing the affection in such a manner as to attract the attention of the medical profession. Banti's paper⁴ appeared in 1882, and although of great value, yet it was antedated by our own countryman, H. C. Wood, who described a case in the *American Journal of Medical Sciences* in 1871. Banti gave the following definition of the disease: "Anemia splenica is a disease characterized by a progressive oligemia, arising without appreciable cause, and giving rise to grave disturbances of all the organic functions, causing edemas, hemorrhages, irregular fever and followed constantly by death, and accompanied by a notable tumefaction of the spleen and the liver, which tumefaction is independent of any preceding morbid condition and is not associated with any leukemic alterations of the blood."

A short history of H. C. Wood's case, being the first one described in America, might be of interest.

CASE.—M., male, aged 30 years. Seen in August, 1870. Had served during the last 6 months of the war in a malarial district of Virginia; no distinct malaria, but cough, diarrhea, and dysentery. On returning home he resumed his occupation of confectioner; did much lifting; bowels loose now for 3 years; also pain and dragging in left side; for 2 months gradual loss of strength and flesh. Is now pale; no fever; tongue clean; abdomen enlarged, but free from fluid. Spleen shows dullness vertically $5\frac{1}{2}$ inches, and transversely $6\frac{1}{2}$ inches; surface smooth, hard; edges rounded, tender on pressure. Liver enlarged; vertical dullness $5\frac{1}{2}$ inches; edge 1 inch below ribs; urine normal; slight edema of legs. Blood: no increase of leukocytes. The spleen gradually enlarged, the leukocytes diminished, and he finally died of exhaustion. Postmortem: Spleen 8 by $5\frac{1}{2}$ by 4 inches; color, bright red; masses of yellowish color through spleen; lymphatics enlarged in thorax and abdomen. Spleen pulp contained usual elements.

In making a diagnosis of *true* leukemia the blood-examination tells everything, while in the pseudoleukemias it furnishes only negative evidence, for as yet we have found no distinctive quantitative or qualitative change in either the white or red cells; in leukemia, however, as is well known, the leukocyte count usually passes the 100,000 mark, and lymphocytes or myelocytes are more or less abundant according to which form of the disease exists. Osler has already called attention to the remarkable attacks of hematemesis in cases of enlarged spleen, whether primary or secondary; in his 15 cases of splenic pseudoleukemia, 8 had had hematemesis; in 7 of these this was the symptom for which they sought relief, and in 2 it was the cause of death. Sippy's case had repeated epistaxis; the cases operated upon by Pean showed hemoptysis, hematemesis, hematuria, and bloody stools; in fact, in reading the histories of most cases of the leukemias one is struck with the frequency with which we find some form of hemorrhage; my case of splenic anemia had hemorrhage from the stomach, and the case of splenic leukemia which I have reported above in a woman gives a history of epistaxis, metrorrhagia, and bloody stools.

I am indebted to my assistant, Dr. C. Martin Wood, for valuable aid in studying these cases and in searching the literature of splenic anemia.

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SUGGESTIONS ON THE TREATMENT OF WHOOPING-COUGH.

By H. F. THOMPSON, M.D.,

of Buffalo Center, Ia.

WHOOPING-COUGH is an acute infectious disease, occurring chiefly in children, characterized by paroxysms of cough in rapid series, threatening suffocation, terminating by a long-drawn audible inspiration, and accompanied by more or less nasal, laryngeal, and bronchial catarrh.¹

While the exact cause of whooping-cough has always been a matter of doubt it is now generally accepted to be of microbic origin, the only question being the identity of the microorganisms. It seems fairly certain from numerous observations, both clinical and experi-

mental, that such is the case, and that the specific microorganism generates a toxin having a selective action on the center of the vagus and superior laryngeal nerves.

It has been proved experimentally that the superior laryngeal nerve is the nerve of cough, and any irritation of the areas supplied by this nerve, as the posterior laryngeal wall, just below the vocal cord, and the trachea to its bifurcation, produces most intense cough.

Von Herff,² in studying the disease as it occurred in himself, observed a marked congestion of the mucous membrane of the under surface of the interarytenoid folds, with small deposits of mucus, especially on the posterior laryngeal walls. He thought that the removal of these deposits of mucus aborted the attack. But be the etiologic factor what it may be, the fact remains that whooping-cough is essentially a self-limited disease; that the etiologic factor is self-destructing, or that it eventually succumbs to that well-known process present in all animal organisms, leukocytosis, phagocytosis, or what not, remains to be proved. The fact that for generation after generation, children have been afflicted with whooping-cough, a large percentage of them having recovered eventually without medication of any kind at any stage of the disease, proves the self-limitation of the affection.

The etiology, pathology, symptoms, and complications are of small importance when compared with the treatment. That the treatment of whooping-cough has resulted in many failures and much disappointment, is proved by the large number of drugs that have been tried. Until the etiologic factor can be demonstrated to an absolute certainty, treatment must be empirical. The symptoms as they arise, and the conditions as they present themselves, must be met and treated *secundum artem*.

It has been my good fortune to have a few cases of whooping-cough under my care of late, all of which I have treated with heroin, and it is with a view of calling attention to this drug in the treatment of this disease that this article is presented.

In heroin we have a valuable therapeutic agent which allays cough and eases respiration. It reduces the number of respirations, but increases their force and the volume of inspired air. The current literature is full of praise of its value in the treatment of pulmonary tuberculosis, bronchitis, asthma, laryngitis, and other affections of the air-passages. Aside from its almost specific effect in relieving cough, which has now been fully established, heroin also exerts a distinct influence in allaying dyspnea. The first to call attention to this action of the drug was Professor Leo,³ who employed heroin in various conditions attended with dyspnea, and found that it acted promptly and without the least depressing action upon the heart.

As to the use of the remedy in the treatment of whooping-cough, I find that Dr. A. Holtkamp⁴ reports 5 cases in children of 2 to 7 years of age. The drug was given guardedly in doses of $\frac{1}{150}$ to $\frac{1}{135}$ of a grain, usually three times daily. Under its administration the attacks were diminished both in severity and frequency. Floret⁵ describes three cases of whooping-cough in children respectively 3, 4, and 8 years old. The doses administered varied from $\frac{1}{15}$ to $\frac{1}{16}$ grain. It was always well tolerated, and rendered the attacks much more infrequent and less violent. There was also improvement of the general condition of the patients. In two other cases referred to by the author

the remedy failed to act, which is attributed by him to the administration of too small doses. Medea⁶ found heroin less useful in whooping cough than in other affections of the respiratory tract. On the other hand, Manges⁷ states that whooping-cough has been very favorably influenced by heroin. The drug was very well borne, and the paroxysms were shortened in 25 out of 33 cases.

Heroin has been found to be beneficial to a greater or less extent in all stages of pulmonary affections, but the best results were obtained in the more acute cases, in which it promptly produces free expectoration and freedom from cough and pain.

Referring to the statement made by von Herff that the removal of the deposits of mucus on the posterior laryngeal wall aborted the attack, the action of heroin renders this removal easier, by allaying spasm and causing the mucus to be more easily expectorated. Thus, in a nutshell, we find explained the beneficial action of heroin in whooping-cough. The mucus accumulates on the posterior laryngeal wall supplied by the superior laryngeal nerve (the nerve of cough), irritating this nerve and producing most intense cough. If these paroxysms can be aborted by the removal of the mucus from this area, we render the patient less liable to fall a victim to the serious complications of the second stage, and from the antispasmodic and expectorant qualities of heroin we get the desired results.

CASE 1.—A. V., aged 20 months, was first seen April 2, 1900. She had a severe cough, ending with a characteristic "whoop," and usually accompanied with vomiting. Temperature 101° F. I gave heroin, $\frac{1}{8}$ grain, every four hours, and ordered warm baths for the temperature. April 3, the patient coughing less, but quite drowsy. The bowels not having moved, hydrarg. chlor. mit., $\frac{1}{4}$ grain, was administered every three hours until 1 grain had been given. Heroin was continued for 4 days at intervals of 4 to 8 hours, with complete disappearance of the cough, and no unpleasant complications.

CASE 2.—James G., aged 4 years, had been suffering with pertussis for 4 weeks prior to coming under notice. I was told by his father that he had been very bad. He had learned to assume a position on his knees and hands when the paroxysms came on. He had several attacks each day, and seemed to be worse at night. Heroin, $\frac{1}{24}$ grain, was given every four hours for several days, with a rapid amelioration of the symptoms.

CASE 3.—Mrs. G., mother of patient in Case 2, said that she took several doses of the heroin at irregular intervals, and was benefited very much. She had a severe attack of pertussis, and, like her son, suffered most at night. The symptoms subsided, and she is now entirely free from the cough.

CASE 4.—Lloyd C., aged 15 months, had been suffering with spasmodic cough for 3 months, and vomited several times daily. He was given heroin, $\frac{1}{24}$ grain. Four doses stopped his cough for several days. July 3, he had another attack with vomiting. Heroin ordered to be continued, $\frac{1}{24}$ grain, three times daily, the result being prompt disappearance of all symptoms of whooping-cough.

CASE 5.—M. C., father of patient in Case 4, aged 27, began taking heroin, $\frac{1}{24}$ grain, after having pertussis one week. He had been unable to sleep because of the almost constant cough, accompanied with severe retching. He was given the first dose at 6 P.M.; took another at 10 P.M., and experienced relief at once. In all he took 6 $\frac{1}{24}$ -grain tablets, and is entirely free from cough and sleeps well.

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RE-EXPANSION OF THE UTERUS IN LABOR.

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I HAVE come to the conclusion that *the parturient womb during any stage of labor and for a few hours thereafter can be expanded to about the same size as it was when labor began.* This was demonstrated as early as 1884.

When I had arrived at this conclusion, as a process of reasoning and investigation, I had occasion to try it in practice, and I have repeatedly demonstrated at the bedside its practicability, when necessary. An appreciation of the importance and truth of the foregoing proposition enables us to open a very valuable field of practice and introduce a number of exceedingly valuable and important procedures or operations based on

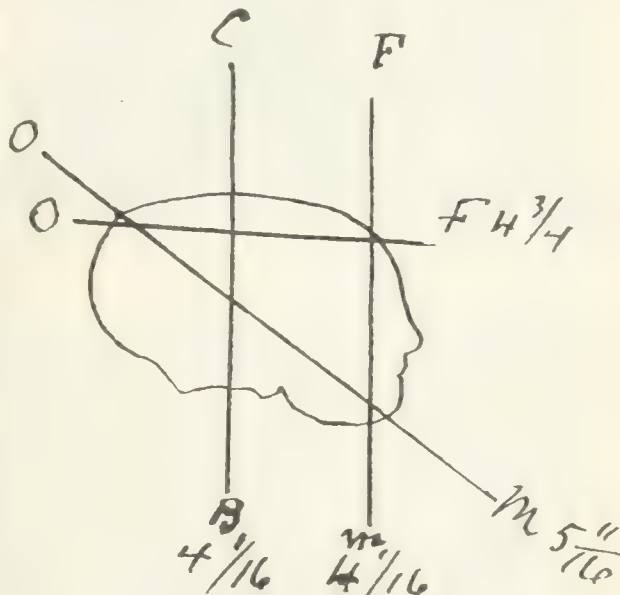


FIG. 1.—Actual measurements of child delivered.

it. These will be referred to in the treatment of the complications and malpositions in which they are applicable. We have been taught that the forces of parturition when thoroughly aroused and in vigorous normal action can not be stayed by the hand of man to any great extent; that the contracting and expulsive efforts of nature force the child with progressive energy against the superior strait or into the pelvis with great power and firmness, and that as a rule with the exception of a brief period after the escape of the liquor amnii, little can be done in the way of releasing and manipulating the impacted head. Nevertheless from extensive observation, I believe that the uterus can be re-expanded, and the child's head returned above the superior strait, and converted into a favorable position from any unfavorable one, thus frequently avoiding craniotomy or cesarean section. This becomes more important when we consider that podalic version is seldom justifiable, for a head that can not be delivered by the vertex, when presenting, cannot be delivered by the feet.

METHOD OF REEXPANSION AND RETURNING THE CHILD'S HEAD.

We will suppose, for instance, an extreme case in which the head has passed through the superior strait, and has become impacted low down in the pelvis in such a position that it cannot escape through the inferior strait. Anesthetize the patient, bring the hips close to the edge of the bed, elevate them well above the level of the patient's shoulders and put an assistant in charge of each leg. Having bared and sterilized your



FIG. 2.

arm and hand, and applied sterilized cosmolin, begin making firm pressure with the palmar surface against the presenting portion of the head in the direction of that portion of the axis of the pelvis occupied by the head; return it by exactly the route and flexions that it came, making firm, steady pressure between the pains and holding every fraction of an inch gained when the pain comes on until it is over. It will be found to give a little between each of the pains. The process is often a long and laborious one, and since the hands and arms are apt to tire out, advantage must be taken of each opportunity to rest them without losing ground, such for instance as propping the elbow against the knee, and foot against the wall, or in any other manner to take the strain off the muscles, and by occasionally changing hands or being relieved by an intelligent assistant. The womb will not only begin to elongate upwards, but will seem to relax its efforts, so much so, that the nurse standing by will sometimes exclaim "the pains have left her," thus, gradually the head returns above the superior strait, making room for all purposes. You can now pass your hand around the child's head in all directions, and absolutely confirm your diagnosis of the position, removing the cord from its neck in the womb, if necessary; or turning the body of the child, you can firmly grasp the head and turn it in the desired direction, assisted by the other hand on the outside of the abdomen.

TREATMENT OF FACE PRESENTATION WITH THE CHIN POSTERIOR.

This most hopeless and dreadful condition unfortunately is of frequent occurrence and has heretofore baffled obstetric science; Professor H. L. Hodge, mas-

terful in the principles of practice, summed up the situation in the matter up to his time (1864) as follows: M. Caseaux, also, denies the possibility of deliveries, under these circumstances, "at term," and he considers them as constituting one of the most serious difficulties of the obstetric art. In truth, the child and mother would perish without scientific assistance.

Should, however, the head be comparatively small, and the perineum greatly relaxed, spontaneous delivery, with the chin posterior is said to have occurred in the practice of Smellie, DeLamotte, Guillemot and others. This process, however, is greatly resisted by the pressure of the chin against the posterior perineum; and it cannot be fully accomplished without such distention of the perineum as to allow the whole occipito-mental diameter, measuring 5 inches, to intervene between the perineum and the symphysis pubis.

It is evident, therefore, that no such deliverance can be effected, unless the child's head be unusually small, and the soft parts relaxed.

When the usual natural proportions exist of mother and child Professor Hodge found it necessary to resort to craniotomy which was at that time preferable to cesarean section.

Nor has there been any improvement in the treatment of this presentation promulgated by any of our authorities up to the present time: Lusk disposes of the subject in 1893, important as it is, in these lines, viz: "In mento-posterior the rotation of the chin to the front by repeated applications of the forceps is inadmissible. In



FIG. 3.

practice such efforts do not succeed, while they are calculated to inflict injury upon both mother and child. Usually, if delivery becomes necessary because of danger to the mother, craniotomy should be resorted to."

Grandin and Jarman, whose excellent work has recently been issued, say: "If the chin is turned posteriorly and the head is wedged in the pelvic outlet, there is little probability that a living child can be extracted, that it seems to be part of conservative treatment to turn the attention to the welfare of the mother and do

craniotomy, or, in favorable cases, symphysiotomy." (Obstetrical Surgery, page 87.)

The most recent writer, G. Ernest Herman, advises to make an attempt to twist the chin around to the front, as follows:

"Grasp the face with the thumb and forefingers. Turn it around by the shortest route so as to bring the chin to the front. At the same time, with the hand on the abdomen, press the anterior shoulder in the same direction." Failing in this he advises craniotomy.

In an attempt to turn the chin around to the front, which should be tried, you must remember what is usually lost sight of in this presentation, that the axis of the upper vertebrae of the neck is at a right angle to the axis of the trunk and lower cervical vertebrae.

It seems to be universally admitted by the profession today that the presentation under consideration generally means death to the child or cesarean section in some of its forms for the mother. It is, therefore, with profound respect for other authorities and deference to the profession that I venture to take a different position and offer a more satisfactory solution of the problem not only theoretically but by practical demonstration. Applicable also to similar presentations, it is simply this: Push the head up out of the pelvis and convert it into an occipitoanterior presentation of the vertex, according to the rules given above under method of reexpansion of the uterus and returning the child's head. To prove the possibility of doing this let me cite the following typical case:

Mrs. — was taken in labor on October 9, 1884, it being her seventh confinement; all the others being normal, she was attended by a midwife as had been her custom. After being in labor 3 days Dr. G. W. Henry was sent for; after 4 hours' work finding delivery impossible he sent for his associate, Dr. Jesse Wills. After 4 more hours of fruitless endeavor in which strenuous efforts were made to perform version; to rotate the chin forward, and also to pull the child through by main strength and the forceps, under ether, I was sent for. I found the woman still in vigorous labor; she was medium-sized, and of normal proportions; her general condition was good considering the length of time she had been in labor. Locally the parts were swollen and congested; the membranes had been ruptured 24 hours and the water had escaped. The head of the child had passed through the os and was firmly impacted in the pelvis, chin in the hollow of the sacrum. One of the eyes was greatly swollen from efforts at assistance. The child was alive and above the average in size.

I had the patient placed under the influence of chloroform and found that I could not rotate the head to the front nor deliver by the application of the forceps and downward traction.

I then explained to my colleague what I proposed to do, and proceeded in detail as in reexpansion of the uterus. In one hour I succeeded in raising the chin out of the pelvis, flexing it to the sternum, and delivering with great ease in the O. A. position, vertex presentation. Below are given the dimensions of the head. The child, a fine-looking boy weighing a little over 10 pounds, is living and well, and the mother also.

This method has the superlative advantage of saving the life of the child with less risk to the mother than any other procedure.

Intestinal Catarrh of Infants.—Cohn (*Annals de Médecine et Chirurgie Infantile*, No. 24), in speaking of the employment of silver nitrate in intestinal catarrh of infants, prefers **protargol** in children that are anemic, more advanced in age, and with sensitive stomachs. [M. R. D.]

THE DISINFECTION OF INFECTED TYPHOID URINES.²

By NORMAN B. GWYN, M.B.,

of Philadelphia.

In previous communications I have spoken more fully on the presence of typhoid bacilli in the urines of typhoid-fever patients. Let me briefly review the work which seems to make imperative the disinfection of all such urines, unless proved bacteria-free by careful bacteriologic examination. As early as 1881, Bouchard claimed to have isolated typhoid bacilli from the urines of 50% of cases of typhoid fever; other writers, Hueppe, Seitz, Konjajeff, Karlinski, Neumann, Borges, de la Faille, gave less alarming but positive results. Blumer, Wright, Besson, and Petruschky confirmed the work of the earlier workers, while T. R. Brown, Houston, Horton Smith, Richardson and myself have contributed to the subject within the last 2 years. In this country, Richardson's important collection of 25 cases, and my own 10, show how frequently typhoid bacteriuria may occur.

The general conclusions deducible from most recent investigations may be thus tabulated:

1. In from 20% to 30% of cases of typhoid fever typhoid bacilli may be present in the urine.

2. When present they are usually in pure culture and may be so numerous that the urine is turbid when freshly voided, one of Petruschky's cases showing 170,000,000 bacilli in 1 ccm. of urine; one of our own showing 500,000,000 per ccm.

3. Appearing generally in the second and third week of illness, the organisms may persist for months or years. In Houston's case the bacilli had been for 3 years in the bladder, in one of our own bacilli were found in the bladder 3 and 5 years subsequent to the attack of typhoid fever.

4. Though often showing evidence of cystitis and marked renal involvement, the urine containing bacilli has usually only the characteristics of a simple febrile urine, the presence of the bacilli has no prognostic import, and they may persist for some time without causing local change, multiplying in the urine which remains persistently acid.

The danger of infection from infected typhoid urine must be clearly evident from these facts, if one but remembers that a few drops carelessly spilt may mean, and often does mean, the distribution of millions of typhoid bacilli. The daily number voided in cases in which 170 or 500,000,000 organisms are present in a cubic centimeter, is beyond comprehension.

It is more than probable that urine, by reason of its apparent harmlessness, plays and has played the most important part in the spread of typhoid fever, and, unless we can prove that a patient's urine is free from infectious material, we commit a great folly in letting it be disposed of without disinfecting it, especially when we systematically disinfect the feces, in which the number of typhoid bacilli is small as compared to the number in the urine. When we consider also that many cases may go on distributing the millions of bacilli daily for months, and sometimes, as in the above-mentioned cases, for years, the seriousness of the problem is apparent.

Recently I have investigated the ordinary methods of disinfecting excreta, endeavoring to ascertain the minimum amount of disinfectant necessary for com-

²Read by invitation, October 24, 1900, before the Philadelphia Academy of Medicine.

* Read before the Michigan State Medical Society, at Mackinaw, July, 1900.

tion was greater than that of diphtheria, croup, typhoid fever, scarlet fever, measles and smallpox combined. The fifty-seventh annual report of the Registrar-General of Great Britain shows that the annual death-rate from tuberculosis for the 20 years preceding was something over 67,000. According to the census report there were 103,188 deaths from consumption in the United States in the year 1890. However, owing to the fact that thousands of cases of tuberculosis recover every year, and that many who have the disease die from other causes, and also because many cases are not diagnosed during life, it is only by postmortem examinations that we get anything like a correct estimate of the extraordinary prevalence of this disease in the human race. Such examinations show that consumption is much more common than it is generally supposed to be. In 4,250 successive autopsies in Breslau in 1893, gross macroscopical lesions of tuberculosis were found in 1,392, or about one-third of all cases coming to the postmortem table from all causes. Biggs, of New York, found characteristic lesions in the lungs alone of 60% of his autopsies, and Vrouardel found microscopic evidences of tuberculosis in 75% of his cases at the Paris morgue. Since many cases show lesions that can be seen only with the microscope, it is evident that we can scarcely overestimate the frequency of the disease. Exceedingly interesting statistics on this point are contained in an article by Otto Naegeli in the May number of *Virchow's Archives*. From the results of 500 autopsies made between November, 1896, and March, 1898, in the Pathological Institute of Zurich, he concludes as follows:

1. Tuberculosis during the first year of life is very seldom found.
2. From the first to the fifth year it is infrequent, but almost regularly fatal.
3. From the fifteenth to the fourteenth year one-third of all bodies are found to be tuberculous.
4. From the fourteenth to the eighteenth year tubercular lesions, active or latent, are found in one half of all autopsies.
5. From the eighteenth to the thirtieth year 97% of all sections show tubercular changes.
6. After the thirtieth year, on careful search, indisputable evidence of tuberculosis is found in over 99% of all autopsies.

Surely Osler is right when he says that epidemics are the only great sanitary reformers. Two thousand eight hundred and twenty-six times as many people died from tuberculosis in the State of Michigan in the year 1898 as from smallpox, yet a single case of the latter disease will arouse a whole community, and 25 mild cases of smallpox, with 2 deaths, such as we had in Grand Rapids recently, will almost give a city of 100,000 people hysteria. But no comment whatever is excited by the fact that 117 people died from consumption in Grand Rapids during the past year, being two and a half times the combined deaths from all other infectious diseases. Here, then, is a disease which is constantly with us, manifestly transmissible, and which attacks at one time or another almost every member of the human race, but concerning which the medical profession shows a neglect of sanitary laws which is almost criminal.

A point of interest in this connection, however, is that there seems to be throughout the world a gradual decrease in the death-rate from tubercular diseases, and the results of Naegeli's autopsies show that a large per-

cent of cases recover. His conclusions on this point are as follows:

1. Before the eighteenth year recovery from tubercular lesions is infrequent.
2. In the third decade one-fourth of all cases show tubercular changes that have completely healed.
3. In the fourth decade two-fifths of all cases show lesions in which recovery has taken place, and from then on the number of healed cases gradually increases until it reaches three-fourths of all cases at the age of 70 years.

In England, from 1851 to 1895, the mortality from all forms of tubercular disease was reduced 45%, and from the *pulmonary* form the disease in mortality was still more remarkable for the same period, being about 48%. In Scotland, between the 5 years 1870-74 and the 5 years 1890-94, the decline in the death-rate from tuberculosis amounted to 41%. In Massachusetts the mortality fell from 42 per 10,000 inhabitants in 1853 to 21.8 per 10,000 inhabitants in 1895. A somewhat similar decline in the death-rate from consumption has taken place in New York City, *i. e.*, from 3.79% in 1886 to 2.58 in 1896. Coming to our own State, we find that the number of deaths from consumption has diminished from 112.1 per 100,000 inhabitants for the 5 years 1870 to 1874 to 97.3 per 100,000 inhabitants for the years 1892-96, this being the last group of 5 years the statistics of which are as yet available for comparison—a decline of 12.2%.

But this remarkable reduction in deaths is not limited to tubercular diseases, for statistics show that the mortality from all sorts of infectious diseases has decreased in recent years all over the world. In Michigan the mortality from scarlet fever for the last 20 years has diminished 90%, from typhoid 43%, measles 60%, smallpox 70%, and whooping-cough 44%. There is, however, one striking exception to the decrease in the death-rate from tubercular affections, *i. e.*, *tabes mesenterica*, a disease to which infants are peculiarly susceptible. Between the years 1851 and 1895 the mortality in England from this disease for people of all ages diminished almost one-half, but for the same period for infants under one year of age it increased no less than 27.7%; and while, as just stated, in the State of Michigan the mortality from consumption has diminished 12.2% for people of all ages during the years 1870-96, that from *tabes mesenterica* increased 80% for infants under one year of age. It is quite likely also that a good many deaths from this disease are ascribed to marasmus, chronic gastrointestinal disease, malnutrition, weakness, etc. The great prevalence among infants of this disease is also shown by the frequency with which its lesions are found in postmortem examinations. In an analysis of 127 fatal cases of tuberculosis in children by Ashby & Wright, *tabes mesenterica* was found in 79%. In Woodhead's 177 cases of fatal tuberculosis in children, disease of the mesenteric glands was found in 100. In 155 autopsies on tuberculous children dying in the Manchester Children's Hospital it was found that the lungs were affected in 91% and the mesenteric glands in 65%. A careful examination was made to determine as nearly as possible by which road the infection had gained access to the body, and the conclusion was reached that in at least 50% of the cases the lungs or bronchial glands were first affected, and that in at least 12 or 13% the abdominal organs were primarily affected, making it probable that the disease obtained access to the body

through the intestinal canal. Purban states that in 165 cases of peritoneal tuberculosis examined after death, 53% were attributed to intestinal infection. As a considerable proportion of children suffering from tubercular peritonitis or disease of the mesenteric glands recover, these figures do not adequately represent the proportion of children so affected.

This great increase of tuberculosis of the intestines and adjacent glands in children at a period of life when the powers of resistance of the organism are at their lowest is very suggestive of the existence of an infective agency in children which is not found in adults, and as the only vehicle by which primary tubercular infection can be conveyed to the digestive tract of infants is found in their food-supply, we are forced to the conclusion that milk, which forms such an essential part of the food of infants, is to them a frequent source of infection. Moreover, the last few years have demonstrated that tuberculosis is common in dairy cows, and more particularly in Jerseys. Of 4,093 cattle in Massachusetts tested for tuberculosis, 1,081, or 25%, reacted positively to tuberculin. These were killed and anatomical evidences of tuberculosis were found in all but 2. Amongst dairy cattle, at the present time, it has been estimated that at least 25% are more or less affected with tuberculosis. This estimate is based upon the results of postmortem examinations of herds of cattle which have been slaughtered under the pleuropneumonia regulations in England and of observations made in public slaughter-houses. Where the tuberculin test is used the percentage of animals affected is considerably higher. Tubercle-bacilli are *generally* found in milk when tuberculosis of the *udder* is present, and such milk is said to possess a virulence which can only be termed as extraordinary. The experiments of the Royal Commission of 1890 in England are exceedingly interesting in this connection. When guineapigs are fed on meat which was intentionally contaminated with tubercle-bacilli, only a few developed the disease, but when they were fed milk from tuberculous udders all became infected.

The milk of an animal suffering from tuberculosis may also contain tubercle-bacilli and be capable of communicating the disease when no demonstrable disease of the udder is present, and bacilli are no doubt present in a fair percentage of milks on the market. Obermüller found that 10% of guineapigs inoculated with ordinary market milk became tuberculous, and 30% of those inoculated with ordinary market cream. In many instances the udder shows no perceptible disease; in fact, tubercular disease in such a bulky organ may be impossible of recognition on physical examination, and in its early stages is most difficult to diagnose. Nor does an examination of milk for bacilli present an infallible solution of the problem, for they may be present at one time and absent at another. Sidney Martin examined the milk of 5 cows which turned out to have tuberculosis of the udder, and could find tubercle-bacilli in but 3. Fifteen test animals were fed with the milk that contained bacilli, and tuberculosis was produced in each one; the milk of the 2 cows which had tubercular udders, but in whose milk no tubercle-bacilli could be demonstrated, was fed to 12 test animals, and 4 of them developed tuberculosis.

Tubercular bacilli have also been found in butter and cheese. That gastric juice exerts any influence upon them under natural conditions is extremely doubtful, as these organisms can resist it from 5 to 6 hours out-

side the body. Under natural circumstances the bacilli would have a still better chance of escaping unharmed, the gastric juice being diluted and the bacilli being often coated with food and more or less protected in this way.

I wish also to call attention to the possibility of contracting other forms of tuberculosis than the intestinal from infected milk. Welch states that postmortems show that 40 to 80% of all cases of pulmonary tuberculosis have also intestinal disease. Nor is it possible in all cases to tell which is the primary and which is the secondary lesion. He also says that tubercle bacilli may enter the body without leaving behind any lesion at the point of entrance. Hence, is it not impossible to deny that a much larger proportion of cases of the pulmonary forms of the disease may be due to infection from the gastrointestinal tract than is commonly supposed?

In view of these facts does it not seem that the State which does so much to prevent the spread of other infectious and communicable diseases should do more to limit the spread of this fatal disease by preventing the sale of milk from tuberculous cows?

The exclusion from dairies of every cow which has demonstrable disease of the *udder* only would form some approach to security; but as tubercle bacilli have so frequently been found in the milk of cows which are free from udder disease, and as such disease is so difficult of recognition in its incipency, I believe that all cows responding to the tuberculin test are possible sources of danger, and that the sale of their milk should be prohibited. The State should pass laws compelling the systematic inspection of all dairies and cowsheds within its borders, and of all animals whose milk is placed on sale. Regular tests with tuberculin should be made, and the sale of any milk from a dairy wherein a tuberculous animal is found should be prevented by a prohibitive penalty until such animal is excluded from the herd.

This does not mean by any means that all such animals should be slaughtered, for the method of treating tuberculous herds which has been worked out by Professor Bangs, the Government Veterinarian of Denmark, and which has been thoroughly tried in that country as well as in parts of our own, shows that the disease can be "weeded out" in a practical manner. The sale of reacting animals should be prohibited, except for immediate slaughter, which should be done under authorized veterinary control, it often being possible to use the meat under certain conditions. Neither statistics nor experience would seem to indicate that tuberculosis is communicated to any great extent through the agency of meat, for the greatest diminution in the death-rate from tubercular disease occurs at those ages when meat is most largely consumed, and we know that tubercular deposits are very seldom found in those portions of a carcass which are sold for food. It has been found that only rarely does the tubercle bacillus lodge in the muscular substance of a carcass, and, providing the organs containing the tubercular deposits are destroyed, the meat itself may be sound.

For a long time it was believed that the only effective way of preventing the spread of tuberculosis in an infected herd was to slaughter all animals that reacted to the tuberculin test, but it is now known that animals affected in the earlier stages, which are kept under favorable hygienic conditions, will live frequently

for years without the disease making any apparent headway, and the progeny of such animals is scarcely more liable to tuberculosis at birth than that of non-reacting animals. Such calves have in all cases at the Wisconsin Agricultural Experiment Station stood the tuberculin test without reaction, showing that tuberculosis in cows is contracted *after* birth, rather than *inherited* from diseased mothers. If such calves are removed from the infected atmosphere, placed under good hygienic surroundings and fed on milk free from tubercle bacilli, they will not show any taint of disease. Treated in this manner, the labor of years spent in careful and selected breeding and the large money values involved are not needlessly destroyed.

To one who is at all familiar with the ordinary country dairy it is evident that some supervision of the construction and management of cowsheds is a reform which is urgently called for, as experience shows that the amount of tuberculosis in cows is very materially diminished by sanitary surroundings, and I am very glad to say that the State Board of Health of Michigan is required by law to pass upon the plans and specifications of all buildings wherein cows are kept in connection with all State institutions.

Moreover, inasmuch as tubercular infection in cows is supposed to take place mainly through the inhalation of dried sputum, no individual suffering from pulmonary consumption should be employed in any capacity in or about barns, dairies, or milk wagons.

Tubercle bacilli are very seldom inherited. The germ may pass from a tuberculous parent into the body of a fetus which may then be born with a tubercular lesion, but this has been seen so rarely that it simply enables us to affirm that the inheritance of the bacillus is not impossible. Osler says that there are now about 20 cases of congenital tuberculosis in man on record. So that for all practical purposes the sanitarian is bound to consider that tuberculosis is not an hereditary disease, but that every case arises under circumstances which can in a great majority of instances be theoretically if not practically prevented. In this connection I wish to quote the conclusions of the recent congress of experts at Berlin.

1. Tuberculosis is a communicable disease, due to Koch's tubercle bacillus acting on an organism prepared to receive it or unable to resist the bacilli when present in large numbers.

2. Tuberculosis is not to any great extent hereditary.

3. Tuberculosis may be prevented by removing the source of infection, by improving the environment, and by strengthening the individual.

4. Tuberculosis in many of its severe varieties can be cured.

These propositions may now be accepted as scientific truths. In certainty they may take rank with the laws of gravitation.

Although tuberculosis itself is seldom hereditary, there is a certain type of structure which has marked hereditary characteristics on account of which feeble resistance is offered to the invasion of the tubercle bacillus. The relative importance of the *soil* as compared with the *seed* has been much discussed. In times past, before Koch's discovery, the tuberculous or strumous diathesis derived from inheritance was considered to play a very important part in predisposing to tuberculosis, and we are now also certain that such is the case. Experience teaches that vulnerability or predisposition to consumption runs in families. The

same is true of measles, scarlet fever, and other infectious diseases. This individual or family susceptibility may be either inherited or acquired, and it is not always easy to distinguish between the influence exerted by heredity and that exerted by bad food, exposure to cold, foul air, and other conditions which lower vitality and render the individual a ready prey when infected.

There can be no doubt that some infectious diseases, as measles and whooping-cough, predispose to tuberculosis by rendering certain groups of lymphatic glands, such as the cervical and bronchial, a suitable soil for the propagation of the specific bacillus. Predisposition may pertain to the individual only or to an entire race, and it is well known that tuberculosis at the present time is much more prevalent among the colored people of the South than among the whites.

The communicability of pulmonary tuberculosis is now so thoroughly established and so generally recognized by the medical profession that I will not take up your time with any arguments upon this point. Statistics show that about three-fourths of all deaths from tubercular disease are due to consumption, and it is generally believed that almost every case is caused by the inhalation of tubercle bacilli, the most frequent source of which is the expectoration of consumptive individuals. Sir William Broadbent echoes the sentiments of sanitarians throughout the world when he says that the prevention of the spread of consumption from persons suffering from the disease resolves itself into the destruction of the sputum, which we know retains its virulence for long periods of time. Outside the body the bacilli are found most frequently in the dust of rooms which have been frequented by tubercular patients, and it has been repeatedly shown that dust collected from hospital wards, asylums, prisons, hotel bedrooms, private houses, etc., where consumptives have been, is capable of producing the disease in animals. Such dust may retain its power for producing tuberculosis for weeks or months. In ordinary breathing the expired air is free from bacilli; when talking, however, there is an invisible spray constantly emitted from the mouth which has been shown to contain tubercle bacilli. This is more apt to be the case in forcible talking, hawking, spitting, etc., and Flugge thinks this spray is a greater source of danger than the dried sputum. Experiments made by directing a fine spray containing bacilli towards the nostrils of animals have produced tuberculosis in them, and some weight should be attached to this point. But tubercular sputum sprayed into the air in this manner subsides at once, and could only infect when coughed into the face of someone and actually mixed with the inspired air. Otherwise the sputum must be dried and broken up into dust in order to be inhaled.

The most important sanitary measure of value in the prophylaxis of pulmonary tuberculosis, but I do not believe that proper measures for the suppression of this disease can ever be enforced until the public in general, and especially that portion of the people who either has the disease or is intimately associated with those suffering from it, become properly educated on the subject. And here I wish to state emphatically that I do not mean *alarmed*, but *educated* in a rational way; and it is for the purpose of enabling this to be done that I believe the State should insist upon the compulsory notification of every case of tuberculosis within its borders. If good is to be accomplished, it is not to be by starting a panic, but by giving the people such a knowledge of

this dangerous disease that they will know themselves exactly wherein the danger lies. It should be impressed upon them that this is principally in one direction, namely, the sputum. It should be constantly kept in mind that it is the sputum, and the sputum alone, that is chiefly concerned in the spread of consumption.

I think there is too great a tendency to the use of the word "contagious" in this connection, as it gives rise to needless alarm. The word transmissible or communicable is much better and is far less disturbing to the public. The minute you use the word "contagion" in connection with a disease, the mental image formed is always that of *acute* contagion such as exists in smallpox, scarlet fever, measles or mumps. But consumption differs from these diseases in this important particular, that whereas in the latter infection is almost entirely beyond the control of the patient, in pulmonary tuberculosis it is limited to the sputum, the disposal of which can very easily be controlled.

While consumption is always the result of infection, it is far less readily communicated than the diseases just mentioned which are transmissible from individual to individual by immediate or direct contact, and for which the word contagion should be reserved. The popular idea of a contagious disease is one from which there is no sure escape except by keeping away from it. When you proclaim a disease to be contagious the people will pay no attention to the conditions of safety which you may lay down, and social ostracism is sure to follow. Isolation, however, or any form of personal restraint upon consumptives who will faithfully carry out the few simple measures for rendering their sputum innocuous, is entirely unnecessary, for with these precautions there is practically no danger from even *intimate* association with such people.

The most certain method of getting correct information as to the etiology, dissemination, and prevention of consumption into the hands of the people who most need it, is for each and every case of tuberculosis to be reported to those whose business it is to look after the sanitary affairs of the State. As far as *immediate* prevention itself goes, the notification of the pulmonary form of the disease alone would suffice. Several forms of tuberculosis, such as hydrocephalus and meningitis, cannot be called infectious in any sense. Neither can tuberculosis of glands, bones, and joints communicate the disease until a discharge is established. But in order to enable us more thoroughly to study its life-history and manner of dissemination, all forms of tuberculosis should be brought to the notice of the health authorities.

The people must be taught that consumption is by no means a necessarily *fatal* disease, but that on the other hand, the large majority of cases, if taken in time, can be cured. It is to the interest of both the patient and his healthy neighbor that the former be informed of these facts. Postmortem examinations show that from 40 to 80% of cases of consumption have also intestinal lesions, and the chances of recovery are by them greatly reduced. People should be taught that these lesions may in great part be prevented by the immediate disinfection of the sputum. Any consumptive who is well on the road of recovery may diminish his chances of regaining health by self-inoculation if he does not exercise the greatest care in destroying his sputum. And the fact that every consumptive may be a source of danger not only to himself but also to his associates if his sputum is not destroyed, should make

him doubly anxious for correct information on these points. With proper precaution victims of this disease may pursue their usual avocations without endangering others in the least, and for long periods of years they are often able to perform the ordinary duties of life with impunity.

The experience of several cities, notably New York and Philadelphia, shows that rooms occupied by consumptives are veritable centers of infection for the spread of tuberculosis, and maps employed for recording cases of consumption argue more forcibly than words for its infectious and communicable character. One of the most prominent characteristics of an infectious disease is that persons who come in contact with affected individuals fall victims to it. How closely consumption follows this law is beautifully demonstrated by a comparison of the diagrams of smallpox, diphtheria, typhoid fever, and scarlet fever with those of phthisis in the city of Philadelphia, for the grouping and localization is almost the same. Such being the case, no argument is necessary to show that all premises vacated by consumptives by reason of death or change of residence should be thoroughly renovated or disinfected before being again occupied. Moreover, I believe that in all hospitals, poorhouses, asylums and jails those persons affected with consumption should be separated as much as possible from the other inmates, as is now done in the insane asylums of our own State, and that in all such institutions, as well as in all factories, shops, and other buildings where people are accustomed to congregate in considerable numbers, rules for the proper care of sputum should be posted in prominent places, and that such buildings should be subjected to regular inspection by the sanitary authorities for the enforcement of such regulations.

Another important administrative measure for the control of tuberculosis is the early diagnosis of all cases, and to that end boards of health in many cities throughout the country are now making bacteriological examinations of all samples of sputum submitted to them.

And last but not of least importance as a prophylactic measure I would recommend the establishment of special hospitals for the management of indigent cases of phthisis, and these hospitals I think should be supported by the State. I believe that the time will come when every large community will have in its immediate vicinity a hospital for the care of its consumptive poor. I do not now refer to sanatoria for curative purposes, but to places of shelter for incurables, homes for advanced cases, which are often confined to rooms whose surroundings are hygienically bad and which are daily becoming worse by reason of the absence of those special precautions which are so necessary to prevent the spread of infection.

The State of Michigan presents a very good illustration of the benefits derived from the intelligent sanitary supervision of communicable diseases, and also of the influence of general hygienic measures upon the death-rate of consumption. There were no registrations at all of deaths in Michigan before 1867, and practically the returns do not begin to be useful before 1869 or 1870. For the period 1870-74 the death-rate from consumption in the State was 112.1 per 100,000 inhabitants. From that time there has been a pretty constant decline in the death-rate until 1896 when it reached 90.4 per 100,000, a reduction of 19.3%, and that, too, without that thorough *special* treatment as an

infectious disease which is herein indicated. A very interesting fact in this connection, and one which serves to emphasize the point I am endeavoring to make, is that more than one-third of this diminution in mortality has taken place since the year 1891, at which time the Michigan State Board of Health first issued its leaflet on consumption and began its well-known "campaign of education" against the disease. But when we turn to the other infectious diseases we find that the combined effect of general hygienic measures plus special efforts at restriction, has been to reduce their fatality 60% for the same period. Inasmuch, therefore, as we know that the specific infection of consumption can be more easily controlled than that of any other of the principal infectious diseases with which we have to deal, are we not warranted in believing that the utilizing of those special sanitary measures for the restriction of tuberculosis which are well known to sanitarians would produce a much greater reduction in the death-rate from tubercular disease in our State? Many of them have been in force in New York City for several years, and Dr. Biggs, pathologist and director of the bacteriological laboratories of New York, says that most beneficial effects have already resulted from them. Not only has there been a very material decline in the number of deaths from consumption, but there has also been a most gratifying increase of knowledge as to its nature among the poorest class of the population.

I wish to acknowledge my indebtedness to the following authorities whom I have consulted in the preparation of this paper:

1. William H. Welch, Baltimore.
2. Administrative Control of Tuberculosis. Thorne-Thorne.
3. Alexander C. Abbott, Philadelphia.
4. Publication of the New York, New Hampshire, and Michigan State Boards of Health.
5. Diseases of Children. Ashby & Wright.
6. Medical Diagnosis. Musser.
7. Diseases of Children. Keating, Vol. V.
8. Practice of Medicine. Osler.
9. Prevention of Tuberculosis. Jas. B. Russell, Glasgow.
10. Preventive Medicine in the City of New York. H. M. Biggs.
11. Lawrence F. Flick, Philadelphia.
12. Virchow's Archives, May, 1900.

Meningeal Hemorrhage.—Wiemann (*Deutsche Zeitschrift f. Chirurgie*) reports 6 cases of meningeal hemorrhage, 3 of which recovered and 3 died. The cause of the lesion of the bloodvessels was the result of a severe injury. In 4 of the cases there was marked injury to the scalp. In those cases on which postmortem was obtained, the injury of the bloodvessel was found to have been caused by a sharp edge of bone, produced by the fracture, cutting directly into the vessel. In 2 cases the hematoma was found in the fronto-temporal region, in 2 cases in the temporoparietal region, in 1 case in the parietal, and in the remaining case the hematoma was diffuse in character. The clinical symptoms were very variable, and in only 2 cases was the typical picture of meningeal hemorrhage observed. The chief or main indication of extradural bleeding, that of an interval of freedom from all symptoms, was wanting in 5 cases. In a few cases the characteristic changes in pulse and respiration were noticed. The character of the pupil also varied greatly; sometimes they were dilated, sometimes strongly contracted, but generally reactionless. The convergence of the eye towards the injured side was noticed only in 1 case. In 4 cases a disturbance of motion was detected in those parts of the body corresponding to the cen-

ters pressed upon by the hematoma. In 3 of the patients the operation of opening the skull, for the purpose of removing the clotted blood and to check the hemorrhage was carried out. Operation of opening the skull consisted in all cases in turning down an osteoplastic flap with chisel and mallet. Wiemann lays great stress upon the advantages of such operation over simple trephining. The clot was generally removed with the finger or sharp spoon. The most important reason for removing the clot is to get rid of a soil on which bacteria grow readily, and thus protect the patient against infection. The most difficult part of operating with chisel is probably the forming of a beveled edge, which, when the flap is returned to its normal place, will afford a projection. [G.B.W.]

Radical Cure of Inguinal Hernia in the Female.

—Wm. B. Coley (*Yale Medical Journal*, December, 1901, Vol. VII, p. 204), is of the opinion that the treatment of inguinal hernia in the female has not received the attention it deserves. From a careful study of the literature of this subject and from personal experience he finds that the number of cases of inguinal hernia in the female exceeds the total number of femoral hernia in both sexes and forms 60% of all cases of rupture in women. He reports the results of operation in 134 personal cases. With regard to the technic of operation Coley believes that the excision of the sac is a matter of great importance. Of 7 cases in which the sac was not found, 4 relapsed within a few months, and 2 were not traced. The opinion of Kelly that the removal of the sac is of little importance he believes likely to do much harm. Transplantation of the round ligament, Coley believes is never indicated. The incision is made $\frac{1}{2}$ to $\frac{3}{4}$ of an inch above and parallel to Poupart's ligament. The aponeurosis of the external oblique is slit up over the internal ring and dissected back to the edge of the rectus on the inner side and sufficiently to expose Poupart's ligament on the outer side. The sac is sought high up just below the edge of the internal oblique muscle. It is thoroughly freed from the round ligament, transfixed and tied off with catgut. The wound is then closed in 3 layers, kangaroo tendon being used for the buried sutures, and catgut for the skin. The deep layer of sutures, 4 or 5 in number, are introduced from above downward, bringing the internal oblique and transversalis muscle over to Poupart's ligament. The round ligament is allowed to drop back into the lower angle of the wound; the aponeurosis is closed with continuous kangaroo-tendon sutures. The skin is closed without drainage, and the wound dressed with 10% iodoform gauze and moist bichlorid gauze 1:5000. Prior to December, 1898, when Coley began to use rubber gloves, he had 96% of primary wound healing. Since this date, in 150 cases of hernia he has had but one suppuration in which it was proved bacteriologically to have been due to imperfect sterilization of the skin. The question of the merits of absorbable and non-absorbable material for hernia operations is discussed at some length. At the Hospital for Ruptured and Crippled, Coley states that he and Bull have been using both catgut and kangaroo tendon for 10 years. Frequent bacteriologic examinations have always shown that the suture material is sterile, and experience has shown that the sutures remain unabsorbed sufficiently long to fulfil all the requirements for this operation. Cutting the external oblique muscle is considered not only unnecessary, but likely to weaken the canal, for the nerve-supply of the muscle fibers is divided laterally, depriving the mesial portion of its nerve-supply and when drawn down the direction of the muscle fiber is changed so that it does not work so advantageously as if parallelism with Poupart's ligament had been maintained. Since 1892, Coley has operated upon 134 cases of inguinal hernia in the female without a death. The ages of these patients have ranged between 40 and 70. Eighty patients were under 14 years of age. In 8, cases or 5.9%, suppuration occurred, though in every case it was slight and limited to stitch-hole infection, not prolonging the stay in the hospital. The average time which the patient was kept in bed has been 10 days, and they have been allowed to go home at the end of 2 weeks. A spica bandage is kept on for 2 weeks longer, at the end of which time support of all kinds is discontinued. All but 13 of the cases have been traced, and not a single relapse has been observed, though in 16 cases only from 6 months to a year has elapsed after the operation. [M.B.T.]

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See Advertising Page 8.

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Dr. Gould's Retirement.—The following resolution was adopted January 8, 1901, at the Stockholders' meeting of the Philadelphia Medical Publishing Company:

"With the beginning of the fourth year of the existence of the PHILADELPHIA MEDICAL JOURNAL, the Stockholders of the Philadelphia Medical Publishing Company desire to place on record their sense of deep appreciation of, and to extend their cordial thanks for, the energy and enterprise displayed by the late editor of the JOURNAL, Dr. George M. Gould, and the loyalty and fidelity of his collaborators, to which are due largely the phenomenal circulation and influence that have been attained in such a comparatively short time."

The following resolutions also were passed a few days before, by the Board of Trustees, pertaining to the same subject:

"WHEREAS, The term for which Dr. George M. Gould was elected editor of the PHILADELPHIA MEDICAL JOURNAL expires December 31, 1900; and,

"WHEREAS, The plans of the Board of Trustees provide for a change in the organization of the business and editorial departments for 1901;

"Be it Resolved, That the secretary notify Dr. Gould that his services as editor will not be required after December 31, 1900, and,

"Resolved, That the Board officially express to Dr. Gould its high appreciation of the eminent services which he has rendered the Company during the three years he has been editor of its JOURNAL; and its desire that his earnest labors in behalf of the medical profession may ever be fruitful in good results."

The Influenza.—The present epidemic of grip does not tend to support the opinions of those who have predicted that an immunity to this disease would gradually be established, and that influenza itself would die a natural death for want of material upon which to feed. On the contrary, the fact has been notable from the very first appearance, about ten years ago, of this prevailing infection, that the grip has had a tendency to attack the same victim repeatedly, and that it has slowly and surely become an endemic disease amongst us. This is certainly contrary to what we expect to see in an infectious disease, and to what we actually do see in most of the other so-called zymotic diseases. And yet that grip is an infectious disease, or the product of a microbe, there is no reason to doubt. That it is contagious, in the sense that as in any microbial disease the spores or the bacilli themselves can be passed from one person to another, is not to be doubted; and yet it is probably not so highly contagious as some observers contend. Certainly, with our present knowledge, it is not desirable that alarming statements to that effect should issue from the medical profession.

Where all persons are exposed to the same cause many may be affected without direct personal contagion.

With reference to the subject of immunity from grip, we wish we could chronicle some more encouraging facts. Turney (*Lancet*, Feb. 5, 1898) made a special investigation on the subject of relapses, and found in England that quite 10% of the cases relapse. How many persons have second, and even third and fourth attacks in succeeding years, we do not know. Turney thinks that if any immunity is conferred it is unimportant, and that a first attack even seems to predispose to a second. Many observers in America will confirm this statement. Gresswell claimed that healthy persons are more liable to be attacked than those who have been in bad health. With reference to the complications and sequelæ of grip, it is well to remember that many of these are probably due to secondary infection. Thus the pyogenic microbes may cause a purulent pleurisy, or the pneumococci may cause a pneumonia. For these and other infections the grip merely prepares the soil. The disturbances in the nervous system are probably due to toxins, although some of them closely simulate organic lesions. Thus a paralysis of the sixth nerve, occurring as an early symptom, was observed in a case in this city last year. In the present epidemic in Philadelphia grave complications of any kind are not so common as in the earlier years.

With reference to treatment, there seems to be nothing new, and nothing very effective. There is no specific for grip, and until we have a protective or a curative serum there probably will be none.

The Third Pan-American Medical Congress.—The fact that this approaching Congress is to assemble in Cuba gives it quite a unique importance. That island, which historically is one of the oldest communities in the new world, has only just recently joined in a full sense the American community of nations. Whatever may be Cuba's political position in the future, her geographical and commercial position will always make her an important if not a distinguished factor in the public life of this continent. In the medical and hygienic sense her existence on our very borders gives her a first-rate importance with her many unsolved problems of tropical diseases and tropical civic life. We in America are deeply interested (if even in a selfish

way) in some of these Cuban hygienic problems, and we are also desirous of seeing the island brought into closer relations, both commercial and professional, with our own country. It thus seems that the idea of holding the next Pan-American Congress in Cuba is a happy one. Moreover, the occasion offers a splendid excuse for some hardworked American physicians to take one of the most delightful winter trips imaginable. The round trip, including attendance at the Congress, and some sightseeing, can be taken in a comparatively short time. Personal acquaintance with Cuba as a winter resort will not be a bad thing for a doctor to have as part of his education.

The program offers an attractive collection of titles. The fact is noteworthy that most of the authors are from the large cities of the United States; in fact, to read the program, one would imagine that New York, Philadelphia, Chicago and Cincinnati constituted the real "Pan-America." When the owners of the familiar names printed on this program come together in Havana, they will probably find it difficult to realize that they are on a foreign soil. We are rather impressed with the limited rôle of some subjects for which Cuba stands in a special way, such as yellow fever; and we trust that the actual work of the Congress will bring out more discussion and more light on this subject than the program seems to promise.

Surgical Intervention in Perforative Cases of Typhoid Fever.—Dr. Osler's paper, which is presented in this number, brings up the question of operative procedure in perforation of the bowel in typhoid fever. It is asserted confidently that a certain percentage of the fatal cases from this complication can be saved by early operation. We are told that such patients bear the operation well, and that in the cases observed the ill-effects have been attributed to the operation itself. Dr. Osler's authority on such a point is important and reassuring. There are some considerations, however, that are not always taken into account. The post-operative effect of the surgical intervention and especially the effect of the anesthesia does not cease with the return to full consciousness and the passing off of the well-known symptoms of shock.

We have caused the patient weakened by the battle with the fever to exhaust still further his waning strength. In the truly terrific primary cardiac stimulation of the anesthetic can such an event fail but to be followed by its period of compensatory lowered vitality? Not perhaps showing itself by marked shock but a progressive asthenic decline. We have merely sounded a note of warning as to the effect of operation *per se* in the course of a progressive febrile affection such as typhoid.

We agree fully in the opinion of the value of operation in perforative cases, and would urge with Dr. Osler the necessity of careful personal observation of the

earliest symptoms of the complication. That even the most expert clinicians fail to detect perforation in all cases shows the great need of further knowledge upon the initial symptoms of its onset. Let us pay great heed to every detail, nor think no point of minutiae too slight to be carefully taken into consideration. The suggestion that typhoid cases be examined carefully upon the slightest occasion, not by an inexperienced interne, but by a trained clinical observer, should be taken to heart. No less valuable is the suggestion, that students receive constant bedside instruction in this disease and not depend upon textbook or lecture. This is a plea for progressive teaching which it should be our duty, as physicians and as humanitarians, to preach as gospel.

The Medico-Legal Aspects of the Case of Cadet Booz.—From the purely medical standpoint this now celebrated case is of interest from the fact that it has raised the very important question of the causation of tuberculosis under extraordinary circumstances. There seems to be no doubt that Cadet Booz died of pulmonary tuberculosis, two years after leaving the Academy. This disease, according to the allegations of his friends, was induced by certain maltreatment which he received in the process of "hazing" at West Point. The particular offence complained of was the administration of Tabasco sauce—a very hot and irritating condiment. A logical statement of the accusation, therefore, would seem to be, that the administration of an irritating condiment, such as is used quite commonly on the dining-table, can cause an injury to the larynx, and upon the seat of this injury tubercular infection can occur which leads eventually to generalized pulmonary tuberculosis. This, as we have said, is a medico-legal point of great importance, not only as it concerns the fair fame of West Point, but as it possibly might establish a precedent of importance in medico-legal practice. The Military Court of Inquiry, which has just finished its work, did not, it seems to us, take a very serious view of this medico-legal point, or attempt to throw much light upon it, but has contented itself with a mere statement that Cadet Booz did not come to his death as a result of hazing.

Primary tubercular laryngitis is, according to all authorities, an extremely rare disease. Morell Mackenzie says that he saw but three cases postmortem in which the larynx alone was involved, *i. e.*, in which there were no tubercular foci in the lungs. It is conceded, however, that such isolated cases may occur. The vast majority of cases of laryngeal tuberculosis are secondary to a lung lesion. The possibility of a wound or injury of the larynx acting as an exciting or predisposing cause of tubercular infection cannot be pointblank denied, but such a contingency is regarded as likewise highly improbable. Some cases, we believe, are recorded, but their significance is at least open to doubt. As tuber-

culosis is an infectious disease, it cannot exist, of course, without the action of its particular bacillus, but in a grave medico-legal case the proof would have to be overwhelming that the injury had been such as to predispose to an infection by the bacillus, and nothing like this was attempted in the inquiry into the case of Cadet Booz. It would likewise be necessary to prove that the laryngeal disease was primary, and not secondary to a lesion in the lungs. This case has created a great scandal in the public mind about West Point, and it is all the more desirable, therefore, that no injustice be done to either side by an inadequate sifting of the medico-legal evidence. Hazing, at its best, is foolish horse-play, but when it leads to physical injury and disease it is intolerable, and any accusation of the kind should be tested with all the recognized rules of evidence, as well as by the teachings of medical science.

Spinal Cocainization and Mental Shock.—The latest pronouncement on the subject of spinal cocainization comes from Dr. Maurice H. Richardson, of Boston (*Boston Med. and Surg. Jour.*, January 10), and is inspired by a visit he made last August to Tuffier's clinic in Paris. The value of Dr. Richardson's judgment on surgical subjects will be disputed by none, and his unusually good opportunity to witness this new method in a clinic where it is used so skillfully, gives his judgment all the more interest and importance. Dr. Richardson, in brief, saw two major abdominal operations performed on patients who were lying with almost imperceptible pulses, blanched faces, and perfectly conscious minds. One of these operations was for the removal of two ovarian cysts, and the other for a large renal tumor. The skill with which the operations were performed was brilliant and remarkable, and the impression made upon the minds of the group of American surgeons present was altogether favorable, so far as the operator and his technic were concerned; but the impression made on Dr. Richardson's mind by the ghastly and even alarming condition of the patients was distinctly unfavorable to this method of anesthesia. The condition, as described, was not unlike surgical shock. The pulse was almost imperceptible, but not greatly accelerated; the face was blanched, and the patient, perfectly conscious, said repeatedly that she felt no pain. How much of this condition was due to the cocain; and how much to the overwhelming mental impression, is uncertain, but we are strongly inclined to believe, after reading Dr. Richardson's graphic description, that the state of mental shock, caused by the patient's full consciousness of the horror of the whole surgical procedure, was the vitally important fact. What permanent, or even lingering effect, this shock may have upon a patient is, of course, as yet a mere speculative subject, and one which surgeons, who usually see little of their patients long after an operation, may not deem important; but we are glad that a

surgeon himself, like Dr. Richardson, has recognized this dreadful mental state, and has appreciated it fully and described it accurately. To our mind it furnishes one of the strongest arguments against spinal anesthesia, for we believe that few patients, and especially few women, are so constituted in their nerves that they can lie fully awake and see their abdomens opened and evacuated of tumors, without receiving a mental shock which may be most disastrous in its far-reaching effects.

Infantile Scurvy in the Island of Cuba.—Until very recently this disease had not been recognized in Cuba. In fact the subject had never been discussed there until Dr. J. L. Duenas, of Havana, contributed his most interesting article on the subject in a recent number of the *Archives of Pediatrics* (January, 1901). Dr. Duenas says that since 1894, when Northrup and Crandall read their paper on Infantile Scurvy before the New York Academy of Medicine, he had looked in vain for an instance of this disease in his practice until 1898, when he had the opportunity of seeing one case of the ordinary type, which promptly recovered under the usual treatment. In Duenas' opinion the severe forms of infantile scurvy are comparatively rare in Havana, especially considering the present condition of public health in that city. The point of special interest which he makes in his paper is a possible relationship in very young children between a severe type of infantile scurvy and a form of pernicious anemia. Such observations, so far as we know, have been very rarely made, and as Duenas' paper is founded upon a carefully observed case it is worthy of special comment.

The patient was a mulatto child 24 months old. After being weaned at 6 months the child was kept on a diet consisting largely of rice. This diet was badly borne and the patient suffered frequently from indigestion, diarrhea, and fever. The child did not walk until she was 16 months old. When Duenas first saw the patient there were great pallor and emaciation with poor physical development. There was no evidence of rickets nor of any other disease, but the left lower limb was swollen and painful. The borders of the gums were purplish, but neither spongy nor hemorrhagic. The stools were abnormal and fetid. Bleeding was very free from a pinprick made for the purpose of obtaining a specimen of the blood. On a diet of fresh cow's milk and the juice of an orange every day the scorbutic swelling of the leg rapidly disappeared and the child seemed to improve. But this improvement was not lasting. After a few weeks the child had become still more anemic with an earthy hue and a wrinkled skin. Petechia and ecchymotic spots were also seen on the skin of the trunk. An examination of the blood afforded a series of data of diagnostic importance. Laveran's plasmodia were not found, nor was there any agglutination of Eberth's bacillus. It is thus

seen that the diagnosis of malaria or typhoid fever could be laid aside. There was, however, an advanced poikilocytosis and a large number of macrocytes and microcytes, two very prominent characteristics of progressive pernicious anemia. There were found no nucleated red cells. The child failed progressively and died.

In discussing the significance of the case, Duenas calls attention to the fact that the etiological factors of scurvy, such as premature weaning and an excess of farinaceous diet (rice) were present. The clinical symptoms of scurvy were also well marked, and a rapid disappearance of these symptoms occurred under antiscorbutic treatment. On the other hand the diagnosis of what might be called a secondary pernicious anemia was plainly justified by the clinical symptoms and the microscopic examination of the blood. The unfavorable progression of the case after the first improvement in response to antiscorbutic treatment, is also in favor of the diagnosis of a grave degenerative affection of the blood. The exact relationship of these two conditions is of course difficult to determine in an isolated case. It is well known that symptoms simulating pernicious anemia sometimes occur when the system has been much depleted. They have been seen, for instance, in cases of intestinal parasites. We are not familiar, however, with any instance, certainly with any marked instance, of the disease occurring in early childhood following upon an infantile scorbutus which had already begun to mend under appropriate treatment.

The Significance of Right-sided Pelvic Pain.—

Fully 65%, and probably more, of the pelvic pains of womankind are experienced upon the left side. An explanation of this clinical phenomenon is afforded by an anatomic study of the parts. For the same reason that varicocele of the left scrotum is much more frequently encountered than a similar condition on the right side, left ovarian and tubal disease of intrinsic origin is much more common than a corresponding inflammatory condition on the right side. As is well known, the left ovarian vein empties into the left renal vein at right angles and without the protection of a valve, and this vessel in its turn communicates with the vena cava; while on the other hand the right ovarian vein empties directly into the ascending vena cava, and is furnished with a valve at the point of junction which opens upwards into the cava, whereby regurgitation is prevented. On the left side, therefore, stasis, the inevitable result of feeble suction from a comparatively slowly moving blood-current, aided by the action of gravity exerted through the more or less perpendicularly running vessel, is of frequent occurrence, and there follow of necessity a primary hyperemia and a secondary chronic or subacute inflammation of the tissues of the corresponding broad ligament with prolapsus or descensus ovarii, and pain and all the other sequences of adnexal disease.

There may, however, and in a certain proportion of the cases encountered in a large private or dispensary practice there will, be found actual inflammatory changes with or without exudate in the right broad ligament, while cirrhosis of the ovaries—the disease of sterile women—will occur just as surely upon the right as upon the left side, and dermoid cysts and other cystic formations show no predilection for either side.

On the other hand, however, a curious clinical fact is the more frequent occurrence of tubal pregnancy on the right side. Bland Sutton has recently announced that from his studies, both clinical and postmortem, he has come to the conclusion that tubal gestation is much more prone to occur in a healthy than in a diseased tube. Admitting the truth of this statement, which it must be recognized is at direct variance with the teachings of the accepted textbooks of the day, it is not difficult to demonstrate a relationship between these two clinical facts. If left tubal and ovarian disease is more common than right disease of the adnexa, and if extrauterine pregnancy is more commonly encountered on the right side—granted that Bland Sutton's statement is true—then the frequency of right tubal pregnancy is directly dependent upon the greater frequency of a healthy tube upon that than upon the left side. Now, the most striking clinical manifestation of tubal gestation is pain, occurring in sharp paroxysms at irregular intervals, the pain being located in the right ovarian center a little below McBurney's point. With this clinical phenomenon associated with the early symptoms of normal gestation, a careful pelvic exploration will reveal the adventitious and exceedingly tender growth in close proximity to the uterine body, and the diagnosis may then be made before rupture has occurred and an abdominal section performed at once.

A pathological condition which not infrequently closely simulates the foregoing is appendicitis. The gynecologist, too often improperly confining himself to the pathology of the pelvic viscera to the total exclusion of other affections of the abdomen, is very apt to entirely overlook the occurrence of this disease in the woman, and to refer her symptom of pain to some obscure pelvic condition. The realm of the gynecologist, however, is the abdomen just as truly as the pelvis, nor should it be limited to the abdominal cavity, but should extend to the mammary glands also. Hence, attacks of pain in the right inguinal region should suggest to him, as to any other surgeon, the possibility of the presence of an appendicitis, and not infrequently a close investigation of the appendix may elucidate an otherwise obscure case, and offer to the patient chances of recovery that might be forfeited by neglect of this important procedure.

Finally, every gynecologist has noticed the occasional occurrence of a referred pain in the right ovarian region, in cases in which a most careful pelvic explora-

tion reveals a normal condition of that side of the pelvis with, however, a considerable degree of morbidity on the opposite side. This is a curious phenomenon, and is a direct outcome of the intimate anastomoses that exist between the pelvic nerve plexuses, and is a congener of the other, and probably better known, referred gynecologic pains, namely, those extending down the inner surface of the thigh, radiating to the small of the back, transmitted to the mammae, or to the shoulder-blade, and referred to the top of the head, the so-called *clarus hystericus*.

In these cases, removal of the offending organ on the left side will generally, but not positively, cure the reflex pain.

To resume, then, pain in the right ovarian region, or its immediate vicinity, may indicate one or the other of the following conditions: First, a direct involvement of the organs—ovary, tube, broad ligament, or pampiniform plexus—of that side, as demonstrated by macroscopic or microscopic lesions; secondly, right tubal or broad ligament pregnancy; thirdly, appendicitis; and fourthly, simply a transference of a symptom from a diseased appendage on the opposite side without any appreciable right-sided disease.

Erratum.—A typographical error in the fifth line of the first column of page 49 in our last issue demands correction. The line should read: "present with its point of *selection* the respiratory," etc.

Correspondence.

A HAT-PIN IN THE MALE URETHRA.

By P. J. KRESS, M.D.,

of Allentown, Pa.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

UNDER correspondence in your JOURNAL, Vol. VI, No. 24 Dr. Thomas M. Paul, of Hazleton, Pa., gives report of a hat pin, six inches long, extracted from the male urethra, also there being no record of a similar case.

In 1895, during my term of service as assistant surgeon at the State Hospital, where the doctor is at present, we had a similar case.

A man, aged about 60 years, used a hat-pin about five inches in length, if I remember correctly, in his urethra to produce sexual excitement. The head of the pin slipped into the bladder and drew the end of shaft within the meatus about one inch. In attempting to get a hold of the pin he pressed the point in the lower wall of the penis, causing severe hemorrhage.

When brought to the hospital it was impossible to get the pin through the meatus, and the shaft being run into the tissue obliquely the opening was enlarged by cutting along the shaft from the external side, and the pin then drawn out. Dressings were applied and the wound healed nicely.

This case being much like the doctor's, and occurring in the same institution, gives me reason for reporting it.

TUBERCULOSIS AMONG RUSSIAN JEWS.

By A. L. BENEDICT, M.D.

of Buffalo, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE read with interest Dr. Maurice Fishberg's letter criticising an article by Miss A. Dutcher in regard to the frequency of tuberculosis among the Russian Jews. His remarks as to ethnologic classification are certainly correct, yet it is sometimes practically impossible to avoid classifications that are ludicrous if interpreted in the strict scientific sense. For instance, pregnancy, which is certainly a physiologic state, must often be treated statistically as a disease. In 1890-91, I made a considerable number of life-insurance examinations which included the work of one or two agents among "Russ-Pole-Jews." Almost all of the applicants were rejected as under size and having insufficient chest expansion. A large proportion—I should say fully half—also presented the physical signs of incipient tuberculosis. Most of the applicants were workers in sweat shops, and they seemed surprised not to be considered in good health. Since then, I have had some little clinical experience confirming the idea that tuberculosis is much more frequent among these Jews than among the average of the population and, certainly among the Jews of other nationality. Personally, on account of some study in genealogy and heredity, I am inclined to think that the importance of heredity in the etiology of disease has been much overrated. The fact that the Russian Jews are prone to tuberculosis has nothing to do with their being Jews, with their having lived in Poland, with their forced adoption by the Russians. For several generations, at least, they have been persecuted to such a degree that they have been compelled to live in unhygienic surroundings and to subsist on inadequate food. Since coming to America, those to whom I refer and, presumably, those who fell under Miss Dutcher's observation, have been occupied mostly in sweat shops or, at any rate, have been herded together in too crowded living rooms. Manifestly, the same causes that tend to render these persons tubercular, also make them a source of danger to the community at large.

Dr. Fishberg's statistics seem to be incontrovertible, except by the general scepticism which one may feel regarding all statistics gathered in the ordinary routine of Boards of Health. But, it should be noted that his minimum death-rate from tuberculosis is credited to "Russia and Poland"—a very different thing from the class under discussion. We have in Buffalo a considerable number of Poles. No recent statistics are at hand and they breed so rapidly that the 1890 statistics are of no use, even if we disregarded immigration, which has also been considerable. Probably we have not less than 30,000, nearly 8% of the total population. In contrast with the "Russ-Pole-Jews," they are mainly outdoor laborers, especially in market gardens in the suburbs and, so far as possible, each family secures a separate cottage and a little plot of ground. Naturally enough, they are not prone to tuberculosis and, if we include the scanty population of highly tubercular Russ-Pole-Jews in this great mass of Slavs, where they do not belong either ethnically or clinically, we must expect an obscuring of fact by figures.

Influenza.—It is estimated that there are 70,000 Philadelphians suffering from influenza.

Special Article.

AN ABSTRACT OF THE REPORT UPON THE EPIDEMIC OF PEST IN JAPAN FROM NOVEMBER, 1899, TO JANUARY, 1900.

By PROFESSOR S. KITASATO,

Director of the Imperial Institute for Infectious Diseases,

AND

DRS. T. TAKAKI, K. SHIGO, and G. MORIYA.

Translated, with permission of the Minister of the Interior,

By MAURICE OSTHEIMER, M.D.

THE epidemic of pest appeared in Japan early in November, 1899. A commission for directing the prophylactic measures necessary to bring the epidemic under control, and for scientific research, was sent to Kobe and Osaka at once by the Japanese government. Professor Kitasato, Director of the Imperial Institute; Dr. Takaki, Councillor in the Ministry of the Interior; and Drs. Shiga and Moriya, Instructors in the Institute, were named to form this commission. They succeeded in extinguishing the plague by the middle of January, 1900. The number of patients in the two cities was 64. They were:

	Died.	Recovered.	Total.
Bubonic plague.....	39	4	43
Pest-pneumonia	13	0	13
Pest-carbuncle	3	2	5
Septicemia	3	0	3
Total	58	6	64

Of these, 35 were treated in hospitals, 29 of whom died. The other 29 died at home.

In Kobe, a city of 230,000 inhabitants, the pest arose among laborers engaged with ship's refuse. Thus 7 of the 25 cases found in Kobe are traced directly to a ship which had arrived from Bombay and Hong Kong in October; 3 others had been buried with ship's refuse; in 6 cases dead rats containing pest-bacilli were found in the houses; and in 3 cases infection followed from contact with pest-patients. In the remaining 6 cases the mode of infection is not known.

In Osaka, in size the second city of Japan, with 750,000 inhabitants, the pest is supposed to have entered through infected wadding, though there seems some cause for suspecting that the wadding had been infected by rats. The first four cases bear direct relation to this wadding, in which pest-bacilli were found by Dr. Iwai, Director of the Osaka Municipal Hospital for Infectious Diseases. The early cases, like those in Kobe, were bubonic in character. Toward the middle of December, however, the epidemic grew more malignant, several cases of pest-pneumonia occurring by direct infection.

In the western part of Osaka lies a small island, *Shikanishima*, on which there is a cotton-spinning factory, *kanekinsuishoku kaisha*, where over 1,600 women and hundreds of men are employed. In one room of this factory, in which 63 women and 10 men worked, was a girl named M. Adachi. She was taken sick December 19, 1899, with symptoms of pneumonia, and died the 21st. Both the attending physician and the medical inspector made the diagnosis of croupous pneumonia; the corpse was therefore burned. Two days after her death her parents became ill with exactly the same symptoms. Careful examinations were made and pest-bacilli found in the sputum. As it was primary pest-pneumonia, in which the danger of infection is very great, even stronger precautions were taken. The patients were conveyed to the Municipal Hospital for Epidemic Diseases; those who had been exposed were taken to the Municipal Isolation Pavilions; and their homes were at once disinfected.

On December 25, in the room in which M. Adachi had worked, a woman developed a pest-bubo. A systematic disinfection of the entire factory followed. The men and women were isolated and examined daily by physicians. Among those isolated, four cases of pest developed, two the next day, one 3 days later, and one after 6 days. These all had bubonic

pest, in spite of the fact that the bacilli originated in M. Adachi, who had pest-pneumonia. Though the other Adachis were isolated, 6 deaths occurred in the family, the only one spared by the disease being a four-year-old child.

But the power of the disease had not yet reached its end. The physician, K. Wakabayashi, and the medical inspector S. Baba, who had examined and treated M. Adachi, her parents, and U. Adachi, also developed primary pest-pneumonia December 30. The third physician, T. Yamanaka, a friend of Wakabayashi's, whom he had treated before his transfer to the hospital, became ill January 4, 1900. Besides these, Mrs. Wakabayashi, and Mrs. Baba were taken sick January 3; Wakabayashi's jinrikisha man, January 5th; Mrs. Yamanaka, the 10th; and Yamanaka's mother the 11th. All suffered from primary pest-pneumonia; in all the disease was fatal.

Looking back now, the course of the infection is easily traced, beginning with the girl, M. Adachi, whose disease, diagnosed croupous pneumonia, was true pest-pneumonia. As she was a working-girl and lived in poorer circumstances, she kept at her work, though she did not feel well. As she had pneumonia, she coughed and probably also expectorated. In this way the pest-bacilli reached the floor of the work-room. Thus it is clear how two men and three women, working in the same room, contracted glandular pest. The infection probably did not come direct from the lungs, as M. Adachi worked facing the wall. That these people run about without sufficient foot covering helps to confirm this. That direct infection can follow in the family, from the patient's coughing, or from attentions to the patient, is beyond doubt. Among the physicians the conditions were the same.

It is well known that rats are very susceptible to pest-bacilli, and therefore well adapted to propagate the germs of the disease. On this account pains were taken to exterminate them if possible, the municipal authorities paying 5 sen (2½ cents) for every rat delivered to them dead or alive. In Kobe the total number of rats bought reached 20,000; in Osaka, 15,000. Even more rats were caught which did not come to the knowledge of the authorities, having been destroyed by private individuals. About one-fifth of the dead rats found in Kobe contained pest-bacilli; in Osaka only one-tenth.

In the main custom-house at Kobe pest-rats were found on November 21, 1899, and 12 days afterward, a schoolboy who lived 400 or 500 meters distant became ill. Upon searching, several pest-rats were found in the dwellings between the custom-house and the patient's home. The custom-house lies close to the sea, and his home is further inland, which confirms the supposition that the disease in the rats spread gradually up from the sea. Pest-rats were also found in the eastern custom-house and on the third landing stage in Kobe, whence it seems most probable that the rats came from ships. Pest-rats were also found in Gifu, where there were no cases of pest, which adds evidence to prove that the rats brought the pest-bacilli into Japan.

Whenever pest-rats were found near the house of a pest-patient, the bacilli were most probably spread by the rats. In 16 cases pest-rats were found in or near houses where cases of pest occurred. That pest-rats were found in dwellings far distant from the pest neighborhood, brings clearly to the front how closely the epidemic in the rats and in man were related. The district in which pest-rats were found is much larger than that in which cases of pest existed, though the most pest rats were seen where the epidemic raged most fiercely. While the relation of the single cases to the dead rats cannot be fully shown, we can surely believe that the rats first became ill, and then the epidemic broke out among men. That probably occurred because the rats had more opportunity to come in contact with infected objects than men.

From clinical investigations these conclusions were drawn: The number of males affected was twice that of the females; people from 10 to 40 years of age seemed most susceptible to the disease; the majority of patients were servants, laborers, and boatmen; the period of incubation lasted 3 to 4 days, though it reached 7 to 10 days in some cases. While the onset is generally sudden with a chill, it was in a few cases preceded by prodromal symptoms; in 19 cases, constitutional symptoms occurred before the buboes, while in 7 cases they appeared simultaneously. Petechial eruptions were infrequent, and true roseola was seen in 3 cases.

Carbuncles occurred upon the trunk in 5 cases, not once upon the extremities, as is commonly the case; which was probably due to the peculiarities of Japanese costume and the customs of Japanese life. In all cases the carbuncles were primary, and pest-bacilli were found. They lasted on an average 11 days; while the other forms of the disease rarely existed over 8 days. Total extirpation is advised as the only treatment. Femoral and inguinal buboes occurred in 75 of the bubonic cases, in all of which were pest-bacilli. The main treatment employed was total extirpation of the buboes. Four out of 13 cases thus treated recovered, all of which were inguinal or femoral. In Osaka, during the second half of the epidemic, 13 fatal cases of pest pneumonia occurred, conveyed by contact one to the other. Not the slightest difference in the clinical symptoms in primary and secondary pneumonia was found; only in the latter bloody sputum is rare, as the patient dies too soon. Treatment of pest-pneumonia by the "Yersin" serum proved of no avail. Six cases of mixed infection were observed. Beside the pest-bacilli, septicemic bacilli like those of chicken-cholera, staining deeply by Gram's method, staphylococci, and streptococci were seen. A positive diagnosis can be made by bacteriologic examination only. On the other hand, a negative result from bacteriologic examination is of no certain significance, since during the onset of the disease the few bacilli there may easily escape the field of the microscope; in pest-pneumonia, especially at the outset, frequent examinations must be made.

For prophylaxis the "Haffkine" serum, the "Yersin" serum, and a new serum made by Dr. Shiga's method were tried. The "Haffkine" serum was used many times successfully, the only case of pest developing after its use being in a woman who was probably infected before being injected.

But Dr. K. Shiga had, at the time of the epidemic of dysentery, tried protective inoculation against that disease. According to his method the vaccine was made thus: the dysentery cultures were ground up in an agate mortar, normal salt-solution added, and then heated to 60° C. for 20 minutes. As the substance of the dysentery-bacilli is absorbed with difficulty and causes marked infiltration about the site of injection, a quantity of immunizing serum was added, equal to that of the vaccine made. In this manner it is absorbed with the least possible reaction, and protection follows without great discomfort to the patient. After a few days a stronger injection follows; the vaccine is inoculated without the immunizing serum, as the substance of the bacteria will now be easily absorbed.

This method was tried with the pest. The vaccine was made as follows: All the colonies (5 oese full) are scraped from slant agar cultures which have been kept 3 days at 30° C., ground up in a mortar, and normal salt-solution added, enough to make 1 ccm. of vaccine contain 1 oese of bacilli. The mixture is then heated at 60° C. for 30 minutes, carbolic acid added up to 0.5%, and allowed to stand 24 hours. The dose of the vaccine is the following, first injection:

Vaccine..... } of each—0.6 to 1.0 ccm.
Immunizing serum..... }

A few days later, after the reaction had disappeared, the second injection follows:

Vaccine..... 0.6 to 1.0 ccm.

These inoculations were given to 47 persons, not one of whom caught the pest. The reaction to the injections was very slight, and very well borne. The symptoms of the reaction are: (1) Slight pain, or tension feeling over the seat of the injection; (2) slight tenderness and redness with elevation of temperature (99.5° F.); or more rarely (3) slight swelling of the seat of the injection, mild fever (100.4° F.), slight headache, with chills, etc. In epidemics of pest, larger doses of this vaccine, which can now be prepared in large quantities in the Institute for Infectious Diseases, may be given.

Of the case histories, the following is the most interesting: From November 15 until December 4, Ch. Yase, a police servant, 21 years old, was on duty during the quarantine of the pesthouses. On the 6th he noticed in the right hypochondrium a reddish swelling which itched, about the size of a millet seed. His temperature was 101.8° F. The next day the swelling in the abdomen increased rapidly, becoming dark red and very painful. As he always feared pest infec-

tion, he kept feeling in the groin for buboes. That day for the first time he found a slightly sensitive spot in the middle of the inguinal region. The day following, the center of the abdominal swelling was dark brown, the swelling itself being as large as a saucer and very painful. In the most sensitive part of the groin a small bubo was palpable. The swelling pointed the day after, discharging a yellow purulent fluid. Numerous blisters appeared upon the swollen, infiltrated tissue surrounding, and a deep redness spread to the groins, so that the whole condition looked almost like erysipelas. Pest-bacilli were found in fluid withdrawn by exploratory puncture, and the patient was brought to the hospital. On admission, a carbuncle was found upon his abdomen, on the right side below the umbilicus, the infiltration reaching up to the umbilicus, down to Poupart's ligament, and across the linea alba. The head of the swelling was as large as a coin, depressed, and covered with a dirty brown crust. The right inguinal glands were much swollen. That afternoon crucial incisions were made, the infiltrated part of the carbuncle scraped out and the inguinal glands removed. Two days later, as the tissue between the carbuncle and the bubo was infiltrated and very sensitive, it was removed. The next day the left inguinal glands, which were somewhat swollen and painful, were also removed. The edges of the wounds upon the abdomen were still infiltrated, so that that tissue was cut out the day following. Twenty-four hours later a gland in his neck had become enlarged and tender and it was also removed. From this time on he slowly improved, and was discharged in excellent condition 6 weeks later.

To combat the epidemic, Japan first of all ordered that the law regulating the quarantine against ships from foreign harbors or from Formosa be more strictly enforced than before. Next the Minister of the Interior prohibited the introduction of rags, old wadding, old clothes, old bits of paper, old leather or skins, and old feathers from all harbors of India and China; from Hong-Kong and Formosa especially. Old carpets and old hemp-sacks were soon added to the list. All such material introduced before the issue of the above order was to remain where it was. Refuse from ships which came from infected ports must be burned, or thrown into the sea at a distance from land of no less than 12 kilometers. The length of observation for a ship infected with pest was increased from 7 to 10 days, and the isolation of those open to suspected pest-infection was also increased to 10 days.

As rats were considered pest-bearing and pest-spreading factors, the Government ordered them caught all over Japan. All dead rats were examined bacteriologically, and whenever pest-bacilli were seen, the houses in which the rats were found were disinfected. Comprehensive cleansing was undertaken in all parts of Japan, and in those cities in which the population is thickly crowded together, and trade very active, (as Tokio and Yokohama) medical inspection of laborers' quarters was established, in order to discover each case of pest just as soon as it appeared. When a suspicious case came to the knowledge of the authorities, a medical expert was sent to confirm the diagnosis. If the case was one of true pest, or strongly suspicious of pest, the patient was taken to the Municipal Hospital. In order to discover concealed cases of pest, medical inspection was established. In Kobe 229 physicians, in Osaka 374 physicians were engaged, each physician being given a policeman. Both visited their district daily, to register names and to examine cases. The physicians were ordered to specify in the death certificates when the patient became ill, when he was first examined, and when he died. In all cases of death from acute disease, an autopsy was held by pest experts.

The disinfection was left in the hands of the police. Dirty linen, clothes, bed-clothing, etc., were disinfected by steam; for furniture, floors, walls, columns, ceilings, and the spaces between the ceilings, and the space between the ceilings and the floor, or roof above, 5% carbolic acid was used. For the disinfection of cellars, kitchens, sinks, and water-closets, slaked lime or chlorid of lime was employed. Infected articles of little value, such as old clothes, mattresses, wooden shoes, etc., were burned.

Hospital-Ship Maine Reaches England.—The American hospital-ship *Maine* has arrived at Southampton, with invalids from China.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. Bushrod W. James was elected president of the Pennsylvania Fish Protective Association.

New Laboratory.—Plans are being prepared for a new medical laboratory for the University of Pennsylvania.

Dr. Arthur Remington has been elected to fill the position on the obstetrical staff of the Maternity Hospital, rendered vacant by the resignation of Dr. W. Constantine Gocdell.

Grip Epidemic at Princeton.—An epidemic of grip has spread with alarming rapidity through the University the past few days. There are 18 cases now in the University Hospital.

Huntingdon County Medical Society.—At the first regular meeting held January 8, the following officers were elected: President, Dr. Ella M. Gerlach; vice-president, Dr. Bruce P. Steel; secretary, Dr. A. B. Brumbaugh; treasurer, Dr. G. G. Harman.

Physician Falls from Window Dead.—Dr. James Boyd McKelvy, one of the most prominent physicians and residents of Bloomsburg, 76 years of age, died January 14. He was a graduate of Williams College and University of Pennsylvania Medical School.

The Mayor of Elizabeth Dead.—Dr. William A. Mack was found dead in bed at his home on January 14. Dr. Mack was born in Glen Gardner, N. J., 44 years ago. He began the study of medicine with Dr. Thomas L. Hough. He was a graduate of Bellevue Medical College, a member of the Union County Medical Society, and the Clinical Society of the Elizabeth General Hospital.

Resignation of Dr. J. W. Croskey.—At the meeting of the Board of Directors of City Trusts on January 10, the resignation of Dr. John Welsh Croskey as surgeon to Wills Eye Hospital was accepted, to take effect January 1 last, and on the recommendation of the committee of the hospital, Dr. McCluney Radcliffe was appointed to the vacancy. Dr. Radcliffe has been connected with the hospital for the past 17 years as assistant to Dr. George C. Harlan.

Annual Meeting of Delaware County Medical Society.—The annual meeting of the Delaware County Medical Society was held in Chester, January 10. The election of officers resulted as follows: President, Dr. George D. Cross, Chester; vice-president, Dr. Partridge, Ridley Park; secretary, Dr. Linneas Fussell, Media; treasurer, Dr. D. W. Jefferis, Chester; reporter, Dr. M. A. Neufeld, Chester; librarian, Dr. Trimble, Lima; censors, Drs. D. W. Jefferis, Fronefield and Hammond.

Germantown Hospital.—At the annual meeting of the contributors to the Germantown Dispensary and Hospital, held at the hospital building East Penn Street, Tuesday afternoon, the report for 1900 was read, showing that 1,080 patients were treated in the hospital proper during the year, an increase of 107, whilst in the dispensary there were treated 11,967. The following officers were elected: President, Elliston P. Morris; secretary, Thomas B. Homer; treasurer, William H. Haines. Managers, Elliston P. Morris, William H. Haines, Frank J. Firth, Francis Stokes, Reed A. Williams, Jr.; Alexander W. Wister, Jr.; William H. Scott, Thomas B. Homer, Morton Downs, M.D.; Thomas H. Shoemaker, Henry L. Davis, N. Penrose Allen, Edward H. Hance, George W. Woodward, M.D.; James Mapes Dodge.

Pathological Society.—At the meeting of January 10 DR. JOSEPH MCFARLAND exhibited: (1) An epithelioma of the mouth and skin of a white catfish, and (2) A case of thrombosis of all four chambers of the heart. The patient from whom the latter specimen was taken had not been very ill and the diagnosis of tuberculosis had been made. With the exception of the thrombi, a hemorrhagic infarct in one lung was the only lesion found. Drs. IDA E. RICHARDSON (by invitation) and J. D. STEELE showed

an Hourglass-contraction of the stomach. The patient died at the age of 38, having had gastric pain and hemorrhages more or less frequently since the age of 15. The contraction was very marked, being near the middle of the stomach and at a point where strong adhesions bound it to the pancreas and liver. Drs. F. X. DERCUM and W. G. SPILLER presented a paper on **Nerve fibers in the pia of the cord as a sign of regeneration of the cord.** This rare condition of nerve fibers in the pia was found in a case of adiposis dolorosa. The fibers were more numerous over the posterior columns of the cord and were confined to the lumbar and dorsal regions. The knee-jerks were not abolished and there was no degeneration of the posterior roots. Dr. L. NAPOLEON BOSTON read a paper on **Cultivation of the aspergillus in urine,** and showed specimens by the chromoscope. Drs. M. P. RAVENEL and D. J. MCCARTHY presented a paper on the **Rapid diagnosis of rabies.** The claims of Babes and Van Gehuchten were reviewed and the results of experiments at the University of Pennsylvania given. Drs. Ravenel and McCarthy have studied 28 cases of rabies in animals. These included 11 dogs, 1 cow, 1 horse, and 15 produced cases in rabbits. One case in a human being, a girl of 8 years, was also studied. In the animals 10 positive results were obtained from the plexiform ganglia. In 19 of 21 cases the rabic tubercles of Babes were found in the bulb. The claims of Van Gehuchten with regard to street virus are confirmed, the conclusion being that the changes in the bulb and ganglia, together with the clinical history, afford a rapid and certain evidence of the existence of rabies. Dr. W. M. L. CORLIN read a paper on **Branchial cysts.** The literature of the subject was carefully reviewed and a case reported.

Vital Statistics of Philadelphia for the week ended January 12, 1901:

Total mortality	487	CASES	DEATHS.
Induration of appendix 2, bladder 2, brain 16, bronchi 8, kidneys 21, lungs 53, peritoneum 6, pleura 1, stomach and bowels 14, spine 1			124
Inanition 10, marasmus 9, debility 3			22
Tuberculosis of lungs			52
Apoplexy 10, paralysis 10			20
Heart—disease of 43, fatty degeneration of 1, neuralgia of 1			45
Uremia 14, diabetes 3, Bright's disease 7			24
Cancer			12
Carcinoma of breast 3, stomach 3, uterus 4, face 1, leg 1, rectum 1, throat 2			15
Convulsions			15
Diphtheria	109		21
Brain—softening of 3, congestion of 5			8
Typhoid fever	111		—
Old age			18
Burns and scalds			8
Dysentery			4
Suicide			1
Cirrhosis of liver			2
Alcoholism			1
Cyanosis			2
Scarlet fever	71		6
Hernia			2
Access of the kidney 1, aneurysm of the aorta 1, asthma 1, anemia 1, congestion of the lungs 7, puerperal convulsions 2, meningitis 1, pleurisy 1, heart disease of the brain 3, of the liver 3, spine 2, drowned 1, dropsy of the abdomen 1, heart 2, chest 1, of the brain 1, erysipelas 1, goiter 1, hemorrhage of the lungs 2, homicide 2, influenza 5, intestinal obstruction 1, poisoning by strychnin 1, sarcoma 1, septicemia 3, smallpox 1, syphilis 1, tetanus 1, ulceration of the stomach 3, unknown coroner case 1, whooping cough 3, suffocation 1			62

New Lay Board of Trustees for Medico-Chirurgical College.—At a meeting held by the Board of Trustees of the Medico-Chirurgical College and Hospital, January 15, a change was made in the management of these institutions. The old board, consisting of Drs. John V. Shoemaker, James M. Anders, Ernest Laplace, W. Easterly Ashton, L. Webster Fox, William E. Hughes, William L. Rodman, Isaac Ott, Henry Fisher, W. F. Haehulen, George M. Boyd, W. C. Hollopeter, Samuel Disston, Esq., and William King, Esq., resigned after electing a new Board of Trustees. Under the management of the board just resigned the Medico-Chirurgical College and Hospital in the last 20 years (the first course

of lectures was given in 1881) has grown in importance until today it ranks as one of the three great medical institutions of this city. Six hundred students are in attendance during the present semester. There is a department of Medicine, Dentistry and Pharmacy, well attended by students from all parts of the United States and colonies. The selection of a lay board is a forward step in the still further progress of the college and will relieve the professors who have hitherto acted as trustees and managers of the college and hospital. The increased size of the classes and the broad policy adopted in teaching demanded all the time of the various instructors, so that it was necessary to hand over the business administration to a lay board, who will now be conducted by Judge Paxson and the new members just elected, and the Medico-Chirurgical College and Hospital will continue to progress in the future as it has in the past. The following gentlemen comprise the newly elected board: Hon. Edward M. Paxson, ex-Chief Justice, president; Hon. James P. Sterrett, ex-Chief Justice; Hon. A. M. Beitler, Judge of Court of Common Pleas; Hon. J. A. Logan, general solicitor Pennsylvania Railroad Company; Pemberton S. Hutchinson, Esq., president Philadelphia Saving Fund; Joseph L. Caven, Esq., president Real Estate Title Company; Henry D. Paxson, Esq., attorney-at-law; David Milne, Esq., manufacturer; W. Howard Pancoast, Esq., banker; Theodore L. Voorhees, first vice-president Philadelphia and Reading Company; George A. Hubn, Esq., banker and broker; John A. Grady, attorney-at-law; William King, Esq., honorary trustee; D. T. Pratt, Esq., honorary trustee.

NEW YORK.

The Manhattan Dermatological Society, of New York City, has been organized with the following list of officers: President, Dr. William S. Gottheil; vice-president, Dr. Ludwig Weiss; secretary, Dr. Jacob Sobel.

Prospective Medical Legislation.—Among the numerous bills relating to medicine that have been introduced into the State Legislature, the most important are the ones regulating midwifery, the protection of the physicians and surgeons from blackmail and unjust malpractice suits, and the eligibility of physicians to hold the office of the president of the Board of Health.

The Manhattan Dermatological Society.—The second regular meeting was held at the residence of Dr. L. Weiss, No. 77 East Ninety-first Street, with Dr. Wm. S. Gottheil in the chair. Dr. E. L. COCKS presented a case of **Lichen planus on a syphilitic base**. Dr. R. ABRAHAMS showed two cases of **ichthyosis in children** of 3 and 5 years of age respectively. Dr. J. SOBEL presented a case of **pediculosis pubis** showing to a marked degree the maculae, ceruleae, or hemorrhagic macules due to the burrowing of the crab louse. Dr. GOTTHEIL showed an **extensive lupus erythematosus of the face** and a **xanthema of the scalp**. A case of **hereditary syphilis** with lesions of the tongue and lips was also demonstrated by Dr. Gottheil. Dr. B. F. OCHS presented a severe case of **eczema rubrum** which had resisted all methods of treatment. Dr. WEISS presented a patient with **scrofuloderma of the cheek**, and a case for diagnosis. The latter was either a lymphangioma tuberosa multiplex, or multiple subcutaneous syphilomata, or gummata. A pathologic examination of one of the excised nodules by Joseph, of Berlin, showed nothing but **granulation tissue**. Aortic syphilitic treatment did not effect a permanent cure. Dr. R. ABRAHAMS showed a case of **tuberculosis cutis**, and Dr. SOBEL a **perforation of the hard palate**, due to a neglected gumma—an obturator afforded great relief. Dr. GOTTHEIL showed photographs of a case of **chromophytosis of the face** in a colored boy, the patches simulating leucoderma, and of **pityriasis versicolor of the palms**. The latter case, a rather unique one, was reported last year. Dr. SOBEL demonstrated the **mechanism and use of Allen's comedo extractor**. Dr. GOTTHEIL presented a case of **dermatitis herpetiformis** in a boy of 12, which had improved rapidly under the use of Fowler's solution.

New York Neurological Society.—Stated meeting held January 1, 1901. FREDERICK PETERSON, M.D., president.
Spinal Accessory Paralysis.—DR. PEARCE BAILEY

presented a man who last March had been operated upon for suppurating glands of the neck. During the operation the spinal accessory nerve had been cut. There had been immediate and complex paralysis of the sternomastoid and trapezius. About 6 weeks later the nerve had been sutured, with considerable improvement in the symptoms. During the past summer a weakness had appeared in the deltoid and in the muscles supplied by the musculo-spiral nerve. There had been considerable return of power. A fairly large incision had been made at the operation in the region of the mastoid. On inspection, the shoulder on the affected side was seen to droop and the scapula hung away from the spine. The only anesthesia observed had been limited to the ear and over the right side of the face—an area corresponding to the supply of the great auricular nerve, which had undoubtedly been cut at the same time. There was now marked hyperesthesia over the distribution of this nerve. When first seen the position of the head had been slightly towards the injured side and a little downward. Dr. E. D. FISHER suggested that there was a psychical element in the case. He said that on pressing along the muscles of the arm slowly there was no reaction, but if done suddenly there was a spasmodic contraction of the muscles of this region. Dr. JOSEPH COLLINS did not think the whole condition had been explained by Dr. Bailey, for, in his opinion, there were symptoms of root involvement over a rather extended area. He could not understand how these could be explained by mere section of the spinal accessory nerve. The tic of the facial muscles and on either side of the neck, and the narrowing of the palpebral fissure appeared to be associated with fibrillary twitchings. This would indicate a rather extensive involvement of the anterior roots in the cervical region. He would also like to know about the condition of the pupils. Dr. F. PETERSON said that he had seen this case before, and had been interested in the complications. He had seen the man before the appearance of the twitchings, and on first noting the latter he had been inclined to assume that it was hysterical. However, after having made the electrical examination he had felt sure that it was not hysterical, but a pressure palsy involving a number of nerves, possibly as a result of sleeping with the arm in an upward position. Dr. BAILEY said that the suppurating gland had been situated deeply underneath the sternomastoid. When first seen by him last April there had been a typical picture of paralysis of the sternomastoid and trapezius, but no symptoms referable to the arm, no tics and no functional disorders. The man had been completely incapacitated for work, and this probably explained his psychical condition. The irritative condition of the face was probably explicable by the formation of new connective tissue in the scar. As soon as his attention had been called to the pressure palsy he had been watched at night and prevented from sleeping on his arm, and this had resulted in immediate and decided improvement. It was probable that in time the man would get fairly good use of his arm.

Facial Hemiatrophy.—Dr. MAX MAILHOUSE presented a man, 20 years of age, without neurotic family history. Twenty-two months ago a discoloration had appeared on the right side of the face below the lower lid. It had begun as a pale, depressed spot. When first seen by the speaker, the right side of the face had been much atrophied, and the beard had been absent on this side. The mouth had been drawn to the right and the right half of the tongue very much atrophied. The apparent prominence of the right eyeball was due to retraction of the lower lid. The hair of the right half of the scalp was grayer than on the left, and was falling out. He had been losing his teeth on the right side. The nasal cartilage was wasted, and its tip was turned to the right. The muscles of mastication were also atrophied, and this was associated with spasmodic pain. There was a fibrillary tremor of the large muscles. The affected muscles reacted feebly to faradization, and normally to galvanism. No scleroderma was found. For the past two months there had been twitching of the muscles on the right angle of the mouth, and at times after laughing, this angle would remain retracted. At such times there was a very tender spot in front of the ear. A blow of moderate severity had been received over the mouth 10 years ago. No other etiologic element could be elicited, and even this one seemed to have but little weight. The atrophy of the tongue seemed to be a strong argument for the theory that this affection is a tropho-

neurosis. DR. C. L. DANA said that he had met with several such cases, and had found them all quite obscure. At one time the view had prevailed that it was a trophoneurosis due to some lesion of the trophic root—a condition very difficult to understand. In one of his cases there had been a typical diffuse trigeminal neuritis occurring in a woman of about 40 years. The attack had begun with herpes and neuralgia, and had been followed by a general neuralgia in the course of the fifth nerve. After this there had been atrophy and some anesthesia, and finally a peculiar pitting of the face, like that from smallpox. In another case, the trouble had begun, as it often did, with pigmented spots and neuralgia, and this had been followed by anesthesia in spots and a typical progressive anesthesia involving all the tissues, including the masseter muscle and the bone. In this woman there had been deafness and some disturbance of vision on the affected side. It was difficult to understand how a trophic or central lesion could cause all these symptoms. A herpes was almost always a sign of peripheral trouble. Another case had been in a woman, who had married at the age of 17. Her husband had died, it was said, of syphilis a few years later, though the woman denied ever having become infected. She had a progressive facial hemiatrophy for a number of years, and had finally developed atrophy on the same side, affecting the arm and the leg. In none of his cases had there been anything indicating the true nature of the etiology. Perhaps the best explanation was that of a peripheral lesion as a starting point. He had obtained no definite results from treatment, perhaps because he had not been able to keep these cases under treatment for a sufficient length of time. If the trouble were peripheral, Dercum's idea of resecting the trigeminus seemed to be worthy of consideration. DR. FRAENKEL asked if any difference had been observed in the behavior of the sweat glands on both sides of the face. DR. MAILHOUSE replied that there had been less sweating on the affected side. DR. JOSEPH COLLINS thought the disease could be explained just as well by a central as by a local lesion. He was inclined to think that the patient just presented had a lesion in the pons, in the area of central representation of the sympathetic nervous system in the pons. The lesion was probably a slowly progressive one such as a gliomatosis. There already seemed to be involvement of the motor nuclei in the medulla oblongata. The enlargement of the pupil would be explained by an irritation of the sympathetic which had gone on to paralytic effects.

Progressive Lingual Hemiatrophy.—DR. C. L. DANA presented in connection with the last case a rather rare form of progressive lingual hemiatrophy. It occurred in a man, 26 years of age, who had had the trouble 3 years, but had been otherwise in perfect health. The half of the tongue was slightly wasting away, and this was associated with fibrillary twitchings. The patient was a healthy young medical student without history of syphilitic infection or nervous heredity. It did not seem to him necessary to suppose that there was a gliosis, for Mendel had already shown that there is a change in the motor root of the trigeminus. Of course, these changes might be secondary to degeneration and partial destruction of the nerve. DR. PETERSON said he was inclined to believe with Dr. Collins, that some central lesion would best explain the condition. He had seen several cases, but all of them in a much earlier stage. In none of them had the tongue or the muscles of mastication been involved, or had they presented the same pupillary phenomena. DR. MAILHOUSE thought the dilation of the pupil might be explained by a similar process involving the sphincter pupillae and causing weakness. Hoffmann had reported some improvement from the use of galvanism for half an hour daily.

NEW ENGLAND.

Dr. Burt Andrews, son of Judge A. G. Andrews, of the Augusta Municipal Court, died January 12, aged 32 years.

The Boston Society for Medical Improvement will hold its first meeting in the new Library Building on Monday, January 21.

Boston Medical Library.—The new library building was formally opened on the evening of January 12, by Dr. David W. Cheever, president. The library has now over 32,000 volumes.

Harvard Veterinary Medical Alumni Association.—At the dinner at the Parker House, Boston, on January 8, the officers elected for the ensuing year were: President, Dr. L. Frothingham, of Boston; vice-presidents, Dr. L. L. Weeks, of Falmouth, Dr. W. E. Peterson, of Waltham, Dr. P. J. Crown, of Boston; secretary and treasurer, Dr. E. W. Babson, of Gloucester; Council, for 3 years, Dr. G. B. Foss, of this city, and Dr. E. A. Madden.

CHICAGO AND WESTERN STATES.

Epidemic of Typhoid.—Seventy-two cases of typhoid fever are reported to the Board of Health of Ashland, Wis.

Smallpox in Kansas.—Dr. W. B. Swan, of the State Board of Health, reports 267 cases of smallpox in the State. The type of the disease is more severe than it was last winter.

Dr. John M. Gaston, who for more than half a century stood high in the medical profession of Indianapolis, Ind., died January 10, aged 82. He was one of the organizers of the Marion County (Ind.) Medical Society.

Crusade of Vaccination.—A crusade of vaccination against smallpox was carried on vigorously at Kansas City, January 8. Doctors invaded many large office buildings and places where people congregate in large numbers, and vaccinated people by the dozen.

Grip Epidemic in Chicago.—According to estimates made by physicians on January 9, there are 100,000 cases of grip in Chicago at present. The last epidemic of grip in this city, together with impure water diseases, increased the death-rate from 21,869 in 1890, to 27,754 in the epidemic year of 1891.

Smallpox in Missouri.—At a meeting of the Camden City Board of Health, January 6, Dr. S. C. James, resident member of the State Board of Health, said that there are cases of smallpox in over 100 towns of Missouri, and that the most vigorous quarantine measures have failed to stop the spread of the disease. New cases are being daily discovered, but the smallpox existing in Kansas City is not of a virulent form, and few deaths are expected to result from it.

Hospital to be Independent.—At the seventh annual meeting of the Norwegian Tabitha Hospital society reports submitted showed that the hospital days for the year were 12,034, and the total expenditures \$12,402.69. A proposition to put the institution under the management of one of the Norwegian church societies was rejected, and patients will be received and treated as heretofore, irrespective of creed or nationality. The hospital officers are: Chief surgeons, Dr. C. Fenger and Dr. A. Hemboe; president, Dr. K. Sandberg; secretary, H. Rommen; treasurer, H. A. Haugan.

Mosquito Blamed for Yellow Fever.—The American Commission in Havana, under the superintendence of Dr. Reed, which has been making experiments at Quemados as to the propagation of the yellow fever germs by the mosquito, has obtained extremely satisfactory results. Dr. Reed says the experiments showed beyond a doubt that there is no contagion from an infected person or from infected clothing, but that the mosquitoes alone are responsible for the spread of the disease. In the course of the commission's investigations six non-immune persons were infected direct by the bite of mosquitoes which had previously bitten yellow fever patients, and five of these developed yellow fever. The last experiment made proved conclusively, Dr. Reed contends, the theory of propagation by mosquitoes. A special building was constructed of disinfected material, and one of the rooms was divided into two sections by a wire mosquito screen. In one section were placed disinfected bedding and clothing, and in the other bedding and clothing from the yellow fever hospital which had not been disinfected. Two non-immunes occupied the two sections. In the former were put several infected mosquitoes. The patient remained in this room only long enough to be bitten, and in four days a pronounced case of yellow fever developed. The patient is now convalescing. The other subject slept in the infected bedding for many nights and has not contracted the fever. Both patients have been sleeping for 20 nights in garments

worn by yellow fever victims and in bedding from the yellow fever hospital. Dr. Reed says they are growing fat, and that in no instance in the course of the commission's investigations has a case of yellow fever developed from exposure to infected bedding or clothing.

SOUTHERN STATES.

Smallpox in Galveston.—Smallpox has broken out to a considerable extent in Galveston. The authorities have ordered that every person in the city should be vaccinated.

Dr. A. B. Richardson has been elected to fill the vacancy in the chair of mental diseases of the Columbian Medical School at Washington, caused by the resignation of Dr. Foster.

Seven Thousand Grip Cases.—Health authorities state that there are now 7,000 cases of grip in Fort Worth, Texas. Smallpox is also prevailing in that city to an alarming extent.

Death of Dr. Harris.—Dr. Charles Morris Bainbridge Harris, son of the late Dr. Thomas Harris, U. S. N., died January 8, at his residence, 1917 Kalorama Ave., Washington, D. C., aged 73.

Savannah Hospital.—By the will of Dr. William Duncan, of Savannah, Ga., who died recently, the Savannah Hospital will become a beneficiary of nearly one-half of his estate, which is valued at about \$80,000.

Dr. W. J. Humphreys, assistant instructor in physics at the University of Virginia, is to be one of the party of scientists to be sent by the Naval Observatory to Sumatra to observe the eclipse of the sun on May 18.

Smallpox at Fredericksburg, Va.—Suspicion of smallpox in the adjoining county of Louisa has led the County Board of Health to order that the public schools of Green Springs and Louisa Court House districts be closed.

Dr. David Caldwell Ireland, a well-known physician, died suddenly January 14, at his home in Baltimore. Dr. Ireland was born at Annapolis, Md., 57 years ago. He graduated from the University of Pennsylvania in 1867. He was president of the Pension Board No. 1, and of the Medical and Chirurgical Faculty of Maryland.

Spring Grove Hospital.—The annual report of the Board of Managers of the Maryland Hospital for the Insane (Spring Grove) shows that the total number of patients was 626. Of these 18 were discharged as recovered, 15 discharged as improved, 41 discharged as unimproved, and 42 died. The number remaining October 31, 1900, was 510.

Presbyterian Hospital's Work.—At the annual meeting of the board of governors of the Presbyterian Eye, Ear, and Throat Hospital of Baltimore, January 12, the following officers were elected: President, W. W. Spence; vice-presidents, J. P. Ammidon, R. M. Wylie, Dr. D. C. Gilman, Thos. B. Gresham; secretary, Dr. F. M. Chisolm; treasurer, John L. Reed.

Maryland State Board of Health.—The Board held its annual meeting January 10. The following officers were elected: President, Dr. W. H. Welch; chemist, Dr. William B. D. Penniman; bacteriologist, Dr. William R. Stokes; inspector, Charles M. Mitten; clerk, M. L. Rullman; laboratory assistant, E. M. White; clerk of vital statistics, E. M. Rullman. Dr. W. H. Welch, Dr. James Bosley, and Dr. J. B. Noel Wyatt were appointed members of the executive committee.

Central Texas Medical Officers.—The Texas Central Medical Association closed its fifteenth annual convention January 9. The following officers were elected for the ensuing year: President, N. A. Oliver, Waco; first vice-president, E. D. Capps, Fort Worth; second vice-president, W. B. Anderson, Brownwood; secretary-treasurer, W. R. Thompson, Fort Worth. New members of judicial council: W. C. Blalock, Kosse; and B. W. D. Hill, Dawson. The next meeting will be held at Temple.

Medical Society of City Hospital Alumni of St. Louis.—The society met in the rooms of the board of education, 9th and Locust streets, on Thursday, January 17, at 8 o'clock P.M. The following papers were presented: **Report of a case of articular rheumatism with fatal heart complications in a child**, by Dr. HUDSON TALBOTT; **Points of interest gathered from some Eastern Hospital**, by Dr. F. G. NIFONG; **Report of cases of infectious disease of kidney** (postponed from January 3), by Dr. H. W. SOPER.

Richmond (Va.) News.—Smallpox is at present epidemic in many counties in this State. As a usual thing, the cases are of a mild type and the death-rate has been remarkably low. There are at present 11 cases in the smallpox hospital of this city.

At the first meeting of the Academy of Medicine and Surgery this year, the following officers were installed: Dr. Stuart McGuire, president; Drs. W. J. Mercer, W. R. Robins and J. M. Winfree, vice-presidents; Dr. M. W. Peyser, secretary; Dr. W. J. Moseley, treasurer.

Death of Dr. Abram Claude.—Dr. Abram Claude died in Annapolis, Md., on January 10. Dr. Claude was born in Annapolis on December 4, 1818. He was the son of Dr. Dennis Claude, at one time surgeon in the United States Army, and was mayor of Annapolis in 1849, 1850, and 1867. During the war Dr. Claude was assistant surgeon in the United States Army; professor of natural science in St. John's College from 1871 to 1883. The deceased was a graduate of St. John's College and of the University of Pennsylvania. He was a man of much learning, great polish, refinement, and invincible courage of conviction.

Laws Wanted by Medical Men.—At the meeting of the St. Louis Medical Society last night a resolution was introduced to appropriate \$250 to aid the committee on legislation of the Missouri Medical Society in promoting whatever measures the committee decides to present to the Legislature at the present session. The committee was appointed at the last session of the Missouri Medical Society to try to secure certain legislation in favor of the medical profession. One of its measures is a law requiring applicants to pass an examination before being registered to practise medicine. The society is also urging measures calculated to eliminate politics from the Missouri Medical Society. The resolution will probably not be acted upon until the next meeting, on January 26.

The Johns Hopkins Hospital Medical Society.—The meeting of January 7, 1901, was called to order by the president, DR. W. H. WELCH.

Typhoid fever without intestinal lesions, by DR. OPIE and MR. BASSETT. Dr. Opie stated that there are a certain number of cases of typhoid fever reported in which no lesions have been found at autopsy in either the large or small intestine, and that very recently a case had come under his observation which belonged apparently to this group. The patient was a child, 10 years of age, with a good family and personal history. The illness began 5 days before admission to the hospital, the first symptoms being headache and backache. There were several movements of the bowels accompanied with pain in the abdomen, and on the following day she felt feverish. On admission to the hospital, temperature was 102.4°, there were typical rose-spots on the abdomen and the agglutination test was positive when the blood-serum was diluted 1:5. The disease appeared to be mild and the temperature ranged from 102° to 104° during the first week. On the thirteenth day after admission nose-bleeding first began and purpuric spots appeared on the face. The coagulation time of the blood, tested with Wright's capillary tubes, was 4½ minutes. The bleeding was difficult to control at times, and on the night of the seventeenth day after admission she passed 60 cc. of bright-red blood from the rectum. A blood-test the next day showed 2,256,000 red corpuscles, 3,000 white corpuscles, and 41% of hemoglobin. Two days later purpuric spots appeared over the face, neck, front and back of the chest and posterior surfaces of the arms. On the twenty-first day bleeding began again from the nose and it was found impossible to control it. The red corpuscles then numbered 1,700,000, leukocytes 15,000, hemoglobin 26%, and the coagulation time was 5½ minutes. She died that day, which

was the twenty-sixth day of her illness. At the autopsy numerous minute ecchymotic areas were found in the heart-muscle, in the lungs, liver, kidneys, and stomach. The small intestine contained a brownish-red fluid, and Peyer's patches were evident in the lower part of the jejunum and throughout the ileum. The solitary follicles of the large intestine were visible and marked by minute points of pigmentation. The retroperitoneal glands and the lymph glands of the mesentery were enlarged. Microscopic examination of the liver showed foci of necrosis similar to those usually found in typhoid fever and in these areas were evidences of cell-infiltration. Sections were made through several Peyer's patches and while there was no evident hyperplasia some sections did show groups of large epithelioid cells similar to those so constantly found in typhoid lesions. Cultures were made from the various organs and the colon-bacillus obtained from the liver and kidneys, and from the liver, gallbladder and kidneys a motile bacillus was obtained which agreed in all respects, when tested experimentally, with a stock culture of the typhoid organism. Notwithstanding the fact that the lesions of the intestine were so slight as to be hardly recognizable, and of such a nature that they might readily have been overlooked, Dr. Opie thought there could be no doubt that this was a case of hemorrhagic typhoid. The hemorrhage from the intestines was apparently not due to ulceration, for no microscopic lesions in the mucosa were noted; it probably was the result of oozing from the mucous membrane of the stomach where there were numerous ecchymoses. Dr. Opie presented a critical review of all the reported cases of supposed typhoid without intestinal lesions and said that he could find no conclusive proof that the infection could occur without some slight lesion of the intestinal tract.

DR. FUTCHER, in discussion, said that this was the second case of hemorrhagic typhoid which had been seen at the Hopkins Hospital where over 1,000 cases of this disease have now been treated. The first case recovered, but the second illustrated very well the hopelessness of endeavoring to counteract the tendency to bleeding in those cases where a hemorrhagic diathesis occurs. All the usual methods adopted to stop bleeding were tried on this patient, including the use of suprarenal extract, but without satisfactory results. DR. WELCH remarked that there was no question that cases of typhoid fever could occur without ulceration of the intestines and referred to the clinical history of some mild cases which would lead one to suspect an infiltration of Peyer's patches and the solitary follicles without actual ulceration. He also referred to a group of cases in which death occurs late in the disease and when one might readily suppose that the typhoid lesions had healed. He believed that a less careful pathological study than that made by Dr. Opie and Mr. Bassett would have led to the report of such a case as theirs as one entirely without intestinal lesions.

Report Upon Bacillus Mortiferous.—DR. HARRIS related the discovery of this new organism and described its peculiarities. The clinical history of the case from which the organism was isolated was practically that which accompanies a liver abscess and at the operation the liver was found to be very much enlarged and to present upon its surface numerous thin-walled abscesses. From the pus of one of these abscesses this new bacillus was obtained. It is very minute and is cultivated with very great difficulty, growing only on media containing as a basis, blood, blood-serum or hydrocele fluid, and then only anaerobically. Experimental work on animals showed that the organism was quite virulent, rabbits usually succumbing within 6 days. The lesions were always emaciation, loss of subcutaneous fat, a tremendous degree of peritonitis and multiple abscesses of the liver.

CANADA.

Dr. Thomas Brown Wheeler, a prominent physician of Montreal, died suddenly on January 11 in the Murray Hill Hotel, New York City.

MISCELLANY.

Obituary.—DR. FRANCIS G. CONNELLY, aged 80, at Baltimore.

Grip in New York City.—From December to March, 1900, there were 5,000 deaths from grip.

Reception to Explorer.—Dr. A. Donaldson Smith, the Philadelphian whose African explorations have gained him renown, was the guest of honor at a reception held January 9, at the Academy of Natural Sciences.

Influenza.—It is estimated that there are probably 500,000 cases of influenza in Greater New York, 7,000 in the city of New Haven, with a total of 40,000 in Connecticut. Conservative estimates by the Buffalo officials place the number of cases at 5,000. St. Louis reports 10,000 cases. It is estimated that 1,500 employes of the great steel company at Homestead, Pa., are afflicted with influenza.

Medical Congress in Cuba.—Active preparations are making for the third Pan-American Medical Congress to be held in Havana, Cuba, February 4 to 6. It is expected that there will be 1,500 delegates present, of whom 500 will be Cuban physicians, 300 or 400 Americans, 200 Mexicans, and others from Argentine, Uruguay, Brazil, Venezuela, Colombia, Peru, Chili, and other Central and South American countries.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended January 11, 1901:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
ALABAMA	Girard	Dec. 31	Reported.	
	Phoenix	Dec. 31	Reported.	
DISTRICT OF COLUMBIA:	Washington	Dec. 29-Jan. 5	6	
FLORIDA:	Jacksonville	Dec. 29-Jan. 5	1	
	West Tampa	Dec. 29-Jan. 5	2	
GEORGIA:	Columbus	Dec. 31	Reported.	
KANSAS:	Wichita	Dec. 29-Jan. 5	12	
KENTUCKY:	Lexington	Dec. 29-Jan. 7	2	
LOUISIANA:	Shreveport	Jan. 2	2	
MARYLAND:	Baltimore	Dec. 9-Jan. 5	1	
MINNESOTA:	Minneapolis	Dec. 22-29	3	
NEBRASKA:	Omaha	Dec. 22-29	6	
N. HAMPSHIRE:	Manchester	Dec. 29-Jan. 5	18	
NEW YORK:	New York	Dec. 29-Jan. 5	13	
N. CAROLINA:	Caswell Co.	Dec. 1-31	77	
OHIO:	Ashtabula	Dec. 29-Jan. 5	1	
	Cincinnati	Jan. 4	1	
	Cleveland	Dec. 29-Jan. 5	39	1
	Portsmouth	Jan. 5	3	
PENNSYLVANIA:	Allegheny City	Jan. 7	1	
	Pittsburg	Dec. 29-Jan. 5	11	
S. CAROLINA:	Greenville	Dec. 29	1	
TENNESSEE:	Memphis	Dec. 29-Jan. 5	2	
UTAH:	Salt Lake City	Dec. 29-Jan. 5	4	
WASHINGTON:	Tacoma	Dec. 29	1	

SMALLPOX—FOREIGN.

AUSTRIA	Prague	Dec. 8-15	22	
BRITISH COLUMBIA:	Nanaimo	Dec. 15-21	5	
	Vancouver	Dec. 1-31	2	
ENGLAND:	London	Dec. 15-22	1	
	West Liverpool	Dec. 9-13	1	
FRANCE:	Paris	Dec. 15-22	8	
INDIA:	Bombay	Nov. 21-Dec. 4	1	
	Calcutta	Nov. 24-Dec. 1	7	
	Madras	Nov. 23-30	1	
RUSSIA:	Moscow	Dec. 29-Jan. 5	6	1
	Odesa	Dec. 8-15	41	10
SCOTLAND:	Glasgow	Dec. 15-22	72	1
URUGUAY:	Montevideo	Dec. 1	1	

YELLOW FEVER.

COLUMBIA:	Cartagena	Dec. 17	1	
CUBA:	Cienfuegos	Jan. 8	1	
	Matanzas	Jan. 3	1	
MEXICO:	Vera Cruz	Dec. 22-29	5	

CHOLERA.

INDIA:	Bombay	Dec. 4	19	
"	Calcutta	Dec. 1	88	
"	Madras	Nov. 30	3	
STRAITS SETTLEMENTS:	Singapore	Nov. 17-24	24	

PLAGUE.

CHINA:	Hongkong	Nov. 25	1	
INDIA:	Bombay	Nov. 4	75	
	Calcutta	Dec. 1	28	
JAPAN:	Osaka	Dec. 4-13	5	
"	Wakayama Ken	Dec. 4-13	5	
"	Yokohama	Dec. 4-13	Reported.	

Hospital Ship for the Philippines.—Army officers have been sent from Manila to Hong Kong to negotiate the purchase of a suitable vessel for use among the Philippine Islands for hospital purposes. The hospital ship *Relief*, which is being used between some of the ports of the islands, is unable to enter all of the ports, and it is the desire of the Army authorities to secure a smaller vessel which can enter the shallow harbors.

Third Pan-American Medical Congress.—The following is a partial list of titles of papers to be presented at the Third Pan-American Medical Congress, to be held at Havana, Cuba, February 4, 1901:

Section on Medicine.—President, Dr. Carlos Finlay; secretary, Dr. Judson Daland, 317 S. 18th street, Philadelphia, Pa. Etiology, by Dr. Elmer Lee, New York; Physical Diagnosis, by W. H. Vandenberg, New York; Remarks on Tuberculosis, by Dr. Laston H. Montgomery, Chicago; Tuberculosis in Man and Beast, by Dr. John A. Kelley, Brooklyn.

Section on General Surgery.—President, Dr. Tomas Plascencia; secretary, Dr. W. P. Nicholson, Atlanta, Ga. Operative Treatment of Prostatic Hypertrophy, by Dr. Ramon Guiteras, New York; The Bearing of Local Leukocytosis in Surgery, by Dr. E. T. Morris, New York; Gangrenous Hernia, by Dr. T. H. Manley, New York; Treatment of Varicose Ulcers, by Dr. J. Medina, New York; Cocain Spinal Anesthesia, by Dr. G. R. Fowler, New York; The Proximal Foot and Its Effect upon the Knee-joint, by Dr. Michael Hope, Atlanta, Ga.; Surgical Intervention in Uterine Fibroids, by Dr. A. Vander Veer, Albany, N. Y.; Remarks upon Postoperative Psychical Disturbances, by Dr. G. Tucker Harrison, New York; Knee-joint Tuberculosis Differentiation in the Young and Adult, by Dr. J. D. Griffith, Kansas City; Operative Treatment of Inguinal Hernia, by Dr. A. M. Phelps, New York; Some of the General Conditions and Features of Disability Attributable to Personal Accidental Injury, as well as Disability Due to Disease following Bodily Injury, by Dr. L. H. Montgomery, Chicago, Ill.; Remarks on Inguinal Hernia, by Dr. Garmo.

Section on Obstetrics.—President, Dr. Eusebio Hernandez; secretary, Dr. Gustav Zinke, 13 Garfield Place, Cincinnati, Ohio. The Toxicity of the Urine in Pregnancy and Its Relation to Puerperal Convulsions, by Dr. Milton J. Duff, Pittsburg, Pa.; Face Presentation, by Dr. J. A. Lyons, Chicago, Ill.; The Management of a Myomatous Pregnant Uterus, by Dr. W. W. Wathen, Louisville, Ky.; Experimental Investigations on Puerperal Sepsis, by Dr. F. Gaertner, Saginaw, Mich.; The Simultaneous Occurrence of Extra- and Intrauterine Pregnancy and a Tabulated Record of 62 Cases Collected from 1703 to 1901, by Dr. E. Gustav Zinke, Cincinnati, O.; Cholemia and Hemorrhage, by Dr. D. T. Gilliam, Columbus, Ohio; Renal Insufficiency in Relation to Women, by Dr. J. T. Jelks, Hot Springs, Ark.; Clinical Consideration Relating to Cancer of the Uterus, by Dr. A. F. Currier, New York; The Medication and Treatment of Uterine Fibroids, by Dr. W. B. Chase, Brooklyn, N. Y.

Section on Gynecology and Abdominal Surgery.—President, Dr. Gabriel Casusa; secretary, Dr. H. P. Newman, 103 State street, Chicago Ill. Cancer of the Fundus Uteri, by Dr. J. M. Baldy, Philadelphia, Pa.; Treatment of Prolapse of the Uterus, by Dr. H. T. Byford, Chicago, Ill.; Uteral Implantation into the Intestines—a New Method with a Bacteriologic and Histopathologic Study of the Kidney, by Dr. Jacob Frank, Chicago, Ill.; Intestinal Sutures, All Knots Inside, by Dr. F. G. Connell, Chicago, Ill.; The Complications and Degenerations of Fibroid Tumors as Bearing Upon the Treatment of These Growths, by Dr. Chas. P. Noble, Philadelphia, Pa.; Septic Peritonitis, by Dr. C. J. Anderson, Chicago, Ill.; The Angiotribe, by Dr. H. P. Newmann, Chicago, Ill.; Shock in Abdominal Surgery, by Dr. F. B. Turk, Chicago, Ill.; Some Points in the Technic of Hysterectomy, by Both Infra- and Suprapubic Methods, by Dr. W. H. Wathen, Louisville, Ky.; Cocain Anesthesia by Lumbar Puncture in Gynecology, by Dr. J. Riddle Goff, New York; Combined or Multiple Surgical Operations at one Seance in Female Patients, by Dr. R. S. Suttan, Pittsburg, Pa.; When and How Should a Ruptured Ectopic Pregnancy be Operated Upon? by Dr. Paul F. Munde, New York; The Author's Flap Operation for Atrisia of the Vagina, with Demonstration, by Dr. Geo. H. Noble, Atlanta, Ga.; Pelvic Suppuration, by Dr. Joseph Price, Philadelphia, Pa.; Water, Its Uses Internally in Abdominal Surgery, by Dr. W. H. Humiston, Cleveland, O.; Heptotomy for the Relief of Some Conditions Produced by Biliary Obstruction, Dr. W. E. B. Davis, Birmingham, Ala.; Gangrenous Hernia and Intestinal Jointing, by Dr. Thomas H. Manley, New York; Surgical Diagnosis of Abdominal Tumors, by Dr. W. H. Earles, Milwaukee, Wis.; The Technic of Appendicectomy per se and as modified by Combination with Lumbar Appendicectomy and Lumbar Exploration of the Gallbladder and Bile Ducts, by Dr. George M. Edebohls, New York; The Operative Treatment of Carcinoma Uteri, by Dr. E. E. Montgomery, Philadelphia, Pa.; The Pus Factor in Appendicitis, by Dr. Ramon Guiteras, New York; Three Dangerous Operations—Repair of Lacerated Cervix, Rapid Dilation of Cervix, and Curetment, by Dr. John B. Deaver, Philadelphia, Pa.; On the Desirability of Combined Operations in Pelvic and Abdominal Surgery, by Dr. W. P. Manton, Detroit, Mich.

Section on Ophthalmology.—President, Dr. Enrique Lopez; secretary, Dr. John R. Weeks, 40 East 57th street, New York. A New Clinometer for Measuring the Torsional Deviations of the Eye and estimating the Degree of Distortion produced by Cylindrical Glasses,

by Dr. Alex. A. Duane, New York; Carcinoma of the Orbit, by Dr. Shumway, Philadelphia, Pa.; Report of a Case of Removal of the Superior Sympathetic Cervical Ganglion for Non-inflammatory Glaucoma, by Dr. Joseph Mullen, Houston, Tex.; Case of Blindness from Sympathetic Ophthalmitis Complicated with Secondary Glaucoma, Restoration of Vision by two Iridectomies, One with Extraction of Lens and Irido-Cystectomy, and Tynell's Operation of Drilling, by Dr. Charles A. Oliver, Philadelphia, Pa.

Section on Laryngology and Rhinology.—President, Dr. C. Desvernine; secretary, Dr. G. H. Makuen, 1419 Walnut street, Philadelphia, Pa. How to Prevent Stammering, by Dr. G. H. Makuen, Philadelphia, Pa.; The Tonsils as Ports of Entry for Pathogenic Organisms, by Dr. Irving Townsend, New York; Injurious Effects of Forced Breathing upon Voice, Speaking and Singing, by Dr. Carl Seiler, Scranton, Pa.; A Case of Sympathetic Cough Cured by Removal of Spur from the Nasal Septum, by Dr. E. F. Ingalls, Chicago, Ill.

Section on Otolology.—President, Dr. Charles Desvernine; secretary, Dr. J. F. McKernon, 62 West 52d street, New York. Remarks on Sinus Thrombosis, by Dr. T. Y. Sutphen, Newark, N. J.; Symptomatology of Treatment of Sinus Thrombosis, by Dr. J. F. McKernon, New York; A Critical Review of the Literature of Mastoid Diseases. Its Complications, by Dr. S. Oppenheimer, New York; A Brief Resume of Experience with Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of Middle Ear, by Dr. Wendell Phillips, New York; Report of Mastoid Cases, by Dr. J. O. McRaynolds, Jr., Dallas, Tex.; Some Remarks on Mastoid Operations as Done in England, France, Germany and America, by Dr. A. Hobbs, Atlanta, Ga.; Importance of an Incision in the Inferior Posterior Portion of Canal in Acute Attical Diseases, by Dr. J. G. Tansley, New York; Review of Otolological Literature for Two Years, by Dr. Wilson, Bridgeport, Conn.; Use of Aqueous Extract of Suprarenal Capsule in Ear Diseases, by Dr. W. A. Bates, New York; Two Cases of Ligation of the Internal Jugular Vein for Infective Thrombosis of the Sigmoid Sinus, due to Purulent Otitis Media. One Recovery and one Death, by Dr. Fred. L. Jack, Boston, Mass.; Artificial Aids to Hearing, by Dr. Ed. E. Dench, New York; Acute Otitis Media and Acute Mastoiditis in Scarlatina, Measles and Diphtheria, a Clinical Report of 5,000 Cases, by Dr. A. B. Duel, New York.

Section on Marine Hygiene and Quarantine.—President, Dr. Louis Cowley; secretary, Dr. H. M. Woodward, surgeon M. H. S., Washington, D. C. Need of a National Health Department, by Dr. L. H. Montgomery, Chicago, Ill.; On the Agency of Parasitic Vermin and Other Insect Pests in the Spread of Disease, by Dr. G. Homan, St. Louis, Mo.; The Necessity for the Organization of Bacteriological Commissions for the Study and Investigation of Quarantinable Diseases under the Formation and Control of the Governing Authorities of the Countries Interested—An Absolute Requirement for the Scientific Management and Betterment of Maritime Hygiene and Quarantine, by Dr. Henry B. Horlbeck, Charleston.

Section on Mental and Nervous Diseases.—President, Dr. Gustave Lopez; secretary, Dr. C. P. Hughes, 3857 Olive street, St. Louis, Mo. Morphism and Crime, by Dr. T. D. Crothers, Hartford, Conn.; Syphilis and Insanity, by Dr. H. Waldo Coe, Portland, Ore.; Trauma as an Exciting Cause of Paralysis Agitans, by Dr. F. S. Pearce, Philadelphia, Pa.; Cerebral Neurasthenia, Observations on Diagnosis and Treatment, by Dr. D. R. Brewer, Chicago, Ill.; Possible Cause of Insanity among Americans in the Orient, by Dr. A. J. Ashmead, New York; Autopsychothyria or the Repetition Psychoneurosis, an Inquiry into a Condition of Morbid Rhythmic Cerebral Automatism and Its Rhythmic Forms of Mental Alienation, by Dr. C. H. Hughes, St. Louis, Mo.; Interrelation of the Nervous System and Female Genitals in the Neurotic Diseases of Women—Subject for general Discussion.

Section on Medical Pedagogy.—President, Dr. Manuel Delfin; secretary, Dr. Otis K. Newell, 13 Central Park West, New York. A Plea for Modern Methods of Teaching in our Medical Colleges, by Dr. J. W. May, Kansas City, Mo.; Hospital Service a Prerequisite for a License to Practise Medicine and Surgery, by Dr. G. W. Galvin, Boston, Mass.; Some Observations Respecting the Value of the Present Methods of Medical Education, by Dr. A. P. Clark, Cambridge, Mass.; The Association of American Medical Colleges—Some of the Work it Has Accomplished, by Dr. D. S. Reynolds, Louisville, Ky.; The Next Educational Revolution—What Shall it be? by Dr. D. B. Cornell, Saginaw, Mich.; Remarks on the Method of Treating Mental Diseases, by Dr. Ira von Gieson; Is the smaller Medical College a Useful Factor in the Advancement of Modern Medical Education, by Dr. W. J. Gillette, Toledo, O.; Function of Chemistry in a Medical Education, by Dr. R. F. Rutan, Montreal, Canada.

Section on Dental and Buccal Surgery.—President, Dr. Erastus Wilson; Secretary, Dr. Eugene Talbot, Columbian Memorial Building, Chicago. Can Interstitial Gingivitis be Prevented, and How? by Dr. M. H. Fletcher, Cincinnati, O.; Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis, by Dr. G. F. Eames, Boston, Mass.; The Gingivae and Pericementum, by Dr. W. R. Walker, Pass Christian, Miss.; Irregularities of the Teeth and Their Treatment, by Dr. A. E. Baldwin, Chicago, Ill.; Treatment of Interstitial Gingivitis, by Dr. Eugene S. Talbot, Chicago, Ill.

Section on General Hygiene and Dermatology.—President, Dr. Vincente de la Guardia; secretary, Dr. Alvah H. Doty, Quarantine Station, Staten Island, N. Y. Restrictions on Enteric Fever, by Dr. H. B. Baker, Lansing, Mich.; Problem of Infected Well Persons, by Dr. C. V. Chapin, Providence, R. I.; Tricophytics in Reference to Public Hygiene, by Dr. A. Ravogli, Cincinnati, Ohio.

Section on Dermatology and Syphilology.—President, Dr. Henry

Rebelin; secretary, Dr. A. Ravogli, 5 Garfield Place, Cincinnati, O.
Mycosis Fungoides, by Dr. W. F. Breakey, Ann Arbor, Mich.;
The Relationship of Diseases of the Skin to Derangements of Other
Organs, by Dr. Louis F. Frank, Milwaukee, Wis.

Changes in the Medical Corps of the U. S. Army, for the week ended January 12, 1901:

REYNOLDS, Major FREDERICK P., surgeon, is granted leave for two months, on surgeon's certificate, to take effect upon arrival in the United States.

STORY, GEORGE B., acting assistant surgeon, is granted leave for one month, on surgeon's certificate.

WEBBER, First-Lieutenant HENRY A., assistant surgeon, orders relating to him are so amended as to direct him to report in New York City not later than January 14 for transportation to the Philippine Islands on the transport "Wright," and at Manila to report to the commanding general, division of the Philippines, for assignment to duty.

SHOCKLEY, First-Lieutenant Major A. W., assistant surgeon, leave granted December 1 is extended 15 days.

MCARTHUR, ARTHUR W., acting assistant surgeon, will proceed from Chillicothe, Mo., to Fort Yates, to relieve Acting Assistant Surgeon Charles E. Macdonald.

MACDONALD, CHARLES E., acting assistant surgeon, directed to proceed to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, where he will report to the commanding general, division of the Philippines, for assignment to duty.

JACKSON, THOMAS W., acting assistant surgeon, leave granted December 31 is extended seven days.

BELT, HARRY D., acting assistant surgeon, now in New York City, will report for transportation to the Philippine Islands on the transport "Wright," to sail about January 15, and at Manila will report to the commanding general, division of the Philippines, for assignment to duty.

SCHIMMANN, OTTO, hospital steward, now at the office of the attending surgeon, San Francisco, Cal., having relinquished the unexpired portion of his furlough granted him September 25, will report to the commanding general, department of California, who will furnish him transportation to Manila, P. I., for assignment to duty.

WEBBER, First-Lieutenant HENRY A., assistant surgeon, now under orders to report to the Philippine Islands on the transport "Wright," is detailed for duty as acting assistant quartermaster and acting commissary of subsistence on that transport.

CHAMBERLAIN, First-Lieutenant WESTON P., assistant surgeon, having reported his arrival at San Francisco, Cal., will proceed to Fort Adams for duty.

ALLEN, IRA A., acting assistant surgeon, now at San Francisco, Cal., will proceed to Hot Springs, Ark., and report at the Army and Navy General Hospital for temporary duty.

REYNOLDS, Major FREDERICK P., surgeon, leave on surgeon's certificate granted November 12, is extended two months on surgeon's certificate.

WADHAMS, First-Lieutenant SANFORD H., assistant surgeon, is granted leave for seven days on account of sickness, to take effect from the expiration of the sick leave granted him October 13.

BROOKS, WILLIAM H., acting assistant surgeon, is granted leave for one month to take effect upon his relief from duty at Fort Schuyler.

The following-named acting assistant surgeons will proceed from the places designated to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty with troops en route to the Philippine Islands, where they will report to the commanding general, division of the Philippines, for assignment to duty: HENRY C. BIEBOWER, from St. Edward, Neb.; JAMES E. MEAD, from Detroit, Mich.; FREDERICK W. RICHARDSON, from St. Paul, Minn.

The following-named acting assistant surgeons will proceed from the places designated to New York City for transportation to the Philippine Islands on the transport "Wright," to sail about January 15, and at Manila will report to the commanding general, division of the Philippines, for assignment to duty: TIMOTHY F. GOULDING, from Boston, Mass.; FRANK E. THOMPSON, from Cleveland, Ohio; ARCHIBALD M. WILKINS, from Delta, Ohio.

Changes in the U. S. Marine-Hospital Service, for the week ended January 10, 1901:

WASDIN, EUGENE, surgeon, granted leave of absence for 15 days from January 14, January 5.

WERTENBAKER, C. P., passed assistant surgeon, to proceed to Fontainebleau, Miss., for special temporary duty. January 5.

STIMPSON, W. G., passed assistant surgeon, to proceed to Cripple Creek, Col., for special temporary duty. January 4.

NYDEGGER, J. A., passed assistant surgeon, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters. January 5.

DECKER, C. E., assistant surgeon, granted 7 days' extension of sick leave from January 4. January 7.

ANDERSON, J. F., assistant surgeon, having been assigned to duty in the Immigration Service at Liverpool, England, relieved from duty in U. S. Consulate at that port. January 5.

WALKLEY, W. S., acting assistant surgeon, granted leave of absence for 3 days. January 8.

The Latest Literature.

British Medical Journal.

December 29, 1900. [No. 2087]

1. City Life in 1800. G. FIELDING BLANFORD.
2. Anatomical Teaching in 1800. ALEXANDER MACALISTER.
3. Physiology in 1800. HENRY POWER.
4. Pathology in 1800. D'ARCY POWER.
5. Medicine in 1800. T. CLIFFORD ALLBUTT.
6. Lunacy and its Treatment in 1800. CHARLES MERCIER.
7. Midwifery and Gynecology in 1800. G. E. HERMAN.
8. Surgery in 1800. STEPHEN PAGET.
9. Sanitary Knowledge in 1800. W. H. CORFIELD.
10. The Poor Law in 1800. J. MILSON RHODES.
11. Military Medicine in 1800.

The *Journal* contains "A Century's Retrospect of Medicine, 1800-1900."

Lancet.

December 29, 1900. [No. 4035.]

1. The Bradshaw Lecture, on the Association of Inguinal Hernia with the Descent of the Testis. JOHN LANGTON.
2. The Causation, Prevention, and Treatment of Postpartum Hemorrhage. G. F. BLACKER.
3. Calcium Iodate as an Iodoform Substitute and Gastro-intestinal Antiseptic. WILLIAM MACKIE.
4. Circumcision as a Preventive of Syphilis and other Disorders. E. HARDING FREELAND.
5. On a New Method in the Dissection of Soft Cataracts. PERCY DUNN.
6. A Case of Hydatids Primarily Affecting the Lung. JULIUS CAESAR.

1.—Mr. Langton begins with a description of the descent of the testis beginning at the seventh or eighth month of intrauterine life and reaching the scrotum about birth, the left being about 3 weeks ahead of the right. The processus vaginalis is usually more or less patulous at birth and without any protrusion of the abdominal contents. This is more often true on the right side, which accounts for the greater frequency of congenital hernia on this side. The vaginal process may in rare instances descend into the scrotum and be cut off from the abdominal cavity and the testis remain undescended, and frequently the process is found far in advance of the testicle. He prefers instead of the words "congenital hernia" to say "hernia into the cavity of the tunica vaginalis." The former giving the idea that the hernia has existed from birth, which is erroneous. The points or rings of constriction frequently found in the sacs of congenital hernia he thinks more frequently due to attempts at occlusion than to a displaced neck of the sac. Inguinal hernia occurs 11 times more often in boys than in girls. In fact, in infant boys hernia is 3 times more frequent in the right than in the left side, but in infant girls it is about equal on the two sides. The greater frequency on the right side is due to the later patulency of the tunica vaginalis on this side. Premature children are more liable to hernia at birth than those born at term and the hernia is more apt to be double. Frequently testes are retained in the inguinal canal with accompanying hernia. Langton does not think these liable to become the seat of malignant disease late in years as is often stated. He has examined the records of 7,661 cases of hernia in males and found 4,810 on the right, 2,812 on the left, and 539 on both sides. In 174 cases the testes were misplaced. The proportion of misplaced testes on the right and left sides was as 6 to 4 in favor of the right. A misplaced testis is usually small, soft and flattened and more tender and sensitive than fully developed organs. Congenital hernia is divided into the following varieties: First, hernia into the tunica vaginalis testis. Second, hernia into the funicular process, which descend into the enclosed funicular process of the tunica. Third, herniae into a post tunica vaginalis sac called infantile herniae, where the protrusion is situated behind a dilated tunica vaginalis which is patulous as high as the internal

abdominal ring. Under this head, too, are included the encysted herniae which push before them an invaginated membranous septum into an inclosed tunica vaginalis. The first variety is by far the most common. Protrusion in children is usually intestine alone, the omentum not being sufficiently developed to occupy the sac. He thinks that in nearly all cases of hernia in children under 6 months of age, the hernia is into the cavity of the tunica vaginalis. This variety of congenital hernia may occur at any age, but rapidly decreases in frequency after about the sixteenth or eighteenth year. It is difficult of treatment, narrowing of the serous canal taking place with apparent cure from the use of the truss; but total obliteration is not hopeful and this is especially true of an unclosed canal of Nuck. Records show conclusively that strangulation of the congenital hernia is much more dangerous than that of the acquired variety. Retention of the testes in the inguinal canal with hernia in their unclosed sacs not infrequently accompanies exstrophy of the bladder. Out of the 6 cases of exstrophy seen by Langton, 4 had congenital hernia. The second variety, hernia into the funicular process, is difficult to diagnose, easily reduced, but hard to retain. Under the third variety, infantile hernia, Langton describes its various forms. Another variety of congenital hernia is the so-called "interstitial hernia," which he thinks should be included in variety number one, and which is often described as intermuscular, intraparietal, interparietal, ascending, properitoneal, and hernia *en sac*. In this variety the testes are retained in the inguinal canal in the majority of cases. Interstitial hernia occurs once in every 1,100 cases of hernia in men, once in every 760 cases in women. In the cases studied, the testes were variously misplaced and the corresponding side of the scrotum not developed or absent in nearly all. The various locations of this variety of hernia are then enumerated. In 42 cases of interstitial hernia, 45% occurred in the first year. The greater frequency of interstitial hernia in women is probably due to the distention of the abdominal muscles during pregnancy, as most of the patients in the cases collected had borne large families. [J.H.G.]

2.—Blacker remarks that the causes of postpartum hemorrhage are to be sought in the conditions giving rise to uterine inertia. These may be classified as follows: 1. Feebleness, exhaustion, or malnutrition of the patient, due to a condition of chronic starvation or the result of some disease complicating the labor, such as grave heart-disease. 2. Overdistention of the uterus and undue stretching of the uterine muscles, such as occurs in cases of hydramnios or multiple pregnancies. 3. Exhaustion of the uterine muscle from frequent child-bearing. 4. Pathologic conditions of the uterine wall, as fibroid tumors, marked fatty degeneration, and atony, due to septic infection. 5. Some mechanical hindrance to the contraction and retraction of the uterus, such as the retention of the placenta in utero, or the presence of adhesions between the uterus and surrounding structures. 6. Too rapid emptying of the uterus, either by the application of forceps or after version. 7. Extreme nervous depression and shock, such as may follow the birth of a dead child. 8. The administration of chloroform. 9. Deficient coagulability of the blood, such as occurs in septic affections and in hemophilia. As a means of prevention of postpartum hemorrhage, Blacker recommends small doses of ergot and strychnin combined with iron or hydrochloric acid during the last month of pregnancy. As a routine means of treatment he considers plugging the uterus as greatly inferior to bimanual compression. There are, however, two classes of cases with which the latter method is especially indicated, namely, where the uterus is prevented from contracting and retracting by the presence of adhesions, or by the existence of fibroid tumors in its wall. [W.A.N.D.]

3.—During the last 15 months Mackie has been using calcium iodate as an iodoform substitute and gastrointestinal antiseptic in surgical practice. He claims that calcium iodate acts as a destroyer of bacterial product and also has an inhibitory action on bacterial growth. He recommends calcium iodate in all cases where iodoform is commonly employed. Its advantages are, absence of smell, prevention of hypergranulations, checking of fetor and a decrease in pus-formation, and also that it may be used in aqueous solution as a mouth wash, urethral injection, washing out of the bladder, the vagina, or uterus. Internally he has employed it in checking fermentative changes in the stomach

in 2 grain doses repeated two or three times during the day. He claims that apart from its antiseptic value it possesses some tonic properties. For internal administration the drug should be given in solution. [F.L.K.]

4.—Freeland discusses the following questions under **circumcision**: 1. Is the operation safe? 2. Does the operation interfere with the physical well-being of the individual? 3. Does the end justify the means? The first is answered in the positive; second, in the negative; the third, in the positive. He argues that circumcision not only will prevent oftentimes dysuria, enuresis, urinary retention, balanitis, rectal prolapse, and the aggravation of gonorrhea and other venereal diseases, but that it also greatly lessens the tendency to contract syphilis and the spread of this disease. He produces figures to show how much less frequent syphilis is in the Hebrew race than in other races and attributes the fact to circumcision. In performing the operation he advises the removal of the entire prepuce with the frenum. [J.H.G.]

5.—Dunn believes that the rapid absorption of soft lens-matter from the anterior chamber can only occur after the **reduction of intraocular tension** by the removal of the aqueous. In order to bring this about and to prevent some of the disadvantages caused by the present methods of dissection, the author proceeded as follows under chloroform anesthesia: The pupil having been well dilated with atropin, a broad cataract needle is passed into the anterior chamber of the lens, a vertical and horizontal incision being made in the capsule. The lens matter having been broken up and the needle partially withdrawn, the latter was turned on its own axis, thereby allowing the aqueous to escape slowly. On the fourth day but a small quantity of lens matter remained at the bottom of the anterior chamber, with but a remaining trace on the fourteenth day. He believes that iritis will not follow this operation as a result of **mechanical irritation**, but only when antiseptic procedures have been improperly secured. [M.R.D.]

6.—The **diagnosis** was established by eliminating the following factors: The liver was of normal size, the costal and pulmonary pleurae were not fused, there was no communication between the abdominal and pleural cavities, and the growth was found either springing from or attached to the base of the lung. There was considerable dyspnea, cough, and expectoration, followed by extreme prostration after each attack. Paracentesis thoracis obtained 2½ ounces of a gelatinous material, which, upon microscopic examination, revealed broken-down hydatid cysts without hooklets. The patient died 5 days after admission to the hospital. Upon opening the chest at the autopsy a pint and a half of yellow gelatinous fluid, containing cysts, was obtained. The author believes that the symptoms in the case excluded empyema or pleurisy with effusion, and that its monolateral location eliminated hydrothorax. [M.R.D.]

New York Medical Journal.

January 12, 1901. [Vol. lxxiii, No. 2.]

1. Prevention and Management of Infection of the Breast During Lactation. C. S. BACON.
2. Question of Operation in Appendicitis. FORBES HAWKES.
3. The General Principles of Infant Feeding, with a Simple Method of Home Modification of Cow's Milk. L. EMMETT HOLT.
4. Dyspeptic Asthma. FRANK H. MURDOCH.
5. Some Remarks upon Tuberculosis of Bone. EDMUND OWEN.
6. A Case of Gangrenous Inflammation of Meckel's Diverticulum Simulating Appendicitis. C. R. DARNALL.

1.—Bacon calls attention to the distinction between **infection of the breast and simple hyperemia** or congestion of the breast. The establishment of the milk secretion is always attended with more or less painful congestion of the breast. Infection of the breast, on the other hand, is generally attended with fever, and while it is often confounded with simple congestion it is entirely a distinct process. It is now well known that the fever attendant upon the early puerperium is due to genital wound-infection. Hence the term "milk fever" should be entirely abandoned. If

there is no infection there is no fever. While the simple congestion of the breast is often attended with the tenderness which is characteristic of an infection, other symptoms, as chills and fever, are absent. As soon as these symptoms develop, infection of the breast exists. All measures tending to the improvement of the general health both before and after confinement are most important in the prevention of breast as well as all other infections. The two principles of prophylaxis are to avoid contamination with bacteria and to avoid or heal as quickly as possible the nipple-wounds. For prevention of wounds of the nipple as well as for their cure the nipple-shield is of very great importance. When the nipple-wounds become infected, but before there are any symptoms of general infection or involvement of the deeper breast, the local wound may be treated like similar wounds in other parts of the body. Chills and fever indicate the deeper infection of the breast, which should then be supported and put at rest by a proper bandage. Treated in this way from 80% to 90% of all breast-infections will terminate without abscess. A valuable adjuvant for the treatment of breast infection is the application of cold by means of the ice-bag. If in spite of this treatment tenderness continues and a suspicion of fluctuation exists, aspiration with the hypodermic needle may be performed and if necessary incision may be made. [W.A.N.D.]

2.—Hawkes believes that the surgeon should operate in all cases of **acute appendicitis**, except in those cases of a mild type which exhibit no bad signs or symptoms when first seen, and the patients are evidently recovering from their attack, but that we should operate in these cases later, that is, during the interval. As to whether every patient with appendicitis who has recovered from a first attack should be operated upon before the possible second attack, or this should be postponed until this second attack has occurred, Hawkes' opinion varies. He believes that while a certain number of patients, 23%, never have any trouble or any second attack, the majority, 77%, do have recurrences, any one of which may be distinctly dangerous or even fatal. Therefore operations afford the better chance of an absolute cure. [W.A.N.D.]

3.—See PHILADELPHIA MEDICAL JOURNAL, January 5, 1901, page 35.

4.—F. H. Murdoch reports 5 cases of **chronic dyspeptic asthma**, which form, he says, he has not seen described. The *acute type* presents *asthmatic seizures* after meals, characterized by dyspnea, cyanosis, and irregularity of the pulse. The oppression is relieved by belching and all symptoms disappear if vomiting occurs. The **chronic type** is marked by continuous shortness of breath (not paroxysmal) on slightest exertion. This occurs in patients suffering from gastrointestinal diseases, *without any discoverable abnormalities in heart, lungs, or kidneys*, and yields readily to treatment of the existing dyspepsia. Of Murdoch's 5 cases none complained of dyspepsia, but all came to seek relief from the distressing shortness of breath. Murdoch has found that no *one form* of stomach trouble is responsible for the condition. Three were suffering from *achylia gastrica*.

5.—Owen believes that the **astragalus** is that bone of the foot which is most frequently primarily affected by tuberculosis. Involvement of the ankle-joint by the tuberculous process is indicated by a bulging beneath the tendons in front of the ankle, and also between the posterior portion of the joint and the tendo-Achilles, together with a fulness about the malleoli. The author's experience has been that Syme's amputation has been followed by good results in a large number of cases of tuberculosis in this location. [M.R.D.]

6.—The symptoms in the author's case presented the interesting question as to whether the **diverticulum** became **primarily** or **secondarily** involved. The symptoms were early and constant elevation of temperature, some tympanites, partial intestinal obstruction, which, when relieved, gave rise to improvement in the condition of the patient. Death followed laparotomy. The autopsy showed a collection of seropurulent fluid in the abdominal cavity and engorgement of the peritoneal and mesenteric vessels. The diverticulum of Meckel was gangrenous, perforated and contained about an ounce of foul-smelling fluid. The author believes that the temporary alleviation of the symptoms was mainly due to the hypodermoclysis of normal salt-solution. [M.R.D.]

Medical Record.

January 12, 1901. [Vol. 59, No. 2.]

1. Coffee as a Beverage and its Frequent Deleterious Effects Upon the Nervous System: Acute and Chronic Coffee Poisoning. WILLIAM M. LESZYNSKY
2. An Improved Method of Performing Suprapubic Cystotomy. C. L. GIBSON.
3. Some Remarks on the Modern Surgical and Medical Treatment of Epilepsy. L. PIERCE CLARKE.
4. Report of a Case of Primary Glioma of the Optic Nerve. REDMOND W. PAYNE
5. The Choice of Suture for the Patella. EDWIN M. COX.

1.—The deleterious effects arising from the habit of coffee-drinking are discussed by Leszynsky. One-third of the coffee crop of the entire world is consumed in the United States. He points out the fact that children are especially susceptible to the effects of coffee, tea, etc., and believes that these drugs are frequently the unsuspected cause of **insomnia, night terrors**, and some **intellectual precocity**. He distinguishes between **acute** and **chronic** coffee-poisoning. When taken in sufficient quantity by those unaccustomed to its use it produces **excitability** even to the point of **delirium**. In the **chronic** form it gives rise to a depressive form of **neurasthenia**. It closely resembles chronic alcoholism, for which it is frequently mistaken and with which it is sometimes associated. Guelliot has studied carefully this form. He states that **digestion** is first deranged. At times there is **epigastric pain** radiating to the dorsal region. It was similar to the other **neuralgic pains** from which these patients suffer. The **pulse** is slow, soft, and compressible. The **tremor** which is present, at times, disappears after a dose of coffee just as in chronic alcoholism. **Sexual impotence** in the male and **profuse leukorrhea** in the female are prominent symptoms. It has been observed that confirmed coffee drinkers have a slow pulse (from 40 to 60). In treating the condition, which is frequently not diagnosed, the stimulant should not be absolutely withdrawn, but a morning cup of coffee allowed. The author recommends **nerve sedatives** and **tonics**, and at times the **rest-cure** is necessary. Most cases recover in from three to six months. [T.L.C.]

2.—Gibson under this head discusses the application of Kader's operation of gastrostomy to the establishment of drainage of the urinary bladder. In this operation the author hopes to gain: (1) Effective drainage of the bladder without leakage; (2) rapid closure of the fistula on discontinuance of the drainage; (3) the creation of a permanent sinus which should allow of permanent but periodical catheterization of the bladder, and, in the intervals, owing to its valve action, prevent escape of urine and do away with the discomfort of wearing a tube or dressing. His experience leads him to believe that the first two can be more readily obtained by this operation than by any other, and but for the want of a peritoneal covering to the bladder he thinks that the third also could be easily obtained. He believes that further experimentation will result in the accomplishment of this. [J.H.G.]

3.—Clarke urges the study of the pathological changes in the brain of epileptics. He thinks that medical treatment should invariably precede and follow operation. From the operative cases he would remove the idiopathic epileptics in whom the seizures have a definite form of invasion. The brain in such cases is epileptogenic, one zone being only a little more excitable than another. In Jacksonian epilepsy with well-marked trauma and no neurotic family history trephining may be advised if the epilepsy has not existed for more than 2 years. He thinks that surgeons report cures too early after operation. Some cases are made worse by operation. Operations for the purpose of relieving intracranial pressure in epilepsy is not to be advised, the pressure being the result and not the cause of the convulsions. He thinks Kocher's good results in these cases has been due largely to their careful selection and to his postoperative bromid treatment. Many cases of idiopathic epilepsy are due to infantile cerebral palsies. When such a history exists, operations should not be done. The opening in the skull in operations for epilepsy should not be closed with bones as a relief from pressure is of advantage. Medical treatment, he concludes, as follows: 1. By a combination of diet, regular occupation,

and personal hygiene, the bromids give the best results in treating idiopathic epilepsy. 2. The bromids, singly or combined, still remain our chief sedative for the epileptic state—in the young epileptic to secure a possible entire suppression of attacks and ultimate cure of the disease; in the adult, an amelioration of frequent paroxysms and comparative physical and mental comfort. 3. The bromids to be effective in chronic and long-standing cases must be given in large daily doses to suppress convulsions, from 300 to 400 gr. if necessary. They should be given gradually to find the sedative level, at which level it is the physician's principal duty to maintain them with physical and mental comfort to his patient. 4. Hot and cold baths, high enemas, alimentary antisepsis, and massage are absolutely essential to successful bromid medication. 5. Bromin is a worthy substitute for the bromids in many cases in which the latter are contraindicated or cannot be given in high dosage. 6. Salt-starvation or semi-salt starvation is a great adjuvant to the bromid treatment, and should be thoroughly tried in all cases in which bromids or bromin are apparently contraindicated before they are discarded. [J.H.G.]

4.—Payne's patient was a female child, 2½ years of age, with negative family history. The personal history showed that in the right eye there were signs of convergent strabismus shortly after birth, with the appearance of a gradually progressing exophthalmos 1 year later. There was almost an **entire limitation** in the downward movement of the eyeball but with power of moving the eye outward almost to the median line. Palpation of the globe met with resistance and 1 week before operation a small body could be felt at the temporal side. Pupillary reaction was sluggish and in the fundus some postpapillitic changes were noticed. The diagnosis of a benign tumor pressing upon the optic nerve was made. Upon laying open the external canthus, it was found that the nerve was evaginated and that its sheath enveloped the tumor. After exenteration, microscopic examination of the tumor showed destruction of the nerve-tissue which was replaced by glia cells. In addition to a resumé of the literature, the prognosis and pathologic histology of ocular and orbital neoplasms are discussed, together with the relative malignancy of optic-nerve growths. [M.R.D.]

5.—Cox, after calling attention to the disadvantages of wire as a suture, urges the use of large, plain or chromicized **catgut** in the fixation of fractures of the patella, and gives the histories of 3 cases showing excellent results from the use of this suture. [J.H.G.]

Medical News.

January 12, 1901. [Vol. lxxviii, No. 2.]

1. Splenic Anemia—Anemia with Enlargement of the Spleen. ALOYSIUS O. J. KELLY.
2. Some Diagnostic Details. EDGAR DARNALL.
3. On Gonorrheal Cystitis in the Female. F. BIERHOFF.

1.—A. O. J. Kelly reports a case of **splenic anemia** in a girl of 22 years. The girl while never robust was fairly well until May of 1899. Towards the close of that summer pain began in splenic region which she attributed to a fall which she had recently sustained. The splenic dullness extended from the eighth interspace to two fingers' breadth below the free margin of the ribs, and anteriorly about the same distance beyond the ribs. The organ was distinctly palpable. It was hard and regular in outline and the notch was plainly made out. The region was slightly tender. On February 14 the blood examination showed 50% of hemoglobin and 8,200 leukocytes. The urine showed no sugar or albumin. There was a basal systolic murmur present, the only cardiac symptom. She had two attacks of articular pain diagnosed as rheumatism—once in the hip, then in the right wrist. Sweats were frequent during March and April and then ceased entirely. The patient's condition first improved under nux vomica and Fowler's solution, but the improvement was only temporary and there followed progressive decline. Splenectomy was suggested, but the patient would not submit to the operation. Fever was present throughout the case, ranging on an average between 100° and 103°. Bleeding from an unusual source, the genitals, also occurred. Towards the close of the case (the patient died June 19, 1900), the dyspnea became extreme. This with the anemia and enlarged, tender spleen completes the clinical picture. The superficial

lymphatic vessels were not enlarged. No postmortem was obtained, so that the condition of the deep lymphatics was not ascertained. The differential diagnosis from ulcerative endocarditis was not an easy matter for some time during the course of the case. [T.L.C.]

3.—Bierhoff believes that many cases of chronic and acute **gonorrheal prostatitis** may frequently simulate acute or subacute cystitis. For this reason he believes that without cystoscopy or opening of the bladder, no positive diagnosis can be made in the male. Of 92 cases examined by the author, 67 were catarrhal, and 25 suppurative. Among these three were only 5 cases of gonorrheal cystitis, and those were found among the suppurative variety. In these cases the diagnosis of gonorrheal cystitis was made from an examination of the urine and cystoscopy. In all of the cases the spread of the disease beyond the originally infected area was prevented. In all cases of acid cystitis the author recommends the microscopic examination of the urinary sediment which will probably disclose the fact that there are more cases of true gonorrheal cystitis than has been supposed. He believes that if appropriate measures are employed before and after cystoscopy in the female during a gonorrheal cystitis that the dangers of this form of instrumental examination are not so great. [M.R.D.]

Boston Medical and Surgical Journal.

January 10, 1901. [Vol. cxliv, No. 2.]

1. A Short Account of the Recent International Medical Congress in Paris. HENRY BARTON JACOBS.
2. The Radical Treatment of Lachrymal Diseases. WALTER B LANCASTER.
3. An Operation for Cataract. EDWARD L PARKS.
4. Remarks upon Spinal Cocainization Suggested by Cases seen at Tuffier's Clinic in Paris, August, 1900. MAURICE H. RICHARDSON.
5. The Purulent Rhinitis of Children as a Source of Infection in Cervical Adenitis. CAROLUS M. COBB.

2.—The great majority of cases of epiphora are amenable to the usual conservative treatment which consists of astringent and antiseptic collyria, syringing and probing, and occasional treatment of the nasal cavities. In spite of a judicious selection and skilful application of these methods there remain a considerable number of cases which are not relieved. These are the cases for which something more radical must be done, and any method of treatment that promises a quick and sure relief from such a condition is worthy of attention. Such a method, it is claimed, is to be found in **extirpation of the lachrymal sac and gland**. In the case of a woman with an absolutely impermeable nasal duct and a lachrymal sac distended to the size of a small lemon by the long duration of the disease, the sac was filled with mucus, which was infected with ozena, and which could be expressed in large quantities into the conjunctival sac at any time. The appearance and the odor were disgusting, and the patient was anxious for any operation to gain quick relief. The lachrymal sac was removed and the disease was cured. Removal of the sac takes away the source of irritation, and not only does away with the disease of the sac and its dangers, but diminishes the flow of tears materially. The removal of the larger lachrymal gland causes surprisingly little diminution in the apparent moisture of the conjunctival sac. It is only when the eye is exposed to stimulus that the difference is usually apparent, and then the diminution is relative. There is never an absolute dryness by any means. There are some cases in which removal of the gland without the removal of the sac seems to promise relief, and if so, is to be preferred. The dangers of this **radical treatment of lachrymal diseases** are: disfigurement, orbital abscess, injury to the optic nerve and the cornea during the operation, and ptosis. The possibility of excessive dryness is conceivable perhaps, but has never occurred as far as Lancaster is aware. The history of 5 cases is given. [J.M.S.]

3.—Parks reports the case of a woman, aged 35 years, who was nearly blind. The right eye was undeveloped and there was a capsuloretaceous cataract in the left eye. A very large flap was made and a large iridectomy was done as a first operation. Thirty-seven days after the first operation the cataract, which was found to be more capsular than cre-

taceous, was removed. Five years after the operation the patient reads the newspapers without glasses; the visions is 4, and she wears a 4 or 5 D. for distance. [J.M.S.]

4.—Treated editorially.

5.—Cobb reports the case of a girl, aged 5 years, who was suffering from enlarged glands on both sides of the neck, just below the angle of the jaw. The history of the case was as follows: A child without history of previous trouble with the nose or throat had diphtheria at the age of 2 years and had a purulent discharge from the nose following this attack; 2 years later enlarged tonsils and adenoids are removed, and 1 year after the operation the patient still had a purulent discharge from the nose and a cervical adenitis following an acute coryza. There can be no doubt but that every case of adenitis in the cervical region is as truly the result of infection as adenitis in any other part of the body. The author enters an earnest plea for the treatment of these cases on the same lines that govern the treatment of adenitis in any other part of the body. There is no evidence that any considerable proportion of these cases of cervical adenitis is due to tubercular infection, and attention is called to the purulent or mucopurulent diseases of the nasal cavities as a possible source of infection. Infection having taken place and the discharge once established, absorption will sooner or later occur, and the lymphatics of the nose being directly connected with those of the neck, a **cervical adenitis** may result at any time, and, unless the **purulent rhinitis** is cured, the cervical adenitis will run a protracted course. The purulent discharge from the nose may not cause a cervical adenitis for some time, because the retained secretion is very largely contained in bony cavities, but it eventually denudes the mucous membrane over which it flows and then some condition, such as an acute cold, blocks the flow of the discharge and absorption of the retained secretion takes place. So long as the source of infection remains unhealed, it is hardly reasonable to hope to cure the adenitis. [J.M.S.]

Journal of the American Medical Association.

January 12, 1901. [Vol. xxxvi, No. 2.]

1. The Diagnosis and Treatment of the Prebacillary Stage of Pulmonary Tuberculosis. J. M. ANDERS.
2. The Relative Importance of Valvular and Muscular Lesions in Diseases of the Heart. S. SOLIS COHEN.
3. A Clinical Study of Myocarditis. LOUIS F. BISHOP.
4. A Plea for a More Rational Prognosis in Cardiac Affections. J. J. MORRISSEY.
5. Surgical Asepsis of the Urethra and Bladder, with Demonstration of a Device for the Purpose. FERD. C. VALENTINE.
6. Treatment of Prostatic Hypertrophy. PARKER SYMS.
7. Treatment of Tuberculosis of the Knee-Joint. WISNER R. TOWNSEND.
8. The Education of the Sense of Touch in Feeble-Minded Children and its Connection with Manual and Industrial Training. FLETCHER BEACH.
9. Euthanasia—A Medico-Legal Study. LOUIS J. ROSENBERG and N. E. ARONSTAM.
10. Removal of a Piece of Steel from the Globe by Electromagnet. WALTER B. JOHNSON.

1.—Anders calls attention to that **period in pulmonary tuberculosis which precedes the presence of tubercle-bacilli in the sputum**. He refers to the fact that this stage is not synonymous with the "pre-tubercular stage." The stage before the appearance of the bacilli is frequently a long one. In support of this he quotes Allbutt and Turban. In referring to the etiology of the affection he calls especial attention to heredity. Under physical examination he mentions in detail the various modes of onset, calling particular attention to "invasive symptoms and conditions such as pleurisy, gastrointestinal symptoms, hemoptysis and onset with symptoms of laryngitis." He calls attention to the importance of taking systematic thermometric records of the entire day for at least several days in succession. He cites the value of the tuberculin test and quotes 3 cases showing its value. He further refers to the value of the x-rays as diagnostic aids in incipient cases. Under treatment he calls especial attention to the value of "equability of climate with an abundance of sunshine." He further insists upon the

importance of proper nutrition. Among medicinal agents he prefers creasote, cod-liver oil, and the hypophosphites. A valuable bibliography is attached at the end of the article. [J.S.]

2.—Cohen gives a review of the **relative importance of valvular and muscular lesions of cardiac origin**. He concludes with a summary that the most important point to be taken into consideration therapeutically and as to prognosis is not the site and nature of the valvular lesion, but the condition of the heart-muscle, with the exception of mitral stenosis, in which he lauds the use of aconite to reduce excessive muscular effort when compensatory hypertrophy is not sufficient. [J.L.S.]

3.—Bishop, in discussing **myocarditis**, calls attention to the fact that it is eminently a clinical disease and that the postmortem findings do not always coincide with the clinical manifestations. Many of the changes in the heart-muscle are dependent upon pathologic changes in the arterial system. A fatal attack of angina may be brought about in a damaged heart through temporary anemia. He calls attention to the fact that many acute cases of myocarditis are of syphilitic origin. He divides myocarditis into two clinical classes—those which are due to infectious diseases and those which are due to diseases of the blood-vessel. He believes that in persons beyond middle life who are the subjects of severe attacks of pain referable to the left shoulder and left breast it is reasonable to suspect myocardiac disease, and such cases should be carefully investigated. Bishop says that it is reasonable to suppose that the pain of cardiac disease is due to the fact that the nerves of various viscera and the nerves of the corresponding portions of the body are connected. Irregularity of the force and rhythm of the heart's action he believes is an early symptom. The character of the pulse is also of important diagnostic value. He states that myocarditis is quite common in colored people on account of syphilitic infection. He gives the report of several cases of myocarditis. [F.J.K.]

4.—Morrissey in discussing the prognosis in cardiac affections comes to the following conclusions: That the condition of the cardiac walls, the condition of the lesion and the time it has existed should all be taken into account when hearing a heart-murmur. The individual should also be taken into account, especially pertaining to his occupation and temperament. It should be remembered that murmurs are not always indicative of endocarditis. In life insurance work too much importance should not be placed upon the presence of a murmur, if the heart still maintains its compensatory power, particularly if the occupation of the patient is not laborious and he has passed the age when rheumatic fever is liable. Morrissey states that aortic stenosis is a favorable lesion from a prognostic standpoint as regards duration of life. Too much importance cannot be laid upon the fact that a patient should not be told that he is suffering from cardiac disease if the condition be trifling, for neurasthenia is apt to develop. Repeated examinations should be made by the physician in cases of cardiac disease. [F.J.K.]

5.—Valentine gives an elaborate description of the method of **surgical asepsis of the urethra and bladder**, together with the demonstration of the autoirrigator, a device which he has employed with a considerable degree of satisfaction. He claims that this instrument enables the surgeon to perform urethral and intervesical irrigations anywhere. It offers likewise a safe and convenient means of anterior urethral irrigation in gonorrhea, when the patient cannot visit his physician for the purpose. Also it furnishes a convenient addition to the instrument-bag for performing ante-operative and postoperative irrigation of the urethra and bladder. It is also a most convenient apparatus for aseptic catheterism. [W.A.D.]

6.—Syms urges upon the profession the importance of the early recognition of obstructing prostatic hypertrophy. He insists that they should submit such patients to a radical operation before cystitis, prolonged pain, infection and fatigue place them in such a condition that they are unfitted to undergo a surgical operation. Nothing can afford relief to the patient except some procedure which will remove the obstruction to the outflow of the urine. There are but two methods of treatment which deserve favor in the minds of the profession, namely: prostaticectomy, and secondly, pro-

tomy performed by means of an electric cautery knife, the operation being known as that of Bottini. [W.A.N.D.]

7.—According to Townsend, the **constitutional treatment of tuberculosis of the knee-joint** should be largely climatic, together with close attention to any organ of the body which is not in perfect condition. Complete rest in bed is preferable to the ambulatory treatment if the patient's joint is tender. Local treatment consists in proper protection of the articulation, perfect rest of the joint, the prevention or correction of deformity, the removal of the tuberculous process, and the treatment of any complications that may arise. To prevent deformity of the knee, plaster of Paris, leather, silicate of sodium or other materials may be used. Care must be taken, however, to see that they are made sufficiently long in order to accomplish the desired result. The removal of local tuberculosis includes the operations of arthrectomy, excision, and amputation, according to the nature of the case. In adults excision is indicated in a large number of cases, but only exceptionally in children. [W.A.N.D.]

8.—Beach endorses the suggestion of Seguin, that the proper way to educate feeble-minded children is the education of the senses, and the more thoroughly this education is conducted, the better will be the training which can afterwards be given. He especially refers in this article to the education of the sense of touch, which, in feeble-minded children, is much more dull than in ordinary children. Such patients do not suffer pain to the same extent as healthy children. The training consists in efforts directed toward the promotion of coordination and the cultivation of the finer muscular movements. Kindergarten occupation may prove especially serviceable in these cases. Children raised in the country are especially suitable cases for cultivating successfully this deficient sense. [W.A.N.D.]

9.—Rosenberg and Aronstam believe that the practice of euthanasia would, in the long run, cause more harm than good. They are convinced that it is far better for the welfare of humanity to let a few suffer rather than run the risk of creating crime and criminals, which they believe would result from the too frequent production of euthanasia. In no case and under no circumstances should the physician intentionally or directly cause death. [W.A.N.D.]

10.—Johnson reports the **removal of a piece of steel from the vitreous** with an electric magnet devised by him. A chip struck the cornea causing an oblique wound extending from limbus to limbus at the upper inner quadrant, thence through the iris, causing prolapse of the latter, and through the lens into the vitreous. The results indicated that the eye-ball could be preserved with a probable later improvement of vision (patient could see shadows after operation) by operative assistance. [M.R.D.]

American Journal of the Medical Sciences.

January, 1901.

1. A Case of Multiple Fibromata of the Nerves, with Arthritis Deformans. ROBERT B. PREBLE and LUDVIG HEKTOEN.
2. e Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis. EUGENE L. OPIE.
3. A Report of a Case of Typhoid Pleurisy. HERMAN CAMP GORDINIER and AUGUST JEROME LARTIGAU.
4. A Study of a Case of Gonorrheal Ulcerative Endocarditis with Cultivation of the Gonococcus. AUGUST JEROME LARTIGAU.
5. Obstructive Biliary Cirrhosis. WILLIAM W. FORD.
6. Dorsal Dislocation of the Trapezoid. JOHN GLENDON SHELDON.

1.—Preble and Hektoen report a case of **multiple fibromata of the nerves with arthritis deformans**. The patient, a female, aged 35, gives a family history which has no bearing upon her own condition. The first tumor appeared upon the forehead when the patient was very young, and after a short interval many other tumors developed in different parts of the body. Joint changes showed themselves some years after the formation of the tumors. The smaller joints in the hand were affected first. The tumors were almost without exception painless, and varied in size from time to time. The patient complained of pain

in the abdomen, legs, and feet; walking soon became impossible. The neoplasms on the forehead were arranged in string-like tortuous masses, the largest one being about the size of a small bean. The tumors of the body, neck, and limb varied from the size of a pinhead to the size of a nut. In the deeper tissues the tumors were arranged parallel to the long axis of the body. They permitted of lateral motion, and were not attached to the skin. The arthritic deformity involved the joints of the hand, wrist, knee, and hip. The movement of the jaw was limited, and curvature of the spine was present. The joints of the knee and hip were ankylosed. The nervous system showed no alterations, and the patient was fairly intelligent. Gangrene of the toes developed 10 days before death. Upon postmortem examination the important pathologic lesions were the joint changes, and the fibromata, which appeared to spring from the nerve sheaths. The joints of the wrist, hand, ankles, and feet were especially involved; some of the joints were apparently completely disorganized. The tumors were connected with many of the nerve trunks. The anatomic diagnosis was: "Multiple fibromata of the cerebrospinal and sympathetic nerves; compression of the spinal cord; polyarthritis deformans with kyphoscoliosis, ankylosis, and contracture; moist gangrene of the foot; decubitus; chronic dermatitis of the left leg; inflammation of the frontal sinus; chronic nephritis; marasmus." The literature in regard to these new growths was then carefully reviewed. [F.J.K.]

2.—Opie in an article on the **relation of cholelithiasis to disease of the pancreas and to fat necrosis** directs particular attention to the occurrence of pancreatic disease as a complication of gallstone colic. He mentions two ways in which the pancreas may be involved. 1. As inflammatory changes are not infrequently dependent upon passage of gallstone such inflammation might involve the pancreas by extension. 2. A gallstone lodging at the orifice of the common duct may occlude the main pancreatic duct and favor the growth of microorganisms in the accumulated secretion, and even the secretion if retained in the pancreas might produce pathologic changes. Bilser described disseminated fat necrosis in 1882. This necrosis involves the fat in the neighborhood of the pancreas such as the omentum, subperitoneal fat and mesenteric fat, less frequently the subcutaneous and pericardial fat. Opie refers to Langenhans as demonstrating that the necrosis is associated with the separation of the fat into fatty acids which are insoluble and therefore remain in the cell, and into glycerin which being soluble is carried away. He also mentions the researches of a number of investigators who believe that this necrosis is dependent upon the pancreatic secretion finding its way out of the gland, and that the fat-splitting ferment of the pancreatic juice is directly responsible for this pathologic condition. In his own experiments he has shown that ligation of the pancreatic duct in the cat is attended with extensive fat necrosis. The administration of pilocarpin hastens this pathologic change. The occlusion of the main pancreatic duct does not in every case prevent an outflow of the secretion into the intestine on account of the communication of the duct of Wirsung in the gland with the duct of Santorini which opens into the duodenum. Schirmer's observation on the relations of the two ducts are mentioned: Out of 104 bodies, 65 were found which had an accessory duct opening into the duodenum, and that there was an anastomosis of the main duct with a smaller duct within the organ. One body showed 3 distinct openings into the duodenum. Four cases revealed a single pancreatic duct opening just above the diverticulum of Vater. In 34 cases the smaller duct did not open into the duodenum or anastomose with the larger duct. From this variation in the anatomy of the ducts it is shown that slightly more than one-third of the cases of gallstone obstruction at the mouth of the common duct would be associated with retained pancreatic secretion. A lengthy report of a case is given: The patient, a male, aged 47, was admitted to the Johns Hopkins Hospital (service of Dr. Osler), gives a previous history of jaundice, abdominal pain and fever lasting for 3 weeks. These symptoms occurred 6 months before the present illness. Eighteen days before his admission he was seized with vomiting and severe general abdominal pain which lasted for 5 days. He was constipated and there was abdominal distention. His temperature was irregular, varying from 100° F. to 103° F., with chills. The pulse varied from 100 to 120. Abdominal distention and

some abdominal pain and tenderness persisted. Upon examination a resistant mass was detected which occupied the right hypochondriac region, the right half of the epigastrium, and the upper half of the umbilical region. The leukocytes numbered 18,300. The urine is clear, the specific gravity 1.017; sugar is not present, but there is a trace of albumin. The temperature varied between 99.2° F. and 104.8° F. Another count of the leukocytes showed 19,500 per cubic mm. The diagnosis of suppurative pancreatitis was made and the patient was operated upon under cocaine anesthesia. A large abscess was evacuated. Death followed 4 hours after the operation. The autopsy was performed 3 hours after death. An abscess was discovered occupying the position of the lesser peritoneal cavity. The pancreas was large and firm and of a reddish color. Fat necrosis was found in the fat of the abdominal walls, omentum, mesentery, in the fat anterior to the bladder, in the peritoneal and retroperitoneal fat. A gallstone, measuring 7 mm. in diameter, was found near the orifice of the common duct. The bile ducts were dilated, but the pancreatic duct was not. The gallbladder contained over 100 stones. Upon microscopic examination the areas of fat necrosis showed necrosis of the fat cells, but the outlines of the cells were still preserved. The pancreas shows marked chronic interstitial changes and dilations of many of the acini. There are also some necrotic areas and the evidences of former hemorrhage. Inoculation made from the abscess wall revealed cultures of the *Bacillus coli communis*, the *Bacillus lactis aerogenes* and the *Bacillus proteus vulgaris*. From the clinical and pathologic evidence presented it was reasonable to believe that the cause was primarily due to a gallstone, thereby causing obstruction and retention of pancreatic secretion. A brief history of 7 other cases is also given in which a calculus was lodged in the common duct near its orifice. Six of these cases were accompanied by fat necrosis and some were associated with hemorrhage. Thirty-two cases of pancreatic disease and fat necrosis in association with cholelithiasis are tabulated from literature. A case of Phulpin is cited with the report of the autopsy in which the anatomic diagnosis was interstitial pancreatitis and peripancreatic fat necrosis following obstruction of the pancreatic duct from a gallstone in the mouth of the common duct. The following conclusions are drawn if the gallstone should lodge in the orifice of the common duct and cause compression of the pancreatic duct: 1. With biliary colic and sudden attack of epigastric pain, vomiting and collapse, death may occur in 48 hours. The pancreas will be found enlarged, with blood infiltration into the organ and surrounding tissues and perhaps some fat necrosis. 2. Death may not follow in 48 hours, but jaundice develop and the pancreas may become infected with the formation of an abscess. Under such circumstances the symptoms of sepsis will arise, and death occurs after the lapse of some weeks or months. 3. Repeated or long-continued obstruction of the pancreatic duct by gallstone may cause chronic interstitial changes in the pancreas. [F.J.K.]

3.—Gordinier and Lartigau report a case of **typhoid pleurisy**. The patient, a physician, aged 57, seen by Gordinier on July 14, 1899, gave a previous personal history of an attack of inflammatory rheumatism at the age of 16, which lasted for several weeks, at 20 he had typhus fever, and at 43 he had typhoid fever. This illness lasted for 4 months, and since the attack of enteric fever he has enjoyed comparatively good health, except that he has suffered at times from shortness of breath upon exertion and slight edema of ankles. The present illness was marked by loss of appetite, malaise, headache, constipation, muscular and joint pain, and colicky pain in the abdomen. On July 10, 1899, he was confined to his bed, upon examination the patient presented cyanosis of the lips, finger-tips, and ears, the respirations were hurried, and the pulse was small, irregular and rapid (120), his temperature 103° F., and the tongue was coated. Tympanites, tenderness over the right iliac fossa, enlargement of the liver and spleen were noted, but rose spots were absent. Physical examination revealed a double mitral lesion with displacement of the apex to the left and reduplication of the second sound. The lungs showed congestion and some edema posteriorly, the urine gave a diazo-reaction, the Widal-reaction was negative, leukocytosis was absent, and the plasmodium malarie was not found in the blood.

A provisional diagnosis of typhoid fever with failing heart compensation and edema and congestion of the lungs was made. After some days the patient improved, especially those symptoms relating to the heart and the lungs, but fever continued up to this time. The treatment consisted in the administration of digitalis, strychnin, and nitroglycerin. Upon physical examination on July 17 the signs of a right-sided pleural effusion were elicited, and two days later the signs were very marked. Aspiration was performed and two quarts of a greenish, opalescent fluid were withdrawn. The operation was repeated on two subsequent occasions. From the pleural exudate the *Bacillus typhosis* was isolated in pure culture. [F.J.K.]

4.—Litigau reports a case of **gonorrheal ulcerative endocarditis with cultivation of the gonococcus**. The patient, a male, colored, aged 20, was admitted to the Roosevelt Hospital, August 4, 1900. It was ascertained that the patient had urethral disease for 8 weeks previous to his admission to the hospital, and for 6 weeks before he had two or three attacks of chills and fever per week. One day before admission he lost the power of speech. On the day he entered the hospital his pulse was 126, his respiration 32, and his temperature 103° F. His tongue was coated and his lips swollen. An inguinal gland on the left side was found enlarged. A loud systolic murmur was heard at the apex and was transmitted to the left. Several days later (August 6) he developed low muttering delirium. A circumcision was performed. The urethral discharge ceased after some days of treatment with irrigations of potassium permanganate. A blood examination on August 18 showed a leukocytosis of 11,400 with a slight anemia. Later he developed a swelling of the right elbow joint which only lasted a day, but tenderness persisted. Fever was present during the illness and death occurred on September 5. Postmortem examination showed ulcerative endocarditis of the mitral valve with eccentric hypertrophy of the left heart. Urethritis, edema and congestion of the lungs, splenic enlargement with infarction and cloudy swelling of the kidneys and liver were found. Upon microscopic examination of the urethra destruction of the epithelium was found, and round cell and polymorphonuclear cell infiltration of the deeper tissues. A diplococcus resembling the gonococcus tinctorially and morphologically was present upon the surface of the membrane and in the tissues beneath. Sections of the inflamed mitral valve segment showed necrotic areas, leukocytic and round-cell infiltration. There were also biscuit shaped micrococci as a rule arranged in pairs and some were within the leukocytes. Inoculation from the valve lesion upon a blood serum tube gave a growth of two smaller grey colonies at the end of 48 hours. These colonies consisted of micrococci which were morphologically and tinctorially identical with the gonococcus. A similar result was obtained from an inoculation from the heart's blood. The *Bacillus coli communis* was found in the liver, gall, and urinary bladders. He reviews 5 other cases in which the gonococcus was obtained in culture: (1) That of Thayer and Blumer, who obtained gonococci from the blood during life and demonstrated the microorganism microscopically after death; (2) that of Dauber and Burst, who demonstrated the gonococcus in pure culture in the heart's blood; (3) that of Thayer and Lazear, who obtained cultures of the microorganism 3 times during life and from the lesions of the pericardium and heart; (4) that of Rendu and Halle, who also obtained culture during life from the endometrium and heart lesions after death; finally (5) that of Lenhartz, who produced urethritis accompanied by a purulent discharge with the gonococci which were obtained in pure culture from an aortic valve lesion. Lartigau draws the following conclusion: "1. Gonococcal urethritis may be the starting point of a fatal septicemia induced by a pure infection with the gonococcus. 2. Endocarditis and arthritis are occasionally complications of such an infectious disease. 3. The endocardial process may be incited by the gonococcus without the association of other organisms." [F.J.K.]

5.—Ford reviews the literature of cirrhosis of the liver with special reference to the frequency of **obstructive biliary cirrhosis**. He gives a report of 21 cases collected from literature, and of 3 cases hitherto unpublished as occurring since 1882. He mentions the researches of J. Wickham Legg and J. M. Charcot as being the first observers to distinguish obstructive biliary cirrhosis as a distinct pathologic

condition. He also briefly cites the results of the experiments of Legg "on the changes in the liver which follow ligation of the bile ducts," stating that out of 16 cats in which the common bile ducts were ligated, 12 developed enlargement of the liver, increase in the interlobular connective tissues, and atrophy of the liver-cells. Results in many respects similar to those of Legg were observed by Charcot, by tying the bile-duct in rabbits. Both of these observers naturally could not exclude the ill effects produced by sepsis. Two cases were reported by Legg, in 1874, which were his first clinical observation, and in 1876 the same author published a case of congenital deficiency of the hepatic and cystic ducts with interlobular and intralobular cirrhosis of the liver. Reference is also made to the monograph of Charcot and Gombault published in 1876 in which the following classification is set forth: Hypertrophic, or Hanot's cirrhosis, cirrhosis depending upon biliary obstruction (the two conditions being identical from an anatomic standpoint), and Laennec's atrophic cirrhosis. The report of 4 cases of cirrhosis following biliary obstruction also appears in the monograph. The cases collected by Manglesdorff, of Leipzig, up to 1882, of cirrhosis depending upon biliary obstruction, numbered 184. In an analysis of the cases collected by Ford he concludes that the most common cause is a congenital deficiency of the bile-ducts. As etiologic factors, gallstones are next in order of frequency. Round, sharp edged stones are much more liable to cause inflammatory changes of the biliary passages than smooth, round stones, and therefore secondary sclerotic changes with stenosis in the ducts follow. Cancer of the head of the pancreas and enlarged glands at the hilus of the liver are rare causative factors. In the early stages the livers in cases of obstructive cirrhosis are large, heavy, very firm, the surface is rough, the biliary passages are dilated and new islands of connective tissue are visible. In the later stages in a large proportion of cases, from the contraction of the new fibrous tissues, the organ becomes smaller, portal obstruction develops (ascites, edema of the extremities, the caput medusæ) and the conditions resemble more nearly the cirrhosis of Laennec. Histologically there is an increase in the amount of fibrous tissues which may be interlobular, intralobular or pericellular and is found around the dilated bile-ducts and the bloodvessels. Many new-formed bile-ducts are also present. This reduplication of the bile-ducts, however, is found in many other pathological conditions of the liver. Ford calls attention to a wreath-like distribution of bile-ducts which has not been previously emphasized except in the cases studied in Montreal, and he therefore suggests that this change may be of importance in determining histologically this form of cirrhosis. From a study of the clinical symptoms, the cases of obstructive cirrhosis reveal a symptom-complex and subsequent changes which are very characteristic. The onset is sudden, marked by extreme jaundice and manifestations of cholemia, clay-colored stools, enlargement of the liver, absence of fever (only being present in those cases presenting intermittent jaundice), emaciation, and progressive loss of strength. Hepatic incompetence and autointoxication is suggested instead of the term cholemia. Later in the course of the disease, when obstruction of the liver is present, symptoms of portal obstruction arise which differentiate this from the ordinary cirrhosis of the liver in which jaundice is present. From an etiologic standpoint he concludes that experimentally cirrhosis of the liver can be produced by obstruction of the flow of bile. In man, however, there is always some degree of inflammation of the bile-ducts and round-cell infiltration accompanying cirrhosis, so that damming back of the bile does not only lead to cirrhosis but may also lead to some degree of inflammatory changes in the bile-ducts. Granting that the bile causes poisonous action on the liver-cells as to cause cirrhosis, yet we are still in doubt as to the route the bile traverses in order to come in contact with the liver-cells. Is it direct or is the bile first taken up by the lymphatic system and circulation before coming in contact with the cells? Three varieties of biliary cirrhosis have been described. 1. The biliary cirrhosis of children in India, which is characterized by painless enlargement of the liver and enlargement of the spleen, great thirst, fever, jaundice, increased appetite alternating with anorexia, constipation and later ascites. Anatomically the liver is bile-stained, typically cirrhotic, and microscopically presents the increase of the bile-ducts, degeneration of some of the liver cells and an abundance

of fibrous connective tissue, which is interlobular and intralobular, often surrounding small groups of liver cells so that it is really pericellular. 2. Hanot's cirrhosis is characterized by attacks of abdominal pain, a dull pain in the region of the liver, increasing jaundice, without clay-colored stools, no ascites or enlargement of the abdominal veins. Emaciation is slow and bodily strength and fair health is maintained for a long while. Enlargement of the liver progresses, and fever, which is at first slight, may become marked and intermittent. The course of the disease is usually chronic, although there are acute cases. Anatomically the liver presents symmetric enlargement, is smooth, does not show perihepatitis, is jaundiced, and the common and hepatic ducts are not dilated or obstructed. Upon microscopic examination the new formed fibrous tissue is both intralobular and interlobular, perhaps more often pericellular. There are inflammatory changes in and about the bile-ducts. 3. Cirrhosis due to biliary obstruction. He gives the important difference between Hanot's cirrhosis and obstructive biliary cirrhosis in a differential table. [F. J. K.]

6.—Sheldon reports a case of **dorsal dislocation of the trapezoid**, which the author states is the second one reported since Gay's case in 1869. The patient delivered a blow with his fist in such a manner that the whole force of the blow was brought to bear on the distal end of the metacarpal bone of the index finger. When the blow was struck there was slight flexion of the wrist and elbow-joint. Patient suffered considerable pain. Upon examination a swelling of considerable hardness was seen that extended about a centimeter beyond the dorsal surfaces of the other carpal bones. There was no crepitus, extravasation of blood, widening of the wrist, or shortening of the metacarpal bones of the index finger. The fluoroscope showed dorsal displacement of the trapezoid. Experiments upon the cadaver, with application of force similar to that causing the injury in the case reported, was tried by the author on 12 occasions. In no case was it possible to produce an uncomplicated dorsal dislocation of the trapezoid, but the result was either that the metacarpal bone of the index finger was fractured or the ligaments were torn, rendering the application of the force in the desired direction futile. It was found upon examination of the anatomy of the parts that division of the dorsal ligaments between the trapezoid and the metacarpal bone of the index finger rendered it possible to experimentally simulate the dislocation. [M. R. D.]

Archives of Pediatrics.

December, 1900. [Vol. xvii, No. 12.]

1. Fetal and Infantile Typhoid. JOHN LOVETT MORSE.
2. Pulmonary Tuberculosis in Infants and Children. FRANK P. NORBURY.
3. A Report of 187 Cases of Measles with Reference to Koplik's Spots and Their Value in Diagnosis. JOHN J. COTTER.
4. Poisoning by Vapo-Cresolene. S. S. ADAMS.
5. Fatal Intestinal Hemorrhage Without Known Cause in an Infant of Five Months. MAURICE OSTHEIMER.

1.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1284.

2.—Hereditry is of etiologic importance in the study of tuberculosis, but it has lost its prestige as compared to its former standing. In the light of modern scientific inquiry infection has supplanted direct hereditry as the etiologic factor par excellence in tuberculosis. It is not disputed but that direct hereditry is responsible for a limited number of cases. The great majority of cases of **pulmonary tuberculosis in infants and children**, however, are due to infection. This is proven by the fact that the disease does not appear until the child is at least 3 months old, and, according to the studies of Comby, there is a steady increase of tuberculous cases from 9% during the first year to 38% during the second year. Tuberculosis evidently starts more frequently in the thorax than elsewhere. The infection is not necessarily through the respiratory tract, for the infection may come from the intestines and find its way through the lymphatics to the lungs. Milk is undoubtedly a source of infection, and while not having as vulnerable point of vantage in the intestine of a healthy infant, yet let disease or fatigue lessen the

resistance of the child and infection is possible. The work of Gehrman and Evans demonstrates conclusively that the milk from cows showing the tuberculin reaction should not be used, neither should butter made from such milk be used. In infants we find comparatively few complications; but in patients more than 2 years old complications commence to appear. Of these, tuberculous meningitis is the most conspicuous and severe, while tuberculous diseases of the joints and bones occupy a conspicuous place clinically. The infant of tuberculous parentage should receive proper care from the date of its birth. The nursing should at once become the subject for artificial feeding; the infant should not live in the room with its mother; and kissing should be prohibited. The babe should live in the open air as much as possible; should have a large airy nursery; and should have the surroundings conducive to good living thrown about it. The diet, we know, must be supervised; the milk must be under inspection and should be sterilized. Among medicines, creosote and creosotal have been used with value to the patient. [J.M.S.]

3.—Cotter's studies furnish data concerning Koplik's spots from the complete records of 187 cases. In these cases Koplik's spots were positive 169 times, negative 8 times and doubtful 10 times. Poorly nourished children of the type known as marasmic, those affected with rickets, or with the taint of hereditary or acquired syphilis seem not to present the spots at all, or at least not so clearly as their more vigorous companions. Two patients, a healthy, nursing child, 5 months old, and a vigorous boy of 3 years, did not show the spots. After the discovery of these spots, any attempted methods of restraint did not arrest the progress of the disease, so that we can but believe that when measles reaches the stage of Koplik's spots the exposure to other children has been great. Of the entire 187 cases, not a single one presented Koplik's spots as the only evidence of the disease which was to follow. The author was unable to isolate a single case on the strength of the spots alone, because the two symptoms, fever and spots, invariably traveled together. [J.M.S.]

4.—See PHILADELPHIA MEDICAL JOURNAL, Vol. V, p. 1000.

5.—Ostheimer reports the case of a boy who at his birth weighed 7½ pounds. He did not thrive during the first 3 weeks, his weight falling to 5½ pounds. Then his temperature rose to 101° F., with vomiting and diarrhea. His mother meanwhile died of sepsis. Upon a modified milk mixture the weight of the patient reached 9 pounds. At 4½ months his temperature suddenly rose to 102°. Suddenly, one morning there was a hemorrhage of 8 ounces of bright blood from the bowels, followed by collapse, this was followed by another 8 ounce hemorrhage 2 hours later, and 8 hours after that, 6 more ounces of blood were passed. The autopsy showed no evidence of gross ulceration from which the hemorrhages could have taken place. There were no signs of syphilis nor of tuberculosis. [J.M.S.]

Edinburgh Medical Journal.

December, 1900. [N. S., Vol. viii, No. 6.]

1. Points of Practical Interest in Surgical Gynecology. VI. The Indications for the Operations of Hysterectomy and Myohysterectomy in Myoma. H. MACNAUGHTON JONES.
2. The General Care of the Skin, Considered from the Point of View of Prophylaxis. W. ALLAN JAMIESON.
3. Dental Caries as a Factor of Disease. J. R. LEESON.
4. Observations Relating to the Symptoms and Effects of Oxygen Inhalation. G. LEEB DU TOIT.
5. Notes on Surgery of the Joints. ARTHUR NEVE.

1.—Jones makes a distinction between the terms **hysterectomy** and **myohysterectomy**. By the former he refers to the operation of the complete removal of the uterus, with or without the adnexa, whether by the abdominal or vaginal route, or by what is known as the combined method; by the latter he means the incomplete removal of the uterus, inasmuch as more or less of the cervix uteri is left and the operation is completed without opening the vagina, and hence is termed the supravaginal method. The changes that may arise from the presence of a myoma which would indicate one or another of these operations he classifies

as follows: (a) Degenerative changes in the tumor, which may be mucoid, colloid, calcareous, sarcomatous, suppurative, gangrenous, necrobiotic, telangiectatic, and adenocarcinomatous. (b) Adnexal complications: inflammatory, adhesive, suppurative, and cystic or solid tumors. (c) Bowel complications: obstruction and adhesions, omental or intestinal. (d) Peritoneal complications: peritonitis, pelvic or general and acute, subacute or septic, and ascites. (e) Vesical, renal and ureteral complications: Displacement of the bladder and ureters, adhesions, obstruction of the ureter, hydronephrosis, pyonephrosis, and albuminuria. (f) Circulatory complications: Hemorrhage, anemia and cardiac complications. (g) Those arising from pregnancy: Abortion, miscarriage, ectopic gestation, rupture of the uterus, malpresentation, dystocia, obstructed labor, and postpartum hemorrhage. (h) Mental effects: The disorder of mentalization may vary in degree, from the neurasthenic or hysteric state to phases of melancholia, dementia, or mania. (i) General consequences: Under this he includes such consequences of pressure as difficulty in walking; inflammatory changes in the tumor due to exposure or traumatism; interference with health, consequent upon pain, weight of the tumor, constipation, urinary disturbance, and the depression and apprehension caused by the presence of the tumor. Such examples as inversion of the uterus and actual rotation of the tumor must not be forgotten, although they are very rare. [W.A.D.]

2.—Jamieson discusses the best method of caring for the skin and its appendages with especial view to prophylaxis. He advocates the frequent bathing in cold water and believes in the use of the flesh-brush rather than soap, the habitual use of which he deprecates. He does not believe that warm baths should be taken often. The hair should be washed frequently in cold water. He advocates the use of almond oil, as a lubricant when the scalp is dry, and advises its modification, as may be indicated, with eucalyptus or resorcin. He recommends finally Haegler's method for rendering the hands surgically clean, as far as possible. The surface fat should be removed with a paste of kaolin smeared over the hand for a few minutes; or as Jamieson recommends the use of a paste of emol-keleet instead of kaolin. The hands are then washed with infusion of bran and tincture of green soap, and dried with brisk rubbing with a rough towel. This treatment is radical, and after the operation efforts should be made to restore the natural fat with infusion of bran and lanolin or some other unguent. [T.L.C.]

3.—Leeson advises the routine examination of the teeth and hygienic care of them, drawing attention to cases in which various persistent neuralgias, etc., had yielded when the teeth were properly cared for. He sounds a note of caution lest this simple method of procedure be overlooked in our routine examinations as to the etiology of vague conditions. [T.L.C.]

4.—Du Toit gives his observations relating to the symptoms and effects of oxygen inhalation. He mentions its remarkable hypnotic influence in many cases and states that it has no apparent effect on the respiratory system. On digestion it has the effect of drying the mucous membranes. This is relieved by a draught of acidulated water. It increases the appetite and thus assists the patient gaining weight; he also claims for the gas an antipyretic action. He furnishes a résumé of the various modes of applying the gas to the different parts of the body. He is especially favorably impressed with the routine administration of oxygen in pneumonia, believing that the gas does good by reducing the high temperature and greatly easing the embarrassed respirations. In the treatment of ulcers and wounds he follows Reid in recommending that surgical dressings be not placed on the wound but on a light wire cage or support, which while permitting them to afford protection, prevents them from acting as foreign bodies. The application of oxygen can thus be facilitated to such wounds. Upon the administration of oxygen, the skin around the ulcer or injured portion becomes very dry and it is recommended that lanolin be applied to prevent the skin from cracking. In the treatment of ulcers the patients have the gas applied for several hours at a time, day and night, after having had a sterilized water dressing applied at other times, he reports in general very favorable results of oxygen in cases in which he has used it. [T.L.C.]

5.—In the past 10 years there have been 140 joint opera-

tions done at the Kashmir Mission Hospital. Of this number only 28 were amputations for disease of large joints. He refers to the relative infrequency of amputation since the introduction of antiseptics and quotes figures to confirm this. Of the cases operated on 97 were arthrotomies, with 2 deaths; 30 arthrectomies, with 2 deaths; 70 excisions, with 4 deaths; 343 other operations about joints, with no deaths. Indications for arthrectomy and for excision differ for different joints, the elbow, for instance, requiring excision for a condition, albeit in the knee joint, would only require arthrectomy. In order to preserve function it is necessary to operate before the tissues have been destroyed by disease and the muscles atrophied. Little time should be lost in drainage and rest, with general treatment, unless there is a local and constitutional response. Mortality for the 540 cases was 1.5%; for the major cases, 4%. Of the 28 cases of amputation for diseased joints 2 died. [J. H. G.]

British Gynecological Journal.

November, 1900.

1. The Gynecologic Treatment of the Insane. ERNEST HALL.
2. Pregnancy Complicated by a Fibroid Tumor. GEORGE E. KEITH.

1.—Hall gives a comprehensive summary of the subject of the **gynecologic treatment of the insane**, and as a result of his investigations he concludes as follows: 1. The prevalence of disease of the pelvic organs, and the absence of any other determinable organic disease, in many patients who manifest psychic abnormality, coupled with the fact that in a by no means small percentage of cases the removal of the pelvic disease is followed by a rapid return to the normal mental condition, justly lead us to the conclusion that between pelvic diseases and mental aberration there exists some correlation, but as to its exact definition we cannot yet speak. 2. In all cases of mental abnormality in either sex which develops from the advent of puberty onwards, the condition of the pelvic organs, with their functions, should be made a matter of searching inquiry. 3. Whenever possible before commitment in the hospital for the insane, the pelvic organs should be examined, and if any abnormal condition be found, such condition should receive appropriate treatment. 4. That gynecologic treatment should be recognized as a most important part of asylum therapeutics.

2.—Keith reports a most interesting case of pregnancy complicated by a fibroid tumor which was followed by an attack of phlegmasia dolens and pleurisy. The patient subsequently made a satisfactory recovery.

Berliner klinische Wochenschrift.

October 1, 1900. [37. Jahrg., No. 40.]

1. Concerning Opiates. O. BINZ.
2. Concerning Neumann's Modification of Fisher's Phenylhydrazin Test for the Demonstration of Sugar in the Urine. MARGULIES.
3. Two Assimilation Tests Concerning the Effect of Oil Clysters. E. KOCH.
4. The Role of the Fixed Cells in Inflammation. P. BAUMGARTEN.
5. The Physiology and Pathology of Bile-secretion. ALBU.
6. Experimental Bence Jones Albumosuria. ZUELZER.

1.—The causes of **artificial sleep** under the influence of **hypnotics and anesthetics** are not understood. The anemia theory has not been proved. The latest hypothesis is the one based upon the presumed movability of the processes of ganglion cells of the nervous system. Ether, morphin, and other substances, are supposed to arrest the protoplasmic movements and to render the cells unamenable to internal and external stimuli. [D. R.]

2.—The author endorses Neumann's method (Verhandlungen der physiol. Gesellschaft, 1899) of performing the **phenylhydrazin test**. It consists in the use of a solution of sodium acetate in acetic acid of from 50 to 75% strength, or in glacial acetic acid. A special test-tube is employed, the urine is introduced, and the solution of sodium

acetate in acetic acid and 2 or 3 drops of pure phenylhydrazin are added. The whole is boiled down to a certain point indicated by a mark on the tube, rapidly cooled in running water, boiled once more, and again cooled. If sugar is present the characteristic phenylglucosazon crystals appear. [D. R.]

3.—Oil clysters were found by Koch to influence metabolism favorably, in that they increased the absorption of nitrogen and fat, while at the same time the fat introduced into the rectum was in part absorbed and aided nutrition. [D. R.]

4.—Baumgarten reviews the subject of the **role of the fixed cells in inflammation**. He believes that they play an important, if not a cardinal part, and constitute the **primary point of attack** of the inflammatory irritant, and that upon their changes depend the various phenomena of inflammation. The inflammatory irritant may act directly upon the leukocytes (chemotaxis), but the emigration of these cells does not occur through a normal, but through an altered vessel wall. The inflammatory proliferation of the fixed cells is to be looked upon as a reaction of the living cells to the damaging influence of the irritant. No satisfactory **theory of inflammation**, in the present state of our knowledge, can be given. The teleologic view maintained by Marchand, Buchner, Metschnikoff, and others, Baumgarten rejects, on the ground that the effects of inflammation are usually either directly or remotely harmful to the system. He defines **inflammation** as a pathologic process of the tissues produced by mechanic, chemic, thermic, and parasitic irritants, and constituted by alterations of the circulation and nutrition of the tissues, on the one hand, and the reaction of the surviving cells against the irritant and its harmful effects, on the other. [D. R.]

5.—Albu has had the unusual opportunity of observing a patient with a **biliary fistula** that had lasted for 9 years; it was probably the result of cholelithiasis. He was able to study the bile chemically, and also the influence of cholagogues and of diet. It seemed that **fats increased the flow of bile**. Regarding the so called **cholagogues**, he found that none had any value in increasing the secretion of bile. Calomel and Carlsbad waters produce an increased flow of bile by causing intestinal peristalsis and simultaneously a stronger contraction of the bile passages; in that way they bring about an opening of the sphincter of the common duct and a freer flow of bile, but they do not cause an increased manufacture of bile. [Albu says that the use of cholagogues has no physiologic reason to justify it. It seems to us that remedies having the power of increasing the flow of bile, even though it be bile already manufactured, are not to be despised, and have a distinct utility.] The share taken by the bile in digestion was also studied, and here, too, the author comes to iconoclastic conclusions. There was no lessening in the splitting up of fats, and there was also an abundant fat absorption. The utilization of the proteids in the intestines was also unimpaired. The **antiseptic action** of the bile is entirely denied by Albu. In the fistula patient studied, and in another case of complete closure of the common duct by a pancreatic cancer, there was no particularly offensive odor to the feces. Bile itself on standing, quickly becomes putrid. If decomposition were active in cases in which the bile does not enter the intestines, it would manifest itself by an increase in the ethereal sulfates in the urine. These were carefully studied, and no such increase was found. He concludes, therefore, that the traditional view of the antiseptic action of bile in the intestine must be abandoned. [D. R.]

6.—In a dog poisoned with **pyrodin**, Zuelzer found **Bence-Jones' albumose** in the urine. The reactions were with nitric acid a heavy precipitate in the cold, soluble by heat; the same reactions were obtained by the use of sulfosalicylic acid, picric acid, Almén's reagent, acetic acid, and potassium ferrocyanid. A half saturation with sodium chlorid gave a dense turbidity. On heating the urine; acidulated with acetic acid to within 50 or 60° C. a marked turbidity developed, which disappeared on heating to 100° C. The alcoholic precipitate from the urine gave Millon's, the biuret, and the lead sulfid reactions, and in solution the same reactions as the original urine. **Bence-Jones' albumosuria** has been found especially in diseases of the bones, particularly those characterized by progressive anemia. Such an anemia was present in the dog. This suggests an

examination of the urine in grave anemias for Bence-Jones' body. [D.R.]

October 8, 1900. [37. Jahrg., No. 41.]

1. Several Cell Problems and Their Significance for the Scientific Establishment of Organotherapy. D. HANSEMAN.
2. The Treatment of Bronchial Affections by the Recumbent Position. O. JACOBSON.
3. Methods for Preserving Anatomic Preparations True to Nature. L. PICK.
4. Experiments with Eye Magnets. S. TURK.
5. Anatomy of the Accessory Cavities of the Nose. G. BRÜHL.
6. The Application of the Milk Thermophor. P. SOMMERFELD.

1.—The author states that every organ is necessary for the maintenance of health, and that, as self evident as this expression may seem, it, nevertheless, has only been recognized recently, and is even still doubted by some. In discussing the metabolism concerned in internal secretion, attention is called to the fact that there are many organs possessing glandular structure, but no excretory passage, as the suprarenal capsules, thyroid, the hypophysis, the glandula carotica, and the specialized glands of some hibernating vertebrates. From the relation that metabolism has to the blood it is evident that when any species of cell functionates abnormally that there must also be some changes in the blood, and consequently also in the functional activity of other organs, depending upon the pathologic changes that have been produced. The relations between the thyroid gland, suprarenal capsules, pancreas, pituitary body and generative organs and the economy are discussed, and the various results following extirpation of these organs described. [M.R.D.]

2.—The first indication in the treatment of all bronchial processes is the removal of the pathologic exudate eliminated by the bronchi. He believes that expectorants are followed by the reproduction of the exudate. Gravity and altered alveolar expiratory pressure play a minor role. The therapeutic effect desired is not only to alleviate the expectoration but also to regulate it. As soon as the secretion has reached such a level that it encroaches upon the area of still sensitive mucous membrane, expectoration results. This accounts for elimination of the exudate by expectoration when the patient arises in the morning, who, during the sleep, had the exudate evenly distributed through the dilated bronchi with the admission of air into the peripheral portions of various bronchial twigs and thence into the alveoli. The procedure mentioned in the title is indicated in **chronic bronchial blennorrhoea** in consequence of a diffuse, small, cylindric bronchiectasis, and can also be fruitful of good results in **chronic abscesses** of the lungs and sacculated bronchiectasis. Contraindications are all **acute** bronchial affections and **exceptionally large abscess cavities**. [M.R.D.]

4.—Turk believes that there are 2 methods for extracting splinters from the eye. The methods, however, are not to be differentiated by the size of the magnet that is employed (respectively the large magnet by Haab and the small magnet by Hirschberg) or the relative number of experiments, but by the **operative procedure** that is employed. He believes that the small magnet, which in the majority of cases must necessarily be introduced into the vitreous and cause injury to various tissues of the eye, is inferior to the large magnet which even upon external application generally exerts sufficient force to withdraw the splinter out of the wound it originally produced, or to conduct it to the anterior portion of the eye so that a simple corneal section will be sufficient to render its extraction easy. Formerly the indications for the employment of either one of the magnets has been upon former clinical experiments. The author, however, has made a series of experiments regarding the attractive power of the two magnets upon splinters of a given weight and at given distances. In the cases of the large magnets the current employed was from 1 to 18 amperes and in the small magnet from $3\frac{1}{2}$ to $4\frac{1}{2}$ amperes. The results of the author's experiments are as follows: **The small magnet is preferable** when it can be approached within a few millimeters of the splinter without injury to the vitreous. This includes those foreign bodies in the anterior chamber,

posterior chamber, iris or lens which can easily be reached by a corneal section. In more deeply situated foreign bodies where the small magnet can only avail after penetrating the vitreous, the application of the large magnet is indicated. The stronger magnet when properly applied is not only the more effective but also the least dangerous. [M.R.D.]

6.—The advantage of the milk thermophor is to preserve and prepare the milk for some time at a comparatively high temperature, thus obviating the necessity of warming the milk, and with the advantage of always having drinkable milk at hand. Formerly, as established by Frügge, milk that had been pasteurized had to be kept at a low temperature until used. Experiments show that the tubercle-bacilli were killed in the milk that had been left in the thermophor for 4 hours, and that many typhoid-bacilli were killed as well. He sums up the results of his experiments as follows: Milk after being in the thermophor for 4 hours contains but very few germs (sometimes none at all) and typhoid and tubercle-bacilli are certainly killed during that time of sterilization. [M.R.D.]

Deutsche Zeitschrift für Chirurgie.

August, 1900. [56. Band, 5 and 6 Heft.]

18. Traumatic Purulent Osteitis of the Skull. H. FISCHER.
19. Hernia of the Anterior Vaginal Wall. EDM. ROSE.
20. Acute Postoperative Dilatation of the Stomach, as a Result of Compression of Duodenum by the Mesenteric Artery. P. MILLER.
21. Cystadenoma Mammæ and its Relation to Carcinoma of the Breast. TIETZE.
22. Multiple Echinococcus of the Liver. KONITZER.
23. Retroperitoneal Lipoma. G. HEINRICIUS.
24. Smaller Communications, Occlusion of the Intestine during Pregnancy. TENDERICH.

18.—In almost every case of **purulent osteitis of the skull**, the dura was sooner or later involved. The character of the inflammation of the dura was either one of the following forms: 1. Gangrene of the dura in connection with gangrene of the brain substance. 2. Extradural abscess; this form being much more frequently found. 3. A diffuse pachymeningitis. This third form was either an acute internal hemorrhagic pachymeningitis, or perhaps a diffuse purulent pachymeningitis. In cases of gangrene the dura was collapsed, black-brown in color, empty of blood, and very foul smelling, and when grasped by forceps, small leather-like pieces were broken off easily. In the purulent pachymeningitis, the dura was red, swollen and soft, and sometimes studded with small hemorrhagic dots; microscopic examination showed small round-cell infiltrations. Clinically it was impossible to recognize when gangrene had set in, and sometimes the extradural abscess was also most difficult of recognition. Chief among the indications pointing toward abscess, was the presence of fever accompanied by gastric disturbances, weakness, diarrhea, and enlargement of the spleen. These symptoms were generally accompanied by the usual signs of cerebral pressure. The pulse was generally quickened. The diffuse form of purulent pachymeningitis caused death very quickly. The prognosis however, of traumatic purulent pachymeningitis is not absolutely fatal, providing proper operation be instituted early enough. In osteitic leptomenigitis, the infection gains access to the pia either from the extension of an extradural abscess inwards or directly from the diseased bone itself. Generally the process is one that might be termed "contact infection." The suppuration penetrates the whole thickness of the dura, and finds its way into the capillary network of the arachnoid, more rarely the suppurative process remains external to the dura, and in these cases leptomenigitis rarely occurs. Sometimes inflammation of the sinus develops before the leptomenigitis, and then the infection gains access to the pia by following along the smaller veins. Simple leptomenigitis rarely occurs, it usually being associated with some complication, such as cerebral abscess or sinus phlebitis. Clinically we recognize two different forms of inflammation of the pia, the circumscribed purulent leptomenigitis or abscess of the pia, and the diffuse leptomenigitis. The second form is again divided into leptomenigitis serosa, purulent menigitis of the cortex, and third,

purulent leptomeningitis of the spine. The prognosis of all forms of leptomeningitis is very unfavorable. [G.B.W.]

19.—Rose reports an interesting case in which the pregnant uterus was displaced forwards so as to appear as a **hernia in the anterior vaginal wall**. The patient was a married woman, 38 years of age. She complained greatly of dysuria and constipation. Examination showed a hard tumor presenting in the anterior vaginal wall, and which apparently pressed the uterus upwards and backwards. Further examination under chloroform was made, and the tumor was supposed to be a myoma in the anterior wall of the uterus. Operation for its removal was made through an incision reaching from the umbilicus to the symphysis. Even after the abdomen had been opened and the hand had explored the tumor, the diagnosis of myoma was still adhered to. An incision in the left tube, however, was followed by a stream of blood, which showed that the diagnosis was not correct. After the tumor had been brought up out of the pelvis, it became much softer, and aspiration withdrew only clear serum; and also by ballotment a body was felt to strike against the palpating finger. The diagnosis of pregnancy was then made and the abdomen immediately closed. About two months later, during an attack of tonsillitis and influenza, the patient aborted, and a fetus about the length of a finger was discharged. [G.B.W.]

20.—Miller has written an elaborate article on **post-operative dilation of the stomach**, brought about through compression of the duodenum by the superior mesenteric artery. In conclusion he says that incarceration of the duodenum by the superior mesenteric artery after abdominal operation occurs quite frequently, only it is not diagnosed as such, because in the majority of cases a cure is brought about either spontaneously or through washing out of the stomach. The condition is generally supposed to be a severe postoperative vomiting, resulting as the effects of the narcotic. He does not mean to say, however, that chloroform-vomiting never occurs, and that every case of post-operative vomiting is the result of intestinal incarceration, but one should bear in mind when dealing with cases of severe and continued vomiting after operation, the possibility of the presence of a duodenum incarceration, and of a consequent dilation of the stomach. Also, at postmortems, in a large number of cases, the cause of death has been put down to peritonitis, whereas in truth the fatal result has been due to the above form of intestinal obstruction.

21.—Tietze has made quite an elaborate research in the **pathogenesis of cystadenoma mammae**. He finds two forms of cystadenoma: 1. the cystadenoma of Schimmelbusch, characterized by an overdevelopment of the epithelium until the alveoli are completely filled by the production of papillary projections of epithelium, with or without connective tissue and by the formation of villi containing glandular acini. This form readily develops into carcinoma. 2. The cystadenoma intracanalicular. This form is characterized by numerous small growths proceeding from the cyst-wall and consisting of a mass of glandular acini. The pedicle of the growth may be penetrated by the epithelium. This form may develop into true adenoma or into adenocarcinoma destruens. The transition form and the true adenoma may be further characterized by a peculiar network of villous-like projections covered by epithelium. Tietze prefers, however, to call both the first and second forms under the simple name *cystoma mammae*, as he believes they are genetically the same. *Cystoma mammae* is generally due to a peculiar inflammatory condition of the breast, leading to the development of multiple cysts, which are characterized by an excessive growth of glandular epithelium seen either in the formation of alveoli and acini or in the form of multiple papillary excrescences, which lead to the development of conditions very similar to that of intracanalicular adenoma. Through the growth of the cyst, the epithelium lining the cyst wall may become flattened out, or entirely lost. A participation of the connective tissue in the inflammatory process is often present, but it is of less importance than the overgrowth of the epithelium. The disease has a tendency to become malignant, either developing into ordinary carcinoma or into the adenocystoma destruens. The tendency of the condition to develop into either cancer or adenoma depends on how far the growth of the epithelium keeps to its normal proclivities of proliferation. [G.B.W.]

22.—Konitzer reviews the literature on **multiple echi-**

nococcus of the liver, but in none of the cases reported can he find any one case in which there were more than 3 cysts present. He, however, reports one from his own experience, in which 5 separate cysts existed in a woman 24 years of age. The cysts were arranged in 2 groups, separated from each other by intervening liver parenchyma. The first group was situated on the left part of the liver and consisted of 2 cysts. These were opened though a laparotomy and drained. The remaining 3 were opened through the pleura and emptied. At the same time a subphrenic abscess was opened. Exudative pleuritis followed the incision into the pleura, necessitating resection a rib and drainage. The patient was finally discharged cured. The first group of cysts was easily approached, because one of the cysts projected just below the sternum. The second group, however, occupied the upper right-hand part of the liver and was hidden under the ribs. The individual cysts of both groups were connected with each other, but no connection could be found between the 2 groups. The contents of the cysts consisted of thin pus containing numerous daughter cysts and bits of membrane. For the development of these separate groups of cysts it is necessary for a double infection to take place, as there could not be found the slightest trace of any connection between the 2 groups. As regards the frequency of occurrence of multiple echinococcus, Konitzer says that the multiple form occurs in about 12 and $\frac{5}{100}$ % of hepatic echinococcus of the liver. The diagnosis of the condition is very difficult, even at the time of operation. [G.B.W.]

23.—Heinricius reports the only case of **retroperitoneal lipoma** which has been put on record in Finland. The patient was a woman, 39 years of age. The growth had been present not over half a year, but at examination the circumference of the abdomen at the umbilicus had already reached 80 cm. The condition was such as led to a diagnosis of abdominal tumor, but the nature of the growth was not determined until the operation. The abdomen was opened in the linea alba, and a tumor projected covered by thin peritoneum, of a yellowish-red color. The peritoneum over the tumor was split longitudinally, and the lower portion of the growth shelled out of its position. The growth was found to consist of 6 lobes, each about the size of an ostrich egg. The upper part of the tumor, which was about twice the size of a man's head, was also removed. The removal of the growth left a large space in the abdominal cavity, surrounded by folds of peritoneum. This peritoneum was stitched to the abdominal wound, and the hole packed with iodoform and sterile gauze. Two months after the operation there was a small unimportant granulating surface present when the patient left the hospital. Heinricius reports quite in detail all those cases of retroperitoneal lipoma which he can find recorded in medical literature. [G.B.W.]

24.—Tenderich reports a case of **intestinal occlusion** occurring in a woman in the latter months of **pregnancy**. The symptoms led to a diagnosis of ileus with the seat of constriction probably just to the left and below the umbilicus. Operation was performed under chloroform, and on opening the abdomen, the markedly dilated loops of the intestine forced themselves out of the opening and were only with difficulty pushed back into the abdominal cavity again. Occlusion was found to be due to a strand of membrane, which ran from the region of Poupart's ligament upwards to above the navel. The part of the intestine which was constricted appeared to have lost its vitality, consequently it was brought up to the wound and left exposed there. The second day after the operation, the patient still having fecal vomiting, the dressing was removed and the suspected portion of the intestine was found to be completely necrosed. The intestine was then sutured in place, and an anus praeternaturalis was made. The patient then made a gradual recovery, though fecal fistula still existed even after the patient had returned to her work. The opening, however, was rendered tight by a Dupuytren's apparatus. [G.B.W.]

Revue de Médecine.

September 10, 1900. [20me Année, No. 9.]

1. Hypertrophic Hepatopancreatic Sclerosis with Hypersplenomegaly. G. GUILLAIN.

2. A Case of Compression of the Superior Vena Cava by an Aortic Aneurysm of Syphilitic Origin. C. DOPTE.
3. Pneumothorax with Valve Mechanism. DUPLANT.
4. Precocious Spinal Syphilis with the Syndrome of Brown-Séquard. BROUSSE and ARDIN DELTEIL.

1.—Guillain reports the case of a woman, aged 52 years, without hereditary antecedents, who had always been in good health except for an attack of variola at the age of 10 years, who complained of icterus. The jaundice began suddenly 7 years before the author saw her, and had been present, with varying intensity, ever since. During the 7 years, crises of splenic and hepatic pain had manifested themselves. At the time of admission to hospital the patient had slight hypertrophy of the liver, an enormous spleen, and icterus. Except for some slight disturbance of the digestion the patient was healthy. Examination of the urine, made at various times while the patient was under observation, showed the presence of biliary pigments but no biliary acids; in a further development of the case the normal biliary pigments disappeared from the urine but urobilin and its chromogen which had existed from the beginning of the case persisted. The patient died after about 8 weeks' residence in hospital after hemorrhage from the nose, the stomach, and the bowels. At autopsy no ascitic fluid was found in the peritoneal cavity. The liver was seen with its sharp inferior border extending well into the left hypochondriac region. The spleen, which was covered above the liver, appeared voluminous and extended almost to the crest of the ilium. Both the liver and spleen were covered with a thick, resistant, whitish false membrane. Examination of the pancreas showed relative hypertrophy of the organ, a hypertrophy that seemed to be principally in the neighborhood of the head of the gland. Microscopically, the liver showed that it was the seat of a portobiliary cirrhosis and presented the lesions of grave icterus. The spleen presented a very dense sclerosis of its capsule, a sclerosis that was rich in fibers, but poor in nuclei. The substance of the organ was also the seat of a sclerosis, but the process was not so dense as it was on the free surface. The pancreas was the seat of an histologic sclerosis that explained its macroscopic hypertrophy. The sclerosis was diffuse and more marked in the lobules than in the spaces between the lobules, so that islands of glandular cells were surrounded by sclerotic tissue. The kidneys showed the lesions of a terminal infection. The case, therefore, was one of **hypertrophy of the pancreas with histologic sclerosis accompanying sclerosis of the liver and hypersplenomegaly.** [J.M.S.]

2.—In a man who had always been in good health, the following symptoms developed gradually: The neck increased in volume, the face became congested and bloated, the thoracic wall became the seat of a hard edema, varicosities appeared at the base of the thorax and extended thence toward its upper portion and its lateral aspect. The upper extremities were edematous and cyanosed. At the same time the patient began to have retrocostal and scapular pains, vertigo, attacks of suffocation, dysphagia, and dysphonia, but no palpitation of the heart. The vesicular murmur was heard all over the right side of the chest; a soft blowing was heard both during inspiration and during expiration in the neighborhood of the right bronchus; the vibrations were absent at the apex on the same side; and at the right of the first piece of the sternum, in the neighborhood of a swelling on the chest-wall, simple pulsations could be seen that were expansile and isochronous with the pulse. There was neither murmur nor thrill; the radial pulses were equal and synchronous, and there was marked tachycardia. Radiographic examination confirmed the opinion drawn from the clinical facts that the condition was one of **aortic aneurysm** that involved the ascending and part of the transverse portions of the arch. The development of this aneurysm by **compression of the superior vena cava**, the right bronchus, the right pneumogastric nerve, and the left recurrent laryngeal nerve, accounted for all the symptoms. Dopter believes that the aneurysm was probably of syphilitic origin. [J.M.S.]

3.—Duplant compares bronchopleural fistulae to the valve in the pneumatic tires of bicycles. Coughing dilates the fistulous tract and fills the pleural cavity, just as the pump fills the bicycle tire. He believes that nearly all cases of **pneumothorax** possess a **valve mechanism**, at least

at a certain period of their evolution. He records 2 cases which show that the pneumothorax of tuberculous patients is sometimes partial at the beginning. The existence of fibrillary adhesions in the serous membrane can alone explain the progressive extension of the gas in the thoracic cavity. These adhesions, therefore, do not constitute an obstacle to the production of a pleural perforation, although they limit temporarily the filling of the serous cavity with air. Rupture of the serous membrane is never seen when there is a total or partial symphysis of the layers of the pleura, but old solid strings that have in some cases undergone an advanced organization are almost always found in the neighborhood of the perforation. These bands immobilize a point of the pleura, while the neighboring region, strongly pulled upon by an attack of coughing, ruptures, particularly if it is rendered more fragile by the presence of a subpleural tubercle or a small cavity. Usually then a bronchocavernous fistula is transformed into a bronchopleural fistula. The frequency of adhesions in tuberculous subjects explains why the majority of cases of pneumothorax occurring in tuberculous subjects are at first partial or multilocular. The lung then does not retract completely from the beginning, it is necessary that the air shall rupture the adhesions in the membranes, as in subcutaneous emphysema it dissects the meshes of the loose connective tissue. The majority of cases of tuberculous pneumothorax in which there is a bronchopleural fistula act as do the cases of pneumothorax with a valve. But the mechanism of the obturation of the fistula during normal respiration ought not to functionate only after the complete retraction of the lung accompanied by absolute immobilization of the thoracic wall and the diaphragm of the affected side. The existence of a membranous valve forming a clapper and closing the pleural orifice is exceptional. In order to cure a pneumothorax with a valve it is necessary to secure the cicatrization of the serous orifice of the fistula. [J.M.S.]

4.—In the case of a man, aged 42 years, who entered the hospital complaining of paralysis of the left leg, Brousse and Ardin-Delteil obtained a history of chancre, which had developed 6 months previously. The paralysis began with pain in the lumbar region, which became worse in a few hours; this was followed by the involuntary passage of urine, and 2 days later the patient found that his left leg was paralyzed. In both legs there was a well-marked hyperesthesia which extended out to the abdominal wall, nearly as far as the umbilicus. There was a painful area in the neighborhood of the spinous process of the third lumbar vertebra. There was incontinence of feces. Under treatment anesthesia developed in the right leg, but the symptoms in general were ameliorated, although they did not completely disappear. After several months the **syndrome of Brown-Séquard** persisted. The case is one of **early spinal syphilis.** [J.M.S.]

October 10, 1900. [D'One Année, No. 10.]

1. Trophic Disorders and Disorders of Sensation in Hemiplegics. P. CHATIN.
2. Spasmodic Paraplegia and Sclerosis in Placques of a Family Type. R. CESTAN and G. GUILLAIN.
3. Simple Persistence of the Ductus Arteriosus. G. GÉRARD.

1.—The study of physiology as well as that of pathology leads the observer to the conclusion that the trophic functions of the nervous system are intimately associated with the sensory functions. Chatin has studied the relations between these two functions as seen in cases of **hemiplegia**. Short abstracts of 19 cases of hemiplegia are given. Of these patients 11 presented trophic or vasomotor troubles and 10 of these presented actual **sensory difficulties**, while the eleventh patient did not present actual objective sensory disorders. On the other hand, the remaining 8 patients, in whom hemiplegia was observed without trophic troubles, did not present appreciable interference with sensation. It would seem as though these manifestations were more than coincidences and that it is reasonable to conclude that trophic or vasomotor troubles in hemiplegia usually accompany sensory disturbances. The trophic troubles are principally in the nature of amyotrophies. The muscular atrophies predominate in the upper extremity, while in the lower extremity the atrophy is expressed by a slight emaciation.

Again, it is usually noticed that the upper extremity is the one that presents the most marked contracture, so that this condition is usually associated with amyotrophy and with sensory difficulties. Arthritic disorders are most frequently seen in the shoulder. The most common trophic disorder of the skin and its appendages is a peculiar deformity of the nails, which are bent both in the longitudinal and the transverse diameters, but which are not arrested in growth. The skin becomes particularly thin and glossy. Of the vasomotor troubles coldness of the affected members with redness or violet color of the skin is most common; sensations of pricking, hemisweating, and unilateral edema have also been observed. This series of cases seems to establish the fact that slight sensory symptoms may persist in old hemiplegics. The anesthesia is rarely absolute; the hypoesthesia is usually most pronounced in the hand and diminishes as the examination of the forearm and arm progresses. The mucous membranes are usually uninvolved even when there is marked hypoesthesia in the face. The lower extremity always presents much less marked disturbance than the upper extremity. Disorders of thermic sensation present the same topography, but are often better marked than the disorders of the other forms of sensation. There is sometimes a dissociation between the perception of heat and cold. Disorders of the muscular sense, of the stereognostic sense, and sensorial troubles have also been noted. Motor disorders alone, as they mature, are accompanied by dystrophic phenomena, but motor disorders to which sensory disturbances are added have many more chances of being followed by atrophies. In other words, double lesions of the reflex arc are more often accompanied by trophic manifestations than are simple lesions. The author quotes 12 cases taken from the literature that confirm his position, although there are exceptional cases on record. It seems, however, that the examination of the cases of atrophy from central lesion, either organic or hysterical, published up to the present time corroborate the observation of the coexistence of trophic and sensory phenomena. Goldscheider, Marinesco, and Monakow are all of the opinion that muscular atrophy is the result of simultaneous reduction of the sensory functions, on the one hand, and of the motor and the vasomotor functions on the other hand. [J.M.S.]

2.—Cestan and Guillain report 2 instances of **nervous disease** that presented a **family type**. In the first instance a boy, aged 15 years, had noticed, since the age of 8 years, a progressive and pure spasmodic paraplegia that consisted of an exaggeration of the tendon reflexes of the lower extremities, a spinal trepidation, and Babinski's sign. The movements of the arms became a little stiff as the case progressed. There was no trouble in the face, the tongue, or the eyes. The patient's father and his eldest sister presented the same phenomena, which developed in a similar manner. For 3 years the patients had noticed a spasm of the right sternomastoid muscle. This spasm was intermittent and produced several rotations of the head with lateral inclination toward the right per minute. This spasm was the exact picture of spasmodic torticollis. The authors consider the case to be one of **family spasmodic paraplegia**. In a second family there were 10 children, of whom 1 died of meningitis in infancy, 2 were epileptic, and 2 others presented a special form of nervous disease. Of the last 2 patients, 1, a boy 16 years of age, never walked in a normal manner, but his actual disease did not begin until he was 15 years old. The first symptom was a disorder of speech; several months later he began to present a further disorder of gait, which was of the cerebellospasmodic type. The patellar reflexes were exaggerated, Babinski's sign was present, and his feet were of the type of Friedreich. There was slight ataxia in the upper extremities, but the reflexes were normal. The speech resembled that of sclerosis in plaques. Nystagmus was present, the optic discs were slightly discolored, and the visual acuity was much diminished in the left eye. A sister of this patient, 31 years of age, dated her illness from her twentieth year, the initial symptom of which was a disorder of gait. At the age of 22 years disorder of speech began, and Charcot and Debove at that time made the diagnosis of sclerosis in plaques. At the time the patient came under the care of the authors she presented a very accentuated spasmodic gait with an almost absolute impossibility of walking. The reflexes in the legs were exaggerated, Babinski's sign was present, and there were typical Friedreich's feet. There were

intentional tremors in the arms. The speech presented all the characteristics of that of sclerosis in plaques. Nystagmus was present, but there were no lesions at the fundus of the eye. The diagnosis in these cases was considered to be **sclerosis in plaques of a family type**. Before concluding that a given disease is a family form of sclerosis in plaques or a family type of spasmodic paraplegia it is necessary to exclude hereditary syphilis, to inquire into the character of the labor by which the patient was born, and to exclude meningitis in infancy. In order that a disease should be classed as a family disease it is necessary that it should attack without change in form several children in the same generation, that it should begin at about the same age in all the diseased children of that generation; and that it should be independent, clinically, of all external influence, from an acquired affection, or from an accident during intrauterine life. [J.M.S.]

3.—Gérard contributes an exhaustive paper on the **simple persistence of the ductus arteriosus**, which began in the September number and is concluded in the current number. After examining a large number of cases he concludes that the anomaly may be accompanied by many different symptoms. The author had intended to introduce a chapter on the diagnosis of the condition, but has left it out because it is almost impossible to trace out the manifestations of an affection that is so rare and that presents such a wide range of characteristics. The persistence of the ductus arteriosus should not be considered as a clinical entity that should be attached to the cardiopathies, but as an exceptional affection of a vessel of first importance that has failed to pass through its customary evolution. [J.M.S.]

Semaine Médicale.

December 5, 1900.

1. Treatment of Laryngeal Tuberculosis by Intratracheal Injection of Iodoform in Ether. L. VACHER.
2. A Test by Methylene-blue of Amyloid Degeneration of the Kidney. ACHARD and LOEPER.

1.—For some time L. Vacher has been using with success in the treatment of **laryngeal tuberculosis** an intratracheal injection of the following mixture: Ether containing iodoform to saturation, 100 gm.; guaiacol, 5 gm.; eucalyptol, 2 gm.; menthol, 1 gm. Two cubic centimeters or less is injected into the tracheal tissue with none of the expected discomfort. On the contrary, there is simply a quick sensation of heat, scarcely painful, and no spasm following, which disappears after a few strong respirations. The breath for some hours has perceptibly the odor of iodoform and of guaiacol. With this treatment followed judiciously there occurs a lessening of the laryngeal distress and a general improvement in the patient's health. After each injection a laryngoscopic examination reveals the glottis surrounded by tissue filled with the solution of iodoform. [T.H.E.]

2.—Achard and Loeper note the value of the continued elimination by the kidneys of methylene-blue as a test diagnostic of amyloid change when not complicated by sclerotic degeneration. In the cases in question the diagnosis was confirmed by autopsy. When clinically there is persistent albuminuria, unexplained, and accompanied by various symptoms as of previous tubercular infection, or inconstant polyuria with an excess of globulin upon the serin, the indefiniteness of the latter will suggest the value of the test by methylene-blue. [T.H.E.]

Pneumonia.—Perrheim (*Deutsche med. Wochenschrift* October 4, 1900), describes a case in a 14 months-old child which ended fatally, and in which he found cocci which corresponded in all their characteristics to the **meningococcus**. He reviews the literature and finds that meningococci have been previously found in pneumonias, and have apparently caused the pneumonia. They also are more commonly associated with bronchitis, and it should be remembered that while this bronchitis produced by the meningococcus is usually harmless to the subject and does not tend to produce lesions, it may, perhaps, be the source of further cases of meningococcus infection, and may be the means of spreading epidemics of cerebrospinal meningitis. [D.L.E.]

Original Articles.

ON PERFORATION AND PERFORATIVE PERITONITIS
IN TYPHOID FEVER.*

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CULLEN's remark that the chief function of a physician was to obviate the tendency to death, sounds trite and commonplace in dealing with a condition such as perforation of the bowel in typhoid fever, which is not a tendency to, but, to all intents and purposes, death itself. Until within a comparatively few years, in the presence of this disastrous event, we folded our hands and murmured that all was over. The astonishing results obtained in acute peritonitis from other causes made thoughtful men ask themselves whether something could not be done in the perforative peritonitis of typhoid fever. To two physicians we owe the ardent advocacy of operation—to Leyden in Germany, and to J. C. Wilson in this country. Many of you who listen to me can recall the skepticism so freely expressed, by no one more strongly than by myself, as to the practicability of the procedure; but the surgeons, particularly of this country, took up the question with zeal and energy, and the collected statistics of Keen and of Finney show a most gratifying percentage of recoveries.

I am sorry that we cannot, as a profession, congratulate ourselves upon a reduction in the incidence of typhoid fever in this country. Its widespread prevalence is Nature's judgment upon the transgression of the plain, everyday precepts which we have been preaching in deaf ears for two generations. We can congratulate ourselves, however, upon a striking reduction in the mortality from the disease, for which better nursing and better methods of treatment are responsible. We save 5, 6, or even 7% more patients than we did 20 years ago. We may take $7\frac{1}{2}\%$ as the minimum typhoid death-rate for general hospitals, a figure which should include all cases admitted with the diagnosis of typhoid fever, but from which the doubtful cases of febricula, the estivoautumnal malaria, and cases admitted with the late sequelae of the disease are carefully excluded. It is interesting to note the special class of fatal cases which has been influenced by the modern nonmedicinal methods of treatment. It is not the complications, as hemorrhage, pneumonia, perforation, etc., but it is the largest group in which the patients die of the toxemia. Among 100 fatal cases, 50 die of the progressive asthenia, 30 of perforation, and 20 of other complications. Of 63 deaths in the first 10 years of the work at the Johns Hopkins Hospital, nearly $\frac{1}{3}$ were due to perforation. There has been no material change in the percentage of cases with perforation, as given in Fitz's collection of statistics. Among the fatal cases the relative proportion due to perforation has become higher, owing, as I have said, to the striking reduction in the deaths in the toxemic group.

It is a wonder that perforation does not occur more frequently when we consider the extent and character of the necrotic processes. As the lower 18 inches of the ileum are chiefly involved, the perforation is usually within this distance of the valve. The higher in the bowel, the more likely is the perforation to be in a

small ulcer without much infiltration or necrosis of the walls. The position of the terminal loops of the ileum make the first symptoms of perforation hypogastric, and may give to the case a pelvic or an appendicular aspect. A majority of the cases occur early in the third week; the earlier the perforation the greater will be the difficulties in dealing with the bowel. The earlier the perforation, and the closer to the valve, so much the greater risk of a widespread necrosis of the mucosa and a condition of the gut most unfavorable for any surgical procedure.

In studying the clinical features of these cases one is profoundly impressed, first, with their uncertainty and variability, and, secondly, with the necessity (in view of recent surgical events) of a revision in our methods of dealing with these cases on the medical side. The accident may be divided into two stages: First, the perforation itself; and, secondly, the consecutive peritonitis. The all-important question is to recognize the perforation, and, if possible, to operate within the first 12 hours, before there is widespread general peritonitis. Let me illustrate the uncertainty by sketches of three recent cases:

CASE I (No. 32,411)—Edgar G., aged 24, admitted October 11, 1900, having been ill for more than a month. He looked ill, had only moderate fever, but on the second day after admission he began to complain of abdominal pain, and there was a little fulness. The leukocytes were 7,000. On the 15th the abdomen was again slightly distended, the respiratory movements were well seen, there was no pain, no tension. The hepatic flatness reached to the costal margin. For the next three days the slight distention of the abdomen persisted. There was no diarrhea. At 9 A.M. on the 19th he complained of abdominal pain, which was severe enough to make him cry out. The abdomen was somewhat distended, the respiratory movements were well marked, the muscles were held very tense, the liver-dulness was obliterated in the middle line. The leukocytes at 9.15 were 4,000 per ccm. He had been taken out of the bath a little before 9 o'clock, and was still blue and cyanotic. At 11 A.M., when seen by Dr. Fletcher, he felt more comfortable. He had had one exacerbation of abdominal pain since 10 A.M. The respiratory movements were well seen, though slightly limited below the level of the umbilicus. The muscles were slightly rigid, but there was no actual muscle spasm. There were tenderness and pain on pressure in the lower abdomen, most on the right side. Pressure brought on sudden paroxysms of pain. Rectal examination showed no bulging of peritoneum posterior to bladder. The leukocytes were counted every hour between 11.15 and 4.15, and they did not rise above 5,200. At 2.30 the abdomen was considerably distended, the tenderness in the hypogastric region was marked, but he complained of less pain. At 2.45 P.M. he had a profuse perspiration. The pulse was of good volume and good tension, 92 to the minute. The abdominal muscles were a little more rigid. At 4.30 the patient was seen by Drs. Fletcher, McCrae and Mitchell in consultation. The pulse was still of good volume, but had increased slightly, and he had hiccupped once or twice. There had been no nausea and no vomiting. There was still marked tenderness in the lower abdominal region. Pressure caused the patient to wince. The muscle rigidity was slightly greater over the right rectus. During the day the point of greatest tenderness had varied. There was no actual muscle-spasm. There was slight shifting dulness in the flanks. The liver flatness was not obliterated. There was no increase in respiration, but the respiratory movements were more limited below the level of the umbilicus. The following symptoms suggested the possibility of perforation: The sudden onset of pain at 9 A.M., the persistence of the pain through the day, its association with marked tenderness on deep pressure, the moderate muscle rigidity, the gradually increasing distention during the day, the suggestive movable dulness in the flanks. The following important symptoms so often present were absent: No drop in temperature, no special increase in the rapidity of the pulse, no symptoms of collapse, no nausea

* Read at the Philadelphia County Medical Society, January 9, 1901.

or vomiting, no obliteration of the hepatic dulness, absence of muscle-spasm, absence of any marked diminution of the abdominal respiratory movements, absence of any leukocytosis. It was decided to give the patient the benefit of the doubt.

I saw him at 5.30 P.M. His general condition was excellent, there was moderate distention of the abdomen, the respiratory movements were present, but were relatively much more above the navel, the tension of the abdominal walls was of moderate grade, both iliac fossae were soft and elastic, no spot more painful than another; slight general tenderness. Four finger's breadth of liver-flatness were present just outside the parasternal line. There was no collapse. He was being prepared for operation, and a little excited, and the pulse was 112.

To speak frankly, in this case I had much more confidence in the judgment of my two assistants, Drs. Fitcher and McCrae, than in the symptoms presented by the patient. The sudden onset of pain, the subsequent occurrence of pain in paroxysms, the tenderness, the slight increasing distention of the abdomen were the sole features which warranted an exploration.

Dr. Mitchell operated at 6 P.M., exactly 9 hours after the onset of the pain. The general peritoneum was reddened, but there was no lymph, and it was not until the coils towards the pelvis were lifted up that a perforation was seen, through which feces were oozing. He did very well until the evening of the 21st, when his temperature began to rise, reaching 105° on the 22d, when he died, more apparently from the effects of the fever than from the peritonitis. The abdominal symptoms improved after the operation, and at the autopsy the wound on the bowel was healing per primam.

CASE II (No. 32,765).—The patient had been admitted on November 10, 1900, from West Virginia, about the beginning of the second week of a very severe attack. On November 15, the fourteenth day, he had a hemorrhage from the bowels at 9.30 P.M. At 10.30 he complained of very severe pain in the abdomen, with which he groaned out loudly. At 10.45 the abdomen was flat, almost scaphoid, the respiratory movements were slight, there was no tenderness, no rigidity, no muscle spasm; the leukocytes were 7,500. Throughout the 16th his temperature rose, reaching nearly to 106°. He had some hiccough through the night and in the morning; no vomiting. He was pale and tremulous. The right half of the umbilical region and the right iliac fossa were slightly tender on deep pressure, and the muscles were a little more rigid than last night. There was no definite muscle-spasm. A very important point, on which we did not put enough stress, was the fact that the hepatic flatness, which reached to the costal margin at 11 P.M., at 11 A.M. was 8½ cm. above the costal margin. There was no obliteration in the midaxillary line. The leukocytes rose through the day, and at 12.15 P.M. were 17,500. I saw the patient at 6 P.M., and, considering that he had had a severe hemorrhage, I thought his condition fairly good. The temperature was a little above 104°; the pulse was of fair volume, about 120; the tongue was dry, the abdomen was not distended, the respiratory movements were present, there was slight tenderness on deep pressure. In the nipple line the area of liver-dulness was obliterated. Throughout the evening the patient grew worse, the abdomen became distended, respiratory movements were absent, the abdominal walls became rigid, and there was general muscle-spasm, and the patient complained of a good deal of abdominal pain. He had frequent hiccough, and the pulse rose to 140. At 10.15 P.M. he had a profuse hemorrhage, and though his condition was desperate, it was decided to operate, which was done by Dr. Finney. Gas was escaping from the peritoneal cavity, and there was a bloody exudate with fecal matter in the pelvis. About 12 cm. from the cecum there was a large gangrenous ulcer, which presented two perforations. In the neighborhood of the perforations the walls of the gut were so swollen and infiltrated that a suture would not hold, and before anything could be done the patient died on the table.

In this case, no doubt the perforation occurred on the night of the 15th, but we attributed his symptoms to the hemorrhage, which occurred at the same time. There was an absence of any definite ab-

dominal changes until nearly 24 hours later. A third point of interest, which should have made us suspect perforation earlier, was the fact that at 11 A.M. on the 16th, without abdominal distention, the liver-dulness reached a point 8½ cm. above the costal border.

CASE III (No. 32,925) is still more interesting from the standpoint of the study of the symptoms of onset of perforation. This was a child, aged 8 years, admitted on November 22, on the fifth day of the disease. She had a severe attack, the temperature rising to between 104° and 105°. An interesting feature was that the day after admission she began to complain of pain in the right half of the abdomen, and continued to complain until the 28th. The abdomen was a little full. After November 30, the pain was very much diminished. On the morning of December 5, Dr. McCrae made a note that her general condition was good, the abdomen was somewhat full, everywhere soft, nowhere tender. The leukocytes were 5,500. At 7.15 P.M. she cried out with abdominal pain in the right iliac fossa. The pulse was small, dicrotic, and rapid. The abdomen was a little more distended. She was given turpentine stupes, and after each one she would get quieter and fall asleep. At 11 P.M. there was marked general rigidity of the abdominal muscles, no definite local tenderness. The respiratory movements were fairly free, though perhaps a little limited below the navel. The liver flatness extended to a point 3 cm. above the costal margin in the nipple line. At 11.40 P.M. the leukocytes, which had been 11,500 at 7.30, were 7,500. At 1 A.M. the abdominal pain persisted, and at times the patient cried out with its intensity. The pulse was 150; she had not vomited; the abdominal distention had not increased. The tenderness was marked, and the slightest pressure caused her to cry out. The respiratory movements were less marked than 2 hours before. There was marked rigidity, and definite muscle-spasm. The liver-dulness was completely obliterated in the nipple line. There was slight movable dulness in both flanks, but the value of this sign was diminished by the fact that the patient had diarrhea. The leukocytes at 1 A.M. were 7,700 per ccm.

Dr. Fitcher made a diagnosis of perforation, and urged operation, which was done at 2.30 A.M. Gas escaped when the peritoneum was opened, with cloudy, yellow, bile-stained fluid, of which there was a good deal in the right iliac fossa, and in the pelvis. The coils of the small intestine were not much distended, were pinkish in color, somewhat injected. The perforation was 10 cm. distant from the cecum, clean, punched out in the middle of a not very prominent ulcer. Golden yellow, bile-stained fluid was escaping through it. The perforation was closed with a pursestring suture, reinforced with 3 mattress sutures of fine silk. The patient stood the operation well, and has made an uneventful recovery.

This patient had had a good deal of pain in the abdomen almost from admission, so that she had been carefully watched, but the character of the pain which came on December 5, was different. It was more severe, it had exacerbations of great severity, which caused the patient to cry out at intervals. The movable dulness in this case was shown at operation to be undoubtedly due to the free fluid in the peritoneal cavity. As nearly as could be judged the perforation took place at 6 P.M., and the operation was begun at 2.30 A.M.

You will agree with me, I think, after hearing the narration of these 3 cases, that the time-honored picture of perforation, with the Hippocratic facies, the feeble running pulse, the profuse sweat, the distended motionless abdomen must be erased, as not a picture of perforation, but of peritonitis, or, better still, a rough draft of death. What we need more than anything at present is a fuller knowledge of the symptoms of perforation, particularly of its onset, apart from those of the consecutive peritonitis. I do not think we are likely to do much with what Dr. Cushing has called the preper-

forative stage. I do not think we can hope frequently to recognize a case so early, but it should be a special duty of hospital physicians hereafter to study with more than usual care the earliest possible symptoms in perforation cases. I have been looking over the records of the 30 cases of perforation in typhoid fever which have occurred to January 1, 1901, in my wards since the opening of Johns Hopkins Hospital, and in doing so I was reminded of the dying prayer of the celebrated Archbishop Ussher, that the Lord would forgive him his sins of commission. In the matter of hospital histories and notes even the best men are apt, in the hurry and press of work, to leave unrecorded many important points for which the arm-chair clinician in revising the history seeks in vain. What is essential in every serious case is the watchful care of a man who will be quick to grasp changes in the patient's condition, and who in such cases is in hourly collusion with his surgical colleague. In large general hospitals with many cases of typhoid fever, suspected cases should be visited at short intervals by a skilled resident physician, and not left to the tender mercies of an inexperienced interne. To leave the diagnosis of perforation to the attending physician is, in too many cases, to sacrifice the life of the patient. In 3 at least of our successful cases it was the prompt action of Dr. Fletcher and Dr. McCrae, and the prompt cooperation of the resident surgeon, that decided the patient's chances.

Perforation occurs as a rule in the more severe cases, and during the height of the disease. The rare cases during convalescence need scarcely be considered. Cases with diarrhea and with tympanites are more liable to this accident. Of our 30 cases 20 had diarrhea, 16 at the time of perforation, 4 had constipation at the time, and in 10 the bowels were regular. In 1 it is not mentioned. There is an interesting group (6 cases) of perforation with hemorrhage. When we remember that a large proportion of all cases of typhoid fever if left alone have no abdominal symptoms—neither diarrhea, pain nor tympanites—it is not difficult for the attendant to keep his mind constantly on the alert for the danger signals.

I have drawn up a schedule of specific instructions to be followed in cases of typhoid fever in which perforation is suspected.

I. Instructions should be specific and definite to the night superintendent and head-nurses, to notify the house-physician of any complaint of abdominal pain by the patient, of hiccough or vomiting, of a special rise of pulse or respiration, of sweating, or of signs of collapse.

II. House-physicians should note the character of the pain. As to (a) *Onset*, whether only an aggravation of slight abdominal pain, such as is common, both with constipation and with diarrhea, or whether it was a sudden, intense pain which caused the patient to call out, and which, though relieved by stupes and ordinary measures, soon recurred in paroxysms and grew worse.

(b) *The locality*, whether diffuse or localized in the hypogastric or right iliac regions; radiation, as to penis. It is to be borne in mind that abdominal pain of a severe character may be associated with an acute pleurisy, with distended bladder, with cholecystitis, and with a packed rectum, or may follow an enema.

III. *State of the abdomen*.—The condition to be noted in writing at once as to the following particulars:

(a) Whether flat, scaphoid or distended. Whether, if distended, it is uniform or chiefly hypogastric.

(b) Respiratory movements, whether present, if uniform and seen both below and above the navel.

(c) Palpation, as to tension and pain, locality and extent, and degree of pressure necessary to elicit; muscle rigidity and spasm, whether present or not, and in which special locality, and noting particularly its absence or presence in the hypogastric region and the right iliac fossa.

(d) Percussion—character of note in front of abdomen and in flanks. Liver-flatness, extent, in middle, nipple, and in mid-axillary lines. Note specifically every third hour. Remember, too, that obliteration may occur in a flat as well as in a distended abdomen. Auscultatory percussion may be helpful.

(e) Auscultation—obliteration of signs of peristalsis; presence of friction.

(f) Examination of rectum, whether tenderness; fullness between rectum and bladder.

(g) Stools—character, frequency, presence of blood or sloughs.

IV. *General condition of patient:*

(a) *Facies*, whether change in expression; risus, slight or marked; pallor; sweating, etc.

(b) *Pulse*, change in rhythm, rate and force.

(c) *Temperature*, whether a drop or not, whether after a tub or not.

(d) *Respiration*, sudden increase, not infrequent, whether shallow, or sighing.

(e) *Sweating*, if subject to during attack; if onset with the pain; whether local or diffuse.

(f) *Vomiting*, whether with onset of pain or not; character of vomiting.

(g) *Hiccough*.

V. *Blood-count*.—Leukocytosis, stationary or rising. May be marked and early. In a majority of cases well followed there is a rise. The constant leukopenia in typhoid fever has to be taken into account. Also a count of the red blood-corpuscles and hemoglobin, as a decided drop might suggest hemorrhage.

It is in the hands of the profession to reduce still further the mortality of typhoid fever. The death-rate of the disease under the most disadvantageous circumstances may be gathered from the shocking experience in the South African campaign, in which, to September, there had been more than 25,000 cases of typhoid fever, with more than 3,000 deaths, 20%. In the Spanish-American campaign there were 20,738 cases of typhoid fever, with a mortality of only 1.580—7.61%. The remarkable prevalence of the disease is illustrated better, perhaps, by the fact that 86.24% of the total deaths during the war were due to this cause.

Under the favorable circumstances with which we are surrounded in this country, and the ease with which patients can be nursed and cared for, the death-rate should reach the lowest possible point. For this blessed consummation one most important preliminary is necessary. Our senior students should receive a practical, first-hand, day by day acquaintance with typhoid fever. Heaven knows there are cases enough and to spare in every city in the Union to provide instruction of this sort. But is it given? I do not mean lectures on typhoid fever, or recitations on typhoid fever. I mean seeing typhoid-fever patients day by day, practically having charge of them, and watching their progress from week to week. This can be done, and this should be done in the case of an all-important disease of this character. The worst indictment ever brought against the

medical schools of this country is contained in the recently issued report by Reed, Vaughan, and Shakespeare on the prevalence of typhoid fever during the Spanish-American War. Shades of W. W. Gerhard and of Austin Flint! The young doctors, to whom were entrusted scores of valuable lives, had practically not got beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50% were diagnosed by the regimental or hospital surgeons. Some of the statistics are perfectly appalling. Thus in 80 out of 85 cases sent from the Fifth Maryland Regiment to civil hospitals in Baltimore, the diagnosis was changed from malaria to typhoid fever. Of 98 cases sent from the Eighth New York Regiment to New York Hospitals all were recognized as typhoid. A majority of them had been entered under other diagnoses. The authors of the report do not improve matters by the lame apology that the army surgeons probably did better than the average physician of the country in his private practice.

There are many lessons which we all have to learn about typhoid fever, but the one I wish to enforce on this occasion is the necessity of watching carefully in the severe cases for the very first features of perforation, in order that the patient may be given the benefit of operation at the earliest possible moment. In general hospitals it may be feasible in the future to save one-half, at least, of the perforation cases. In the severer cases, as in the second one which I have related, the condition of the bowel is hopeless. In another group, illustrated in the first one, the patients recover from the operation, but die of the effects of the disease itself. But one of the most gratifying circumstances connected with the disease has been the demonstration by the surgeons that there is a third group in which complete and perfect recovery may follow. To January 1 of this year 11 cases of perforation have been operated upon from my wards by Dr. Halsted's associates and assistants, Drs. Finney, Cushing and Mitchell, 5 of which have recovered, a percentage of 45.4. Five additional cases have been operated upon by them with 1 recovery, a total of 16 with 6 recoveries, a percentage of 37.5.

HEMOGLOBINURIA COMPLICATING TYPHOID FEVER.

By JOHN H. MUSSER, M.D.,

of Philadelphia,

Professor of Clinical Medicine, University of Pennsylvania; Physician to the University Hospital, etc.,

AND

ALOYSIUS O. J. KELLY, M.D.,

of Philadelphia,

Instructor in Clinical Medicine, University of Pennsylvania; Assistant Physician to the University Hospital, etc.

(From the Department of Clinical Medicine, Hospital of the University of Pennsylvania.)

ALTHOUGH the symptoms, complications, and sequels of typhoid fever have been well described by a large number of writers, it still seems permissible to add to the already voluminous literature on the subject, the report of a single observation of a rather unusual complication—hemoglobinuria. Reference to the literature indicates that while the occurrence of this complication is by no means unknown, it is exceedingly rare, and it is not commented upon by a number of systematic writers on the subject. Thus no mention of the occurrence of hemoglobinuria as a complication can be found

in the articles on typhoid fever in a number of the recent textbooks on the practice of medicine, such, for instance, as those by Osler, Tyson, Anders, Wood and Fitz, Lyman, Whittaker, Thompson, Flint, Strümpell, Eichhorst; nor in the System of Medicine by Pepper, the American Textbook of Medicine by Pepper, the American Textbook of Practical Medicine by Loomis and Thompson; nor in the textbooks on diagnosis by DaCosta, Leube, and Musser; nor in the Medical Complications and Sequels of Typhoid Fever by Hare. However, in discussing the etiology of hemoglobinuria and noting that it may be provoked by the poison of certain infectious diseases, a number of the above-mentioned writers—Tyson, DaCosta, Wood and Fitz, Anders—casually mention typhoid fever in the list of such provocative infectious diseases.

On the contrary, specific mention of the occurrence of hemoglobinuria as a complication of typhoid fever is made by Brannan (Twentieth Century Practice, xvi, 681), Curschmann (Nothnagel's Specielle Pathologie und Therapie, iii, 177, 1898), and Dreschfeld (Allbutt's System of Medicine, 825, 1896). The last-named author states merely that in some severe cases of typhoid fever hemoglobinuria has been observed, whereas Curschmann states that a true hemoglobinuria accompanied with hemoglobinemia has been observed by him in 2 cases of typhoid fever. In the one case, the hemoglobinuria occurred in the middle of the second week, in the other at the commencement of the third week of the disease. Both cases ended fatally under manifestations of intense intoxication. In addition to the foregoing, there has been found a report of a case by Osler (Johns Hopkins Hospital Reports, v, 311, 1895), and the report of another case by Klemperer (Charité-Annalen, xx, 133, 1895). The last-named writer believed that the etiologic relationship of typhoid fever to hemoglobinuria had not been pointed out prior to his communication.

Doubtless, other cases have been observed, and some of them may have been reported, but the complication seems sufficiently unusual and interesting to merit brief mention of the following case:

Patrick H., aged 21 years, single, a colored laborer, and a native of Pennsylvania, was admitted to the medical wards of the hospital of the University of Pennsylvania, to the service of Dr. Musser, August 30, 1900. The following history was elicited by Dr. Evans, the resident physician: The patient's parents, seven sisters and three brothers are living and well. There is no history of tuberculosis or carcinoma in the antecedents. The patient himself went to school until he was 19 years of age, since which time he has been working as a laborer on the railroad. He uses alcohol and tobacco in moderation. While he thinks that he may have had some of the diseases of childhood, he does not remember that he was ever sick. He had specific urethritis one year ago. He was well until August 27, on which day he experienced a feeling of languor, and complained of headache, loss of appetite, and slight diarrhea. He went to work, however, but was obliged to discontinue on account of the headache. During the evening he felt very hot and drank considerable water to relieve his thirst which was marked. The following day he again attempted to work but was again obliged to discontinue and to take to bed. Since then he has complained of languor, weakness, headache, slight diarrhea, and fever. There has been no nosebleed.

On admission the patient's temperature was 104° F., his pulse-rate 96, his respiration-rate 28. The following are the notes of the physical examination made by Dr. C. Y. White: The patient is a mulatto, 5 feet 9 inches in height, of good bony development and good musculature. He is very soporose, and there is marked subsultus tendinum. The conjunctivae are jaundiced. The movements of the eye-balls are

normal; the pupils are somewhat dilated and react to light and to accommodation. The lips are dry, the teeth good. The tongue is heavily coated, but its movements are normal. The visible mucous membranes are pale. The ears are normal. The neck is short and thick and reveals slight pulsations, but no enlargement of the lymphatic glands. Nor is there any enlargement of any of the other superficial lymphatics. The chest is well formed and of good anteroposterior diameter. There are slight depressions on either side of the clavicles at the outer ends. The pectoral muscles show marked tremors. The pulmonary resonance extends on the right side anteriorly to the sixth rib, posteriorly to the ninth spine; on the left side anteriorly to the third rib, and posteriorly to the ninth spine. The percussion note as well as vocal fremitus are normal on both sides. On auscultation the inspiration and expiration are harsh throughout both lungs. The absolute cardiac dullness extends upward to the third rib where it joins the sternum, to the right as far as the left edge of the sternum, and to the left to the fifth intercostal space slightly outside the midclavicular line, at which point the apex beat is visible and palpable. On auscultation there is splitting of the first sound as well as accentuation of the second sound; all sounds are booming and the heart's action is rapid. The radial pulse is rapid and of poor volume. The liver-dullness extends in the midclavicular line from the lower margin of the sixth rib to one finger's breadth below the costal margin. The splenic dullness extends from the eighth rib to the margin of the ribs and from the posterior to the anterior axillary line. The organ is palpable. There is slight abdominal distention and gurgling in the right iliac fossa.

The urine was turbid and claret-colored or smoky; its specific gravity was 1.035; it was acid in reaction and deposited a heavy sediment; it contained $\frac{1}{2}$ by bulk of albumin by the heat and acid test; there was no sugar. Examination revealed the coloring matter to be hemoglobin. Microscopically there were amorphous urates, granular casts, granular debris, and a few epithelial cells; there were no erythrocytes.

The patient was ordered milk and albumen water (the latter on account of his dislike for milk), a tub-bath every 3 hours if his temperature should be 102.4° F., or higher, and a sponge bath should the temperature be between 100° F. and 102.4° F.

On September 1, the patient's temperature remained persistently between 101° F. and 104.8° F., with the exception of short intervals following each bath. There were marked muscular tremors and the peripheral circulation was poor. As he complained much of the milk which nauseated him, he was ordered more albumen-water. In addition he was given whisky with each bath and $\frac{1}{10}$ of a grain of strychnin every 4 hours. The urine still contained a large amount of blood pigment. The test for biliary coloring matters was negative. The Gruber-Widal reaction was reported positive. Examination of the blood revealed the following: Hemoglobin, 15%; erythrocytes, 1,950,000; leukocytes, 8,960.

On September 2, the patient's condition was unchanged except that his pulse was feeble and dicrotic. The stools were reddish-brown and watery, but revealed no blood. His temperature varied between 103.8° F. and 102° F. Hemoglobinuria persisted.

On September 3, hemoglobinuria was still present. The blood examination was as follows: Hemoglobin, 15%; erythrocytes, 1,900,000; leukocytes, 8,880.

On September 5, the temperature manifested some tendency to descend, being about 103° F., with falls approximating 3° F. with each bath. Hemoglobinuria was still present. The stools were watery and contained some blood-coloring matter. Examination of the blood revealed the following: Hemoglobin, 15%; erythrocytes, 2,430,000; leukocytes, 8,800.

On September 6, the urine was amber-colored, clear, acid in reaction, and its specific gravity was 1.020; it contained a trace of albumin, a few granular casts, a few epithelial cells, but no blood pigment.

On September 7, the blood-count was as follows: Hemoglobin, 18%; erythrocytes, 3,290,000; leukocytes, 11,760. Hemoglobinuria was absent. The highest temperature was 102.6° F.

On September 8, hemoglobinuria was still absent. The patient refused absolutely to take any more milk. To disguise its taste it was ordered peptonized.

On September 12, examination of the blood revealed the following: Hemoglobin, 15%; erythrocytes, 3,300,000; leukocytes, 11,840. Hemoglobinuria had disappeared. The patient's general condition had improved. The highest temperature was 102° F. He was ordered ammoniated citrate of iron.

On September 19 and for some days previously, the patient had been noted to be somewhat irrational, in that he stated that since he had been in the hospital he had been married and had bought a house. His temperature for some days had varied between 99° F. and 100° F.; his pulse, which was somewhat dicrotic, was from 78 to 88 per minute; and his respirations from 18 to 22 per minute. The strychnin was increased from $\frac{1}{10}$ to $\frac{1}{8}$ of a grain, four times a day, and he was given half an ounce of whisky three times a day.

On September 20, the patient's temperature reached normal for the first time. On September 23, the urine was amber colored clear, acid in reaction, and of 1.012 specific gravity; it contained no albumin and no sugar. The microscope revealed only a few leukocytes. His delusions persisted, but on all other matters he was entirely rational. On September 25, examination of the blood revealed: Hemoglobin, 55%; erythrocytes, 2,920,000; leukocytes, 5,229. On September 27, the patient was somewhat uncertain regarding the changes in his domestic affairs. His temperature had been normal for four days. The further progress of the case was uneventful. On October 8, the patient was permitted to get out of bed for the first time and he was given a light special diet. On October 17, he had gained considerable flesh and strength, and he was permitted full house diet. His mental condition seemed good. He would only smile when questioned regarding his supposititious wife and house, and he appeared to regard the entire matter as a joke. On October 23, he was permitted to go home. He was still somewhat below par, but he was gaining rapidly. It is to be regretted that another examination of the blood was not made. In all he had had 47 tub-baths, 53 sponge-baths, and 9 ice-pack.

Aside from the rarity of the complication, the case presents several features of interest. Of these might be mentioned the absence of malaria as an etiologic factor, the association of marked hemoglobinemia, the persistence of the hemoglobinuria, for at least 7 days (August 30 to September 5, inclusive), and the ultimate recovery of the patient. In passing, it is interesting to observe that the use of cold-water baths was attended by good results. This is all the more interesting when we remember that cold is certainly the provoking agent in the causation of some cases of hemoglobinuria, more particularly of the paroxysmal variety. As the patient presented hemoglobinuria when admitted to the hospital, the condition cannot be attributed to the action of cold water. As regards the nature of the complication, there cannot be much doubt that it was an unusual manifestation of the typhoid infection. The majority of the previously-reported cases have been cases of severe infection, and most of them have terminated fatally. The infection in our case, while severe, was not extremely so, unless the hemoglobinuria itself be considered an indication of severity of infection. It is not unreasonable to assume that the patient presented a peculiar blood-idiosyncrasy, in consequence of which his hemoglobin and the red blood-corpuscles were especially susceptible to the deleterious action of the typhoid infection or typhoid toxin.

Havana Health Statistics.—The total number of yellow fever cases in Havana in 1900 was 1,244, and the deaths 310, an average of 24%. In 1899 there were 284 cases and 103 deaths. The deaths from all causes 6,102, the smallest number in 10 years, the average for that period being 10,245. During the year, 24,124 immigrants landed in Cuba, against 16,000 the preceding year. In December, 1900, there were 62 cases of yellow fever and 20 deaths, against 70 cases and 22 deaths in December 1899.

THE CLINICAL USE OF THERMOL IN TYPHOID FEVER AT THE ATLANTIC CITY HOSPITAL, ATLANTIC CITY, N. J.

By A. B. SHIMER, M.D.,
of Atlantic City, N. J.

DURING my service at the Atlantic City Hospital, I had occasion to employ thermol in a series of fever cases. The result was so satisfactory that I felt that my experience should be recorded, being impressed with the almost specific action of thermol in this group of cases, an experience which I feel can be repeated by anyone. The most marked symptom of typhoid fever is the fever, and its characteristic influence is best studied when applying antipyretic remedies. As is so well known, the

abled to give it more careful consideration, and in "fever cases" especially our observations were most accurate and systemized.

Dr. Sylvester J. Goodman, the resident physician, gave especial attention in noting its effects and recording the course of each case. The following 5 cases of typhoid fever, taken at random from our case-book, in which was recorded 32 cases treated by thermol without a death, will give a fair resumé of the number of cases treated, the chart of each being an exact copy of the original. All these cases were certified to by the N. J. State Laboratory at Princeton, N. J.

CASE 1.—A. S., male, age 35 years, white, single. Occupation that of a signalman on the railroad. Admitted to the hos-

Case No. 1

DIAGNOSIS
Typhoid Fever

Recd. Notes of Case

Name A. S. M. X.

Age 35 years J. M.

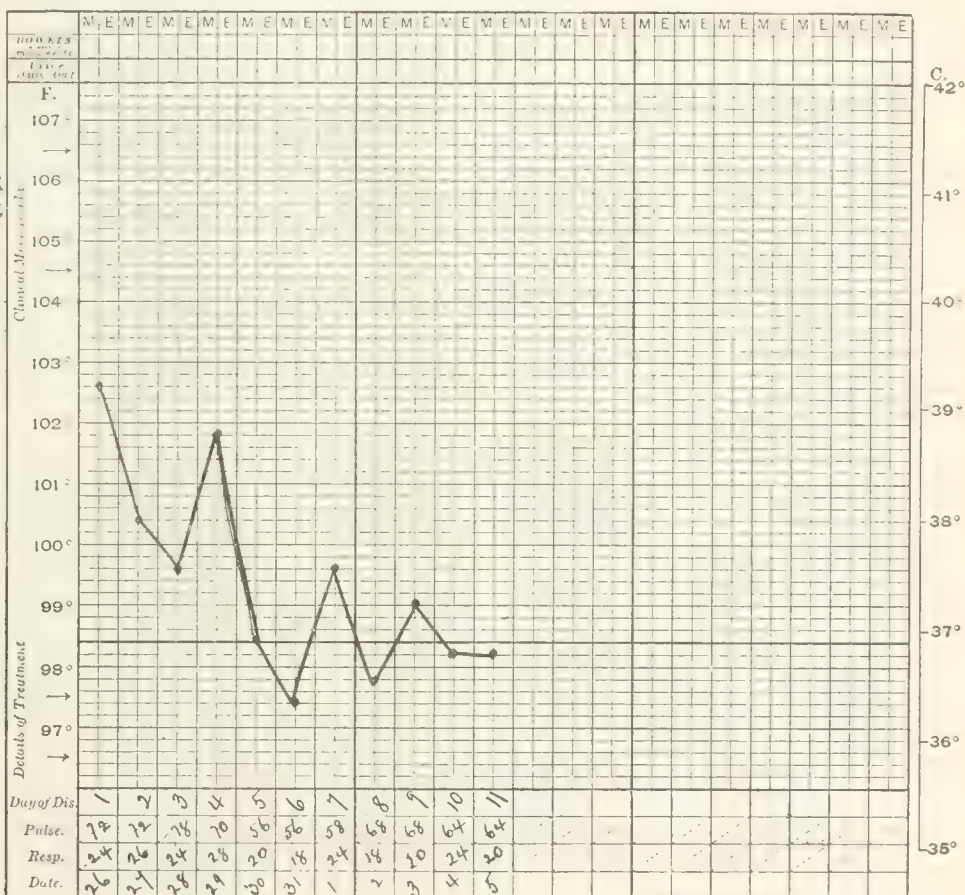
Nativity United States

Occupation Signalman

Residence

Date of admission July 26th 00

Diet



Result Recovery

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Philadelphia, J. B. Lippincott Company.

pyrexia of the disease is of serious consequences, and of itself often leads to such. Hence, in the treatment of a disease, the fever of which is the most marked symptom, especial attention should be given to the cause. The removal of the cause is not readily realized, and therefore the selection of some suitable antipyretic presents itself. In choosing such a remedy, we must seek one which may control those conditions of "fever" by inhibiting heat-production, or by dissipating heat, or both, with the least deleterious effect upon the system. As such, I have found thermol to embody these points most thoroughly. My first use of this drug was in a varied number of cases in private work, and the result was so pleasing, I had no fear or hesitancy to employ it elsewhere. In the wards of the hospital I was en-

pital July 26, suffering with an intense headache, vomiting, chills, and a feeling of general weakness. He had been ailing for 10 days or more. Had nosebleed on several occasions. His bowels were constipated. Had a temperature of 102.6° F. on admission. Tenderness of the right iliac region, with a somewhat enlarged spleen and liver, and a few rose-spots were noted. The headache was most intense, so that his whole complaint was directed to this symptom. Calomel in divided doses, with salol and thermol 0.30, every 3 hours, was the treatment begun, and as the fever responded to this treatment, no other remedies for the fever were given. There were no complications. The case ran a typical course with the convalescence somewhat more rapid than generally noted. The patient was enabled to sit up on the eleventh day of his admission, about the twenty-first to the twenty-fifth day of his illness. As (note the chart here given) the highest temperature was noted on the day of his admission, 102.6, and on the sixth day and eighth day, the fall of

Case No. 2

DIAGNOSIS
Typhoid Fever

Result Recovery

Notes of Case

Name M. A. P. Sex M

Age 2 1/2 years Sex M

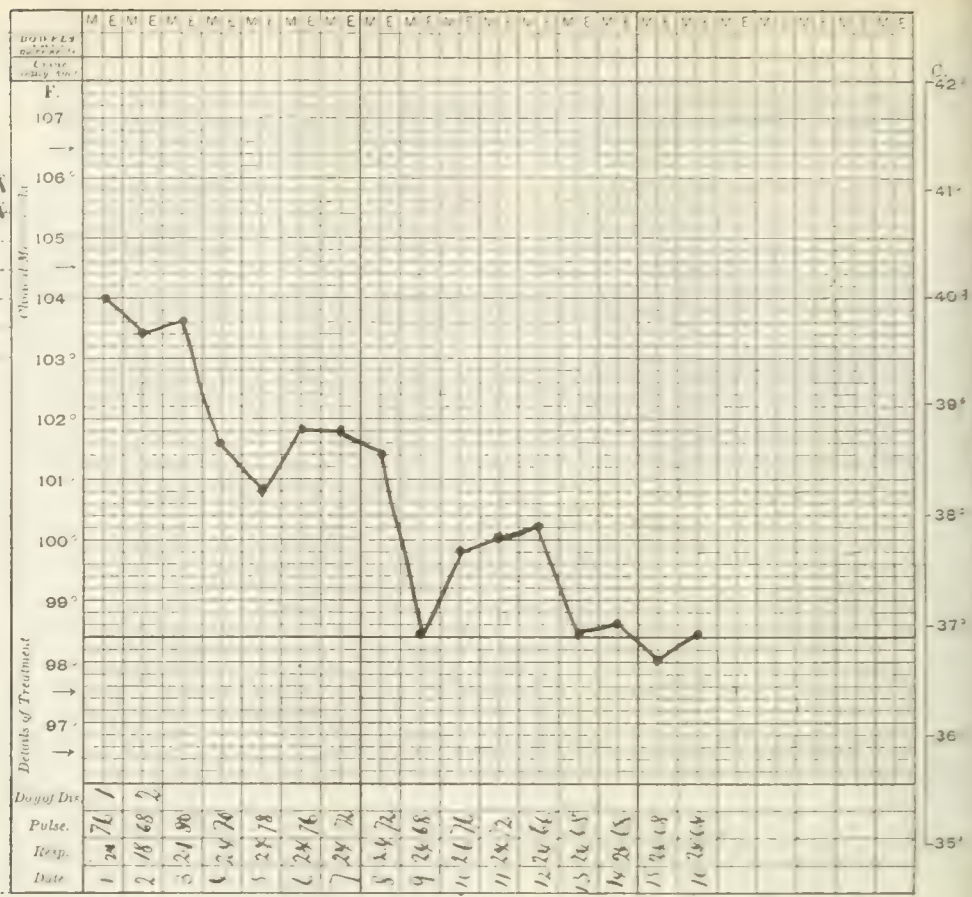
Nativity United States

Occupation Traveller

Residence

Date of admission Aug. 1st

Diet



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Case No. 3

DIAGNOSIS
Typhoid Fever

Result Recovery

Notes of Case

Name J. A. B. Sex M

Age 36 years Sex M

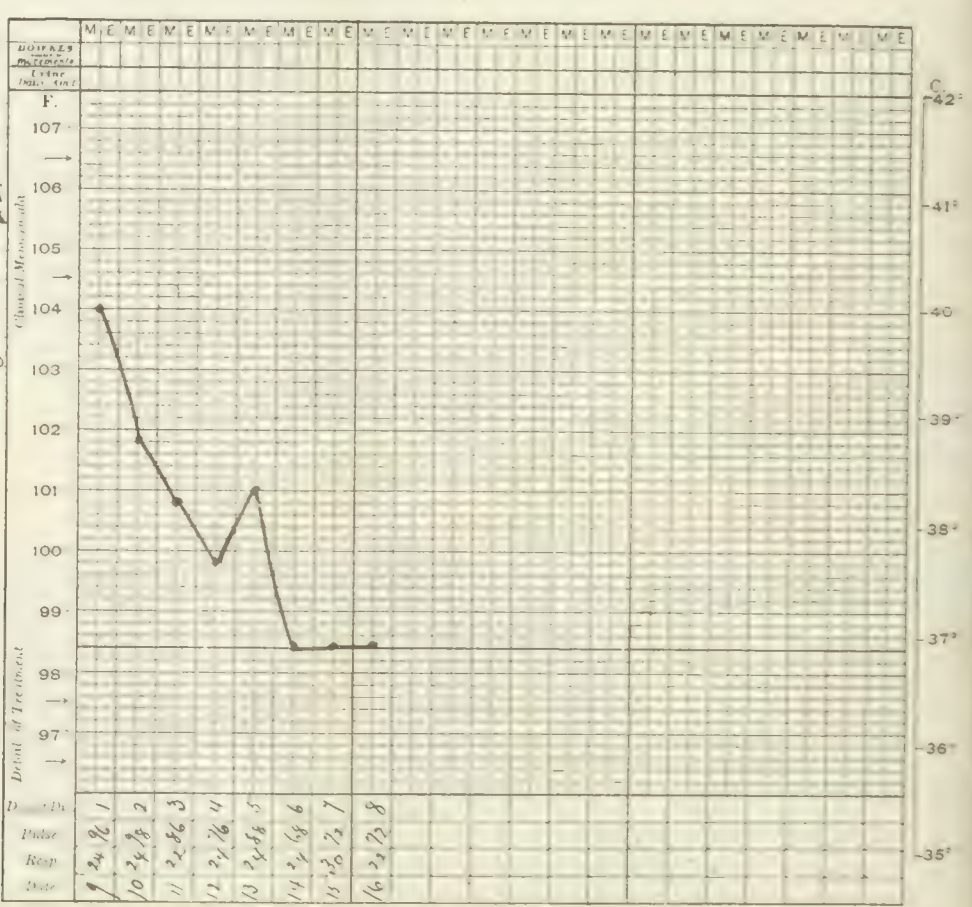
Nativity United States

Occupation Actor

Residence

Date of admission August 9th 90

Diet



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Philadelphia, J. B. Lippincott Company

the temperature was below normal. This has been noted by other observers who had used thermol in typhoid or other fevers.

CASE 2.—M. A. P., an American by birth, age 22 years, male, single, white, and followed the occupation of a traveler. This patient also gave a history of being ill for two or more weeks prior to his admission to the hospital. Lost appetite, severe headache, pain in the back and abdomen, occasional vomiting, with constipation alternating with diarrhea, more severe after taking a laxative. This patient was very sick on admission, and almost delirious. His temperature was 104° F. There were numerous specific spots seen all over the abdomen. The spleen was enlarged as well as tender. The liver was also somewhat enlarged. The abdomen was tympanitic and painful to pressure, not only in the iliac region, but over the lower bowel. The tongue was very heavily coated and marked by the teeth, whilst upon the

of typhoid fever. The patient was ill for quite a long period, and on attempt to exercise, fell in the streets, and was brought to the hospital in a collapsed condition. The same symptoms of general malaise, dizziness, anorexia, chilly sensations followed by a fever, headache, insomnia, and constipation. On examination on admission, rose-spots were at once seen, with the enlarged spleen and liver, marked iliac tenderness, and tympanites. Bowels obstinately constipated. He had besides the general symptoms of a typical typhoid, also a dry cough, beginning congestion of the lungs. His pulse was also dicrotic on admission, as seen by Chart 3. The temperature on admission was 104° F. A purgative of calomel was given at once with thermol, 0.30 every 2 or 3 hours; the hypodermatic use of strychnia when needed, and turpentine in the form of an emulsion were the remedies used. As seen by this chart, the temperature immediately fell, and so continued with only one rise on the fifth day

Case No. 4

DIAGNOSIS
Typhoid Fever.

Review Notes of Case

Name B. M. S. M. H.

Age 20 years

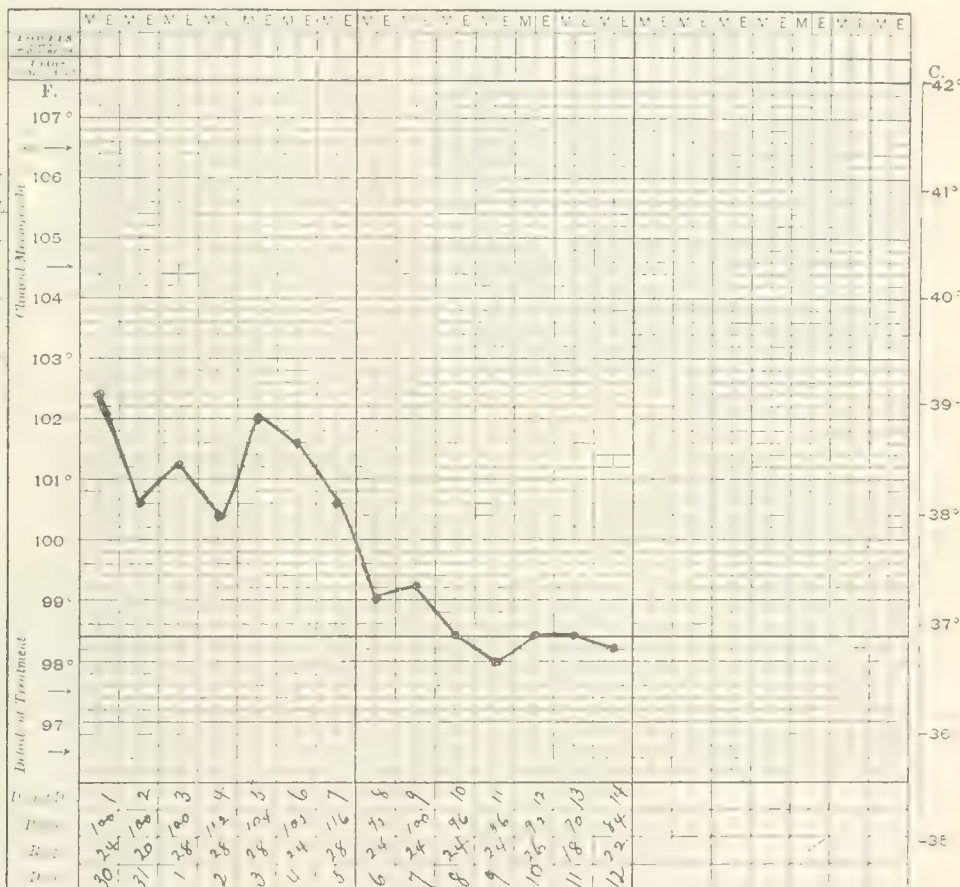
Nativity United States

Occupation Housekeeper

Residence

Date of admission Aug. 30

Diet



Results Recovery.

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Philadelphia, J. B. Lippincott & Co.

teeth were sordes. The pulse was weak, compressible, and dicrotic, necessitating the prompt use of strychnia hypodermically. The treatment in this case was thermol 0.30 doses every three hours when the temperature was above 101, and reduced to 0.18 when the temperature was below this point. His treatment besides this was symptomatic; for the tympanitic abdomen, enemata of turpentine were given, whilst the turpentine in gram doses was administered in an emulsion. This patient recovered, and with no other symptoms but those met with in a rather severe type of typhoid. During the whole course of the disease no other remedy was used but the thermol for the fever, and as the dose at stated intervals was always sufficient to keep the fever in safe grounds, it was continued. As, note the chart No. 2, twice during the course of the disease, the temperature reached normal. A very happy result for any method of reducing temperature in typhoid.

CASE 3.—J. A. B., male, white, single, age 36 years, occupation that of an actor. This may be termed a walking case

after admission, when it fell to normal and so continued. It is difficult in hospital cases to exactly date the day of the disease from the chart, it would appear that the patient was in the third week of his illness when admitted, and that the thermol acted in the nature of a specific. The effects in Case 3 were truly remarkable, and such instances as these were sufficient to prompt us to use the remedy in many instances.

CASE 4.—Mrs. B. M., age 20, married, and occupation housekeeper. Came to the hospital with a history of feeling sick for the past 5 weeks. Her condition was rather unfavorable. Temperature 102.4° F. Abdomen much enlarged, tympanitic with typical spots, spleen enlarged and tender, marked tenderness in the iliac region. Headache, constipation, dry cough, pupils dilated, face flushed, urine scanty and contained albumin. The same method of treatment was pursued. At first, a calomel purge, and then the exhibition of thermol in 0.30 (5 grain) doses until the normal line of temperature was reached, once in 3 hours. After this

the thermol was given in 0.15 (2½ grains) doses. The other treatment was enemata, with the use of strychnia when indicated. As seen by the chart, the temperature was affected at once, and never rose to the height first noted. This remarkable effect of thermol is noted in every case, and throughout the series of cases so treated we never saw the temperature ever go beyond control.

CASE 5.—A. H., age 21 years, white, single, with no occupation. Had been ailing 10 days before admission to the hospital. He gave the same typical history noted in cases of typhoid. Headache, general malaise, anorexia, constipation alternating with diarrhea, abdominal tenderness with nausea, vomited up till a day or so before his admission, when the symptoms became more marked. Two days previous he had nose-bleeding quite profusely, with a chill. The same occurred on the day previous to and on admission. On examination his tongue was found very heavily coated,

called to the peculiarity of the temperature record, the dissimilarity of each from a typical typhoid temperature. I should add, that in each instance, the diagnosis was verified by bacteriologic tests. Widal's reaction was found in each case, nor was a case pronounced typhoid unless every physical sign was in unison, to be completed by a Widal test. The specific action of thermol is thus proven in case No. 5, where a relapse was noted, or rather where an elevation of the temperature far beyond the normal temperature of that particular case was caused by the irritation of the food, thermol acted specifically in reducing the temperature.

To summarize, thermol is an antipyretic of specific effect. In no case was the heart's action at all im-

Case No. 5
DIAGNOSIS
Typhoid Fever

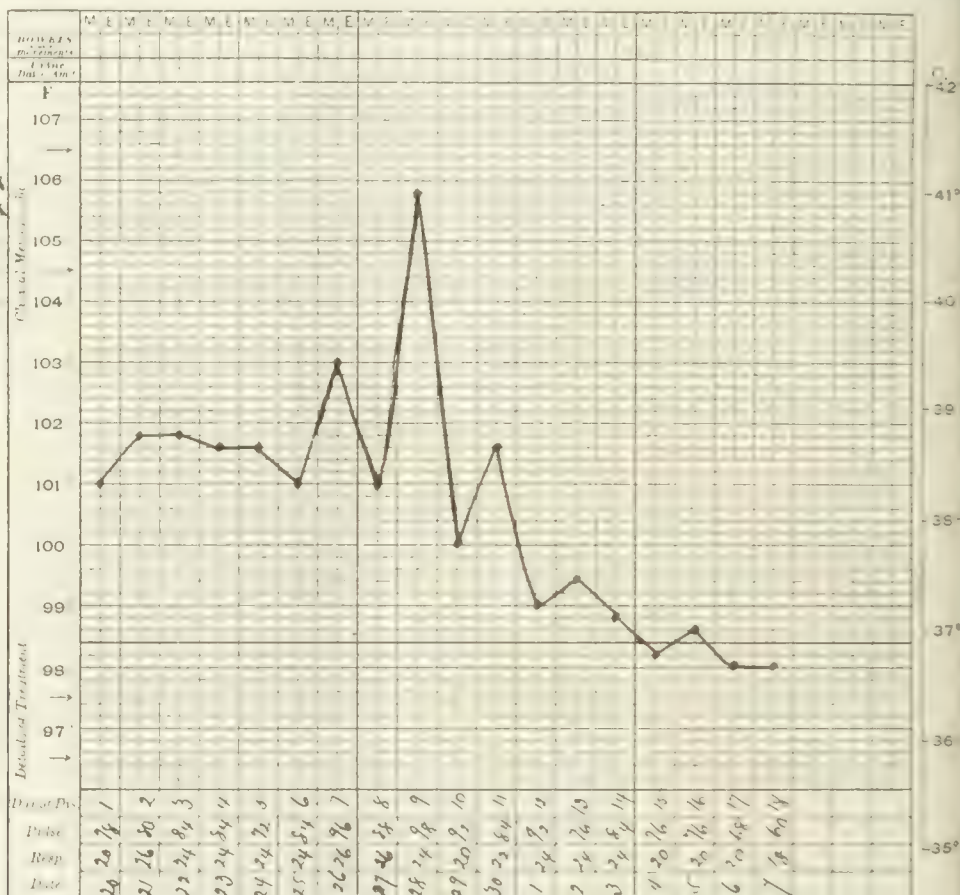
Revised Notes of Case

Name A. H.
Age 21 years
Nationality Whites States
Occupation None
Residence

Date of admission Sept. 20th
Diet

Result Recovery

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with clean edge, but dry. His pulse was very weak and rapid, and dicrotic. His abdomen much swollen and covered with spots. Tenderness over the iliac. Tenderness over the whole abdomen, and especially the lower portions. The spleen enlarged as well as the liver. Persistent dry cough and delirium. The patient was placed under the same course of treatment. Thermol, 0.30 every 3 hours, etc. This case pursued the regular course as noted by the other cases until the eighth day (see Chart No. 5), when the temperature rapidly rose to 105.8 F. Investigation led to the discovery that some kind but injudicious friend had given the patient some fruit, with the result noted. Prompt purgation with enemata, etc., removed this complication, and the progress was regular until perfect recovery. Even at the time of the relapse the same plan of giving thermol was persisted in, and the result showed the wisdom of its course. As the Chart No. 5 shows, the general course of the fever was typical.

In presenting this series of cases, attention is at once

paired, but was apparently strengthened. There was in all cases no greatly decreased amount of urine, nor did the skin become exceptionally dry.

From my observations, noted here as well as in private practice, I believe that the earliest moment thermol is administered, in any case, and especially typhoid, the prompter the results, and the more specific its action.

As an antipyretic, it is harmless, and can be given at any time or in any state, any harmful effect as collapse or the like never being noted.

The mode of administration is 0.30 at intervals of 2, 3 or 4 hours, and to be given when the fever begins to rise; and to be continued even after the fever has disappeared, in smaller doses and at longer intervals. No fear of collapse need be feared. Hence, there is no need of any additional medicine, as whisky or the like.

TWO CASES OF LOCALIZED NEURITIS OCCURRING AS A COMPLICATION OF TYPHOID FEVER.*

By H. J. WHITE, M.D.,

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LOCALIZED neuritis is one of the rarer of the many and widely distributed complications of typhoid fever. Multiple neuritis, on the other hand, is much more common. The etiology of the latter condition is now fairly well established, the most generally accepted theory being, that the toxins produced by the typhoid bacillus act directly on the nerve fibers, causing a mild perineuritis. But the singling out of one nerve or set of nerves and the production of a paralysis more or less complete of the muscles supplied by them, must be due to some special individual susceptibility to the effects of the toxin. The first case herewith reported is one of double ulnar neuritis, which is more marked on the right side.

M. C., aged 50, a widower, teamster by occupation, was admitted to the Samaritan Hospital May 31, 1900, and gave the following history: Family history: Father died of paralysis, mother of cancer. No history of tuberculosis in family. Personal history: He has always been very robust until the present illness began. About February 1, 1900, he suffered from headache, which was followed by sore throat and general malaise. His case eventually pursued the usual course of a moderately severe attack of typhoid fever. At the end of 6 weeks he had several attacks of hemoptysis; also, at about this time, he complained of pain at the inner side of each elbow, which radiated downward along the ulnar side of the forearms, and ended in the little and ulnar side of the ring fingers. He described this pain as sharp and shooting in character. Both legs were slightly swollen, and there was muscular tenderness of the calf-muscles. At the end of about 2 weeks the lower extremities had regained their normal condition, but the pain in the arms was still present, although of a milder degree, and the hands re-



FIG. 1.—Showing atrophy of interosseous muscles.

mained stiff and useless. Examination made May 31, 1900: Patient poorly nourished, conjunctivae pale, tongue protrudes straight, no tremor, and is covered with a grayish-white, moist coating. Pupils dilated, respond to light and accommodation. Chest somewhat pigeon-shaped, vocal frem-

itus increased on the left side from the sixth rib downward. Over the same area is bronchial breathing and bronchophony, elsewhere the lungs are normal. The superficial area of cardiac dulness is 7.5 by 6 cm., apex-beat in the fifth space, in nipple-line; at the apex is a soft, blowing, systolic murmur which is not transmitted. Liver and spleen normal. Examination of abdomen negative. Reflexes normal.



FIG. 2.—Showing contractions, and position of hand in ulnar neuritis, post-typhoid.

Urine clear amber color, normal odor, specific gravity 1.020, acid; no albumin or sugar; microscopically urates. Blood: Red cells, 3,440,000; white cells, 6,125; hemoglobin 70%. Repeated examination of the sputum failed to reveal any tubercle-bacilli, and the area of consolidation in the left chest is probably fibroid in type. On the right hand the fingers are all stiff, and complete extension is impossible. The little finger is strongly flexed; the thumb is abducted; and the last phalanx is in a condition of slight flexion. There is marked atrophy of all the interossei muscles. The skin over the little and ulnar side of the ring fingers is smooth and glossy; there is also an absence of hair, and the nails on these fingers present deep furrows. There is anesthesia, analgesia, and thermic anesthesia along the ulnar side of hand, on both sides of the little finger and on the ulnar side of the ring finger. Neither of the motor nerve-points give any response to the faradic current. The left hand presents a condition similar to that of the right, excepting that it is of a much milder type, and the hand has nearly regained its normal condition without contractions.

The patient remained in the hospital until September 15, 1900. Electricity and counterirritation were tried, but the condition remained unchanged.

The second case is one of a still more uncommon condition called the *tender toes of typhoid fever*. This condition was first described by Handford, an English physician, and later by Osler, who considers it to be a form of mild neuritis. He also states that this complication is more common after the cold-bath treatment.

F. G., aged 28, single, a teamster by occupation, was admitted to the Samaritan Hospital September 20, 1900. Family and personal history is entirely negative. He had been complaining of headache, diarrhea, and general malaise for a week previous to admission, but had not been confined to his bed.

Examination, September 21, 1900: Patient is well nourished, tongue protrudes straight, no tremor, thick, dry, grayish-white coating. Pupils normal. Examination

* Read before the Medical Association of Troy and vicinity, November 8, 1900.

of heart and lungs is negative. Spleen percussable and palpable. Tenderness and gurgling in the right iliac fossa. Urine clear amber color, acid, specific gravity 1.032; no albumin or sugar. Diazo reaction positive. Blood: Red cells, 3,440,000; white cells, 6,250; hemoglobin, 80%; Widal reaction positive. This case developed into a severe type of fever, and the patient had in all 15 cold baths. His heart's action became extremely weak, and on October 20 he had an attack of syncope, in which there was no pulse, and the heart-sounds were barely audible. He was deeply cyanosed, rigid, and covered with a profuse perspiration. By means of energetic stimulation he rallied in about half an hour. On October 22, being the thirty-third day of the disease, he complained of severe pain in the tips of the toes of both feet. On examination nothing abnormal could be seen. There was neither redness nor swelling, and no increase of surface temperature. Motion did not increase the pain, but the slightest pressure caused him to cry out. It was necessary to keep the weight of the bedclothing off the feet by means of a bedcradle. There was hyperesthesia and hyperalgesia of the tip and bottom of each of the toes; thermic sense normal; plantar reflexes absent; kneejerks normal. The pain and tenderness continued for ten days and then gradually abated; still, at the end of two weeks, he could scarcely bear the weight of the bedclothes. Examination of the blood, October 28: Red cells 2,990,000; white cells, 6,250; hemoglobin 60%.

In this case, as well as the former, the question of a local inflammatory condition might arise, but the absence of redness, swelling and heat as well as the absence of leukocytosis would entirely exclude that condition.

I am indebted for the privilege of using these cases to the attending physicians (Drs. March and Gardinier) of the Samaritan Hospital, Troy, N. Y.

THE PHENOMENA OF ATROPIN POISONING FOLLOWING THE CESSATION OF THE RESPIRATORY MOVEMENTS.

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In a somewhat recent article (*University Medical Magazine*, 1891, vol. iii, p. 207) on certain physiological actions of atropin, I called attention to the vulnerability of the respiratory center towards this poison, and it was shown that even when arterial pressure is reduced almost to zero, owing to the vasomotor paralysis, the heart's action continued strong, and that large doses could still be injected directly into the circulation before the heart succumbed. The sensitiveness of the respiratory center, as I have shown also in the actions of strychnin and brucin, is so great as to render impossible a study of the full complement of its actions on mammals unless artificial respiration is practised. When this is done several times the minimal lethal dose can be injected intravenously, and the animal kept alive for hours, and ultimately recover normal respiratory movements. During this interval some very interesting phenomena are developed.

The intravenous injection of from 0.02 to 0.04 gram of atropin per kilo of body-weight is sufficient to arrest the respiratory movements and thus cause death by asphyxia. If, however, upon the cessation of the respiratory movements artificial respiration be carried on, the respiratory center soon exhibits evidences of recovering activity in the form of feeble, infrequent respiratory movements, which gradually increase in strength

and frequency until complete recovery. When the first dose is soon followed by another, the paralysis of the respiratory center continues for a longer period, and after repeated doses it may exist for hours and yet complete recovery occur. The center exhibits extraordinary recuperative power even after doses many times larger than is necessary to arrest its activity.

A critical study of the details of such experiments, the records of two of which are here embodied, shows that after the cessation of the respiratory movements three periods appear, each having marked characteristics. The *first period* lasts for a variable time, depending upon the dose, and is characterized by tremors, occasional rigid extensions of the body and legs, clonic convulsions, and choreal movements; increased intestinal peristalsis; primary increase and secondary decrease of the pulse-rate; absence of the conjunctival reflex; and very feeble activity of the respiratory center, so weak as to be insufficient, when artificial respiration is stopped, to cause more than a few very shallow respiratory movements. It is a period of waning activity in general, especially of respiratory, vasomotor, thermogenic, and motor functions, the lessening of motor activity being preceded, however, by a transient increase.

The *second period* is also of variable duration, depending upon the dose and other conditions attending the experiments. During this period there is absolute muscular quiet of the skeletal muscles; the conjunctival, patellar and other tendon and skin reflexes and reactions are abolished; the pulse-rate is low, and the arterial pressure at a minimum, both, however, showing finally a decided tendency to recovery; body temperature continues to fall; and the respiratory center is paralyzed, exhibiting absolutely no manifestation of activity even after a permanent stoppage of artificial respiration. This period is one characterized especially by the complete paralysis of the respiratory center; suppression of the conjunctival, patellar and other external reflexes; and a state of absolute quietude of the skeletal muscles.

The *third period* is initiated by slight muscular twitches, which increase in vigor and frequency and pass into jerkings, which in turn become stronger, and after a time violent in character and paroxysmal; walking movements and others of a rhythmic character may be observed; the body temperature may continue falling notwithstanding the marked general recovery of activity; and after a time the respiratory center exhibits signs of a restoration of activity in feeble respiratory movements which steadily become stronger. During this period there is a general waxing of activities, changes which, on the whole, are the reverse of what was observed during the first period, and culminating in the recovery of the functional power of the respiratory center, and the consequent return of effective respiratory movements.

The whole train of effects shows extraordinary power of recovery of the system from the actions of atropin. In one experiment here recorded 1.5 grams of atropin, or over 6 times the minimal lethal dose, were administered in divided doses, yet within 2 hours after the first injection feeble respiratory movements re-appeared—there was a return of reflexes, the pulse-rate was higher than it was immediately after the first injection (with pulse-curves about half as high), and arterial pressure had increased about fourfold. Fifteen minutes later the respiratory movements were sufficiently frequent and

deep to dispense with artificial respiration. In the second experiment 1.6 grams, or over 7 times the minimal fatal dose, were given in divided doses, and the same strong, general tendencies towards recovery were sooner or later manifest.

Certain other actions are also worthy of special note: Intestinal peristalsis was for a time markedly increased, this being in accord with the work of Meuriot, Keuchel, and Ott, and opposed to that of Bezold and Bloebaum, and lends support to the theory that atropin

EXPERIMENT No. 1. DOG—WEIGHT, 8,276 KILOS.

TIME.	DOSE,	PULSE,	PRESSURE,	RECTAL	REMARKS.
Hrs. Min. Sec.	grams	per min.	mm.	TEMP.	
0 00 00	0.4	108	174	39.96°	
1 00 43		162	116		
3 00 00		156	14		Respirations so shallow that artificial respiration was begun. Conjunctival reflex very feeble.
6 00 00		168	20		Intestinal peristalsis very strong
6 30 00					Stoppage of artificial respiration followed by a few very feeble respiratory movements. Artificial respiration resumed.
6 32 00	0.4				
7 20 00					
7 30 00	0.5				
8 00 00					
8 30 00		69	14		Pulse curves very high; conjunctival reflex gone; patellar reaction present. Absolute paralysis of skeletal muscles; vasomotor centers paralyzed.
18 00 00	Irregular.		14	39.48°	Motor quiet; heart's action irregular.
18 20 00					
18 40 00					
30 00 00		144	32	38.45°	Absolute motor quiet; heart's action irregular.
1 00 00 00		168	40	37.18°	Slight jerking; no skin reflexes or tendon reactions.
1 30 00 00		180	52	36.92°	Strong jerking; feeble conjunctival reflex.
2 00 00 00		198	56	36.84°	Paroxysms of walking movements every 4 to 6 seconds, each accompanied by a feeble respiratory effort.
2 30 00 00					Paroxysms stronger. Spontaneous respiratory movements very good and fully effective to ventilate lungs.
2 31 00 00	0.24 (quinin sulph.)				Immediate and complete arrest of forced movements; heart's action stronger; arterial pressure lower; spontaneous respirations good.
2 35 00 00					Animal chloroformed.

Duration of experiment, 2 hours and 35 minutes. Average minimal lethal dose for dog weighing 8,276 kilos, 0.246 gram. Total dose in this experiment, 1.5 grams.

EXPERIMENT No. 2. DOG—WEIGHT, 12,924 KILOS.

1 00 00	0.4	102	174	39.98°	
1 00 00		174	44		
1 30 00					
1 58 00	0.1				
2 00 00		150	30		Artificial respiration begun
3 00 00	0.3				
3 40 00					
4 40 00	0.4				
5 20 00					
5 40 00	0.4				
6 10 00					
6 20 00		108	24		
6 53 00					Extension of legs; tremors.
7 18 00					Convulsive movements.
8 00 00		36	20	38.38°	Conjunctival reflex gone; patellar reaction remains.
10 00 00				38.35°	An occasional spasmodic jerk is noticed; feeble spontaneous respiratory movements occur when artificial respiration is stopped; choreal movements in groups of 4 or 6 occur coincidentally in all four extremities.
15 00 00		80	32		Lies absolutely quiet; all cutaneous reflexes and tendon reactions gone.
20 00 00		156	60	38.89°	Slight muscular twitches. Heart's action regular.
30 00 00		183	70		Marked jerking, but not rhythmic.
40 00 00		216	96	38.88°	Strong walking movements.
40 12 00	0.4				
40 32 00					
40 35 00		153	66		Slight twitching
1 10 00 00		198	86		During the last 15 minutes there occurred paroxysmal attacks of strong jerking, which have grown violent; between paroxysms there are twitches and slight jerks.
1 12 00 00	0.8				
1 14 00 00					
1 14 20 00		126	46		Very little muscular excitement; pulse curves higher.
1 20 00 00		78	52		Pulsus alternans.
1 30 00 00					Motor and sensory nerves absolutely inexcitable to a strong faradic current, yet strong forced movements occur in all four extremities coincidentally.
1 40 00 00	0.3 (quinin sulph.)	162	80		
1 40 10 00					
1 40 13 00					
1 40 18 00					Forced movements, etc., completely arrested.

Duration of experiment, 1 hour and 40 minutes. Average minimal lethal dose for dog weighing 12,924 kilos, 0.387 grams. Total dose in this experiment, 2.8 grams.

These results in conjunction with the facts set forth in the article referred to in the beginning of this paper show that the respiratory and vasomotor centers are particularly susceptible to atropin, and that both exhibit towards it great powers of recovery.

in small doses excites, and in large doses depresses, the inhibito-motor fibers of the splanchnics.

The effects on the reflexes and tendon reactions are not without interest. The conjunctival reflex disappears, but the patellar reaction may remain. When the

poison is pushed the latter also is suppressed. The absence of one and the presence of the other has been noticed also in nitrous oxid poisoning, and in strychnin paralysis. In curarized animals the patellar reaction is lost before the conjunctival reflex.

The effects of large doses of atropin upon the motor and sensory nerves are very positive, both being completely paralyzed during the second period. A curious fact shown by these experiments is that while the motor fibers are absolutely inexcitable to Faradic stimulus they retain their conductivity. This is evident in the absence of response to strong stimulus when applied to the sciatic nerve, while at the same time rhythmic movements of undoubted central origin occur coincidentally in all four extremities. This associated loss of irritability to Faradic excitation and retention of conductivity has also been observed in dogs to which enormous doses of strychnin or brucin have been administered, and in nerves poisoned with boracic acid, CO_2 , and coniin, and in regenerating nerves.

The motor phenomena exhibit certain features which justify more than a passing mention, especially those of the third period. This period is initiated by gradually developing motor excitement. The slight muscular twitches increase in strength, and finally pass into jerks, and these steadily become more vigorous. The jerks at first lack rhythm, but as the effects of the poison progress they tend to become paroxysmal and to pass into forced movements of a choreal, or of a more or less definitely coordinated character. These forced movements, which, of course, are of centric origin, can be stopped immediately by the intravenous injection of sulphate of quinin. In the foregoing two experiments, 0.24 gram and 0.3 gram, respectively, were sufficient to immediately and completely arrest the motor excitement.

Finally, the results of these experiments with enormous doses of atropin have a very important bearing upon the treatment of poisoning in man. They show clearly that death is due to a paralysis of the respiratory center, that the center has great recuperative power, and that if artificial respiration be properly practised the respiratory center recovers its activity, which is accompanied by general and marked improvement of other depressed states. In man, it seems that atropin poisoning should be readily treated if artificial respiration be persistently and intelligently practised, as by Laborde's method, and accompanied by such other treatment as indications suggest.

REPORT OF A CASE OF CHOLELITHIASIS WITH FORMATION AND RUPTURE OF AN ABSCESS OF THE ABDOMINAL WALL.

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THE following case of gallstones is reported because of the interest it holds from a diagnostic and pathologic point of view. I first saw the patient on September 26, 1900, with Dr. E. J. Stout, and she was admitted on that day to the Jefferson College Hospital. The history she gave was as follows:

R. S., a widow, 50 years of age; occupation, housework.

Family History.—Mother and one sister died of apoplexy. Father died suddenly in his eightieth year. Six sisters and one brother living and well. No history of tuberculosis or malignant disease obtainable.

Personal History.—Remembers no illness in her youth. Menses always normal. Never had typhoid fever. For the past 15 years has suffered from dyspepsia.

Present trouble began 4 years ago, when patient had a severe attack of abdominal pain situated in the right side of the abdomen, low down, radiating to the umbilicus and occasionally to the right shoulder. Since this attack patient has had many others, and has never been entirely free from pain in the lower part of the abdomen on the right side. The attacks lasted two or three days, and none were so severe as the first; patient never vomited, and was never jaundiced, never collapsed from pain, and never, so far as she knows, passed any gallstones.

On November 6, 1899, had a severe attack of pain lasting several days, accompanied by chill and fever on the first day, and throughout by headache and constipation, but no vomiting and no jaundice. The point of greatest pain was situated in the right iliac fossa, and the disease was diagnosed appendicitis by her attending physician, a man of ability and large experience. The application of an ice-cap relieved her suffering. Patient recovered from this attack, as from the others, but continued to have a dull, aching pain in the right iliac region.

Dr. Stout first saw the patient about the beginning of the following summer, when she consulted him for advice regarding a mass which was forming apparently in the abdominal wall over the region of the appendix. She did not appear to be very ill and did not see her doctor with any regularity. About the last of August the mass softened and opened, discharging a small quantity of pus and leaving a sinus which has remained open ever since. It is interesting to note that when the patient came to Dr. Stout she was wearing a truss which had been recommended by another physician for the relief of the mass, which was supposed to be a ventral hernia.

On admission, temperature, pulse and respiration, normal. Heart and lungs, normal. Urine, turbid, amber, acid; specific gravity, 1.021; no albumin; no sugar; urea, 1.2; no pus, blood, or tube-casts.

Examination of the abdomen showed a small sinus, $2\frac{1}{2}$ inches internal to the right anterior superior spine of the ilium, and $\frac{3}{4}$ of an inch below the level of this spine. Around the sinus the abdominal wall was indurated, red and tender for a considerable area so much so as to render palpation and percussion of the right side of the abdomen very painful and of no advantage. From the sinus there was discharged a mucopus. A bent probe passed into it could be moved about in what seemed a small, irregular cavity, but it could not be passed to any depth in any direction.

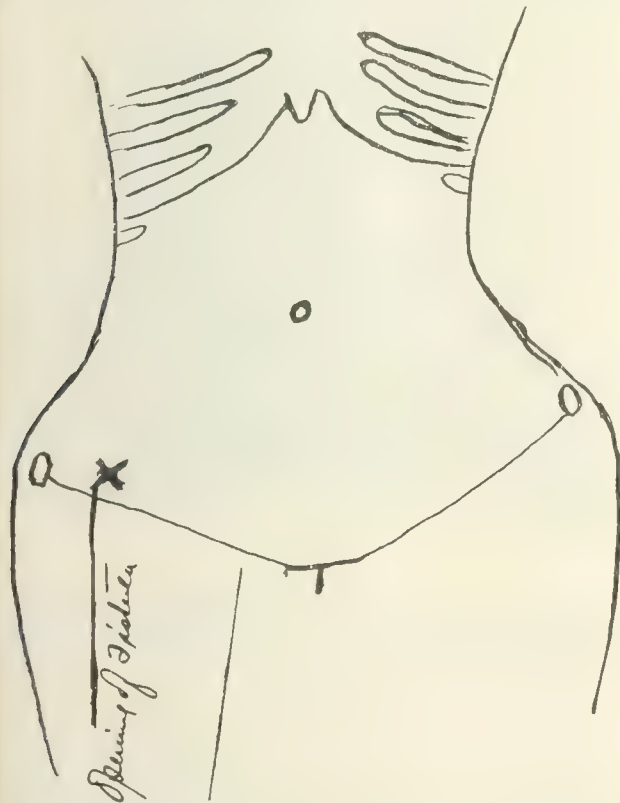
That there was an abscess of the abdominal wall was apparent, but its cause was obscure. The very positive history of attacks of appendicitis and the situation of the sinus exactly over the normal position of the appendix, of course, made us think of the possibility of this organ being the cause of the trouble; but the character of the discharge and the extensive infiltration of the abdominal wall remaining so very long after the opening of the abscess, together with the fact that when rupture did take place there was only a small amount of pus discharged, caused us to put this idea aside and examine in other directions.

The possibility of having to deal with a suppurating cyst suggested itself, and the question of its being a broken-down gumma was also discussed. The gall-bladder never entered my mind, because of the patient's history of never having been jaundiced, of always hav-

ing the pain in the right iliac fossa, of passing no stones after the attacks, together with the diagnosis of appendicitis and the situation of the sinus. The mucous character of the discharge and other facts in the history of the case which were elicited subsequently, should have caused us to consider the gallbladder. I concluded it was an abscess of the abdominal wall and did not think it had any connection with an abdominal viscus. Dr. Stout had already given the patient iodid; but we decided, as she had been very irregular in her treatment, and because of suspicious-looking scars on her legs, to try increasing doses of the iodid and the local application of mercurial ointment.

After about a week it was decided to thoroughly open and curette the abscess.

Operation.—On making an incision I found an abscess dissecting in several directions and containing



about an ounce of pus mixed with a clear, thick fluid. The abscess walls were thick, tough, and smooth. After curetting thoroughly every pocket, I found one in the bottom of the wound that was small and seemed to contain something hard which I could not move. With a hemostat I dilated the pocket and then withdrew, much to my surprise, a gallstone, and following it 51 others. The stones were uniform in size, being a little larger than peas. When I had dilated the opening sufficiently to admit my finger, I found that it went, not into a sinus leading into the gallbladder, as I had expected, but at once into the gallbladder itself; and I was able to pass the end of my finger into a dilated cystic duct, from which I removed several stones. The peritoneal cavity was not opened. A large drainage-tube was inserted and the patient returned to bed. She reacted nicely, her temperature but once going above 99°, and she went home on the twenty-fifth day with the wound practically healed.

During the first week there was a considerable dis-

charge of bile, which showed the cystic duct to be clear of obstruction; and as no jaundice developed after the external fistula closed, we felt sure that the common duct too was free. The fistula closed completely soon after the patient went home, but opened again within a few weeks and discharged bile and mucus until recently, when it closed again and has remained so ever since.

Diagnosis.—The first interesting question which this case suggests is that of diagnosis. Not infrequently there is difficulty in making a differential diagnosis between inflammatory conditions of the gallbladder and the appendix; and the fact that a number of excellent surgeons have reported cases where they operated expecting to find one of these conditions and, to their surprise, have met with the other, makes it a matter of importance. The error of diagnosis, however, I do not think is often made from a want of means or symptoms which would at least suggest a doubt, but, rather, from a tendency to consider only the prominent symptoms and to make a hurried diagnosis. The fact, too, that both the conditions require operation, makes us less careful, and we rest with the idea of making the diagnosis after the abdomen is opened.

In the case I report, however, I think, from the patient's history, that it would have been difficult to make a correct diagnosis of the attack which she had in November, 1899, everything pointing towards the appendix region and practically nothing suggesting the gallbladder. It has been shown that gallstones are much more common than is generally supposed, occurring in from 5 to 10% of autopsies done on Europeans. In a large number of these cases no symptoms were present in life which pointed to the condition. I suppose that no one will doubt, in the light thrown on this case by the operation, that the patient never had appendicitis, but that what was supposed to be this condition was a displaced and inflamed gallbladder, which was probably becoming adherent to the parietal peritoneum over the right iliac fossa. It is, of course, a question whether gallstones were present at this time and whether they might not have resulted from the inflammation, which in its turn was due to the colon-bacillus, it having been proven beyond doubt that this bacillus, or nearly any bacterium, may produce a precipitation of the solids of the bile and the formation of gallstones.¹ It would seem, however, when the previous history is considered, that the gallstones were present at this time and were the cause of the inflammation and suffering. I do not think it would have been possible to make a diagnosis of gallstones when the patient was admitted to the hospital in September of this year; for, besides the absence of symptoms, the inflammation and induration of the abdominal wall rendered examination very unsatisfactory. The character of the discharge should, however, have made us suspect the real condition.

Pathology.—The first thought in regard to the pathology of this case is the abnormal situation of the gallbladder in the right iliac fossa. Enormous distention of the gallbladder is not infrequent, cases having been reported where this condition was mistaken for ovarian cyst. Robson speaks of a specimen in St. Bartholomew's Museum, in which a greatly distended gallbladder formed the contents of a femoral hernia. Carl Beck reported in the *Annals of Surgery* for May, 1899, an in-

¹ Mayo Robson's "Gallbladder and Bile Ducts."

interesting case of transposition of the viscera, in which gallstones developed and were removed through an incision made along the outer border of the left rectus muscle. In my own case it will have been observed that there was practically no distention of the gallbladder and no ptosis of the liver; so its abnormal position must be accounted for in some other way, and I think the correct explanation is a long peritoneal attachment to the liver. Under ordinary circumstances the gallbladder is in intimate relation with the under surface of the liver, being kept in this position partly by the peritoneum, which passes from its sides to the liver; but Brewer (*Annals of Surgery*, June, 1899) in examining 100 bodies, found in 5 that the gallbladder was completely surrounded by peritoneum, which on passing to the liver formed a mesentery which permitted considerable mobility. In three cases there was an extension forward of the free border of the lesser omentum to the fundus of the gallbladder.

Robson reports a case (Case No. 234, p. 281) which in many respects resembles the one here reported: "Strong family history of phthisis; in 12 months several attacks of severe pain in the right iliac region, accompanied by swelling in the normal situation of the cecum, and marked tenderness between anterior superior spine of the ilium and the umbilicus; each attack associated with fever, constipation, vomiting, and abdominal swelling; and all signs of local peritonitis over inflamed appendix. Operation; incision over cecum; viscera matted together by old and recent lymph. After separating adhesions, gallbladder was reached at end of projecting Riedel's lobe; mucopus and several gallstones removed; tumor of cystic duct felt, and as on incision it gave the appearance of growth, it, with the gallbladder and projecting lobe of liver, was removed by means of the elastic ligature." The patient recovered.

Although in a few cases adhesion, ulceration and perforation into stomach or bowel have taken place, yet, probably, in most instances the gallstones produce an empyema which is evident from local and constitutional symptoms. As the organ is usually found in its normal position, adhesion to the pylorus or bowel, or to the liver, is more frequent than to the parietal peritoneum. This being true, the gallstones are much more apt to find their way into these viscera than through the abdominal wall. When adhesion to the parietal peritoneum once takes place, and ulceration and perforation follow, an abscess forms, and the pus usually works its way along in the direction of the umbilicus, where it is apt to open externally. This may not always be true, however, for many cases are reported in which the fistula found its external opening as low down as the symphysis pubis. Adhesion of the ducts, and of the gallbladder itself, to the pylorus and duodenum is frequent, as shown by operations and autopsies, and results often in dilation of the stomach or obstruction of the bowel. Obstruction of the bowel has also been caused by a large stone which has ulcerated into the bowel. Ulceration and perforation into the general peritoneal cavity may take place without the formation of protecting adhesions, as is shown by Case 241 of Robson's series. Robson says that "if the ulceration advances toward the adjoining hollow viscera, stomach, duodenum, or colon, adhesions, as a rule, follow, and the perforation is effected quietly. In one case of this kind—after a history of cholelithiasis, followed by severe stomach symptoms—the gallstones were vomited, and complete recovery followed." Cases have also

been reported where the gallstones have by ulceration made their way into the pleural cavity and the urinary tract. Occasionally an adventitious sac has been found, formed by adhesions of neighboring parts, containing gallstones, and communicating with the gallbladder by a small opening. There is, of course, the constant danger of rupture of such a sac, and the production of a fatal peritonitis. Again, the gallstones have ulcerated into the walls of the ducts, and have remained until removed by the surgeon.

Death from hemorrhage not infrequently follows operations on the gallbladder in cases where there has been a long-standing jaundice, which has produced an aplastic condition of the blood. In these cases death from hemorrhage has followed perforation of the gallbladder. About a year ago I saw death occur from continued and persistent oozing of blood from an incision into a gallbladder which was much inflamed and where the patient had long been jaundiced.

Fistulae.—The question of fistulae, internal or external, after ulceration, and of external fistula after cholecystotomy is of interest. It seems, from postmortem observations, that we must conclude that the fistulae established between the gallbladder and the other hollow viscera tend to become obliterated after a time, and this is apt to be true too of the external fistulae produced by ulceration.

Fistulae following operation are not nearly so frequent as they were before Robson taught us how to avoid them by suturing the gallbladder to the fascia instead of to the skin, as had formerly been the practice. He reports 189 cholecystotomies with 14 fistulae following, but 5 of these occurred in the first 10 cases, where the gallbladder was sutured to the skin. Since modifying the technic he has not had a single fistula where the ducts have been cleared at the time of the operation. A mucous fistula, of course, indicates an obstruction of the cystic duct.

A CASE OF MIRROR-WRITING AND OF DIFFUSE HYPERTROPHY OF BOTH BREASTS IN AN EPILEPTIC NEGRESS.

By W. G. LIST, M.D.

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MIRROR-WRITING is a striking and uncommon phenomena occasionally observed among feeble-minded or left-handed children. It is specially apt to occur in a patient who has had a right hemiplegia in early life. Mirror-writers use the left hand, and for them the natural way is to write from the right to the left side of the page instead of from left to the right. The letters are reversed and require the aid of a mirror before they can be deciphered. If a word or sentence written by a mirror-writer is held in front of a looking-glass the characters can be easily read in the reflected image. Rotch, in his textbook on pediatrics, describes two cases of mirror-writing, both occurring in negro children of defective mentality who were also subject to convulsions, and he says there is a physiologic tendency for left-handed children to fall into the habit of mirror-writing. According to Dana (*Twentieth Century Practice of Medicine*, Vol. X), mirror-writing is seen in hemiplegics, more commonly in children. A right-handed person who has had a right hemiplegia attempts to write with the left hand and finds that he almost

unconsciously writes from right to left and reverses the letters. The pathology of this condition is unknown. Diffuse hypertrophy of the breast consists of a general hyperplasia of the entire gland. The disease is rare. Billroth, in his Treatise on the Mammary Glands, remarks on the rarity of this condition, having seen but



FIG. 1.—Hypertrophy of breasts.

two cases in his extensive experience. Dennis, System of Surgery, Vol. IV, quotes Williams, who says that while 2,422 cases of mammary neoplasms came consecutively under treatment at Middlesex, University College, Bartholomew's, and St. Thomas' hospitals during a period of from 16 to 21 years, only 6 cases of diffuse hypertrophy were seen in this same period. The cause of the disease is unknown, but it seems to be associated with certain disturbances of the genital organs, especially the menstrual function. The growth is usually very rapid for several months, after which it ceases. The breasts are likely to increase again at pregnancy. This disease occurs more frequently in the negro race. It is said to occur at two periods: first at the age of puberty; second, in connection with pregnancy. The great majority of cases develop at the onset of the menstrual function.

The concurrence of the above-described anomalies, mirror-writing and diffuse hypertrophy of the breasts, were noted in a patient who was admitted to the Ohio Hospital for Epileptics, at Gallipolis, November 4, 1897. The history of the patient is as follows:

Lillie Herst, colored, female, aged 17 years, born in Ohio. She was admitted to the hospital from a county infirmary. Her surroundings in early life were evidently very poor. She possesses a very limited education, the frequency of her epileptic seizures preventing regular attendance at the school conducted for patients. On account of the patient's pronounced imbecile condition no family or previous history

could be obtained from her. She is shy and retiring, of a mild and tractable disposition, with cleanly habits. Her only occupation is that of making beds, which she was taught to do only after a painstaking effort on the part of the attendant. The general health of the patient during her residence at the hospital has been good, excepting several periods of physical depression due to taking bromides. Her epilepsy began at the age of 3 years and has continued irregularly until the present time. Her attacks are of an atypical grand mal type; there is no petit mal. A seizure commences with an aura of impending suffocation, at which time the patient clutches her throat in a violent manner, requiring restraint, which is followed by shrill cries, which continue throughout the convulsive part of the attack, and the stage of stupor which follows is of short duration. She seldom has an attack at night and she never was in status epilepticus. Her menstrual function has not established itself in a normal manner. The first menstrual flow occurred 3 months after admission to the hospital, when the patient was 15 years of age. During the course of the year, 1898, she only menstruated 3 or 4 times at irregular intervals. During the next year she menstruated regularly, the flow was of normal amount, lasting 3 to 4 days, with no unusual physical or nervous depression. She has menstruated but once during the present year. The physical examination discloses the following:

The patient is a paralytic of average size for her age and race. The gait is normal; the mensuration of both lower extremities shows them to be of the same dimensions. The right patellar reflex is slightly exaggerated, but is absent on the left side. She is unable to use the right arm for executing the finer movements; it is slightly atrophied, the corresponding measurements being $8\frac{1}{2}$ and $8\frac{1}{4}$ ccm. for the right and left arms respectively. Considerable ataxia of the right hand still remains. The thoracic and abdominal viscera are normal. When she was admitted her breasts were seen to be a little more enlarged than one would expect to find in a person of her age and physique; after the appearance of the first menstrual flow, the breasts rapidly enlarged, so that within a period of 6 months they attained their present size. During this time she also increased in weight 30 to 40 pounds. In the course of the following year she gradually lost the increased weight, but no decrease in the size of her breasts was noticed. During the period of rapid growth they were slightly painful to touch, their increased weight causing her considerable discomfort. She complained of aching and dragging pains at the insertion of the pedicles of each breast. Both mammae are pendulous, and dilated veins

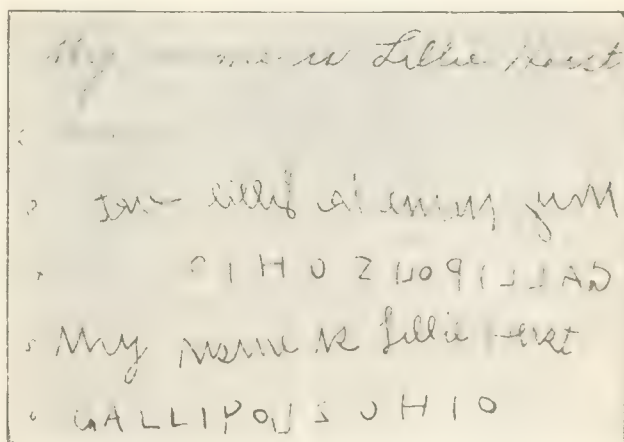


FIG. 2.—Mirror-writing.

are visible at their periphery. The overlying skin is of normal thickness and freely movable. There is no increase of fat, and the lobes of the gland-substance can easily be palpated. There has never been any secretion from either breast. The measurements of each breast are as follows: The right breast is 11 inches in length, in the mamillary line, from the attachment of its pedicle to its lowermost boundary; the left 10 inches. The greatest circumference of the right breast is $11\frac{1}{2}$ inches; left breast, $11\frac{1}{4}$ inches.

The fact that she was a mirror-writer was discovered accidentally. While visiting the cottage wherein the patient resided I noticed her in the act of copying printed words from a book on a slate. All the letters were, however, seen to be in a reversed position as compared with the original copy. When the slate was held in front of a mirror the words could then be easily read in the image. She was given several copies to reproduce, and specimens of her writing are illustrated in Fig. 2. Nos. 1 and 2 are copies she was given, and Nos. 3 and 4 are her efforts at reproduction. Nos. 5 and 6 are reproductions from Nos. 3 and 4, showing them as they appear in a mirror. The patient can copy printed letters more easily than script and can only write a few simple words from dictation. She has been taught to write in the normal manner, but when not on her guard she always begins on the right-hand side of the page and reverses her letters. The left hand is used exclusively in writing.

A Method for Destroying Mosquitos.—In the *Bulletin de Pharm. de Lyon* is recommended a method for the destruction of mosquitos. On account of the well-known properties of these insects in the conveyance of the malarial parasites, a solution of potassium permanganate 1:1500, has been found to be quite effective and cheap. [M.R.D.]

Regarding the Methods of Experimental Investigation, in Determining the Elimination of Hydrochloric Acid in the Human Stomach, upon the Ingestion of Various Nutritive Substances.—W. Bockmann (*Zeitschrift für diet. und physikal. Therapie*, Bd. iv, Heft 5) believes that more accurate results can be obtained by employing the substances used in test-meals, not by weight, but by their caloric values. [M.R.D.]

Dermatitis, Tetanus, Desquamation, and Edema in a Case of Grave Gastrointestinal Autointoxication.—Valeza (*Gazz. degli Ospedani e delle Clin.*, 1900, No. 111) reports a case of gastrointestinal autointoxication in a child causing scarlatiniform inflammation of the skin, tetanus, desquamation and edema, which the author attributes to the influence of the autointoxication upon the nervous system. The observations of Guida and Ponticaccia (*Dispepsia e sistema nervoso*) are discussed. [M.R.D.]

Sarcoma of the Testicle.—Kayser (*Mittheilungen aus den Hamburghischen Staatskrankenanstalten*, Bd. 11) found a history of trauma in 7 cases out of 21. The most predisposing age was that between 30 and 40 years. The beginning of the tumor formation and its further course were almost always painless, and in some cases a hardening of the testicle had existed for years before the presence of a neoplasm could be demonstrated. The condition was generally monolateral and associated with hydrocele. The prognosis was extremely unfavorable; only 2 of the 21 cases have recovered and 16 died from metastases. Secondary involvement occurs not only by the blood-stream but also by the lymphatics, as was seen in 7 cases with associated retroperitoneal lymphatic involvement. The author does not advise operation in the presence of secondary involvement for fear of increasing the latter. [M.R.D.]

Contribution to the Study of the Gonococcus and Its Toxin.—Christmas's (*Annal. de l'Institut Pasteur*, 1900, No. 5) experiments show that the gonococcus, when thriving on a culture medium especially suited for it, eliminates toxic materials, which, when applied in a weak dose to the brain of animals, causes death with characteristic symptoms of poison. The culture medium must be selected with particular care, the best being calves' bouillon, chicken broth, or rabbit broth with some gelatin, to which either rabbit's serum or ascitic fluid, but no peptone, are added. The gonotoxin does not arise from the toxic material of the dead bacteria, but is a biologic product produced only under certain cultural conditions; it can be obtained from a pure culture with a saturated solution of ammonium sulfate. The

subcutaneous injection of this toxin produces an antitoxic material in the blood of the animals experimented upon. [M.R.D.]

The Elimination of Bacteria by the Kidneys and Liver.—Mélin (*Annal. de l'Institut Pasteur*, No. 6), agrees with those authors whose experiments showed that as long as the liver and kidneys are in a normal condition, bacteria will not be eliminated by them. The author injected intravenously into rabbits, bacillus subtilis, pyocyanus, prodigiosus, typhosus, anthracis, and staphylococcus aureus, and the same organisms into the subcutaneous tissue of guinea-pigs. From time to time bacteriologic examinations of the urine were made, the urine having been obtained from the exposed bladder by aspirating through a slough in the bladder-wall so as not to injure bloodvessels. The same precaution was taken when aspirating bile from the gallbladders of animals. Both the urine and bile, when unmixed with blood, never contained the injected bacteria. Mélin believes that these organs only permit the entrance of micro-organisms from the blood into their secretions when their epithelia are the seat of pathologic changes. [M.R.D.]

Induced Labor in Eclampsia.—Ludwig Knapp (*Prager medicinische Wochenschrift*, Vol. 25, No. 51) calls attention to the successful results obtained in eclampsia from induced labor. In 47% of the author's cases the convulsions ceased, and in 23½% the violence of the paroxysms diminished so that, on the whole, 70½% cases of eclampsia were partly or totally relieved by the induction of labor. He quotes Ferri, of Milan, who had a mortality of but 7% in 82 cases of eclampsia in which labor was induced. The author remarks that, "Bossi's dilator is the best instrument for dilating the cervical canal. He describes a case of a primipara, who presented the prodromal symptoms of eclampsia; albumin in the urine; eclamptic convulsions; L. O. A. dilation of the cervix; rupture of the membranes; version and extraction of an almost asphyxiated full-term fetus, which was subsequently rapidly resuscitated. The convulsions ceased after delivery and both mother and child were discharged in 10 days without complications. [M.R.D.]

Regarding the Healing of Injuries Produced upon the Crystalline Lens of the Frog, Fish, and Birds.—Knap (Zeitschrift für Augenheilkunde, vol. III, No. 3 and 6; vol. IV, No. 1; abstracted by Pfister in the *Korrespondenz-Blatt für Schaeffer's Archiv*) in experimenting upon the frog obtained the following conclusion: 1. Even wounds extending deeply into the lens are not followed by traumatic cataract but heal with but very little remaining opacity. 2. The union of the wound in the capsule as well as the filling-up of the disturbed portions of the lens are accomplished by the epithelium derived from the capsule. 3. The clearing-up of the opacity is due to the changes that occur in the cells of the capsule, which ultimately fill up the gap produced by the wound. These changes are an increased transparency of the cells as well as alterations in their shape and position. 4. Every injury to the lens gives rise to the new formation of lens-fibers at the equator, and for this reason the tissue which fills up the wound has a tendency to penetrate deeply. 5. The scar in the capsule is covered at its internal surface by a new normal epithelium, forming a capsular cataract as in the rabbit. 6. Loss of substance in the equatorial region is replaced by new-formed lens fibers. 7. Wounds at the posterior surface of the lens and capsule are closed by "tongue-shaped" cellular elements from the equator, which later on become changed to lens fibers. 8. Injuries situated at the center of the lens may clear up by themselves. 9. By removing the lens and leaving the capsule, a new lens will be formed from the latter. The result of No. 9 was obtained by injuring the lens with a needle so that the whole lens was brought to lie in the anterior chamber. After an almost total opacity of the lens it was absorbed in 2 months, and a newly- but not entirely regularly-formed lens could be demonstrated. The same result was observed in three experimental luxations of the lens. In the fish (goldfish) it was also shown that deep and extensive injuries of the lens did not cause a total cataract but only a superficial and circumscribed opacity. In the bird, although one would expect a total opacity of the lens on account of its soft consistency, such did not take place in spite of the marked traumatism. [M.R.D.]

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Recent Studies in Hydrophobia.—The development, segregation, and final grouping together of the individual symptoms as a separate disease, and the search for a pathogenic factor, a distinctive or specific pathology to establish such a grouping of symptoms as a distinct clinical entity on a scientific basis, are well illustrated by the changes which our ideas in regard to hydrophobia are undergoing at the present time. Although the clinical pictures as found in the best books of medicine seemed clear and well defined, there could always be found men of ability who denied, in the absence of a distinctive pathology, the existence of such a disease. Thus, a skepticism had developed in the medical profession in regard to hydrophobia, and one may search in vain the health reports of Philadelphia for a case of hydrophobia. Such a diagnosis is not recognized, and death from this cause may be found under the head of convulsions, etc. At the last meeting of the Pathological Society of Philadelphia, Drs. Ravenel and McCarthy (*University Medical Magazine*, January, 1901) read a paper confirming the work done in Europe during the past year on the pathology, and the diagnosis from the pathological lesions, of hydrophobia. All the material sent to the University was made use of in this work. Van Gehuchten and Nelis had described the essential and distinctive lesions of rabies in the peripheral, sensory, and sympathetic ganglia. The normal intervertebral ganglion, or ganglion on the cerebral nerves, is composed mainly of large ganglion cells; each cell is surrounded by an endothelial capsule of one layer of cells. Between the capsules there is a stroma of connective tissue, nerve-fibers, and bloodvessels. In the ganglion of a rabid dog the cells are degenerated, shrunken, and may have disappeared. In the place of the degenerated and atrophied cells are the capsules filled up with masses of small, irregular, nucleated cells. As the ganglion cell degenerates and shrinks the capsular cells proliferate and fill up the capsule, and, together with a leukocytic infiltration which occurs in the stroma, give a distinctive picture to the section. Other changes are found in the spinal cord and medulla, but they are not so constant or characteristic as the ganglion changes. These changes are not found as a constant pathological factor in any other disease, and only very rarely as an accidental factor, the result of some direct or indirect irritation. These changes occur in practi-

cally all cases of street rabies, and are missing in very few of the cases where the disease is conveyed by subdural injections into rabbits.

The changes above described occur very early in the disease, and have a very practical value as a means of early diagnosis. Much valuable time for treatment has been lost in the past waiting for a positive diagnosis in an animal suspected of rabies, who has bitten several people. At least 14, and often 20 to 30 days was necessary before a positive opinion could be expressed, and an accident to the experimental animal destroyed all evidence for or against the diagnosis. It is now possible to give an opinion within 24 hours of the death of the animal. Prophylactic treatment (Pasteur) may then be instituted immediately with better prospects of success and with lessened possibility of a useless expenditure of time and money. Such was often the case when the animal was destroyed without a positive diagnosis having been made. These investigations will furnish food for thought for those who hold that hydrophobia is a disease of the imagination, a fatal fear, a deadly hysteria; and a feeling of gratification to those who have been struggling for so long a time to establish it as a distinct clinical entity. It is difficult to see how fear or imagination could cause such widespread changes in the central nervous system.

The Absorbable Suture.—Ever since the introduction of antiseptic and aseptic surgery one of the regrets of the surgeon has been that, although his wounds heal primarily, yet not infrequently an early or late accumulation of pus takes place, "breaks," or is opened, and a sinus established, which continues until finally there is discharged or removed from it one or more silk sutures or ligatures. This was a very common occurrence a few years ago and is still not infrequently met with where silk is used to any extent. The suture or ligature which has always seemed the ideal one to the surgeon, is one that would serve its purpose and then be absorbed and not remain a foreign body in the tissues. The dissatisfaction which has always accompanied the use of suture-materials which had to be removed, or which became encysted, and oftentimes, even though perfectly sterile at the time of introduction, produced irritation, inflammation or abscess, with which all surgeons are too familiar, has

caused both the clinician and the laboratory investigators to labor for a suture that would fulfil all the immediate requirements and that would not give rise to postoperative infection. The animal sutures, which are practically the only ones which are absorbed with any certainty in a reasonable time, have been so difficult of sterilization, and consequently so productive of immediate wound-infection, that many surgeons have been slow to accept them in much of their work as a substitute for silk, the sterilization of which is so simple. Repeated and laborious experimentations have, however, been so productive of good results that now, at the close of the past decade, we find the operators in all departments of surgery gradually discarding the nonabsorbable silk and silver wire for the absorbable catgut and kangaroo tendon. The alcohol-bichloride, the cumol and the formalin methods of sterilization of animal sutures have become so perfectly satisfactory, both from a laboratory and practical point of view, that when properly carried out they may be absolutely relied upon. The substitution of catgut, both plain and chromicized, for silk and silver wire has been most marked in the past few years, and even in tissues where silk was thought to be the only possible and safe ligature or suture-material, we find the surgeon now using the absorbable animal suture. Many abdominal surgeons now use catgut entirely as a ligature for even the large pedicles which must be constricted in the pelvis; and in appendicial gallbladder and intestinal surgery it is rapidly finding its way. Probably the one place where silver wire seemed to hold absolute pre-eminence was in the suturing of bone, and yet in this work catgut and kangaroo tendon are finding ardent advocates, who continue to report good results from its use.

In the ligation of small vessels silk may now be said to have no place, and in the closing of wounds, even those of the serous membranes, it is being less and less employed. Though the field for the use of both silk and silver wire is so rapidly contracting, yet these materials will always have their place in surgery. It is certainly true, however, that in the satisfactory sterilization of the animal suture the surgeon has realized one of his ideals.

The British Congress on Tuberculosis.—Probably the most important and widespread disease that afflicts mankind is tuberculosis. We hear so much nowadays of some of the other infectious diseases, such as plague, yellow fever, and malaria, that we are likely to overlook the stupendous mortality from consumption in its various forms. More than 8,000 people die annually from this disease in Pennsylvania alone; while in the United Kingdom of Great Britain and Ireland 60,000 deaths are recorded annually from tuberculosis, and it is stated on good authority that at least three times this number of persons are constantly suffering from one form or other of the disease. Moreover, this ac-

tivity of tuberculosis is constant; year after year it is and has been, and apparently will continue to be, the same devastation over the face of the globe. Plague and yellow fever are rather more dramatic in their onset and progress, but tuberculosis, while it may not appeal so strongly to the imagination, has a worse effect on the death-rate than either of the others.

As an offset to this sombre picture we may record the fact that probably no disease is being made the object of persistent, intelligent, and organized opposition to such an extent as tuberculosis is at the present day. The opposition is even taking on a missionary zeal and evangelical fervor, for the public is being educated by tracts and in some places the pulpit is even giving out a warning cry. Perhaps these popular methods are not always the wisest, but they at least indicate a curious awakening on the subject of consumption. Much more effective will be such an assemblage as the forthcoming British Congress on Tuberculosis. This congress will meet in London in July next, and the prospects are that it will be a most noteworthy gathering. The preliminary program, which lies before us, already maps out wide territories for scientific work. This work will include medical, climatological, pathological, bacteriological, and veterinary tuberculosis, as well as hygiene and state medicine in reference to this disease; and will be illustrated by means of a large museum. It is to be hoped that many of our American specialists will take part in this congress, not only for their own sakes, but especially for the advancement of this work, than which no greater now enlists the sympathies and activities of scientific men.

Scientific Work in Psychiatry.—Dr. Edward N. Brush, physician-in-chief to the Sheppard Asylum, near Baltimore, has discoursed in a very rational and luminous way, in his recent annual report, on the vexed problem of how to get more scientific work done in hospitals for the insane. Dr. Brush, who has had a large experience in the asylums, does not seem to have been enervated by breathing the atmosphere of these much-maligned institutions. He wants more scientific work done in them, while recognizing that there are practical difficulties in the way of converting all our well-ordered asylums into busy hives of clinical and pathological workers. This seems to us to be the first absolutely essential step in the solution of this whole question, *i. e.*, that the asylum men themselves come to recognize the need of more science. This progress must begin from within. It must be spontaneous, not forced from without. Whatever the difficulties may be, there will be found a way to overcome them when those who are most nearly concerned feel the impulse to forge ahead. Whatever the obstacles, only the men on the inside know them well enough to really surmount them. For these reasons we believe that the

one real hopeful sign for the scientific progress of the asylums is in the fact that men like Brush are fully awake to the necessity of bringing the science of psychiatry up to the same plane of activity and fruitfulness that has been attained by the other medical sciences.

Dr. Brush thinks that the failure to secure great results comes from the lack of correlation in the past between laboratory work and clinical work. These two must be better correlated. In this connection we would remind him of Kraepelin's recent recommendation that small psychiatric hospitals be established in connection with teaching clinics. In this country it might be better if more small or medium-sized hospitals were established with a view to having some relation with a near-by clinic and laboratory, so that in effect each would be part of a great teaching plant. One difficulty in this country is the tendency to hypertrophy. Institutions must swell to immense proportions, in order to catch the public eye, if they are to fulfil their proper destinies. This should not be so with all our hospitals. A few well-selected and well-studied cases will give infinitely better results to science than a thousand beds consigned to the oblivion of routine. There is a stimulation that comes from a teaching clinic that cannot be artificially produced anywhere else in the world. It is this stimulation, this contact of young, eager, and inquiring minds, that is lacking in many of our hospitals for the insane. Dr. Brush would tend to solve the problems of psychiatry if he would create a teaching clinic at Sheppard Asylum, or utilize its material for such a clinic.

Erroneous Pharmacy.—In these days when the markets are flooded with all sorts of well-recommended drugs, it is not enough that these preparations be free from the taint of quackery and commercialism. They should all be free from the possibility of doing harm, such as might arise from the mistaken judgment or lack of experience of the well-meaning physician or pharmacist who recommends them to the profession. Dr. William Murrell has just sounded a note of warning, for instance, in reference to one of the new preparations of arsenic, known as the cacodylate of sodium. We are told by its sponsors, who are mostly French physicians, that although this drug contains a large amount of arsenious acid (as high, even, as 55%), it has none of the toxic action of that salt, and that it may be given by mouth, and even hypodermically, in comparatively large doses. Dr. Murrell's experience did not support this claim. He administered one grain of the drug in pill form, and before eleven doses had been taken he observed such well-marked and even alarming symptoms of arsenicism, that he was forced to discontinue its use. A distinct odor of garlic was noted on the breath on the second day, and by the fourth day the patient had been vomiting, and her face was pallid, eyelids edematous, conjunctivae injected, and her tongue pre-

sented the appearance of a piece of raw beef. In addition, and far worse, there was arsenical neuritis in the limbs, marked by loss of power, abolished knee-jerks, and pain in the nerve-trunks on pressure. Arsenic is too virulent a poison, and Dr. William Murrell is too good an authority for us to let his important letter in the *Lancet* (December 29, 1900) go unnoticed. This drug has recently been used in one of the hospitals of Philadelphia with results which, we are credibly informed, indicate that it is a very potent toxic arsenical preparation.

In this connection we would suggest that reputable pharmacists, whose intentions are doubtless of the best, and who, in fact, are often misled by physicians themselves into exploiting some particular medicine, would do well, before launching new preparations of the more poisonous drugs, to have them completely tested on the lower animals. This might wound the feelings of the antivivisectionists, but it would probably save human suffering here and there.

Mosquitoes and Disease.—The search for the pathogenic mosquito still goes on. Having fastened the responsibility for malaria upon this insect, the scientists seem bent upon fixing the blame for yellow fever upon it too. We trust we shall hear something more definite on that point at the coming Pan-American congress in Havana. The rôle of the anopheles in malaria seems to be well established, but we still need more definite information about the completion of the life-cycle of the malarial parasite. Is the mosquito the intermediary host, or is the essential link—"the means by which its existence is assured from year to year"—the individual known in the *Lancet* as "malarial man"? During the past year a few facts of importance—confirmatory rather than truly originating—have been added to our knowledge of the propagation of malaria. Thus Manson's experiment on himself was confirmatory. He submitted himself to be bitten by some imported anopheles mosquitoes, and promptly developed an attack of tertian fever. This was a disease that he could not readily have picked up in England, and the plain inference is that the imported insects gave it to him. Again Drs. Sambon and Low, with Signor Terzi, betook themselves to the most infected spot on the Roman Campagna, and by protecting themselves from the bites of mosquitoes, entirely avoided the disease. Other persons around them, who took no precautions, as promptly took it. The desideratum now is to find something that will kill the mosquito, and then having found it, to apply it. It seems to us at present writing to be a bigger problem to exterminate the mosquito than it is to control malaria with quinin. We can kill the parasite in the blood of man more readily than in the system of the mosquito—or even than we can kill the mosquito itself. In other words, from an economic standpoint it may be a question whether it is not as

easy to take malaria and cure it with quinin, as it is to go on a still hunt after mosquitoes. This is a question in prophylaxis that has not much more than got itself stated. A solution of it is not yet in sight.

Blood Concentration.—Frequently the examination of the blood is one of the links in the chain of clinical evidence forged in the establishment of a diagnosis. A factor in blood examination which has received too little attention is the occurrence of blood inspissation, and this is worthy of more thoughtful consideration. In many instances a relative increase in the number of red corpuscles leads to false conclusions unless the important factor of concentration is carefully weighed, and therefore detracts from the value of blood examinations in diagnosis.

The causes of blood inspissation are numerous and constantly operative. A relative increase in the number of colored corpuscles occurs in such conditions as profuse sweating, diarrhea, persistent vomiting; the withdrawal of a large quantity of serous fluid from the body which is quickly replaced; by depriving the system of liquids, and by increased blood-pressure. Cabot, in referring to this subject, says: "In the presence, therefore, of any such reason for concentration, we should always modify our ordinary methods of inference from the blood-count."

It is a well-established fact that in cholera during the stage of collapse very high counts are observed, sometimes reaching seven millions per cubic millimeter. Not less striking an illustration is the relative increase of the erythrocytes which occurs after a drenching night-sweat in phthisis. A very complex and difficult problem is to determine anemia in such diseases where excessive erythrocytolysis and concentration are both making progress. Under such circumstances we must reflect upon the physiology of blood regeneration, namely: That the liquid elements are rapidly restored, the erythrocytes more slowly, and lastly the hemoglobin is gradually replaced. Factors which demand careful consideration in an acute infectious disease presenting profuse diarrhea are, that excessive blood destruction and concentration are both active. However, in such instances, while we should expect a relative increase in the percentage of red cells, the hemoglobin would not show the same increase and the corpuscular richness in hemoglobin or color index would be reduced.

In conclusion, therefore, when the condition of the blood is to have an important bearing upon a diagnosis, the results of such an examination should be compared carefully with such important clinical facts as the amount of liquids ingested and the rapid loss of fluids from the body.

The Improved Sanitary Condition of Havana.—Major and Surgeon W. C. Gorgas, chief sanitary officer for Havana, Cuba, in his monthly report for December,

1900, calls the attention of the Department Commander to the very excellent showing made by the vital statistics of the city for the last month of the century. We think some of these figures are worth quoting, for they reflect great credit upon the American officials who are responsible for the sanitary condition of Havana. The population of Havana is placed in round figures at 250,000. The number of deaths for December was 485. The smallest number for any December in the preceding 10 years was 517, in 1893. The death-rate for 1900 was 23.28. The next smallest for the past 10 years was 27.10 for 1899. The smallest death-rates for the past 10 years have been for these two years, 1899–1900; the years of the American occupation. There has been a marked decrease in the number of cases of yellow fever. In November there had been 214 cases with 54 deaths; in December 62 cases with 20 deaths. Dr. Gorgas calls attention to the fact that most of the yellow-fever cases occur in the recently arrived Spanish immigrants, more than two-thirds of the cases occurring in persons who have been in Cuba for less than one year. It is a noteworthy fact that Spanish emigration to Cuba still continues large; the number for December alone having been 4,206. This prevalence of the disease among these newcomers, who, of course, are not yet immune, is a striking instance of disease-propagation, and suggests strongly that some means ought to be devised to control it if possible. A prophylaxis, like Haffkine's for the plague, is evidently a desideratum. These figures from Dr. Gorgas' report show what can be and is being done to clean Havana and keep it clean. That city has been a more or less constant menace to the health of the American people, and it is gratifying to know that its temporary occupation by the United States Government is proving beneficial in a sanitary and hygienic sense. The lesson thus being taught ought not to be permitted to be forgotten or ignored in the years to come.

"Wiener medicinische Wochenschrift."—We extend to this valuable contemporary our heartiest congratulations on its fiftieth anniversary. We do not doubt that it will continue to maintain its customary prestige in the annals of medical journalism.

A Case of Rodent Ulcer Healed by the X-rays.—T. Stenbeck, of Stockholm (*Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie*, Bd. VI, Heft 3), reports the case of a rodent ulcer of 9 years' duration, occurring on the bridge of the nose of a woman 72 years of age. The patient was subjected daily from 10 to 12 minutes to moderately strong x-rays, the lamp being removed 15 to 20 cm. After 4 sittings there was reaction; after 8 to 10 applications profuse suppuration, which, however, soon diminished. After 35 sittings, during which the ulcer was always cleaned, there followed desquamation of the epiderm. After a new, thin, smooth epiderm had formed, the intensity of the illumination was increased so that the patient was treated daily for 15 minutes with the tube removed but 10 cm. from the ulcer. Sufficient time has not yet elapsed to say whether a definite cure was established. [M.R.D.]

Reviews.

Enteroclysis, Hypodermoclysis, and Infusion. With a Chapter on the Carbonated Bath and Some New Applications; Also Therapeutic Addenda. By ROBERT COLEMAN KEMP, M.D. Introduction by Wm. H. Thomson, M.D., LL.D. Infusion, Shock, and Anesthesia, by Robert H. M. Dawbarn, M.D. Drawings by Thos. Nast, Jr. Photographs by Dr. A. W. Gardner. 8vo, pp. xiv, 349. New York: James T. Dougherty, 1900

It is a mistake to believe that the physician's armamentarium begins and ends with the *materia medica*. In fact, his most potent weapons, both of offence and defence, are at times drawn from other sources. The great value of water, administered in various ways, as a therapeutic agent has long been appreciated, and the little volume before us deals with its application through the intermediation of the bowel, the lymphatics and the bloodvessels. The subject has become one of great importance and a diffusion of knowledge bearing upon it must bear good fruit. Dr. Kemp has for a number of years devoted himself, experimentally and clinically, to the study of the matters in hand and is, therefore, qualified to discuss them with intelligence and judgment. The book is divided into five parts, one on enteroclysis, the second on hypodermoclysis, the third on infusion, the fourth on the carbonic acid bath, and the fifth on therapeutic addenda. In view of the inherent importance of the subject and the timeliness of publication the volume will no doubt be cordially received.

A Compend of Diseases of the Skin. By JAY F. SCHAMBERG, A.B., M.D. Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine; Fellow of the College of Physicians of Philadelphia. Second edition, revised and enlarged. With 105 illustrations. 8vo, pp. xv, 291. Philadelphia: P. Blakiston's Son & Co., 1900. Price 80 cents.

Discriminatingly used, this little book is capable of aiding the student to a readier understanding of the subject with which it deals. It affords, so to speak, an outline, which must be filled in by clinical observation and wider reading. Duhring's classification is followed and special attention has been given to the differential diagnosis and treatment of the more important affections.

International Clinics. Edited by HENRY W. CATTELL, A.M., M.D. Vol. III. Tenth series, 1900. Philadelphia: J. B. Lippincott Company, 1900.

This volume contains a symposium of 7 papers on genito urinary diseases. Four papers on therapeutic subjects, 3 in medicine, 3 in neurology, 5 in surgery, 4 in obstetrics and gynecology and 1 each on diseases of the eye, laboratory methods and the scientific modification of milk; illustrated by 18 figures and 27 plates. The articles will appeal especially to the general practitioner, and that by Dr. Westcott on milk-modification is particularly commendable as it is an effort to elucidate and to simplify a subject that has been involved in a good deal of complexity and one that is at the same time of the utmost importance from a practical point of view.

A List of Publications of Dr. Irving C. Rosse, Washington, D. C.

This pamphlet contains a complete catalogue of Dr. Rosse's publications covering the full period of his professional life. Dr. Rosse is well known as a contributor to medical literature especially in the domain of neurology and psychiatry, and for those who desire to refer to his writings this list will be a great convenience.

Correspondence.

SUPRARENAL CAPSULE IN ORGANIC HEART DISEASE.

By SAMUEL FLOERSHEIM, M.D.,

of New York City.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I INTEND to publish a second paper on the use of the suprarenal capsule in organic heart disease. Will you kindly ask the readers of your JOURNAL to send me the reports of their cases as follows:

1. The condition of the heart and pulse, and also the pulse-rate.
2. The effect on the heart and pulse, and also the pulse-rate, within 10 minutes after the suprarenal powder, 3 grains, is chewed and swallowed without water, by the patient.

218 E. 46th St.

DR. JACOBI'S ADDRESS.

By HAROLD N. MOYER, M.D.,

of Chicago, Ill.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the presidential address before the Mississippi Valley Medical Association I referred to the address of Dr. Jacobi before the International Medical Congress as misrepresenting the medical profession of America. At the time my address was prepared I had not seen the address of Dr. Jacobi, but my information was derived from more or less fragmentary reports that had reached this country, and certain editorial references to the address describing it as "apologetic."

A reading of the full text leaves a very different impression on my mind. Instead of apologizing the essayist pays a splendid tribute to the American medical profession, alike free from overstated claims, or hypocritical self-depreciation.

I certainly very much regret the reference to Dr. Jacobi's address, but feel that I must in part be exonerated as I accepted statements which seemed authoritative.

The whole matter reveals a phase of medical journalism that I little suspected.

"ANOTHER FACTOR IN THE TRANSMISSION OF
DISEASE GERMS."

By E. D. FREAR, M.D.,

of Sloan, Ia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DR. LEIDY's communication in your JOURNAL of January 12, calls to mind another "Factor in the transmission of diseased germs" to which, so far as I know, the attention of the medical profession has not been called.

I refer to the pestiferous pack peddlers. This class of mendicants is usually composed of an undesirable class of aliens whose ideas of hygiene, or even of common cleanliness, are very limited. Whenever they can gain admission to a house, their packs, which are generally made up of fabrics which are good conveyors of diseased germs, are opened and spread over sofas, beds, and other convenient articles, and are promiscuously handled by the members of

the household. The air of the room may be impregnated with the desquamations of variola or scarlatina, the exudations of diphtheria, or the expectoration of tuberculosis. The goods are carefully repacked and carried to the next home, or several homes, where the germs are distributed. Without going into details, I have seen two developments of scarlatina and, one of diphtheria, in each case a clear history of the contagium being carried in this manner. I recognize the fact that our cities and more populous communities are spared this nuisance, but it is in the country, where the population is sparse, and where, in many cases the disease is in so light a form that a physician is not called, that this danger exists.

SURGICAL INTERVENTION IN PERFORATION IN TYPHOID FEVER.

By WILLIAM OSLER, M.D.,

of Baltimore, Md.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In your editorial note on surgical intervention in perforation in typhoid fever, you lay stress upon the effect of the anesthetic. In a majority of our cases the operation has been performed under cocaine, with which the patients apparently suffer very little distress. In illustration of the capacity of a patient to stand repeated surgical interference, I may refer to a case already reported by Dr. Cushing in the *Johns Hopkins Bulletin*. Three operations were performed within two weeks, the first on August 13, under chloroform anesthesia, when a perforation was sutured; 13 days later the patient suddenly became worse, had vomiting, was collapsed, restless, and the abdomen was distended, and he had hiccough. He was thought to have another perforation, and was operated upon under chloroform, but nothing was found to account for the symptoms. Two days later he had much more serious symptoms, and a third operation was performed, also under chloroform. A perforation 1 cm. in diameter was found and sutured, and the bowels were irrigated with salt-solution and replaced. He made a satisfactory recovery.

THE INDIVIDUAL COMMUNION CUP.

By HOWARD S. ANDERS, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

As one who is—as the phrase goes—"largely responsible" for the agitation in favor of the adoption of individual communion cups as sanitary and not less sacred substitutes for the single and several commonly-used chalices and cups, I may refer, with propriety, perhaps, to Dr. Sheaff's letter, in your last issue of the *JOURNAL*, concerning this matter in relation to the prevention of tuberculosis. I have written and spoken so often on this subject that I hesitate before putting forth again, lest the reform may be harmed more than helped by my apparent position as an unbalanced hobbyist or sacrilegious sanitarian.

And yet, it seems that the underlying facts and principles of the individual cup idea, as applied to schools as well as to churches, are quite obvious to every right-thinking and progressive physician. So that, while letters like Dr. Sheaff's are encouraging and gratifying from the interest shown, after all, what are physicians doing in a personal, hand-to-hand, practical way to further this sanitary reform in the churches?

The Philadelphia County Medical Society passed a resolution, after my first paper on the subject, in September, 1894, favoring the adoption of individual communion cups; ministerial conferences and assemblies have done likewise. Nevertheless, the passing of resolutions accomplishes very little in the way of actually bringing things to pass, unless the physicians themselves work quietly, rationally, and with tact and persistence among their patients, friends, and own church fellow-members.

Surely, not rarely may the occasion be opportune for the family doctor to ask, Does your church use individual communion cups? and if not, according to the reply, an influential word may be uttered. Especially does this bring fruitage among women, who are often instrumental in inducing a strong and successful sentiment against the single chalice or cup. Since the clergymen are very few who will head the movement in their own churches, for reasons of propriety, but many who will readily sanction it, it is evident that the initiative in agitation and action must come from the people and church officers; and these will not move unless their medical advisers teach, awaken, and encourage them to do so.

"True it is," writes Dr. Sheaff, "that some congregations have adopted the individual-cup method; but are they many, compared to those who have not?" No, indeed, they are not many. My latest statistics—approximate—show that there are not more than about 800 churches (representing about 500,000 communicants) in the United States using it. This is more than twice as many as in 1893, but a small number compared to the thousands not doing so. However, the movement is steadily, though slowly, growing all the time. *Medical men only can hasten it*, primarily, as hinted before.

It should be urged, further, that the method is not only satisfactory in hygienic principle, but equally so in practice, as all churches using it unanimously testify; not only clean and sanitary, but permitting also as much of solemnity, dignity, impressiveness, and devotional concentration as by the use of a single cup or of half a dozen cups by many mouths of uncertain cleanliness and health.

We should think not only of tuberculosis, but of prevalent influenza, and follicular tonsillitis—to mention no other transmissible diseases in this connection; they may all "go to church" with their hosts, in some communicable form. The recent discussion in the *London Lancet* and some of the English church papers concerning the revival of intinction as a mode of administering the sacrament, as well as the individual communion cup, shows the trend of feeling in the direction of more general ecclesiastical sanitation than now obtains in celebrating the memorial of the Lord's Supper.

THE CURE OF URETHRORECTAL FISTULA.

By RICHARD N. GIBBONS, M.D.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

DR. THOMAS ADDIS EMMET, nearly a third of a century ago, operated through the rectum for the cure of urethrorectal fistula. In the third edition of his masterful work on gynecology, the following and additional notes will be found relative to the case, and for the benefit of your readers, including Prof. Horwitz and Prof. Keen, I offer for publication, quoting from the above as follows:

"CASE 108.—On May 28, 1870, I closed a rectourethral fistula in a gentleman from Kentucky, at the request of the late

Dr. J. C. Nott. The case was reported,¹ but without giving the operation in detail, and I now give it in full, as it seems to illustrate well the manner of closing from the rectum similar openings in the female organs.

"On the first of December, 1868, a large stone of irregular shape, weighing 5 ounces, was removed by the lateral operation, which left a fistulous opening in the rectum, through which the urine passed. A portion of the urine continued to discharge by the rectum up to the time of his arrival in New York, and no attempt had been made to close the opening. Not only did a portion of the urine pass through the rectum, but fecal matter and gas frequently escaped with the urine through the urethra. The feces sometimes formed an annoying temporary obstruction to the passage of the urine through the penis. The bladder was irritable, requiring the urine to be passed off more frequently than natural. The rectum was also irritable, but less so than is usual in urinary fistula opening into it. I had no opportunity of examining the case until I was called upon to operate. When the parts were brought into view by placing my self-retaining speculum in the rectum, two oval openings were seen about an inch apart, one leading into the bladder and the other to the urethra.

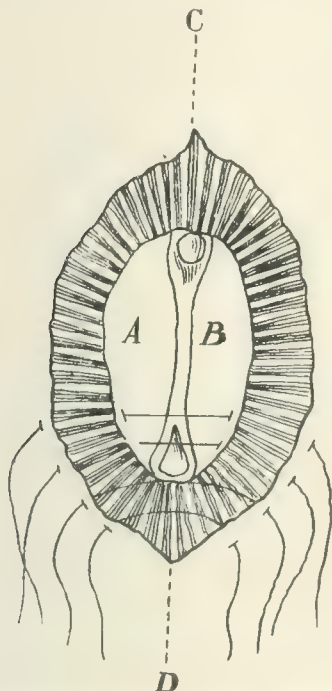


FIG. 149.—Rectourethral fistula in a man (from the rectum)."

"Between these openings a narrow strip of urethral mucous membrane could be traced, which represented all that remained of the membranous portion of the urethra. The appearance was as if a section had been removed by a sharp knife, so as to leave a small, narrow portion in the center. The facility with which I succeeded in closing this opening, by supplying the loss from rectal tissue, led me subsequently to employ the same method for closing certain cases of recto-vaginal fistula. The rectum in this neighborhood forms a double concave surface, due to its direction, its long diameter, and its cylindrical shape.

"On a correct appreciation of this fact rested the success of this operation. I soon ascertained, by experimenting with the tenaculum, that, if I should denude a portion of rectal surface of a uniform width, in two parallel lines, from one opening to the other, I should not be successful in forming a urethral canal. This, doubtless, was the most obvious mode of procedure, and yet it was evident that, if these freshened surfaces were turned over and brought in contact, there would result a narrowing in the center in the shape of an hour-glass contraction. In order, therefore, to reconstruct the membranous portion of the urethra in this case, it was

necessary to remove the mucous membrane from the rectal surface in the form of an elliptical space, as shown in diagram Fig. 149. Four of the sutures are there represented to have been introduced, for the purpose of showing that when these were tied the denuded spaces A B, Fig. 149, would form a canal of uniform width, and the line of union would lie in the direction C D in the long axis."

It will be noted by observation of the accompanying sketch, reproduced for me by my son, Dr. Horace J. Gibbons, from the original cut in Dr. Emmet's work, marked "Fig. 149," and by studying the above quotation from the same work, that his attempt to repair the loss due to destruction was not made through any haphazard method, but, like all the work of this distinguished surgeon, it was planned from an anatomical viewpoint, every consideration being given to the physiological necessities dependent upon the pathological conditions; hence this operation was not done merely to close the fistulous opening, but in addition thereto to restore the membranous portion of the urethra, this being done with tissues that are ideal when histologically considered.

Emmet was the first man in all the world to teach the possibilities of dire disaster being brought about by granulation repair, the resultant scar-tissue often, by its cicatricial contraction, impinging upon the filaments of the sympathetic system of nerves, producing thereby reflexly a most expressive word-torment in more or less distant portions of the nervous system, even to the extent of upsetting the mind.

Then, too, if this operation was not properly planned, as was done by Dr. Emmet, the "hour glass" contraction of which he speaks would have produced more or less obstruction of the urethral canal stricture. This would have happened in Dr. Horwitz's case had the suggestion, made by Professor Keen, the use of the thermocautery, succeeded in healing the fistula, which would have been by granulation.

It must be borne in mind, too, that Emmet uses almost exclusively the silver-wire suture, which is preferable to any other in plastic surgery, where we are most anxious to have union primarily, as in the work upon the genital and urinary organs.

Primary union, too, is more likely to be attained where the delicate tissues of fistulae in general are handled by the tenaculum, as is so deftly done by Dr. Emmet, instead of pinching them by means of hemostatic or other forms of tissue-holding instruments.

The wire suture can be quickly, easily, and painlessly removed, merely using Emmet's size of Sims' speculum through the anus, the patient being in Sims' position, or in the Emmet-Bosman-Agnew Otis method, the knee-chest method of posture for examining or otherwise dealing with the rectal pouch.

If patients are properly prepared as has long since been taught and practised by Dr. Emmet, and if they are kept on the right sort of food, there is no necessity for giving opium, neither is there any necessity for the use of any form of clasp-trap contrivances.

Cutaneous Affections Caused by the Oxyuris Vermicularis.—Barbagallo (*Gazz. degli ospedali e delle clin.*, 1900, No. 111) calls attention to a case of inflammation of the skin of the thigh and around the anus, caused by the oxyuris vermicularis. The erosion of the skin, caused by scratching, offers a suitable soil for the parasites and their ova. The diagnosis is established by microscopic examination and the efficiency of anthelmintic treatment. According to the author, his case is the fourth reported. [M.R.D.]

¹"Case of Rectourethral Fistula," by J. C. Nott, M.D., *N. Y. Med. Jour.*, September, 1870.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Scarlet fever is prevailing in New Jersey, the school-houses of Vineland, Cape May county and Swainton have been closed and the church services suspended.

Bacteriologist Appointed.—William R. Copeland, of Pittsburg, was appointed to succeed bacteriologist Toplis, of the city's filtration force, whose resignation is announced.

Influenza in Allentown.—Several schools in Allentown have been closed on account of influenza, and the business of the city is hampered in general on account of the disease.

Appointments.—Dr. Oliver J. Bennett, Allegheny, Pennsylvania, has been appointed physician to the Western Penitentiary of Pennsylvania. Dr. Charles B. Smith has been appointed surgeon of the Lackawanna railroad at Washington.

Deadlock Ended at Norristown.—The deadlock of the trustees of the State Hospital for the Insane over the election of a resident physician for the female department was ended on January 18 when Dr. Alice Bennett withdrew her name as a candidate and Dr. Mary Moore Wolfe was elected.

The Practitioners' Society of Orange, N. J.—At the first annual meeting of this society, held on January 5, officers were elected as follows: President, Dr. Edgar Calvin Seibert; vice-president, Dr. J. Minor Maghee; secretary and treasurer, Dr. Stephen G. Lee; executive committee, Drs. M. Herbert Simmons, Walter Dodge, and Frank B. Lane. Dr. Edward J. Ill, of Newark, and Dr. Thomas W. Harvey, of Orange, were elected honorary members.

Philadelphia Medical Club.—At the annual meeting held January 11, the following officers were elected for the ensuing year: President, Dr. E. L. Duer; vice-presidents, Dr. John B. Deaver, Dr. Philip Marvel, of Atlantic City; secretary, Dr. Guy Hinsdale; treasurer, Dr. F. S. Pearce; member of the board of governors, Dr. James M. Anders; executive committee, Dr. T. C. Fulton, Dr. James Van Buskirk, Dr. L. Webster Fox, Dr. Ernest Laplace, and Dr. G. G. Davis.

College of Physicians.—The report of the Library Committee of the College of Physicians of Philadelphia shows that on November 1, 1900, the library contained 61,359 volumes; and in addition the following: Duplicates, 4,140 volumes; unbound reports and transactions, 6,416; unbound pamphlets, 40,114. During the year 4,158 volumes were added; 10,442 books and journals were issued to readers in the library, and 2,411 books and journals were issued to Fellows of the College. There were registered 4,581 visitors during the year.

Philadelphia Neurological Society.—The stated meeting to be held on January 28, at 8.15, in the lower hall of the College of Physicians will be devoted to a Symposium on Brain Tumor.

The following papers are to be presented:

"Paresis, with Symptoms of Brain Tumor," by Dr. Wharton Sinkler.

"A Case of Brain-Tumor, with Hemiplegia, Homonymous Hemianopsia and Wernicke's Symptom," by Dr. F. X. Dercum.

"A Case of Extensive Endothelioma of the Brain," by Dr. John K. Mitchell.

"A Case of Tumor on the Pons, Medulla Oblongata, and Upper Part of the Cervical Cord," by Dr. W. G. Spiller.

"The Localization of Brain-Tumors, Especially with Reference to the Parietal and Prefrontal Regions, Based on Five Cases in which the Sites of the Tumors were Located for the Purpose of Operation," by Dr. Charles K. Mills.

"A Case of Unilateral Oculomotor Palsy Probably Due to a Gumma," by Dr. D. Riesman.

"A Case of Subcortical Brain-Tumor," by Drs. Charles K. Mills and Howard D. Geisler.

The discussion will be opened by Dr. G. E. deSchweinitz

and Dr. William J. Taylor. Members of the medical profession are cordially invited to attend the meeting.

Vital Statistics of Philadelphia for the week ended January 19, 1901:

Total mortality	477	CASES.	DEATHS.
Inflammation of appendix 4, bladder 1, brain 13, bronchi 12, kidneys 22, lungs 77, peritoneum 7, pleura 2, stomach and bowels 15, spine 2, of larynx 2, of liver 1, heart 3	161		
Inanition 12, marasmus 3, debility 16	30		
Tuberculosis of lungs	51		
Apoplexy 19, paralysis 5	24		
Heart—fatty degeneration of 4, dropsy of 31	35		
Uremia 14, diabetes 3, Bright's disease 4	21		
Casualties	11		
Carcinoma of breast 1, stomach 7, uterus 2, jaw 1, rectum 1, liver 4	16		
Convulsions	7		
Diphtheria	17	118	
Brain—softening of 1, congestion of 2	3		
Typhoid fever	12	51	
Old age	14		
Burns and scalds	1		
Dysentery	2		
Suicide	1		
Cirrhosis of liver	4		
Alcoholism	3		
Cyanosis	1		
Scarlet fever	2	70	
Hernia	1		
Asthma 1, congestion of the lungs 2, croup 1, membranous croup 4, diarrhea 2, dropsy of the liver 2, dropsy 2, drowned 1, epilepsy 1, erysipelas 3, gangrene 4, hemorrhage from kidneys 1, from stomach 1, uterus 1, influenza 8, consumption of bowels 1, intestinal obstruction 4, edema of lungs 2, poisoning 1, pyemia 1, rheumatism 2, sarcoma 1, surgical shock 1, septicemia 4, suffocation 2, teething 2, tetanus 1, ovarian tumor 1, whooping-cough 2	2		

College of Physicians; Section on Otology.—At the meeting of January 16, DR. GLEASON exhibited a case of **Unusual fracture of the nasal bones.** A copper rivet was forced, by the breaking of a belt, through both nasal bones lodging just under the skin of the opposite side. A discussion on **Mastoid operations** was opened by DR. STOUT and participated in by Drs. GLEASON and RANDALL.

Section on Gynecology.—At the stated meeting, held January 17, DR. CHARLES P. NOBLE reported a case of **Cancer of the cervix and pelvis following supravaginal hysterectomy.** Dr. Noble reported this case rather as a refutation of the claim that cancer of the stump is apt to follow supravaginal hysterectomy instead of a proof of that claim. He has performed that operation 175 times in cases of fibroids and a larger number of times for other conditions, this being the only case in which malignant disease followed. From the after-condition of the case there was reason to believe that unrecognized cancer existed at the time of the hysterectomy. DR. GEORGE EREY SHOEMAKER reported 2 cases: **A. Ovarian cyst followed by suppurating hematocele.** **B. Salpingitis with obscure localizing symptoms.** In the latter case the pain was principally in the gallbladder and epigastric regions. At first there was tenderness above Poupart's ligament and in the region of the appendix, but later the point of greatest tenderness varied from the epigastrium to McBurney's point. The diagnosis of salpingitis was made by vaginal examination under ether. Operation showed the tip of the appendix adherent to the right ovary, but the appendix appeared normal and was not removed.

DR. E. E. MONTGOMERY read a paper on **The treatment of prolapsus uteri.** Repair of the pelvic floor suffices, in some cases, with perhaps resection of the anterior vaginal wall. Greater degrees require ventral suspension in addition with, perhaps, shortening of the uterosacral ligaments. When there is a hernia in addition to the prolapse, Douglas's culdesac should be obliterated by uniting the peritoneum of either side. When the degree of prolapse is too great for these expedients hysterectomy is to be performed. The uterus should be brought out through the anterior vaginal fornix, the angiotribe being applied to each broad ligament and a ligature of chromicized catgut placed in the groove thus formed.

NEW YORK.

Mt. Sinai Hospital.—Dr. Hiram N. Vineberg has been appointed adjunct attending gynecologist to the hospital.

Bellevue Hospital.—A pavilion has been opened at Bellevue Hospital, New York City, for the reception of tuberculous patients.

Dr. Moore Reinstated.—The official reinstatement of Dr. J. W. Moore, of Bellevue Hospital took place on January 17, in the medical wards, by order of the Commissioner.

Dr. Eliphalet Nott, a well-known physician, died at his home in Rexford's Flats, Saratoga County, January 22, aged 67 years. He was a nephew of the Rev. Dr. Nott, for many years president of Union College.

By the will of James D. Sarven, of Tarrytown, the residuary portion of his estate, which amounts to \$226,563, is to be equally divided between St. Luke's and the Presbyterian Hospitals and the Bible and Tract Societies, of New York City, making the share of each \$59,140.91.

The Buffalo Academy of Medicine—Section of Obstetrics.—The regular meeting of this section was held Tuesday, January 22, 1901, at 8.30 P.M. The following papers were presented: "Symphysiotomy," by Dr. P. W. Van Peyma. "The Kidneys and Their Relation to Operations," by Dr. Stephen Y. Howell.

New York Orthopedic Dispensary and Hospital.—The trustees of the New York Orthopedic Dispensary and Hospital announce that the surgeon-in-chief, Dr. Russell A. Hibbs, will give a course of clinical lectures on Orthopedic Surgery at the institution, on Monday and Thursday afternoons, at 5 o'clock, from January 28 to February 28 (both inclusive). The course will be free to the medical profession and students.

Photographs of Surgery.—Experiments lately made by E. H. Fairchild in the operating rooms of the Albany Hospital have proved that it is possible to procure a series of photographs of a surgical operation and thus to provide lantern slides as a basis for surgical instruction. Operations by Drs. Albert Vanderver and Willis G. MacDonald have been successfully photographed in series, each stage in the operation being represented by a photograph taken instantaneously, and without in any way interfering with the operation. Students of surgery find it difficult to secure satisfactory instruction, because during the operations the surgeons are too much absorbed to lecture, and afterward the opportunity is gone. By means of a special camera a series of photographs can be taken, showing all that any student can see, and with these as a basis, the surgeon can give an illustrated lecture describing the operation in detail.

New York Academy of Medicine—Section on Orthopedic Surgery, meeting of December 21, 1900.

Reposition of the Congenitally Dislocated Hip.—Dr. ELY, in a recent visit to Vienna, had spent some time in observing the practice of Lorenz, who was receiving cases of congenital dislocation of the hip from all parts of Europe. The cutting of tendons and instrumental traction were rarely seen. When the head of the bone had been replaced with suitable force and manipulation, the reduction was maintained by a most elaborately applied plaster-of-paris spica, which did not include the trunk, and extended only to the knee. The patient was then sent home to stay several months. The results were good, and sometimes so brilliant as to justify the enthusiasm of the operator, who believed that when a knowledge of the operation was widely spread reduction would be made at such an early age as to almost preclude the possibility of a failure. The remarkable statistics of successes which had been published had their origin partly in enthusiasm, and partly in the undoubted excellence of a method applied with requisite technic.

Dr. H. L. TAYLOR reported that the experience of Calot in his hospitals at Berck, on the channel coast of France, had showed that the bloodless reduction of congenital dislocation of the hip was applicable in children up to 8 years of age, or later in exceptional cases. Active treatment covered from 6 to 22 weeks and included 2 or 3 weeks' traction with

a weight of from 10 to 20 pounds, and at the operation the application of a force of 300 pounds for 10 minutes to bring the head of the bone down to or below the acetabulum. When the retaining apparatus was removed, massage and training in walking completed the treatment. Patients had recovered without the trace of a limp. He had practically given up the open method. The correct attitude obtained by cutting would be at the expense of limitation of motion or ankylosis, which might be properly sought by this method in certain cases in which replacement was impossible.

Dr. R. H. SAYRE had seen Lorenz operate last year in Paris at the Redard clinic. The patient, a child of about 8 years of age, was moderately disabled by a single dislocation of the hip. The thigh was made to form an angle of perhaps 20 degrees posterior to the plane of the body. A great deal of force was employed for this and in turning the limb in various directions. The head of the femur could be heard as it popped around on the ilium in what must have been a mass of lacerated tissues. The spica, which was nearly 2 inches thick where the strain came, included two loose strings for subsequent use in scratching the skin and keeping it clean. The head did not assume a permanent residence in the acetabulum. It was said that it would do so after the child had walked about for a year or two in the spica, a question which would have to be answered in due time.

Dr. C. H. JAEGER had recently spent 6 weeks at Vienna and reported that the treatment of congenital dislocation at the Lorenz clinic was exclusively by the bloodless method. Double cases were treated singly. The results were very favorable. The spica was applied with great care. Only a thin layer of cotton padding was used. The plaster bandage was applied very snugly, the thigh only being enclosed and a narrow strip going about the pelvis. This left the knee and ankle free and also the whole spinal column. The limb being thus fixed in extension and abduction, the patient soon learned to walk without crutches and with (in single cases) a high sole on the sick foot. It was most interesting to see a child with double dislocation, with both legs strongly abducted, spread-eagle fashion, walking beautifully, hopping with one leg, then the other, without a stick or help of any kind. Lorenz was accustomed to lay great weight on having the parents of the patients extend the knee many times daily, to prevent contracture. In opposition to these views Hoffa strongly advocated the open method.

Dr. R. W. TOWNSEND said that Hoffa had stated in very positive terms that none other than the bloody operation could be of any use. An American authority also had reported that in a large number of open operations only 2 or 3 had exposed an acetabulum in which it was possible to place the head. The views and practice of Lorenz, however, were those of one whose experience with the open operation had been greater than that of all other operators combined. In one of the dissections reported by Dr. E. H. Bradford the capsule had been found pushed in front of the head of the bone in such a manner that perfect reduction could not be made. This had led to the suggestion that in some cases the open operation might be modified by slitting the capsule instead of gouging or boring the bone which might lead to ankylosis or limited motion.

Dr. JAEGER thought that Hoffa was dissatisfied with the bloodless procedure partly because of the position in which he fixed the limb after reduction of the deformity. He applied the spica with the limb in extension and strong inward rotation, which could not afford a very firm hold for the femoral head in the acetabulum. In this position it was probable that the relaxation would occur during the application of the bandage or on the first attempt at walking.

Dr. T. H. MYERS said that those American surgeons who, after trying both methods, favored the opening of the joint in every case, were at variance with Lorenz. In his own experience, which had been considerable, he had not yet opened a joint, believing that the bloodless method should be tried first. It secured some perfect results, and in the results which were not perfect the head was placed anterior to or above the acetabulum, which was better than to leave it on the dorsum.

Dr. G. R. ELLIOTT had passed several weeks with Lorenz in 1896 and had seen him operate many times by the non-cutting method, having already begun to discredit the cutting operation, which he had done so much to perfect. There could be no possible doubt of the good results obtained. He

had seen many instances and had repeated them in his own practice. Success lay in the thoroughness of the procedure and in the perfection of the technic. 1. The head of the bone should be brought down to the level of the acetabulum. 2. It should be lifted over the posterior edge of the acetabulum. 3. Abduction should be extreme, even posterior to the mid plane of the body. 4. The plaster bandage should be pressed posteriorly against the joint to keep the reduced head from slipping backward. Great force was often required, but neglect of any point would leave the head of the femur resting on the posterior acetabular edge to be dislocated as soon as the bandage was removed. Lack of success would be due to want of technic leading to imperfect reduction. Thorough padding was necessary beneath the bandage. Blood had appeared in the urine of a patient operated on by him last week. The child had been laid face downward to facilitate fortifying the splint posteriorly, and the soft plaster bandage had pressed against the abdomen and hardened. Cutting bandage relieved pressure, and blood disappeared.

Sea-Air for Tubercular and Rickety Patients.—DR. TAYLOR in his review of the treatment at Berck said that Calot was an enthusiastic advocate of sea-air for patients affected with external or peripheral tubercular lesions, those of the skin, glands, bones and joints. He rejected phosphorus in the treatment of rickets, prescribing intestinal antiseptics and a diet mainly of milk and eggs. Many of his patients were kept recumbent. He affirmed that rickety deformities would disappear during a sojourn at the seaside.

DR. SAYRE had listened to Calot as he described the advantages of seaside treatment. His interest in the subject was shared by others of his countrymen, whose native enthusiasm perhaps lent a too rose-colored light to their views.

DR. TAYLOR had been impressed with the picturesque quality of Calot's writings. His zeal often broke through the conventional boundaries of scientific composition. The reader was entertained and delighted, but not necessarily convinced.

Treatment of Pott's Disease.—DR. ELY said that Lorenz used a corset composed of perforated strips of celluloid, metal bands and canvas. It laced in front and was probably sufficiently comfortable, but could not be said to "splint the spine."

DR. TAYLOR said that although Calot declared that neither braces, plaster-jackets, nor corsets could prevent or arrest the deformity, all of his patients wore the plaster jacket after subjection to manual pressure directed against the kyphos. In certain cases ablation of spinous processes without invasion of the tubercular territory was recommended in order to facilitate correction and avoid sores from pressure of the jacket. The use of suspension, the amount of manual pressure and the degree of lordosis to be enforced were points to be settled for each case. Severe pressure and all traumatism were to be carefully avoided, in marked contrast with the violent proceedings which called attention to the name of Calot in 1896, when he was claiming uniformly brilliant results from the outlay of all his strength on the kyphos supplemented with cuneiform resections in obstinate cases.

DR. SAYRE said that Calot's recent methods as he had heard him describe them varied but little from those of Dr. L. A. Sayre when he introduced suspension and plaster-of-paris jackets. Calot had, however, secured a distinct advantage in extending the jacket up to the chin instead of stopping at the top of the sternum, thus promoting lordosis even of the lumbar spine and gaining a leverage over the entire spine, which was impossible when the upper part of the vertebral column was free.

Treatment of Joint-Diseases.—DR. ELY said that at the Lorenz clinic joint diseases generally were treated by retention in plaster of Paris. The spica for hip-disease usually had an iron stirrup running down from the bottom to take up the weight of the body.

DR. JAEGER said that Lorenz taught that traction *per se* did no good in hip-disease except as it caused fixation and that fixation alone was necessary, as the inflamed joint could well bear the weight of the body so long as there was no rubbing of the joint surfaces.

DR. TAYLOR said that Calot very justly believed that a stiff joint in a good position was better than a movable joint in a bad position. It was his practice to reduce the deformity by force and retain the improvement with a plaster spica.

Complete ankylosis in a bad position required subcutaneous osteotomy of the femoral neck.

Treatment of Abscesses.—DR. JAEGER had noticed fewer abscesses in patients affected with hip-disease at Vienna than in patients of the same kind in America, which was not easy to explain except by climatic differences, as the poor there were poorer, and their nourishment probably worse, than in this country.

DR. TAYLOR said that Calot forbade incision, curetting and excision in Pott's and hip-disease unless the joint or abscess was infected or a sequestrum was found. He took the ground that patients affected with these diseases practically always got well under closed treatment and always died under the open treatment. Abscesses were to be treated by roborant drugs, a full diet, correct hygiene and rest. A cold abscess might be aspirated through healthy tissue and medicated by injections. By repeated aspirations and the application of compresses and bandages openings which seemed inevitable might be averted and in from 4 to 8 weeks the abscess would disappear without a scar and with healing of the bone in most cases. It was interesting to note that we had (1) in Calot a surgeon of 10 years' active experience, formerly an advocate of scraping, incisions and excisions, with the reputation of having done 80 excisions of the hip, who was now aggressively opposed to the operative treatment of diseases of the joints, and (2) in Lorenz a surgeon of great experience in the cutting treatment of congenital dislocation of the hip who had given it up in favor of a bloodless method. The coincidence and the contrast between the recent past and the present were quite impressive.

Lateral Curvature from Division of the Spinal Accessory Nerve.—DR. R. A. HIBBS related a case as follows: A girl 14 years old had had glands removed from the left side of the neck 6 months before she was first seen a few days ago. There was spinal curvature toward the right with drooping of the left shoulder, paralysis and atrophy of the trapezius and marked disability of the left arm. The patient declined an operation for uniting the ends of the spinal accessory nerve, which had evidently been severed at the point where it pierced the sternocleidomastoid muscle.

DR. MYERS recalled the case of a similar patient, 15 years of age, whom he had been observing for 3 or 4 years. He saw her 18 months after the paralysis, and considerable permanent atrophy of the muscles of the shoulder, had set in. There was spinal curvature toward the opposite side which did not go on to be extreme and was easily controlled.

Fracture of Cervical Vertebrae.—DR. SAYRE related the case of a man who was carried home unconscious after a fall on the head and neck about 2 months ago. On regaining consciousness there was paralysis of the extremities, bladder and rectum, in which there was slow improvement after 2 days. As every attempt to walk increased his symptoms he was kept in bed several weeks. A diagnosis of fracture and dislocation of the fifth and sixth cervical vertebrae was made on his history, the fixation of the head, the absence of motion of the head and neck, difficulty in swallowing and the disability of the left upper extremity. The diagnosis was confirmed by skiagraphs, of which it had been necessary to take several from different points of view. One of the negatives was taken after fastening a bandage tightly over one shoulder and under the opposite arm-pit so as to make a gulch in which one edge of the plate had been forced so far as it would go. The skiagraphs and a brace were exhibited. The latter consisted of a leather and steel collar attached to posterior steel rods and a pelvis belt. The head and neck would be thus fixed until consolidation was assured, the brace being capable of easy modification from time to time as the patient improved. He recalled an almost exact counterpart in a case which occurred several years ago in which the application of a jacket and jury-mast had been followed by disappearance of the paralysis.

Pneumatic Perineal Straps.—DR. MYERS exhibited rubber tubes, 10 inches long and 1½ inches in diameter, designed to take the place of the ordinary perineal straps. Smaller sizes were also made. Each tube was provided with a removable cover of Canton flannel and a valve for inflation by a bicycle pump. The straps were not elastic. They were expensive, but very durable. The pressure made by them was equalized automatically, and that made them especially comfortable for older children and adults whose weight made perineal support difficult.

NEW ENGLAND.

Harvard University.—A chair of hygiene is to be established at Harvard, \$156,000 having been donated for this purpose.

Smallpox in Manchester.—The smallpox situation here is no longer confined to one district, but cases are scattered throughout the city. Eleven cases were found in the Notre Dame Orphanage, where there are 300 or 400 children.

CHICAGO AND WESTERN STATES.

Attorney-General Oren decided that townships must erect hospitals for contagious diseases.

Resigned.—Dr. Louis Bazet has resigned as a member of the Board of Health of San Francisco.

Pest-House at Fargo.—A pest-house has been built at Fargo for the reception of smallpox cases occurring in that city.

Sanitarium.—The Governor of Illinois, in his message, recommends the enactment of a law creating the establishment of a sanitarium for the treatment of tuberculosis.

Meeting of Medical Society.—The Witman County Medical Society, of Portland, Oregon, held its fourth quarterly meeting in Portland, on January 16. Papers were read by Dr. W. W. Watkins, of Moscow, and Dr. R. C. Coffey, of Portland.

State Board of Pharmacy.—A meeting of the State Board of Pharmacy was held in Jefferson City, Missouri, on January 14. The Board is composed of Dr. A. Brandenberger, Jefferson City; A. T. Fleishmann, Sedalia, and W. B. Kerns, Bunceton.

Dr. Benjamin Brown, of Chicago, Illinois, died at the Ebbitt House in Chicago, on January 18. Dr. Brown was a well-known physician of the Western metropolis. He had been ill for 2 years. A sudden heart attack, after a 2 weeks' racking illness, terminated his life. He was 66 years of age.

Dr. John Kost, a physician of Adrian, Michigan, who has several times made liberal donations to educational institutions, has given to the College of Medicine and Surgery of Chicago a museum of zoological specimens, valued at \$150,000. The articles filled 5 freight cars when prepared for shipment.

Dr. R. Beverly Cole, Coroner, of San Francisco, California, and one of the best known physicians on the Pacific coast, died on January 14, in his seventieth year. He was a native of Virginia, but received his medical education in Philadelphia. His specialty was gynecology, and for 30 years he was professor of that subject in the State University.

Dr. Charles Wesley Purdy died at Chicago of a complication of diseases. He was born in Kingston, Ontario, in 1846, and was graduated from the Queen's University with high honors. Dr. Purdy made a life study of diseases of the kidneys, and wrote several books on the subject. He received several degrees from the Royal College of Physicians and Surgeons of Canada.

Appointments.—Dr. I. Wright Short has been appointed surgeon of the Lake Shore and Michigan Southern Railroad at Elkhart, Ind.—Dr. Fred W. Powers, Reinbeck, Iowa, has been appointed a member of the State Board of Health to succeed Dr. Joseph H. Scruggs of Keokuk.—Dr. Victor C. Vaughan, of Ann Arbor, has been appointed a member of the State Board of Health of Michigan.

Osteopaths Not Physicians.—A bill to legalize and regulate the practice of osteopathy in Wisconsin was introduced in the State Senate on January 17. The bill does not permit its exponents to pose as physicians, and it is stated that the bill will afford no relief to persons charged with practising medicine without a license. The bill expressly declares that osteopathy cannot be construed to be the practice of medicine and surgery within the meaning of the statutes on that subject.

Rev. Charles E. Conard, M.D., died at Quincy, Ill., aged 81. He was born in Siberia, and educated for the church and medicine at Berlin; went to British India in 1848, and, as the missionary who could heal, was sought after by thousands of the natives. He established asylums for lepers and epileptics at Lohordagga; was in Calcutta during the Sepoy outbreak, and in 1853 came to America.

Dr. Thomas B. W. Leland, was appointed Coroner of the city and county of San Francisco, to succeed the late Dr. R. Beverly Cole. Dr. Leland holds the chair of assistant professor of physiology in the medical department of the State University; he holds the professorship of internal medicine in the post-graduate medical department of the State University and is also assistant surgeon of the State Naval Reserve.

Hospital for Insane Report.—The board of trustees of Milwaukee Hospital for Insane held their annual meeting on January 14, and elected the following officers for the ensuing year: President, B. B. Hopkins; vice-president, A. L. Cary; secretary, A. F. Wallschlaeger; ex-officio treasurer, the county treasurer, Schultz; executive committee, G. E. Gustav Kuechle, David Vance, J. W. P. Lombard; visiting committee, Christian Wahl, John F. Burnham, Miss Lillian Wall, Mrs. Anna L. Wall, Dr. Ernest Copeland.

Dr. William Hoskins Mullins, son of the late Professor Samuel G. Mullins, of Kentucky, died at Rock Island, Ill., on January 7. Dr. Mullins was educated at Center, Columbia and Yale Colleges, and was a man of rare gifts and attainments. During the civil war he was a surgeon in the Federal army and at different times was on the staffs of Generals Burnside and Thomas. For 10 years he was a great sufferer, having been left a physical wreck from an attack of yellow fever after having fought three epidemics of the disease in the South.

For a Western Medical Organization.—A Pacific medical association is about to be organized. The plan is to have San Francisco the center of a Western medical field, embracing Washington, Oregon, Idaho, Montana, Utah, Nevada, Arizona, California, Alaska, British Columbia, the Hawaiian Islands, the Philippine archipelago, and other islands of the Pacific, the western part of Mexico and of the Central American republics, and possibly the empire of Japan. A preliminary meeting of the most prominent physicians interested in this movement was held in this city on January 19.

Chicago Clinic.—With the January number the *Chicago Clinic* goes under the editorial management of Dr. Marcus P. Hatfield and Dr. George Thos. Palmer, who have purchased the property from the Chicago Clinical School. The *Clinic* was started 13 years ago as the *Omaha Clinic*, by Dr. J. Homer Coulter. The leading articles for January are: "The Limitations of Clinical and Microscopical Evidence," by Dr. W. K. Jacques; "Diet Kitchens," by Dr. Rosa Engelmann, and "The Jugulation of Lobar Pneumonia," by Dr. Louis A. Malone. As a leading feature for the year will be a department on "The Relation of the Law to the Practitioner of Medicine and Surgery," conducted by Hon. John Mayo Palmer, of the Chicago Bar and late counsel to the Corporation of Chicago.

Dr. Lewitt Takes His Seat on Health Board.—At a special meeting of the Board of Health of San Francisco, Cal., on January 12, Dr. William B. Lewitt, the newly appointed member of the body, took his seat after presenting his commission. Dr. Bazet introduced his successor, who was greeted by President Williamson with a few complimentary remarks. Williamson spoke of the storms that had gathered around the board and admonished the new members to stand firm when other storms should arise. Dr. Williamson was reelected president of the board to serve this year. Dr. Lewitt was appointed on the committees on publicity, food inspection, and finance. Dr. Buckley was made chairman of the hospital committee. The board decided to recommend to the Supervisors an amendment to the ordinance prohibiting the throwing of garbage on vacant lots by making it a misdemeanor for owners of the lots to allow them to be used for such a purpose. Violations are punish-

able by a fine of \$500 and imprisonment for six months. The Supervisors will also be requested to amend the ordinance prohibiting the use of cellars and underground apartments for sleeping purposes by making it more stringent in its operations.

Anti-expectoration Ordinance.—The following ordinance was passed in the city council of Chicago, January 14: "Whereas, spitting on sidewalks, in public places and in public conveyances is detrimental to health, by reason of the danger of spreading contagious disease, and is also a public nuisance which should be abated, therefore, Be it ordained by the City Council of the city of Chicago, that no person shall spit on any public sidewalk or on the floor of any public conveyance, or on the floors of any theater, hall, assembly room or public building; that any person violating the provisions of this ordinance shall on conviction be fined in a sum of not less than \$1 nor more than \$5; that this ordinance shall be in effect from and after its passage and approval by the mayor."

Chicago Pathological Society, regular meeting, January 14, 1901, Dr. L. Hektoen, president, in the chair.

DR. E. R. LECOUNT made a report on the **histologic changes** found in the tissues of animals inoculated with *diplococcus scarlatinae* (Class). The changes described differ only in degree from those described by Pearce and others in persons that die from scarlet fever, the most notable difference being the lack of lesions in the kidneys in the animals. Hyperplasia of lymphoid tissue, focal necrosis and plasma cells in situations that betoken their presence in the blood were found in the animals inoculated.

DR. W. H. WILDER read a paper on **tuberculosis of the iris** and showed specimens from a case observed by him.

DRS. D. R. BROWER and H. GIDEON WELLS reported a case of **paralysis of the cranial nerves** of the left side, from the fifth to the twelfth inclusive. This paralysis had come on in the course of a few months and then remained stationary for 12 years. At no time were there pressure symptoms. On account of the history, coupled with a slight improvement under iodids and the occurrence of 12 miscarriages, a syphilitic lesion involving the meninges and producing an infranuclear paralysis was diagnosed. Death resulted from nephritis. At autopsy a tumor was found in the dura, exactly as located clinically, involving the left petrous bone. Microscopically it was found to be an endothelial tumor, the periendothelioma of Borrmann, with some spiculae of bone and many multi- and uninuclear giant cells. Microscopically it resembled somewhat a psammoma.

DR. PAUL F. MORF presented **gross and microscopic specimens of three periosteal chondrosarcomas**. One of the tumors was from a boy of 13 and had developed on the tibia shortly after a contusion of that bone. The other 2 occurred in young adults, 1 in a female and the last in a male patient aged 19 years. These two latter tumors were found to have grown from the lower end of the femur. Microscopically the neoplasms all appeared as firm, hard, inelastic, grayish white masses. Scattered throughout their substance were numerous islets, which looked to the naked eye like hyalin cartilage. Disseminated foci of calcification of pinhead size gave the cut section a slightly rough surface. Microscopically, the tumors were found to be made up mainly of round and spindle-shaped sarcoma cells. The islets which appeared cartilaginous were made up of larger and smaller round encapsulated cells lying in a hyalin and in a fibrous intercellular substance. In the first of the 3 specimens the invasion of the Haversian canals of the tibia by sarcoma cells could be distinctly traced.

SOUTHERN STATES.

At the annual meeting of the St. Louis Academy of Science, Dr. Enno Sander was elected treasurer for the fortieth time.

Smallpox in Missouri.—Smallpox is rapidly spreading throughout the whole section of Northern Missouri and adjacent territory of other States.

Appropriation.—The Senate of Alabama unanimously passed the bill which appropriated \$25,000 to the Alabama-Bryce Insane Hospital at Tuscaloosa and for completing the department for negroes at Mount Vernon.

Howard Medical Association.—The annual meeting of the Medical Association of Howard County was held in Ellicott City, Md., January 5. Dr. William R. Stokes and Dr. Frank Martin, both of Baltimore, read papers.

The death of Dr. E. P. Becton, Superintendent of the State Blind Institute, occurred in Austin, Texas, January 14, at the age of 67 years. He was born in Tennessee, but had resided in Texas the greater part of his life, and was an old Indian fighter.

More Men Needed for Hospital Corps in Norfolk, Va.—The Surgeon-General of the Navy will shortly ask for the enlistment of additional men for the hospital corps. The vacancies now existing in this corps, of which there are no inconsiderable number, will be filled as rapidly as possible by enlistments at this and other naval stations.

Richmond (Va.) News.—Dr. Stockworther, of Prince William County, was dangerously hurt recently in a runaway accident.

The students of the Medical College of Virginia adopted the custom of wearing caps and gowns. This is the first medical school in Virginia to adopt this custom.

Cambridge Hospital.—The directors of the United Charities Hospital of Cambridge, Maryland, have elected the following local physicians as consultants: Drs. Thomas B. Steele and Thomas H. Williams, of Cambridge; Dr. Benjamin L. Smith, of Madison, Dorchester County; Dr. George P. Jones, of East New Market; Dr. Edgar A. P. Jones, of Lakesville; Dr. William T. Henry, of Hooper's Island; Drs. Edward R. Trippe and Charles B. Davidson, of Easton.

Ophthalmological and Otological Section—Richmond Academy of Medicine and Surgery.—There was a meeting of eye, ear and throat specialists of Richmond on December 31, 1900, at the offices of Dr. Joseph A. White, which resulted in the formation of the above-mentioned organization. It was decided to have meetings once a month except July, August and September. The early part of each session is to be devoted to business matters, reading and discussion of papers, etc.

Consolidation of the Marion-Sims College of Medicine and the Beaumont Hospital Medical College.—The governing faculty will include the following: Y. H. Bond, professor of gynecology and pelvic surgery; F. J. Lutz and Jacob Geiger, professors of surgery; W. A. McCandless, professor of surgery; C. Barck, professor of ophthalmology; W. G. Moore, professor of medicine; J. R. Lemen, professor of chest diseases; A. Alt, professor of ophthalmology; H. Summa, professor of medicine; L. H. Laidley, professor of gynecology and pelvic surgery, and clinical gynecology; B. M. Hypes, professor of obstetrics; J. Friedman, professor of clinical medicine and chemistry; H. W. Loeb, professor of nose and throat diseases; W. B. Corsett, professor of obstetrics and gynecology; R. C. Atkinson, professor of diseases of children; J. R. Dale, professor of surgery; C. G. Chaddock, professor of diseases of the nervous system; J. T. Larew, professor of surgical anatomy and clinical surgery; T. C. Witherspoon, professor of operative surgery on the cadaver and clinical surgery; M. A. Goldstein, professor of otology; G. C. Crandall, professor of medicine; C. M. Nicholson, professor of anatomy and clinical surgery; H. H. Born, professor of anatomy; R. J. Stoffel, professor of therapeutics; C. D. Lukens, professor of dentistry; S. I. Schwab, professor of nervous diseases; B. Lewis, professor of genitourinary diseases. In addition, the other instructors of the two institutions will be utilized to the fullest extent.

MISCELLANY.

Harvard University.—The total value of gifts made to Harvard University during the last year is announced as \$581,519.

Obituary.—DR. HENRY FOSTER, founder of the Clifton Springs Sanitarium, New York, died suddenly on January 14, aged 80.—DR. FRANK WERTS, of Longswamp Township, Kutztown, Pa., January 21.—DR. HIRAM CHRISTOPHER, aged 85, at St. Joseph, Mo.

A new building will soon be erected at Alker, Minn., to replace the sanitarium which was destroyed by fire about 6 weeks ago.

U. S. Commissioner of Immigration has decided that tuberculosis is a disease which may subject the patient to quarantine.

Delaware Hospital.—Dr. William W. Lesley, who died in Philadelphia recently, bequeathed \$11,000 to the Delaware Hospital in Wilmington for the support of two free beds.

Bequests.—By the will of the late Henry Villard, which has just been offered for probate, \$50,000 each is left to Harvard and Columbia universities, \$10,000 each to the German Hospital and Dispensary and the New York Infirmary for Women and Children, and \$5,000 to the Dobbs' Ferry Hospital Association.

Physicians of Havana recently gave a banquet to Dr. Carlos Finlay as a token of their congratulations for his theory regarding the transmissibility of yellow fever by the mosquito, which he has upheld for some time, notwithstanding the opposition, intolerance, and ridicule to which he has been subjected, until his observations had received recognition from the medical world.

Woodbridge Treatment.—The *Chicago Medical Recorder*, January, 1901, quotes the following: The Woodbridge method in the treatment of typhoid has not stood the test of experience. The opportunity of testing his method, accorded Dr. Woodbridge at the Fort Meyer Hospital, gave a mortality of about 10% as contrasted with a mortality of about 7% by usual methods.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended January 19, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
CALIFORNIA:	Oakland	Dec. 29-Jan. 5	3
CONNECTICUT:	Bridgeport	Jan. 7	1
ILLINOIS:	Cairo	Jan. 5	8
"	Chicago	Jan. 5-12	19
KANSAS:	Wichita	Jan. 5-12	6
MARYLAND:	Baltimore	Jan. 5-12	1
MASSACHUSETTS:	Springfield	Jan. 5-12	1
MINNESOTA:	Minneapolis	Dec. 29-Jan. 5	1
"	Winona	Dec. 29-Jan. 5	30
N. HAMPSHIRE:	Manchester	Jan. 5-12	21
NEW YORK:	New York	Jan. 5-12	17
OHIO:	Ashtabula	Jan. 5-12	4
"	Cleveland	Jan. 5-12	51
PENNSYLVANIA:	Philadelphia	Jan. 5-12	1
TENNESSEE:	Memphis	Jan. 5-12	8
"	Nashville	Jan. 5-12	5
WEST VIRGINIA:	Wheeling	Jan. 5-12	1

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Dec. 22-29	12
CANADA:	New Brunswick, Port Elgin and Cape Tarmen-tine	Dec. 28	40
ENGLAND:	Leeds	Dec. 29-Jan. 5	1
"	London	Dec. 22-29	1
INDIA:	Bombay	Dec. 4-18	3
"	Calcutta	Dec. 1-15	81
"	Karachi	Dec. 2-16	16
"	Madras	Dec. 8-14	1
MEXICO:	Vera Cruz	Dec. 29-Jan. 5	4
RUSSIA:	St. Petersburg	Dec. 15-22	5

YELLOW FEVER.

CUBA:	Havana	Dec. 29-Jan. 5	5
"	Matanzas	Dec. 29-Jan. 5	1
MEXICO:	Vera Cruz	Dec. 29-Jan. 5	1

CHOLERA.

INDIA:	Bombay	Dec. 4-18	6
"	Calcutta	Dec. 1-15	56
"	Madras	Dec. 8-14	1

PLAGUE.

CHINA:	Hongkong	Nov. 24-Dec. 1	2
INDIA:	Bombay	Dec. 4-18	178
"	Calcutta	Dec. 1-15	39
TURKEY:	Constantinople	Jan. 11	On steamship "Berrig" from Poti.

Changes in Hospital Corps Designs.—The surgeon-general of the army has had under consideration the advisability of changing the chevrons and cap devices worn by enlisted men of the hospital corps of the army. The new designs proposed were last week submitted to Surgeon-General Sierenberg and have been approved on his recommendation by the secretary of war. The general order setting forth the changes will be issued shortly, a draft of it being now in preparation. The contemplated changes relate to the chevrons worn by privates, acting stewards and stewards of the hospital corps. The Geneva cross, which furnished a familiar insignia, will be abandoned in favor of a modified Maltese cross in the chevron. The body of this cross will be emerald green with a narrow white border. The cap device for the men of the corps will be a metal gold Maltese cross of smaller modification, which will replace the silver Geneva cross hitherto worn.

Changes in the Medical Corps of the U. S. Army, for the week ended January 19, 1901:

EDGER, First Lieutenant BENJAMIN J., Jr., assistant surgeon, now at the second reserve hospital, Manila, P. I., awaiting assignment, will report to the commanding general, department of Luzon, for duty.

The following named medical officers and acting assistant surgeons are authorized to proceed to Manila and report to the president of the Army medical board for examination for appointment as assistant surgeons, U. S. Army:

Department of Northern Luzon—Acting Assistant Surgeons J. RALPH SHOOK, HOWARD D. LEWIS, HORATIO P. BELT, ARTHUR D. PRENTICE, WILLIAM W. RENO and CALVIN D. SNYDER.

Department of Southern Luzon—Major WILFRED TURNBULL, surgeon, U. S. Vols., and Acting Assistant Surgeons PORTER V. BALLOU, R. BOYD MILLER, WILLIAM M. ROBERTS, CHARLES ST. JOHN, ARTHUR JORDAN, WILLIAM E. VOSE, GUSTAVUS I. HOGUE, and CHARLES L. BAKER.

Department of the Visayas—Acting Assistant Surgeons FREDERICK D. BRANCH, CONN R. OHLIGER, EDWIN C. SHATTUCK, and GORDON B. MELDRUM.

Department of Mindanao and Jolo—Acting Assistant Surgeons ROBERT B. GRUBB and A. BRUCE HENDERSON.

First Reserve Hospital—Acting Assistant Surgeons CHARLES W. FARR, and CHARLES J. FITZGERALD.

Second Reserve Hospital—Acting Assistant Surgeons FREDERICK A. DALE, CHARLES R. REYNOLDS, and PAUL T. DESSEZ.

Hospital No. 3—Acting Assistant Surgeons JOHN D. BROOKS and EDMUND BARRY.

Santa Mesa Hospital—Acting Assistant Surgeon FRANCIS M. McCULLUM.

Separate Brigade, Provost Guard—Acting Assistant Surgeons PAUL C. HUTTON, and JOHN M. FEENEY.

REYNOLDS, Major FREDERICK P., surgeon, granted leave of absence for 2 months, on surgeon's certificate, to take effect upon arrival in the United States, is relieved from duty as chief surgeon, separate brigade, provost guard, Manila, P. I.

MOSELEY, Major EDWARD B., surgeon, is relieved from duty as chief surgeon, department of Southern Luzon, and granted 3 months' leave of absence, on surgeon's certificate, to take effect upon arrival in the United States.

COMEGYS, Major EDWARD T., surgeon, is assigned to the command of the first reserve hospital, Manila, P. I., relieving Major William R. Hall, surgeon.

HALL, Major WILLIAM R., surgeon, will report to the commanding general, department of Southern Luzon, for duty as chief surgeon of that department.

ARTHUR, Major WILLIAM H., surgeon, will report to the commanding general, department of Northern Luzon, for assignment to duty.

SHREINER, First Lieutenant EDWARD R., assistant surgeon, will report to the commanding general, department of Northern Luzon, for assignment to duty.

MEACHAM, Major FRANKLIN A., surgeon, upon relief by Major William H. Arthur, surgeon, will report to the commanding general, separate brigade, provost guard, Manila, P. I., for duty as president of the board of health, Manila, P. I., relieving Major Guy L. Edie, surgeon.

EDIE, Major GUY L., surgeon, upon relief by Major Franklin A. Meacham, surgeon, will report to the commanding officer of the first available transport leaving Manila, P. I., carrying sick to the United States, for duty thereon while en route to San Francisco, Cal., reporting to the commanding general, department of California, for instructions to return to the division of the Philippines.

BANISTER, Major WILLIAM B., surgeon, will report to the commanding general, separate brigade, provost guard, Manila, P. I., for duty as surgeon of the Twentieth Infantry.

STEMEN, WILLIAM E., acting assistant surgeon, will proceed to his home, Kansas City, Kan., where he will report by letter to the Surgeon-General of the Army for annulment of contract.

CHAMBERLAIN, First Lieutenant WESTON P., assistant surgeon, is granted leave of absence for 1 month.

WADHAMS, First Lieutenant SANFORD H., assistant surgeon, on account of sickness, is granted leave of absence for 7 days, to

take effect from the expiration of the leave of absence granted him October 13, 1900.

SCHUMACHER, FREDERICK, hospital steward, now at Fort Huachuca, will be sent to Manila, P. I., for assignment to a station.

The following-named assistant surgeons will proceed from the places designated to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, where they will report for assignment to duty: GEORGE J. FANNING, from Sacaton, Ariz.; ALMON P. GOFF, from Caton, N. Y.; CHARLES E. JACKSON, from Canal Fulton, Ohio; JOSEPH W. LOVE, from Springfield, Mo.; THOMAS C. McSWAIN, from Bingham, S. C.; ROBERT C. ROGERS, from Bloomington, Ind.; JAMES W. SMITH, from Chicago, Ill.; GEORGE B. TUTTLE, from St. Louis, Mo.; JAMES BOURKE, from Chicago, Ill. HELLER, JOSEPH M., acting assistant surgeon, is granted leave of absence for 1 month, to take effect when a medical officer shall have reported at Fort Columbus to take his place.

NEWGARDEN, Captain GEORGE J., assistant surgeon, leave of absence for 1 month, granted November 15, is extended 1 month on surgeon's certificate.

HYSELL, Major JAMES H., surgeon, honorably discharged December 19, 1900.

THOMASON, Major HENRY D., surgeon, honorably discharged, December 31, 1900.

FAUNTLEROY, Captain POWELL C., assistant surgeon, U. S. Army, to be surgeon, with the rank of Major, November 30, 1900.

MATHEWS, First Lieutenant GEORGE W., assistant surgeon, U. S. Army, to be surgeon, with the rank of Major, November 30, 1900.

KNEEDLER, Captain WILLIAM L., assistant surgeon, U. S. Army, to be surgeon, with the rank of Major, December 1, 1900.

WILCOX, Captain CHARLES, assistant surgeon, U. S. Army, to be surgeon, with the rank of Major, January 3, 1901.

SHAW, Captain HENRY H., assistant surgeon, U. S. Army, to be surgeon of volunteers, with the rank of Major, December 19, 1900.

BRISTER, J. M., assistant surgeon, appointed assistant surgeon from December 14, 1900.

RODMAN, S. S., assistant surgeon, appointed assistant surgeon, from December 14, 1900.

Changes in the Medical Corps of the U. S. Navy, for the week ending January 19, 1901:

ANDERSON, F., surgeon, ordered home and to wait orders, when recruiting duty is completed.

LOWNDES, C. H. T., surgeon, detached from the Naval Academy, January 14, and ordered to the "Lancaster," via steamer from New York City, of January 19.

DIEHL, O., surgeon, detached from the "Lancaster" and ordered home, and to wait orders.

WARD, B. R., passed assistant surgeon, detached from the Naval Hospital, Mare Island, Cal., January 17, and to the Boston Yard.

DENNIS, J. B., assistant surgeon, ordered to the Naval Academy, January 14.

DENNIS, J. B., assistant surgeon, to delay reporting for duty at Naval Academy until January 21.

PRYOR, J. C., assistant surgeon, ordered to duty at Naval Hospital, New York.

WILLIAMS, R. B., assistant surgeon, detached from the Navy Yard, New York, and to the Navy Yard, Pensacola.

LIPPITT, T. M., assistant surgeon, detached from the Naval Hospital, Yokohama, Japan, and to Naval Hospital, Mare Island, Cal., via "Solace."

WRIGHT, B. L., assistant surgeon, detached from the Naval Hospital, Yokohama, Japan, and to Naval Hospital, Mare Island, Cal., via "Solace."

BLAKE, Second Lieutenant D. W., detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, Cal., via "Solace."

TOMB, Naval Cadet W. V., detached from the Naval Hospital, Cavite, P. I., and ordered to the "General Alva."

REANEY, Chaplain W. H. I., detached from the Naval Hospital, Cavite, P. I., and ordered home via the "Solace."

Changes in the U. S. Marine-Hospital Service, for the week ended January 17, 1901:

SAWTELLE, H. W., surgeon, leave of absence for 30 days granted by Bureau letter of December 13, 1900, revoked. January 15.

MEAD, F. W., surgeon, granted leave of absence for 60 days from January 21. January 11.

GLENNAN, A. H., surgeon, detailed to represent the service at meeting of Third Pan-American Congress to be held at Havana, Cuba, February 4-8. January 16.

PETTUS, W. J., surgeon, granted leave of absence for 2 months from February 5. January 11.

NYDEGGER, J. A., passed assistant surgeon, granted leave of absence for 30 days. January 15.

THOMAS, A. R., passed assistant surgeon, to proceed to Shields, England, for special temporary duty. January 15. Relieved from duty at Glasgow, Scotland, and assigned to duty in the office of the U. S. Consul-General at London, England, December 28.

JAYINDER, C. H., assistant surgeon, to proceed to Vineyard Haven, Mass., and assume temporary charge of the service during absence of Surgeon F. W. Mead. January 16.

McMULLEN, JOHN, assistant surgeon, granted leave of absence for 21 days from January 21. January 16.

CRAIG, R. C., acting assistant surgeon, granted leave of absence for 7 days. January 17.

foreign News and Notes.

GREAT BRITAIN.

Dr. S. Gemmell was elected professor of the medical clinics of Glasgow, succeeding Dr. McCall Anderson.

Mr. Alexander Peckover, the Lord-Lieutenant of Cambridgeshire, has made a further donation of £1,000 to Adden Brooke's Hospital.

Lieutenant-Colonel J. Crofts, M.D., I.M.S., has been appointed surgeon to his Highness the Maharajah of Jodpore, and has proceeded to India to take up his duties.

British Congress on Tuberculosis.—As president, His Royal Highness, the Prince of Wales, will open in person a British Congress on Tuberculosis in the Queen's Hall, London, on Monday, July 22, 1901; the Congress will be held until July 26. The Congress will consist of delegates from British Colonies and Dependencies, while Europe, Asia and America have been invited to send representative men of science to be the distinguished guests of the Congress. The object of the Congress is to exchange the information and experience gained throughout the world as to methods available for stamping out this disease. Papers will be read, and clinical and pathological demonstrations will be given; while the museum, which is to be a special feature of the Congress, will contain pathological and bacteriological collections, charts, models, and other exhibits. Authorities in this and other countries will be invited to supply documents bearing upon the historical, geographical, and statistical aspects of the subject; while as a result of the papers and discussions, practical resolutions will be formulated which will serve to indicate the public and private measures best adapted for the suppression of tuberculosis. The work will be divided into four sections, as follows: (1) State and Municipal; (2) Medical, including Climatology and Sanatoria; (3) Pathological, including Bacteriology; (4) Veterinary (Tuberculosis in Animals), and the Exhibitions of Specimens.

RULES AND REGULATIONS.

The Congress shall consist of honorary members, delegates, and members.

1. Honorary members shall be persons nominated by any foreign government or university, or by the executive committee, and shall not pay any subscription whatsoever. Delegated and ordinary members shall be other persons, British, Colonial, or foreign, who may wish to attend, including representatives from governments or institutions within the British Empire.

2. Delegated and ordinary members will receive their cards on forwarding the sum of £1 to the secretary-general of the Congress, 20, Hanover Square, W.

3. The holder of a ticket of membership is entitled to admission to all the meetings of the Congress, and to receive the "Transactions" and other publications. Tickets to social gatherings and excursions will be allotted in order of application, or by ballot if necessary.

4. As the expenses of the Congress will be very considerable, donations to the reception fund are earnestly invited. Donations of more than one guinea will be considered as including member's subscription, and will entitle the donor to all privileges of membership. Donations from corporate bodies may include the subscriptions of representatives.

5. The official language of the Congress shall be English, French, and German, and authors of papers are requested to supply beforehand abstracts for translation.

6. Each sectional committee shall draw up its own working program as to papers to be read, discussions on the subjects proposed, and miscellaneous communications. The various sections will meet on Tuesday, Wednesday, Thursday, and Friday, from 9.30 to 1.30.

7. The speeches delivered at the general assemblies, and the papers read before the sections, will be published in the record of the proceedings of the Congress; but as regards miscellaneous communications and discussions the discretion in respect of publication will lie entirely in the hands of the "Transactions" committee and the presidents of sections. Each speaker opening a discussion will be limited to

30 minutes' duration, and each subsequent speaker to 10 minutes.

8. An abstract of every paper and communication must be sent to the secretary-general, 20, Hanover Square, at the latest on or before June 15, 1901.

CONTINENTAL EUROPE.

Dr. Theodore Kirchhoff has been appointed professor of psychiatrics at Kiel.

Professor Popoco has been appointed physician in ordinary to the Emperor of Russia.

Dr. Anton Prosampter, who for some time has been director of the hospital in Bozen, is dead.

Professor G. Mya, formerly professor of clinical pathology at Florence, was elected ordinary professor of pediatrics.

Professors Ehrlich and Weigert, of Frankfurt a.M., have been elected corresponding members of the Biologic Society of Paris.

Dr. A. Jentzer was elected professor of obstetrics and gynecology at Geneva, succeeding Professor M. A. Vaucher, who has resigned.

Dr. Velde, who was the German physician at Pekin during the siege, and the French physician, Dr. Matignon, have been presented with the cross of the French legion of honor.

Professor Max Verworn has been appointed ordinary professor of physiology and director of the physiologic laboratories at the University of Göttingen. He succeeds Professor Meissner.

Fiftieth Anniversary of the Wiener medicinische Wochenschrift.—With the beginning of this year the *Wiener medicinische Wochenschrift* completed the fiftieth year of its existence.

Dr. Anton Baron von Eiselsberg, professor of surgery in Königsberg, has been recommended by the Professoren Collegium as the successor of the late Professor Albert in the chair of surgery in the University of Vienna.

Dermatologic Laboratory.—On January 1, 1901, the Dermatological Laboratory connected with Professor Unna's clinic in Hamburg became an individual institution, having been considerably enlarged and improved in teaching facilities.

MISCELLANY.

A course on the therapeutics of organic diseases of the stomach has been established at the Hôpital de la Pitié, of Paris, under the charge of Dr. Albert Robin.

Capt. A. F. Stevens, I. M. S., has been appointed to the charge of the ward of the General Hospital, Calcutta, which has been fitted out for the reception of invalids from the China force.

Capt. E. R. Röst, I. M. S., civil surgeon, Meiktila, Burma, has found a microscopic germ in rice and jowari grain, and also in the rice liquor which the coolies and sepoys drink. The result of his experiments is stated to have been that beriberi is caused by this organism, which withstands a remarkably high temperature, so that it is not even always destroyed by boiling.

Isolated Ulnar Paralysis: A Contribution to the Occupation Diseases.—F. Menz (*Wiener klin. Rundschau*, 1900, No. 21) reports a case of isolated ulnar paralysis occurring in a female telephone operator. The patient, who was accustomed to rest her left elbow upon the table while holding the receiver to her ear, became affected by a paralysis of various branches of the ulnar nerve supplying the skin and muscles. [M.R.D.]

The Latest Literature.

British Medical Journal.

January 5, 1901. [No. 2088]

1. A Clinical Lecture on Leukocythemia. ROBERT SAUNDBY.
2. An Address on Acute Dilation of the Heart in Diphtheria, Influenza and Rheumatic Fever. D. B. LEES.
3. Epidemic Arsenical Poisoning Amongst Beer Drinkers. NATHAN RAW, FRANK H. BARENDT, W. B. WARRINGTON.
4. Clinical and Pathological Notes on a Case of Human Actinomycosis, with Conclusions drawn from it as to the Nature of the Disease. H. E. LITTLEDALE.
5. Notes on the Dialysis of the Toxins Through Collodion Walls. M. ARMAND RUFFER.
6. A Case of Renal Colic Attended by the Passage of Casts of the Ureter. J. H. HENTON WHITE.
7. A Case in Which Movable Kidney Produced the Usual Symptoms of Hepatic Colic Successfully Treated by Nephrorrhaphy. MACPHERSON LAWRIE.
8. The Sex of Patients Suffering from Gastric Ulcer. R. DES. STAWELL.

1.—Saundby reports 2 cases of leukocythemia, 1 of which was fatal. At the postmortem examination it was found that the spleen weighed 5 pounds 3 ounces; on section it contained a few hemorrhages but no infarcts. The liver weighed 8 pounds 11 ounces and contained neither hemorrhages nor infarcts. The stomach was normal. The small intestine showed diffuse catarrh throughout 4 to 5 feet of its lower portion with patches of congestion. The salivary glands were swollen, but Peyer's patches were not affected. In several places there were what appeared to be small healed ulcers, and immediately above the cecum there was an irregular and superficial ulcer. The bone marrow of the ribs was diffuent and light brown in color, that in the tibia and radius was lymphoid and fairly firm, of a brownish color, dotted with patches of yellow. Under the microscope the marrow was extremely cellular, showing numerous myelocytes, the majority of which were finely granular oxyphiles, although some contained basophilic granules; coarsely granular oxyphiles were uncommon. There were many red nucleated blood-cells and some with dividing nuclei. Notes of 4 other cases are given. [J.M.S.]

2.—Sudden death following diphtheria has been thought to be due to neuritis of the pneumogastric nerve; but Lees is of the opinion that it is more likely due to degeneration of the cardiac muscle. The clinical indications that should be sought for to indicate the extent of this degeneration are: (1) Feebleness of the pulse wave; (2) feebleness and diffusion of the cardiac impulse; (3) extension of the cardiac dullness to the left; (4) feebleness of the first sound at the apex with accentuation of the pulmonary second sound, and (5) marked accentuation of the aortic second sound with a compressible radial pulse. In making a physical examination of the heart in these cases the exact limits of the heart should be ascertained by percussion, and the examiner should not be contented with the limits of superficial dullness. If in the case of a child suffering from diphtheria, the cardiac dullness is increased more than one finger's breadth to the left of the midclavicular line the case should be very carefully watched. If the dullness exceeds two fingers' breadths to the left of the midclavicular line the child must not be allowed to sit up in bed for any reason. The increase in dullness is sometimes very rapid, and the acute dilation thus indicated is frequently accompanied by vomiting. The cases of cardiac dilation following diphtherial infection are probably not permanent; the worst cases, however, are usually fatal. In influenza rapid dilation of the heart frequently occurs, to a greater or less extent, within a day or two after the onset of the disease, and is sometimes accompanied by fatal syncope. If the dullness extends two fingers' breadth to the left of the midclavicular line there is real danger. Minor degrees of cardiac dilation after influenza may cause a feeling of incapacity for exertion and the patient may be thought to be a

hypochondriac. In rheumatic fever, even in the most subacute attacks, acute dilation of the heart seems to be invariably present. The author has never seen a first attack of this disease in a child or in an adult, in which dilation was absent. This condition accompanying rheumatism is far less dangerous than in influenza or in diphtheria. The difference must be due to the varying effects of the several toxins on the cardiac muscle. The author makes a plea for more careful cardiac examination by percussion and palpation. [J.M.S.]

3.—Raw thinks that the **epidemic of arsenical neuritis from drinking beer** which began in June, 1900, is subsiding. The author has seen 70 cases, among which there was but 1 death. The poison was detected in the urine of 5 patients out of 33 examinations. The arsenic was undoubtedly contained in the sulfuric acid used in making the glucose which is used by the brewers. The skin lesions studied by Barendt may be divided into those resulting from a sudden debauch and those due to the daily and not immoderate use of the poisoned beer. The nervous symptoms were studied by Warrington, who found that the patients who showed the most marked symptoms of arsenic poisoning presented the least evidence of well-defined neuritis. In those who were but moderate takers of beer and stout, sensory disorders were most prominent, such as numbness, tingling, pain, and erythromelalgia. No distinctive impairment of sensation could be found, the knee-jerk was usually present, and ataxia was not noted. [J.M.S.]

4.—Littledale reports the case of a man, aged 23 years, who presented a swelling of 4 months' duration, that began between the angle of the jaw and the mastoid process of the temporal bone. The swelling extended around the back of the neck to the right side and front of the neck and thence down to the sternum. A diagnosis of **actinomycosis** was made, but the typical ray fungus was not found in the pus nor in the scrapings from the wall of the abscess-cavity during life. A second abscess developed in front of the sternum and a third at the vertebral border of the right scapula. Later, numerous abscesses formed about the back and neck. The patient died after 8 months' illness with advanced amyloid disease and symptoms of pulmonary tuberculosis. Actinomyces were demonstrated in the tissues obtained at the autopsy. The affected lung showed double infection with tuberculosis and actinomycosis. [J.M.S.]

5.—Ruffer and Creudiropoulo have found that the various toxins of the *Bacillus pyocyaneus* dialyze through the walls of collodion sacs, but not in their entirety. The time taken in the dialysis is comparatively long, and the pathogenic properties of the toxins vary according to the length of the dialysis. It is probable that the immunizing substances are among the first to dialyze, so that advantage of this property may be taken in the manufacture of vaccines. [J.M.S.]

6.—White describes a case giving typical attacks of renal colic in which were passed casts of the ureter. Microscopically they were elongated, cylindrical bodies of clear mucus held together by a few threads of fibrin and containing a few small granules and the remains of a few epithelial cells. The casts were about an inch long. The patient greatly improved under potassium iodid, but showed no improvement under the administration of the mineral acids. He thinks that possibly the irritation of the ureter may be due to an encysted renal calculus. [J.H.G.]

7.—Lawrie reports the case of a woman who suffered from repeated attacks of typical hepatic colic which were relieved absolutely by the fixation of a very movable kidney. Excepting the attacks of pain there was no evidence of the passage of gallstones, but as the patient suffered from a freely movable right kidney, it was thought advisable to resort to its fixation. [J.H.G.]

8.—Out of 7,700 autopsies Stawell found 96 records of **gastric ulcer**, 55 of which occurred in males and 41 in females. These figures seem to indicate a preponderance of cases of gastric ulcer among males; but of the entire number of autopsies recorded many more of the subjects were males than females. Comparing an equal number of necropsies on each sex the proportion seems to be 5 males to 6 females. During life the cases diagnosed gastric ulcer in males were to those so diagnosed in females as 1 to 4. Perforation seems to occur more frequently in males in the proportion of 7 to 6. [J.M.S.]

Lancet.

January 5, 1901. [No. 4036.]

1. An Address on Clinical Varieties of Bright's Disease. JOHN ROSE BRADFORD.
2. A Series of Cases of Actinomycosis. RICKMAN J. GODLEE.
3. The After-Results in 40 Consecutive Cases of Vaginal Hysterectomy Performed for Cancer of the Uterus. ARTHUR H. N. LEWERS.
4. A Case of Deformity of the Skull Simulating Leontiasis Ossea, Associated with a Condition of Syringomyelia; no Physical Signs of Syringomyelia Present. JAMES S. COLLIER.
5. Filariasis and its Consequences in Fiji. MORGAN I. FINUCANE.
6. A Case of Mollities Ossium with Spontaneous Fracture Through the Great Trochanter of the Left Femur. J. HOGGAN EWART.
7. A Case of Cobra-poisoning Treated with Calmette's Antivenine. W. HANNA.
8. Membranous Esophagitis; Expulsion of a Complete Cast of the Esophagus. NATHAN RAW.
9. "Clucks" and "Clicks." W. AINSLIE HOLLIS.
10. Reflections on Therapeutics. HARRY CAMPBELL.

1.—Bradford, in an address on the clinical varieties of Bright's disease, comes to the following conclusions: That two forms of acute Bright's disease should be recognized. On the one hand a variety in which dropsy and well-defined urinary changes are present. The urine in this form is scanty, highly albuminous, and contains blood and casts. In the other form dropsy is absent. He lays particular stress upon the fact that the last named condition is distinguished with difficulty from congestion of the kidney. He further states that in chronic Bright's disease at least two forms should be recognized. One in which dropsy becomes prominent, the urine is scanty and highly albuminous. The course of the disease is chronic and often marked by subacute attacks of uremia. In the second variety the urine is increased in amount, contains considerable albumin, and dropsy is absent. Wasting and loss of strength soon show themselves, and hypertrophy of the heart and vascular changes are present. Albuminuric retinitis is a common complication and acute uremic attacks frequently develop. He finally adds that two forms of chronic Bright's disease probably represent different effects of the same morbid condition, and that chronic Bright's disease need not be preceded by the acute form. [F.J.K.]

3.—Lewers records a series of 40 consecutive cases of vaginal hysterectomy performed for cancer. Among these 40 cases there were 14 in which the disease had not recurred up to the date of the report. Twelve of these were undoubtedly true carcinoma. The conclusions that appear to follow from a consideration of the facts in this paper are: 1. That in a certain proportion of the cases patients suffering from cancer of the uterus may be relieved by operation for periods of many years—in some cases for so long a time that there seems some probability that the relief may be permanent. 2. That the proportion of cases in which this result can be expected must remain very small, so long as patients generally seek advice only at a late stage of the disease. 3. That consequently the great desideratum is early diagnosis. Improvement in this direction depends, to some extent, on a better appreciation on the part of women themselves of the early symptoms of the disease, and especially of the significance of bleeding after the menopause, or a bleeding occurring at an earlier time of life, between the menstrual period. It is equally important to bear in mind that patients suffering from cancer of the uterus may, and generally do, for a relatively long period, look quite well. They may be well nourished or not infrequently even excessively fat. [W.A.N.D.]

4.—Collier reports an interesting case of syringomyelia which was not suspected during life because of the absence of symptoms of this condition. The patient, a man 36 years old, presented a peculiarly deformed skull, flat on top and overhanging at the sides and behind; this had existed since childhood and followed a fall which the patient had at that time. The patient, at the age of 26 years, began to have epileptic fits which started always in the right arm. At the time of admission this arm was paretic. Mr. Horsley trephined the skull over the arm-center, finding the bone thin, and

egg-shell-like plates in the dura, which was not opened. The patient died suddenly 3 hours after the operation, and from no discoverable cause. Necropsy showed a marked condition of syringomyelia. Collier remarks the not infrequent association of syringomyelia with akromegaly, but in this case he thinks the peculiar deformity of the skull was due to the injury received in childhood, since the deformity made its appearance at 5 years of age. He does not think the syringomyelia was due to injury, as the patient led an active artisan's life for 15 years, having no signs of paraplegia. Sudden death frequently follows anesthetization and operation in case of syringomyelia. [J.H.G.]

5.—Finucane states that the most common result of filariasis among the natives and Europeans in the South Seas and in Fiji is **elephantiasis of the scrotum**. He describes the operation for the relief of this condition as it is performed at the Colonial Hospital at Suva, Fiji. Chloroform is used as the anesthetic. An Esmarch's elastic tourniquet is tightly applied above the base of the pedicle, the ends are carried around, above the crest of the pelvis and fastened behind. An incision is made into the elephantoid tissue so as to free the glans penis, a No. 8 silver catheter is introduced into the urethra and an assistant holds the penis well up over the abdomen. Then on each side an incision is made which is carried downward from the external abdominal ring to the lower portion of the scrotum. The testes and the cord are carefully dissected out and held up over the abdominal wall. Two skewers are next introduced into the lower portion of the base of the tumor for the purpose of holding and preventing retraction of the tissues and to avoid slipping of the tourniquet after the mass has been separated. After removal of the tumor the vessels are ligated, the tourniquet is loosened, the skewers are withdrawn and the edges of the wound are brought together. As a rule a good scrotum can always be fashioned. Hernia complicating elephantiasis of the scrotum must always be borne in mind. Amongst Fijian women elephantoid enlargement of the arm, the leg, and the breast is very common. Children frequently suffer from lymphangitis of an extremity. He states that quinin is given in acute filarial attacks with good results. [F.J.K.]

6.—Ewart reports the case of a woman, aged 65 years, who 14 years before began to show evidences of **softening of the tibiae**. The patient came recently under his care for the treatment of a fracture through the great trochanter of the femur which occurred when the patient was walking and without any special muscular effort. The report of the case is illustrated by skiagraphs. [J.H.G.]

7.—Hanna reports a case of **cobra poisoning** treated with Calmette's antivenine. While assisting in the abstraction of poison from a full-sized cobra, the operator was bitten in the thumb. The only local treatment employed was sucking the wound. Within the course of from 20 to 30 minutes after the bite, 18 ccm. of Calmette's antivenomous serum were injected. About 2½ hours after the injection symptoms of poisoning showed themselves in slight stupor, nausea, vomiting, and some paralysis of the legs. About 3½ hours after the bite another injection of 10 ccm. was injected, and after a short while all general symptoms disappeared. Pain and swelling persisted in the thumb. A slough formed at the site of the inoculation. After 6 weeks the wound had nearly healed. The chief lesson to be learned is that sucking of the wound is of little value, and that fresh antivenomous serum should be promptly used. [F.J.K.]

8.—A case of **membranous esophagitis** is reported by Raw. The patient, a male, aged 46, was admitted into the Millroad Infirmary, Liverpool, on April 10, 1900. He complained of substernal pain and difficulty in swallowing. These symptoms had existed for six months. On admission he could only partake of liquids. He vomited a complete cast of the esophagus on April 16. This cast was 8½ inches long and weighed 2½ ounces; it was of a greenish-gray color and very tough. Microscopical examination showed that the cast was composed of a network of fibrin and epithelial cells. Vomiting soon became a symptom, and later even the swallowing of liquids was impossible on account of the severe pain. The patient was fed with nutrient enemata. On May 12, a gastrostomy was performed and the patient was now fed through the artificial orifice as well as by rectum. Progressive weakness followed the operation, and death occurred in six weeks. At the necropsy complete stenosis of the esophagus was found. Gastritis was not present. The case

was of particular interest because the condition is so very rare. [F.J.K.]

10.—Campbell in an article entitled **reflections on therapeutics** emphasizes the importance of relying upon the strength of nature in the healing art, and that nature is the great physician. He states that the young physician full of theory has this to learn. As the experienced observer grows older his methods of treatment become more simple and more and more he abides by the call of nature. In summing up the treatment of many of the acute infectious diseases, particularly croupous pneumonia and enteric fever, he lays great stress upon the fact that the most enlightened measures of treatment must be found in nature and the nurse. [F.J.K.]

New York Medical Journal.

January 19, 1901. [Vol. lxxiii, No. 3.]

1. A Peculiar Case of Migratory Foreign Body, with X-Ray Illustration. D. BRADEN KYLE.
2. Two Cases of Hemarthrosis of the Knees. RUSSELL A. HIBBS.
3. Report of Two Cases of Dermoid Cyst of the Nose. H. S. BIRKETT.
4. The Method of Examination of Infants. C. HERMAN.
5. A Case of Paroxysmal Hemoglobinuria. WILLIAM JUDSON LAMSON.
6. General Anesthesia; The Preliminary and After-Treatment, with Remarks on Chloroform and Ether. E. PAYNE PALMER.
7. Gastric Ulcer; Report of Two Cases. E. S. GOODHUE.

1.—Kyle reports an interesting case of **migratory foreign body**—a needle—which gave rise to a series of severe attacks, characterized by excruciating neuralgic pain. The site of the pain varied at times, leading to the suspicion of mastoiditis, facial neuralgia, ethmoiditis, and lastly suppuration of the maxillary sinus. Yet, when the respective attacks had subsided, all symptoms disappeared for the time. The patient suffered from periodic neuralgic attacks, from January, 1887, to August, 1899, when the last portion of the offending needle was removed, part having sloughed in an attack confined to the frontal sinus in 1898. An x-ray print cleared up the diagnosis in this case. But the patient suffered from a severe x-ray burn 24 hours after the picture was taken. An acute dermatitis of the right side of the face followed, accompanied by loss of hair in handfuls. No ill effects followed, and the hair grew on again, but only to the length of 3 inches. [T.L.C.]

2.—Hibbs describes 2 cases of periodical **hemorrhages** into the knee-joints, the patients being brothers. Two other hemophilic brothers died in infancy. [J.H.G.]

3.—Birkett reports 2 cases of **dermoid cyst** of the nose which he operated upon, and mentions a third case under his care. In each case the tumor had been observed at birth and had gradually enlarged, and each occupied the median line of the nose. Both of the cases operated upon did well. Birkett has only been able to find 6 cases reported in the literature on the subject. [J.H.G.]

4.—Herman urges the **systematic examination of children** under a physician's care—and the **throats** of those in whom infection may be anticipated. In this way personal peculiarities may be detected and we are fore-armed against regarding any peculiarity present in the child as produced by any subsequent diseased condition. He believes in making as much of an examination as possible while the child is sleeping, after being fed, and points out the value of thus securing normal **pulse** and **respiratory-rate** as well as **mean temperature**. The throat should be examined last. In a chest examination Herman recommends that the child should be held lightly in the mother's arm with the chin resting against the shoulder. For comparison a change of position to the other arm is recommended. The author uses a bimanual stethoscope. He distinguishes four varieties of cough: (1) the **simple catarrhal**; (2) the suddenly interrupted short cough, which causes pain (pleuropneumonia); (3) the croupy; and (4) the spasmodic paroxysmal (pertussis). He believes the character of the cry to be less important. Mention is made that almost all cardiac murmurs heard are organic and systolic. They are frequently transmitted posteriorly, both to right

and left, by the relatively large liver. Points in the systematic physical examination are detailed at length. The author has profited by his association with Köplik in the Good Samaritan Dispensary. [T.L.C.]

5.—Lamson reports a case of **paroxysmal hemoglobinuria** which first showed itself in the patient, a clerk of 40 years, in November, 1892, after a long, cold drive. These attacks recurred at intervals of a few weeks. He became emaciated, but his heart and kidneys were pronounced sound. Since treatment his general condition improved, but the attacks persisted. Between attacks the patient feels well, but looks anemic. A typical attack begins at 10 A.M. with a **chilly feeling** often becoming a decided rigor. The **extremities** are cold, and the fingers, nose and ears are cyanotic. He becomes icteroid, and nausea follows. He then passes urine of portwine color frequently and in considerable amount. The chill lasts from 1½ to 3 hours and is succeeded by a feverish sensation. At times an urticaria-like eruption appears in the dorsum of the hands or on the right cheek; or he may have painful areas in bridge of nose, around the right orbit, or in the groin. Normal urine is passed again, sometimes in 20 minutes, often not for several hours, depending upon how quickly he becomes thoroughly warm. The blood and urine between attacks are not characteristic of any pathological condition. During attacks the urine averages from 1.028 to 1.030. There is heavy precipitate of albumen and hyalin and coarse, granular casts. Blood is also present. The plasmodiae are not found. Favorable climatic surroundings and careful personal hygiene are, in the author's opinion, our best therapeutic measures. [T.L.C.]

6.—Palmer thinks that **anesthetization** should be given a more important place in the course of instruction in our medical colleges and that too much of the work is done by untaught and inexperienced men. He thinks the anesthetist should be as much of a specialist as a worker in any other particular department of medicine. He describes minutely the preparation necessary for an anesthetic and the ones which should govern us in the choice of the anesthetic. Where there is no choice between ether and chloroform, he prefers the latter, but remarks on its dangers in the hands of the inexperienced. He thinks in many cases where the patient is addicted to alcohol or drugs that the anesthetization should be established with chloroform and kept up with ether. This is particularly true in those cases where it is difficult to accomplish complete muscular relaxation with ether. Administration and after-treatment are carefully considered. [J.D.G.]

7.—Goodhue reports two cases of **gastric ulcer**. In his first case the woman was placed at absolute rest and fed by rectal alimentation, then as her condition grew better mouth-feeding was begun. She was pregnant six months at the time and in spite of her alarming condition, the persistent vomiting, etc., recovered and gave birth to a healthy child at term. His second case was diagnosed as abscess of the liver with localized peritonitis. At autopsy a sinuous, terraced, round, pyloric ulcer was found in size about equal to silver quarter of a dollar. The floor was formed by the left lobe of the liver where there were partial adhesions and abundant pus. There was also localized peritonitis. This was a case in which timely operation might, in the author's opinion, have saved the life of the patient. [T.L.C.]

New York Medical Record.

January 19, 1901. [Vol. 59, No. 3.]

1. The Mosquito Theory of the Transmission of Yellow Fever, with its New Developments. CHARLES FINLAY.
2. Notes on Ovarian Grafting. ROBERT T. MORRIS.
3. Case of Thrombophlebitis of the Left Sigmoid Sinus Masking a Latent Brain Abscess in the Left Temporo-Sphenoidal Lobe, both Arising from Chronic Otitis Media. CARL KOLLER.
4. Subarachnoid Cocainization in Obstetrics and Gynecology; a Report of 21 Cases. N. J. HAWLEY and F. J. TAUSSIG.
5. Important Points in the Management and Treatment of Consumption. CHARLES R. UPSON.

1.—Treated editorially.

2.—Morris gives a report of his experiments on ova-

rian grafting which were begun in 1895. His cases up to the present time number 12. He places the ovary that is to serve for a graft in a basin of physiologic saline solution at a temperature of about 100° F. immediately on its removal. In his later cases he has chosen the broad ligament as a site for grafting, and as nearly as possible at the point that the ovary would normally occupy. In his experiments the best result in ovarian grafting is the avoidance of the menopause. He has had one of pregnancy follow which was terminated by early abortion, but the several successful pregnancies that have been obtained in rabbits by other experimenters indicate that fruitful pregnancy in women as a result of ovarian grafting may yet be hoped for. [W.A.N.D.]

4.—Hawley and Taussig in discussing the subject of **subarachnoid cocainization in obstetrics and gynecology** remark that the important points in technic of operation are: 1. Surgical cleanliness in all things and a fresh aseptic solution of cocain, full strength. 2. The needle need not be longer than 7 cm. and should be kept sharpened. 3. A nurse should stand at the patient's head when the puncture is made to keep the back arched forward. 4. During the operation the patient's ears should be kept closed with cotton and the eyes covered with a towel or cloth. The authors report 21 cases so treated, 2 of which presented symptoms that were serious but did not endanger life. The most constant toxic symptom was the vomiting, which appeared in 70% of the cases, coming on within 10 minutes of the injection. Headache followed in 3 cases. A rise of temperature to 101° F. to 102° F. was observed in most of the cases 12 hours after the injection. The first stage of labor was not affected by the cocain. In 70% of the cases the pains were neither as prolonged nor as powerful. In 5 cases the cocain seemed to have a toxic effect upon the child, asphyxia being noted. [W.A.N.D.]

5.—Upson discusses points in the management of **tuberculosis**. He calls attention to the method of directing that the patient's hand be placed on the opposite shoulder which draws the scapula forward, when by placing the ear over the uncovered portion of lung, we can, if they be present, "detect the prolonged tubular breathing and fine rales on coughing; early evidence of the disease." Upson has for years given the patients suffering from tuberculosis a printed list of general directions as to the need of care to prevent spread of the infection, etc. His routine treatment includes no new points. He says he has used intrapulmonary medication with gratifying results and mentions employment of eucalyptol, pine needle oil, menthol and formic aldehyd. His method, however, is not given. [T.L.C.]

Medical News.

January 19, 1901. [Vol. lxxviii, No. 3.]

1. Conclusions Formed after 6 Years' Experience with the Antitoxin Treatment of Diphtheria. HENRY F. KOESTER.
2. Problems in the Etiology, Diagnosis and Treatment of Tuberculous Disease of the Upper Air-Passages. JONATHAN WRIGHT.
3. Notes on the Interesting Cases of a Month's Dispensary Practice. WILLIAM L. STOWELL.

1.—Henry F. Koester gives results of his **conclusions formed after 6 years' experience with the antitoxin treatment of diphtheria**. He believes in early injections of antitoxin in cases which are even suspicious. He also believes in immunizing those with whom the patient comes in contact. It is his custom to give 50 to 500 units in tenement and flat-house districts where children cannot be closely watched and where isolation cannot be practised. He has never seen any complications or sequelae follow the use of antitoxin as an immunizing agent, except in less than 10% of cases in which an urticaria-like rash appears and this is evanescent. He believes antitoxin is a specific in diphtheria when the case is in the early stages, or of a very mild form, and in these he has not found it necessary to give more than one injection. However, when the disease has advanced and putrefactive changes are present, accompanied by foul-smelling discharges, antiseptics form an important adjuvant. He employs a neutral solution of hydrogen peroxid with double or three times its volume of water. This solution should not be sprayed in the throat

but should be thrown in with a long, nozzleed hard rubber syringe holding an ounce, after depressing the tongue with some force against the pharynx so that the liquid washes, not only the tonsils, but the pharynx and posterior nares as well. This should be repeated every hour. In nasal cases he irrigates the nose with a saturated solution of boric acid. On the first day every 3 or 4 hours, without force; but after the second or third day when the membrane begins to exfoliate, a more forcible injection will often be of service in detaching membrane which has been only partly separated. Care should be taken that nothing is forced into the eustachian tube. This is avoided by instructing the patient to keep the mouth open. In very young children it is necessary to accomplish by means of a gag. The internal treatment is very simple. He combines strychnin with essence of pepsin, or some other vehicle. The tincture of the chlorid of iron and chlorid of potash he condemns strongly, and believes that alcoholic stimulants are indicated in only very severe cases. In convalescents he administers the syrup of the iodine of iron preferably. He condemns calomel sublimation, believing that it is productive of salivation and it renders the patients more liable to complications. He does not advocate steam inhalations on account of the fact that to be effective, the windows and doors of the rooms must be closed and a free supply of oxygen shut off. He explains the urticaria-like rash on the ground that the blood already surcharged with the toxins and effete products of the diseased condition has reached its point of saturation as far as the eliminative action of the kidneys and excretory apparatus are concerned. Upon adding to the blood, already surcharged with these products, a certain amount of horse serum also containing hippuric acid and other excrementitious products, the urticaria follows. [T.L.C.]

2.—Jonathan Wright concurs in the opinion that a susceptibility is always associated with infection in tuberculosis. The presence of the organisms upon healthy and diseased mucous membranes without infection occurring is frequent. He denies that the tubercle bacilli are ever the cause of large tonsils and adenoids. From a total sum of nearly 1,000 specimens of tonsils and adenoids examined, the ratio of 5% has been deducted as the proportion of **latent tuberculosis** in them. In examining the air-tract in order to arrange the anatomical localities in the order of frequency of development of tuberculous disease, we find it proceeds pretty regularly from the walls of the bronchi, and the air vesicles to the nose, the larynx being perhaps more frequently involved than the trachea or larger bronchi, on account of its greater mobility and the complexity of its gross anatomy. Discussing the diagnosis he emphasizes 3 points: (1) The diagnosis of incipient laryngeal tuberculosis; (2) the differential diagnosis of **tuberculous from syphilitic laryngitis** and these include (3) the microscopic examination of the sputum. 1. The patient may come with much less marked local symptoms than in the secondary catarrhal laryngitis, and yet have in his larynx the unmistakable evidence of tuberculous disease in its incipency. Inspection reveals in addition to the pale larynx and velum palati, so suggestive of pulmonary phthisis, one which is congested only in spots. There is a heaping up of proliferated epithelium on the posterior wall—the pachydermia laryngis. These appearances, however, are merely suggestive, and not confirmatory of tuberculous laryngitis. We must have, in addition, some local infiltration or ulceration to render this a probability. We cannot be certain of the diagnosis until we have excluded syphilis and found the tubercle-bacilli. 2. Syphilis of the larynx is not a common occurrence in his experience. Syphilis of the lungs he has even observed. A mistake in the two conditions is the more distressing from the fact that **laryngeal syphilis** is usually easily curable, but with the same treatment that is used in **laryngeal tuberculosis** it is almost as fatal as the latter. With a history of syphilis and scar-tissue in the pharynx, or on the epiglottis with a peculiar sharp-cut seriginous ulceration, characteristic of syphilis of the mucous membrane, the diagnosis is easily made, but in many cases the two conditions present strikingly similar appearances. The promptness and suddenness with which laryngeal stenosis in syphilis may occur is a differential diagnostic point which is frequently neglected. The author closes with a commendable conservative criticism as to methods of palliation and cure. [T.L.C.]

Boston Medical and Surgical Journal.

January 17, 1901. [Vol. cxliv., No. 3.]

1. Address. DAVID W. CHEEVER.
2. Address. JAMES R. CHADWICK.
3. Remarks. F. W. DRAPER.
4. Remarks. WILLIAM OSLER.
5. Remarks. J. S. BILLINGS.
6. Remarks. H. C. WOOD.
7. Remarks. HENRY P. WALCOTT.
8. Letter. S. WEIR MITCHELL.
9. The X ray. WILLIAMS.

9.—Williams' experience at the Boston City Hospital indicates that we have, either in the **x-rays** themselves or from some other form of radiation from an excited Crookes' tube, a valuable therapeutic agent in **epithelioma** and that the beneficent action of the x-rays can be brought about without causing a burn. Without causing pain, the application of the x-rays is followed by a cessation of foul and nearly unbearable odors, a lessening of the discharge and a diminution of the size of the growth. The earlier the treatment is undertaken the better. It is not improbable that we shall find its curative action limited to superficial growths, though as a means of relieving the painful features of the disease in other forms, it may be of some use. [Details of the application are promised. J.M.S.]

Journal of the American Medical Association.

January 19, 1901. [Vol. xxxvi, No. 3.]

1. A Clinical Study of 150 Cases of Hyperphoria. WENDELL REBER.
2. Ocular Complications of Injuries to the Head. JOHN T. CARPENTER.
3. The Silver-injection Treatment of Pulmonary Consumption. THOMAS J. MAYS.
4. Tuberculosis of the Lungs Treated by Compression with Nitrogen after the Method of Murphy, with Further Remarks on the Rationale of the Procedure and a Record of Experiments on Dogs. A. F. LEMKE.
5. Angina Epiglottidea Anterior. Report of Three Cases. CLEMENT F. THEISEN.
6. Athropsia Infantum—Marasmus, or Wasting Disease—Atrophy—Malassimilation of Food; Its Cause and Treatment; Proper Infant Feeding. LOUIS FISCHER.
7. Light and Seating in the School. C. ZIMMERMAN.
8. Some Remarks on the Plantar Reflex, with Special Reference to the Babinski Phenomenon. J. T. ESKRIDGE.
9. Costa Rica, Its Physicians and Medical Institutions. N. SENN.

1.—After a careful investigation of his last 700 cases, Reber believes that it is impossible to determine what lenses are to be prescribed in ametropia unless a thorough knowledge of the performance of the muscular function is obtained. He has found that the addition of a vertical prism to the patient's curvature correction has often been fruitful of relief. The author considers the Maddox rod of great value in these cases. Hyperphoria occurs in about one sixth of the patients, but only becomes worthy of special notice in one-fifth of the refraction cases. In 33% of all cases it becomes more manifest after the thirtieth year. **Correction with prisms** is of service in about 50% of all the cases. Exercising insufficient convergence and repressing an excess of convergence often bring about relief of the symptoms which frequently are neuralgia, photophobia and physical tiredness after continuous near work, the latter symptom generally being in disproportion to the amount of work done. As a last resort tenotomy of one of the vertical muscles will have to be performed. [M.R.D.]

2.—Carpenter, in discussing the **ocular complications of injuries to the head**, other than those directly produced upon the eyeballs, reports a case of optic atrophy occurring in a man who was thrown to the ground striking the right side of his head. Dimness of vision set in 10 days after the accident. The case was diagnosed as a **descending neuritis** originating from a localized traumatic meningitis at the base of the brain and involving the optic nerve. Four years after the accident the vision

was $\frac{10}{20}$, good peripheral visual field, and an **absolute central scotoma**. [M.R.D.]

3.—Mays advocates the **use of silver nitrate injections** in the neck along the course of the pneumogastric nerves in pulmonary consumption. He advocates the use of a 2½% solution in 5 minim doses, the injections being repeated every 7 or 10 days, and in urgent cases every 3 or 4 days. The highest number of injections given in a single case was 21. In reviewing the results of this treatment he finds that 50% of the patients treated were practically well at the end of a year and a half. He concludes his article by giving the report of a number of cases. [F.J.K.]

4.—Lemke recommends the use of **intrapleural injections of nitrogen** in the treatment of tuberculosis of the lungs, stating that after compression of the lungs fibroid changes develop. This cicatrization assists nature in the healing of the tubercle. Cavities, if present, are compressed and healing is favored, and by the rest the organ receives by this method of treatment secondary infection and a lesser tendency to hemorrhage is brought about. Pleural adhesions are not so extensive as might be expected, and he further states that after long compression the healthy portion of the lung may again expand when intrapleural pressure is removed. The risk of the operation is very slight. He concludes by saying that this treatment is curative in some cases and palliative in others, prolonging life for some time. This treatment is also of value just prior to surgical operation when the pleural cavity is to be opened. [F.J.K.]

5.—**Angina epiglottidea anterior** is discussed by Theisen with a report of three cases. He describes the condition as being an inflammatory process accompanied by edema and confined to the anterior surface of the epiglottis. The inflammation may extend by way of the submucous tissue of the pharyngo-epiglottic ligament to the aryepiglottic folds. He prefers the name of acute epiglottitis or simple epiglottitis to angina epiglottidea anterior. The condition is often primary in the course of an infectious disease, but may be secondary. In the three cases he reported the onset was sudden, with fever, and other manifestations of an acute infection. The local symptoms were difficulty in swallowing, severe pain in the throat, and upon examination the anterior surface of the epiglottis was found red and swollen. Inoculations taken from the serum of the deeper tissues of the epiglottis revealed cultures of the *Staphylococcus albus* and *pneumococcus* in one case, and the *streptococcus* and *pneumococcus* in the other. In the remaining case the bacteriological examination was not made. As to treatment, he recommends early scarifications and the use of iced ichthyol sprays. [F.J.K.]

6.—Will be considered editorially.

7.—Zimmermann, in discussing the relation of visual acuity to the degree of illumination, calls attention to the necessity of **light and seating in the school**. If there is a lessening in illumination the pupil will have to bring the book nearer to his eye so that both visual angle and retinal image become larger. The increased amount of accommodation and convergence necessarily called into play causes strain and congestion of the eyes. If the head is bent in order to facilitate the continuation of the pupils' work, there may follow a compression of the vessels in the neck and a retardation of the venous blood. The photometer devised by L. Weber, of Breslau, permits a rapid determination of the amount of the illumination present in the school-room during the day. The unit of light intensity in this case is the **meter-candle** which equals the illumination of a sheet of paper one meter distant from a candle composed of stearine, 6 of such candles being required to weigh 1 pound. The light from the sky reflected from the ceiling is considered to be the best. In the lower stories of the schoolroom, where light cannot be obtained from above, it is best to have the pupils seated so that the windows are on their left, thereby preventing the formation of a shadow from the hand. The tint of the walls is to be light gray. The author discusses the various experiments that have been made regarding the formulation in mathematical terms of the definite law that exists between sight and light intensity. Next to light the most important hygienic principle that demands the attention of school legislation is the **correct seating of the pupils**. It has been shown by laws of physics that the body is only comfortable in a sitting posture when the point of gravity which lies in front of the tenth chest

vertebra forms a perpendicular to a line drawn through the tuberosities of the ischia, the latter being the rotation points of the trunk. The distance between the desk and seat must be in such relation to the pupil that when in the erect position the eyes remain 40 cm. from the desk. The author believes that although the best constructed seats cannot always obviate faulty positions of the students, nevertheless the observation of the hygienic principles mentioned will serve to prevent many ocular defects. [M.R.D.]

Archives of Pediatrics.

January, 1901. [Vol. xviii, No. 1.]

1. Congenital Stenosis (Spasmodic) of the Pylorus; Recovery. THOMAS S. SOUTHWORTH.
2. Retropharyngeal Abscess and Adenitis. IRVING M. SNOW.
3. Pylonephritis in Children, with report of a Case in which Nephrectomy was Successfully Performed. LOUIS FISCHER.
4. Clinical Notes on Scurvy in the Island of Cuba. J. L. DUEÑAS.
5. Remarks on the Pathogenesis and Prophylaxis of Acute Rheumatic Fever in Children. HENRY HEIMAN.
6. Malarial Coma in a Boy. E. P. STONE.

1.—Southworth reports the case of a baby in whom **congenital pyloric stenosis** was diagnosed for the following reasons: 1. The early occurrence and persistence of vomiting uninfluenced by the usual measures for its relief. 2. The absence of any vestige of milk residue in the stools until the ninth day, while the presence of green mucous stools excluded obstruction below the duodenum. 3. Perfect digestion of the milk residue when it appeared in small quantities in the stools, despite the continuance of the vomiting, which seemed to preclude the possibility that that symptom was due to indigestion. 4. The absence of constipation, temperature, or any other symptom on the part of the mother that might cause her milk to disagree with the baby; maternal anxiety was not awakened until long after the inception of the vomiting. Two years before the mother had successfully nursed her first child. 5. The abrupt cessation of the vomiting, which pointed to a sudden relief of the exciting cause. The complete cessation of vomiting and subsequent absence of unfavorable symptoms are in support of the view that the pyloric stenosis was functional and dependent upon the condition of the pyloric valve. [J.M.S.]

2.—Snow reports 3 cases of **retropharyngeal abscess and adenitis**. In the first case, at the age of one month the baby had an acute feverish illness with profuse nasal secretion; after a few days the fever subsided and the nasal discharge lessened, although much pus with blood crusts still came out of the nose. At the age of two months the bloody purulent coryza persisted. Examination at that time showed, about the level of the epiglottis, projecting forward from the posterior pharynx, in the median line, a pyramidal swelling whose apex encroached upon the entrance to the esophagus. The mass was hard, not movable or fluctuating, and was evidently an enlarged retropharyngeal lymph node, a result of the intense rhinitis. Under proper local treatment the coryza rapidly ameliorated and in two weeks the child was well. At the end of two months exploration of the throat showed that the swelling had entirely disappeared. The second patient was a boy of 16 months, who suffered from an attack of influenza. His head was held stiffly erect and there was difficulty in swallowing and obstructed snoring, breathing, especially at night. The left tonsil was swollen and a fluctuating swelling lay behind it. The abscess was first aspirated and afterward incised and evacuated. The child continued feverish and languid and was attacked by a severe ileocolitis lasting 12 days. The recovery was slow; the neck muscles were rigid; pressure on the top of the head caused acute pain, giving rise to a suspicion of cervical caries; the throat was clear; and there was no tenderness or prominence of the cervical vertebrae. The retropharyngeal abscess and the continued fever and ileocolitis were probably caused by a streptococcus infection. The pain and rigidity of the neck muscles were attributed to a synovitis of the cervical vertebrae, also from a streptococcus infection. In the third case the patient was a boy of 15 months who had pharyngitis and tonsillitis. The cervical lymph-nodes became enlarged and

one evening an alarming attack of dyspnea developed which, however, was not attended by cyanosis. There was no inspiratory recession of the chest. A large fluctuating swelling was found in the posterior pharynx. A mouth gag was introduced for a thorough examination of the throat and to aspirate the swelling. The baby suddenly became livid, stopped breathing, and died. The swelling behind seemed to narrow the lumen of the trachea. An autopsy was refused, but by examining the throat it was shown that the abscess extended deep into the pharynx, so that only the upper portion could be reached by the finger. The introduction of the gag stretched the jaws and pressed the root of the tongue back against the pharyngeal swelling. It is probable that death was due to disturbance of the vagus. [J.M.S.]

3.—Fischer reports the case of a girl 12½ years old. When 4 years old the child had measles and chicken-pox. Following this attack, the urine became thick and cloudy; the child had fever and chills, but never vomited. When seen by the author, the patient proved to be a very poorly nourished, constipated child, with a sallow complexion and flabby muscles. Anorexia and general apathy were present. She complained of abdominal pains, mostly on her right side in the hypochondriac and iliac regions, the pain being constant and increased on palpation. On examination a large tumor was seen and easily felt on the right side of the abdomen. The urine contained large quantities of albumin, casts, blood, and leukocytes. At no time could pus be found in the urine. The temperature range from 100° to 103°. The patient was operated upon, and the tumor was found to be of kidney origin. The peculiar lobulated kidney-tumor was peeled from its bed without much difficulty. The tissue was so friable that it was removed piecemeal, and, in breaking into the pelvis, about a teacupful of pus and sandy concretions were removed. The renal vessels, both artery and vein, were destroyed, so that insignificant bleeding occurred. The following is an abstract of the pathologic report: The pelvis was a large pus sac containing many small calcareous particles. Stained specimens did not show organisms. The kidney tissue proper was the seat of numerous small abscesses, and here and there remnants of the kidney tissue showed a chronic interstitial nephritis. The case was one of **pyelonephritis** with chronic interstitial nephritis. The patient recovered, and 3 months after the operation the child was found perfectly well. [J.M.S.]

4.—See editorial columns PHILADELPHIA MEDICAL JOURNAL, Vol. VII, p. 91.

5.—In **acute rheumatic fever in children** there is less liability to joint involvement than in adults and it may be altogether absent. Sometimes the only evidence of a joint implication is the subjective symptom of pain complained of by the child, the so-called "growing pains." At other times when the joint is involved the anatomic changes are not so severe as in adults, there being less exudation and fewer structural changes of the joint and the surrounding tissues and, therefore, less pyrexia. On the other hand, strange to say, there is in childhood a greater tendency to metastasis of the microorganism and their toxins leading to an involvement of other tissues and serous membranes and even the skin. We, therefore, have as a frequent accompaniment or a manifestation of the diseased joints, a torticollis, an erythema nodosum, a purpura rheumatica, a chorea, an endocarditis, a pericarditis, a myocarditis, or a formation of tendinous nodules. Heiman has seldom found the pleura involved in children under 4 years of age. Endocarditis is the complication most frequently present in childhood. Peptonuria is a frequent condition found in acute rheumatic fever in children. This is probably caused by an abundant destruction of the leukocytes with an absorption of their peptones. Rheumatic fever is very rare in children under 3 years of age, although there are some authentic cases reported. It is well to remember that the majority of cases of joint disease in children under 1 year of age are really manifestations of scurvy. The indications for the treatment of this disease are: 1. To combat the poison. 2. To alleviate the symptoms. 3. To prevent involvement of the heart, and to prevent recurrences. The best method of counteracting the poison is by the salicylates. In acute rheumatic fever, the author administers the salicylates prophylactically. After the acute local and constitutional symptoms have subsided and the patient is to all intents and purposes apparently cured, the administration of the salicylates is continued in 3

or 5 grain doses 3 times daily, according to age, for 1 week of each month for a year or more. [J.M.S.]

6.—Stone reports the case of a boy aged 3 years and 8 months, in whom there was no history of previous malarial attacks. The child lived in a malarial district and his father, mother, and an older brother had had malaria. In the course of his illness the patient became comatose and a diagnosis of **malarial coma** was made. The blood contained the malarial organisms; recovery was complete. [J.M.S.]

The Practitioner.

January, 1901.

1. The Epidemiology of Rheumatic Fever. ARTHUR NEWSHOLME.
2. The Pathology of Rheumatic Fever. F. J. POYNTON.
3. Rheumatic Fever in Relation to the Throat. ST. CLAIR THOMSON.
4. The Effects of Rheumatic Fever on the Heart. G. A. GIBSON.
5. Rheumatism in Childhood. GEORGE F. STILL.
6. The Treatment of Rheumatic Fever. ARTHUR P. LUFF.
7. Medical Men of Letters—Oliver Wendell Holmes.

1.—Newsholme has made a thorough study of the statistics of **rheumatic fever**. He concludes that these statistics show two kinds of **epidemics**, which he designates as **explosive** and **protracted**. The explosive epidemics terminate in one, or at the utmost three years. The protracted epidemics are observed chiefly in large centers of population, or when we are studying the statistics of an entire country. These may represent the fusion of two or more explosive epidemics which do not exactly coincide with each other in point of time. He finds there are certain favorite years for epidemics. Thus, in England these are 1855-6, 1859, 1864-5, 1868-71, 1874-6, 1884-5, 1888, and 1893. In other countries the same years are frequently characterized by epidemics, but in some instances there is an anticipation of or lagging behind the favorite years for England. While there is no regular periodicity in the epidemic years, epidemics are apt to recur at intervals of 3, 4, or 6 years. There is in many instances a regular alternation between the explosive and the protracted epidemics, two of the shorter and smaller epidemics commonly occurring before the return of an epidemic of the protracted variety. The occurrence of definite epidemics is valuable confirmatory evidence that **rheumatic fever** partakes of an **infectious character**. The infectious nature of the disease is also confirmed by its mode of onset, the frequent occurrence of preliminary sore throat, and the course of the fever. The apparent absence of infection from person to person is explicable on the ground that the contagium is buried deep in the infected joints. The specific action of **salicin** is also comparable to that of quinin in malaria and mercury in syphilis. There is important evidence that the infection of rheumatic fever may cling about certain houses in a manner strikingly like that of tuberculosis and diphtheria. The susceptible population is not attacked at the same time, which may be explained upon the ground of the gradual convection from place to place. The disease is probably **ubiquitous**. **Four** out of every **thousand** persons are annually attacked by **rheumatic fever**. It is essentially an **urban** rather than a **rural disease**. Newsholme concludes that the disease is essentially a **soil disease**, due to a **saprophytic soil organism** which is drowned out in wet years, and multiplies rapidly in dry years. Possibly dust convection accounts for a large percentage of the cases. The inoculation may be brought about by domestic vermin, or the house-fly may convey it to milk and other foods. The important observation that dry years favor the causation of rheumatic fever, rather than wet years, seems borne out by facts. [T.L.C.]

2.—**Rheumatic fever** being preeminently a disease of childhood it becomes essential that the pathology of the disease must explain the manifestations which are met with in the young. The cardinal lesions, such as endo- and pericarditis and nodule formation, are strikingly comparable to each other. Each shows a destructive and reparative process, in none does suppuration occur. The changes are suggestive of a specific cause and analogous to the metastasis of pyogenic infections. The lesions found are characterized in the human tissues by great local resistance and a tendency

to recovery. Poynton gives a resumé of the theories of the pathology of rheumatic fever. He mentions Cullen's theory that the condition is a direct result of **cold** upon the joints—now untenable—and J. K. Mitchell's nervous theory. Poynton believes that the nervous theory exaggerates the importance of the influence of the nervous system upon other organs of the body and there is no proof that carditis, pleurisy and subcutaneous nodules can result from lesions of the nervous system. The **toxemic theory** implies that the cause of the disease is some poison circulating in the blood. It has led to **three** distinct conceptions: (1) the **chemical theory**; (2) the **neurochemical** and (3) the **infectious theory**. The **chemical theory** explains the causation of the disease on the ground that **lactic acid** is the offending material; other authorities claim that **uric acid** is responsible. To both of these theories Poynton advances the objection that the proof that these acids are in excess in the blood-tissues or the sweat-secretion of rheumatic fever is insufficient, and we are not certain that the typical lesions may be produced by either or both of these factors. It is true, beyond question, however, that Richardson, in 1853, and other observers after him, obtained the clinical picture of rheumatism by the injection of a 10% solution of lactic acid. The clinical picture of rheumatism favors greatly the infectious theory. This is well borne out by the pathology of the disease and the researches which tend to prove its epidemiology. While there are certain features of resemblance between **malaria** and **rheumatic fever**, the local inflammations of the joints and viscera of rheumatism are unlike malaria and the blood examinations are totally dissimilar. The other important views on the nature of the infection are respectively: (1) that there is no specific microorganism, but the disease is a form of septicemia which owes its origin to staphylococcal or streptococcal infection; (2) that the infection is necessarily symbiotic; (3) that the microorganism is a specific bacillus; (4) that the microorganism is a specific diplococcus. The first two of these views have hosts of supporters and in our present state of bacteriological knowledge the question remains an open one. The symbiotic nature of the infection has been advanced because cocci have been so frequently found in rheumatic lesions which are not specific. A specific anaerobic bacillus has been isolated by **Alchalmé** and others. A **diplococcus** has also been isolated by several observers, including the author in association with **Paine**. They have isolated these from the blood, urine and tonsils in patients ill of **rheumatic fever** and in the postmortem lesions of the condition. By a series of carefully conducted experiments they have been able to produce by intravenous inoculation into rabbits, polyarthritis, valvulitis, pericarditis, chorea and nodules. They have been found in these lesions in rabbits, and in both rabbits and man circulate in the blood during an attack of pericarditis. The authors report of the great difficulty of recognition of the organisms, apart from their small size and the question of technic; it is on account of the fact that the disease is rarely fatal early and the organisms are rapidly destroyed in these lesions. Poynton suggests a possible explanation of the rheumatic recurrences by the persistence of a single coccal form which survives after the disappearance of the diplococcus. [T.L.C.]

3.—In a considerable number of cases of **rheumatic fever** the poison enters the system through the tonsils, the inflammation of which may be the earliest indication of the systemic infection. The second is that certain inflammations of the tonsil occur with greater frequency in patients with an arthritic diathesis. There are two varieties of rheumatic sore throat—faucial erythema and tonsillitis proper. Faucial erythema is more common in adults; rheumatic tonsillitis in children, in whom it usually assumes the follicular type. Quinsy being more common in older subjects. Faucial erythema is an initial manifestation of acute rheumatism. Tonsillitis may be the actual primary lesion. We know that endocarditis has followed a nonscarlatinal tonsillitis unaccompanied by joint pains. In other cases the tonsillitis has immediately preceded an attack of arthritis or of chorea. Tonsillitis may also occur during as well as at the beginning of a prolonged rheumatic attack. We can prove no causative relation between peritonsillar abscess and rheumatism. It has been stated that one-third of all cases of pharyngitis and tonsillitis are due to the rheumatic taint, but the author

thinks this percentage too high and believes that many are secondary to purulent affections of the nose, or catarrhal conditions of the stomach. The theory that amygdalitis is chiefly predisposed to by the rheumatic diathesis is not without its opponents. Especially is it pointed out that recurring angina is rare in those or an acute attack of rheumatism—that later in life the tonsils become less and less subject to inflammation, while the tendency to rheumatic conditions gradually increases. The salicylates are not specific against tonsillitis. The author concludes: 1. That 30 to 80% of cases of acute rheumatism are preceded by an angina. 2. That both conditions have many etiologic points in common—season of the year, cold, wet, fatigue, depression, vitiated air, etc. 3. The connection of **angina** and **rheumatism**, though undoubted in a number of cases, is not yet clearly established. 4. The tonsils may be the points of entry of the rheumatic virus, and this even although the naked-eye appearance of the throat gives no indication of its being affected. 5. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). 6. Peritonsillar inflammation does not appear to be arrested by the antirheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the other hand, are considerably benefited by such treatment. 7. The question requires further research in two directions: One in differentiating the various forms of angina and determining the one which is associated with rheumatism; the other to discover the true nature of rheumatism itself. Thomson points out the frequent inflammatory conditions of the naso- and oropharynx in their association with rheumatism and the condition of **granular pharyngitis** with arthritism. Operations on the nose have been followed by angina; and this in turn by an attack of rheumatism. In many cases, also, there may occur an acute inflammation in the cricoarytenoid joint. This may be mistaken for paralysis of the recurrent laryngeal nerve, but may be differentiated by the following signs: (1) Dysphagia; (2) painful cough; (3) occasional tumefaction over the arytenoid; (4) sharp pain on pressure along the posterior border of the thyroid cartilage; (5) the healthy arytenoid is not tilted forward into the affected one, and the healthy cord does not during adduction pass across the median line toward the other side. In addition, this affection of the cricoarytenoid joint is usually associated with (a) the existence or preexistence of an acute pharyngeal catarrh; (b) laryngeal hyperemia; (c) a more or less pronounced feverish condition; and (d) extralaryngeal manifestations of arthritism. [T.L.C.]

4.—Gibson considers the **method of production** and the nature of the **cardiac lesions** of rheumatism. Endocarditis of the aortic cusps must have been due to the poisons circulating in the blood flowing over the surface of the cusps. For while the pericardium is a highly vascular membrane, for the myocardium, which is almost like a sponge, in the endocardium, however, the valves differ in respect of their vascularity. While the great venous valves of the heart are freely supplied with bloodvessels, the cusps guarding the arterial orifices are destitute of them, unless some previous lesion has led to their formation. There is no doubt that the cells of the serous membranes of the heart are endowed with a phagocytic power and while exercising their protective power these endothelial cells may suffer and **endo- or peri-carditis** be developed. The classic experiments of wounding the valves with a sterilized instrument and no endocarditis resulting, and of introducing pyogenic organisms by way of the bloodstream, and the consequent development of **endocarditis** are mentioned. The terminations of acute pericarditis may be perfect resolution, but "milk spots" (the maculae tendinae) are frequently left. These are due to a thickening upon the epicardium. Adhesions between the two layers also occur frequently. The first morbid appearance in the development of acute endocardial lesions is the invasion of the endothelial layers by the bacteria (owing probably to the phagocytic activity of the endothelial cells). Retrogressive changes in these cells lead to the deposit, on the affected surface, of fibrin, corpuscles, and platelets. In this way the early phases of the vegetations are brought about. Then follows a gradual fibrous change, which may at length show fatty or calcareous degeneration. In **acute myocarditis** we have a variable picture, but, in general, the tissues are thickened, softened, and deeply tinted. Microscopically, the

fibers are swollen, the transverse striation almost entirely obliterated, and the interstitial tissue contains leukocytes, hemocytes, and proliferating cells. Later, the fibers are granular, and the interstitial substances show much cellular invasion, or, on the other hand, reveal newly-formed fibrous elements. As to treatment of rheumatic fever, with a view to obviate implication of the heart, absolute rest is essential in the horizontal position. The diet must be abundantly fluid, to bathe the tissues thoroughly. Milk is the best food, but, as time goes on, soups, farinaceous foods, and the lighter forms of meats may be added judiciously. As to drugs, the salicyl compounds seem to lessen the likelihood of cardiac involvement, but they must be begun early, and taken in large doses, and for a long period. When the general symptoms have entirely disappeared, **iodid of sodium** is most satisfactory. It is to be taken in 10- or 15-grain doses 3 times a day, and kept up for several weeks. He advises that digitalis or strophanthus be administered during the attack to maintain the heart's activity, and that an occasional mercurial purge is of advantage. It is difficult to explain the favorable action of **counterirritation** in this condition, but it is an excellent adjuvant to the other treatment, notably, in cases of mitral rather than aortic valvular infection (due, probably, to the fact that the aortic cusps are without bloodvessels). The author recommends, with Caton, small fly-blisters over the precordia every night, or every other night. [T.L.C.]

5.—In childhood the articular phenomena of rheumatism are of secondary importance. There are cases in which the child has never had a pain in his joints, and yet may present a severe type of endocarditis, and of which cases the rheumatic nature is confirmed by the presence of nodules. It is well-known that joint symptoms in a child are so slight at times that parents are apt to dismiss the complaints with the comforting assurance that they are "**only growing pains.**" It would be fallacious to attempt to determine the number of cases of rheumatism in childhood were these estimated by the joint affections alone. Heart affections may apparently occur alone as the earliest symptom. We must not neglect the undoubted relation between **chorea** and **rheumatism**. Our statistics err in frequently classing as **chorea** only those cases in which there is an association with rheumatism. This author has found that 55.7% of cases which come under treatment for chorea showed positive evidence of rheumatism. These cases, commonly regarded as chorea only, have probably accounted in part for the statement that rheumatism is a disease of adolescents and adults rather than of children. Rheumatism, from a study of the hospital cases made by the author, is a common disease in the later period of childhood, rare in early childhood, and almost unknown in infancy. The slight articular pain frequently complained of by children often will reveal a real affection of the joint. It is important to remember that the hip-joint is frequently affected, and in such a monarticular case the mistaken diagnosis of beginning tuberculous disease might well be made. Pain from the hip, as is often emphasized, may be referred to the knee. In childhood, dilation as well as irregularity and rapidity of the heart may occur without endocardial symptoms. Wasting is also common in this affection in childhood. **Nodules** are much more common in rheumatism in childhood than in adults. The author found them present in 27.5%. There is a close association between these **nodules** and **endocarditis**. There is one result of rheumatism in adults which is almost unknown in childhood, and that is the **cerebral rheumatism** or **rheumatic hyperpyrexia**. Pain in the stomach, pain in the side, usually the lower portion of one axilla, and headache are common symptoms. The nervous child is par excellence the rheumatic child. Such children are apt to be excessively emotional, or, on the other hand, very timid and shy, even to the point of appearing morbid. The author suggests that red hair is often associated, both in children and adults, with the rheumatic tendency. Somnambulism and talking in the sleep, and habit spasms are also evident in rheumatic children. The author points out lastly the importance of paying heed to the trivial symptoms, recognizing, for instance, the serious nature of "growing pains." By this means alone will early recognition of rheumatic disease be possible and many cardiac cases prevented altogether, or at least have their dread course greatly modified. [T.L.C.]

6.—Maclagen introduced the **salicyl compounds** in the treatment of rheumatism in 1874, and this was followed later by the employment in Germany of salicylic acid. These drugs rapidly relieve the pain and reduce the temperature if administered in sufficient quantity. With regard to the action of the salicylates it has been urged that: (1) They act as antiseptics, and destroy the specific organism; (2) that they exert an antitoxic action, and (3) that they act as nerve sedatives. It appears probable that they must exert a depressant action upon the heart before they can be introduced in sufficient quantities to saturate the blood up to the necessary point. With regard to the second view they may destroy or neutralize the offending toxin. It is true that they are powerful hepatic stimulants, and that they also possess the power of combining with fatty acids, the seat of whose manufacture is to a great extent in the liver. It may be that one of the toxins of rheumatic fever is a fatty acid which is seized upon and removed by the salicylate. A decided advantage possessed by the salicylates is that they produce sweating. In treating a case of rheumatic fever, the patient should wear a woolen night gown and sleep between blankets. The room should be well ventilated. Absolute and prolonged rest is essential, especially with the view of preventing cardiac complications. The diet should be fluid, largely milk, and plenty of water should be taken. As to drugs, 20 grains of soda salicylate and 30 grains of an alkaline carbonate should be given every 2 hours until the pain is relieved and the patient is fully under the influence of the drug, when it should be given every 4 hours until the temperature has fallen to normal. Afterwards, 15 grains of the salicylate and 20 grains of the alkaline carbonate are given every 4 hours until all the joint symptoms have disappeared; then 3 times a day until a fortnight has elapsed from the complete disappearance of the joint symptoms. The natural salt rather than the artificially prepared soda salicylate is recommended. By a free movement of the bowels at the outset by a saline or mercurial, the effects of salicism are largely prevented. Salicin, recommended as being less of a cardiac depressant, is sometimes useful instead of the salicylate. The painful joints may be blistered, or be wrapped in a salicylate of methyl preparation, and the air excluded. It is important to keep up the treatment long enough. Many so-called relapses are really recrudescences of a disease not yet terminated. For endo- and pericardial affections, local blisters are recommended, and stimulants when indicated. Hyperpyrexia is best treated by cold baths. The author recommends the water should be at 65° F., and ice added as the temperature of the water rises, when the patient is submerged. Occasional courses of the salicylates are useful in patients having slight recurrences. A largely vegetarian diet is recommended, and careful personal and general hygiene. [T.L.C.]

Münchener medicinische Wochenschrift.

October 2, 1900. [47. Jahrg., No. 40.]

1. The Condition of the Stomach in Chlorosis. OTTO ROSTOSKI.
2. Purpura Hemorrhagica. NEHRKORN.
3. A Causeless (?) Case of Hysterical Fever. E. WORMSER.
4. The Treatment of Spina Bifida. C. HINNEMANN.
5. Operative Treatment for Habitual Shoulder-Joint Luxation. JOSEPH MÜLLER.
6. The Influence of Petroleum upon the Bacillus of Diphtheria. J. PAPASOTIRIN.
7. The Present Standpoint of the Therapy of Chronic Suppuration of the Middle Ear, and the Formation of Cholesteatoma. ERNST LEUTERT.
8. The Duration of Yeast Formation in Sugar-containing Urine. THEODOR LOHNSTEIN.

1.—Meinert and others maintain that **gastroptosis** is one of the characteristic features of **chlorosis**, but in 50 cases examined by Rostoski gastroptosis was present in only 26%. The influence of the early use of the **corset** was distinctly demonstrable in a large proportion of the cases suffering from gastroptosis; indeed, all of them had begun to wear corsets before the fourteenth or fifteenth year. It is also pointed out that the distention of the stomach with gas is not entirely reliable as a method of determining the posi-

tion and size of that organ, as the intestinal coils, especially the transverse colon, may when distended simulate the stomach. This is particularly the case when the abdominal walls are tense; in relaxed abdominal walls the outline of the stomach is more or less clearly visible. [D.R.]

2.—A case of **purpura hemorrhagica** in a man of 26 years, coming on without any ascertainable cause. There were hemorrhages into the skin and from the mucous membranes, and at autopsy extensive ecchymoses were found in the internal organs. In addition there were endocarditis of the mitral and aortic valves, and an abnormally small aorta. Bacteriologic examination of the blood during life yielded *Staphylococcus aureus*. [D.R.]

4.—Hennemann reports a case of cured **spina bifida**. The deformity was represented by a tumor, situated on the sacrum, small at birth but rapidly increasing in size afterwards. The growth was treated by injecting under absolute aseptic technic a small quantity of Lugol's solution, after the contents of the sac had been withdrawn by aspiration. Eight days later the tumor had reappeared to such an extent that aspiration withdrew 350 ccm. of cerebrospinal fluid, tinged yellow by iodine. A second injection of the iodine solution was carried out, and the third was also required. Eight days after the third injection the tumor was about the size of a pear, and the child rapidly regained its normal functions. [G.B.W.]

5.—Müller reports a case of **habitual luxation of the shoulder joint**, occurring in a patient, 28 years of age. The shoulder was easily dislocated on the slightest provocation, but only with difficulty replaced. The operation was undertaken at the urgent request of the patient. After the joint had been freely opened in front and from the axilla, no tear of the capsule could be found or any effusion into the joint, and other anomalous conditions of the bony parts were also absent. The capsule, however, was found markedly dilated, so that the head of the humerus was easily displaced. The capsule was shortened by excising a portion some 4 cm. long and 1½ cm. in breadth and suturing the severed edges together. Five months later the patient had perfect use of his arm and had no return of his former trouble. [G.B.W.]

6.—Coal-oil has long been a home remedy for **diphtheria**, and has also been employed by the profession, particularly in America. Papasotirin has studied its influence upon the **diphtheria bacillus** in cultures, and finds that it has **no inhibitory action** whatever. [D.R.]

8.—Lohnstein contends against Meyer that the **fermentation test** for sugar is complete in from 8 to 12 hours at room temperature, Meyer having maintained that from 24 to 48 hours were necessary. [D.R.]

October 9, 1900. [47. Jahrg., No. 41.]

1. Idiopathic Enlargement of the Heart and Its Relation to Military Service. v. ZIEMSEN.
2. Report of Xerosis Bacillus in Spreading Phlegmon, Secondary to Wound Infection and Otitis Interna. WARNECKE.
3. Abscess Following Pneumonia with the Diplococcus of Pneumonia in Pure Culture. ROGET.
4. A Case of Acute Formalin-Poisoning. J. KLÜBER.
5. A Causeless (?) Case of Hysterical Fever. E. WORMSER.
6. The Present Standpoint of the Therapy of Chronic Suppuration of the Middle Ear and the Formation of Cholesteatoma. ERNST LEUTERT.

1.—An interesting discussion of **idiopathic enlargement of the heart and its relation to service in the army**. The causes usually assigned for acute cardiac dilation are overexertion and the abuse of alcohol. The author does not believe that alcohol plays the role imputed to it. More important than either of the causes given are disturbances of respiration, which are brought about by the highly improper uniform worn by soldiers (tight collars and close-fitting coats), and the carrying of heavy accoutrements, etc. To these are added in time of war insufficient food, psychic influences, and nervous shocks. In some soldiers there is also congenital weakness of the heart-muscle. The most frequent causes of cardiac weakness in time of peace are acute **infectious diseases**, particularly influenza and articular rheumatism. All the causes bringing about dilation have in common one factor: they produce an increase in arterial pressure. [D.R.]

2.—Warnecke found the **xerosis bacillus**, in a case of spreading phlegmon, a sequence of chronic **otitis media**, and cholesteatoma; in a case of subacute, middle-ear disease; and in a case of **leptomeningitis**, secondary to ear disease. The bacillus was not found in the meningeal pus, but in the internal ear and in the facial canal. The organism was not pathogenic for animals. [D.R.]

3.—A **metapneumonic abscess** in the anterior abdominal wall, due to Fränkel's diplococcus. [D.R.]

4.—The patient, a man of 47 years, had taken a large quantity of apenta, with which **formalin** had in some way been mixed. The symptoms consisted of coma, lasting for several hours; anuria, persisting for 19 hours; redness of the conjunctiva and pharynx; and the presence of formic acid in the urine. The test for formalin in the urine consists in the development of a black color when the urine is heated with ammoniacal solution of silver nitrate. [D.R.]

5.—An instance of **hysterical fever**, with a review of the literature on the subject. [D.R.]

6.—Leutert, however, takes exception to Koerner's statement, and says that though everyone acknowledges the existence of the two forms of cholesteatoma, the true cholesteatoma is exceedingly rare, so much so that it is scarcely to be taken into our consideration as a factor of clinical importance. As regards the diagnosis of the presence of a cholesteatoma, this is not of vital importance, as the treatment in cases where there is suppuration of the **middle ear** is the same whether cholesteatoma is present or not. It is important, however, to locate the seat of disease, and this can be done with practical exactness by knowing the position of the perforation in the tympanic membrane. As to the treatment of these cases: In some of the middle-ear suppurations little can be done towards curing the condition, just as in cases of ozena of the nose. Other cases dependent on the presence of adenoids in the vault of the pharynx will not give way to treatment until the adenoids are removed. The chief indication is to remove the pus from the tympanum and surrounding cavities. This is done best by wiping away the discharge with a cotton applicator, or, better still, by blowing air through the eustachian catheter, or even syringing with a normal salt-solution through the catheter. Drainage through the external canal with strips of gauze has little to recommend it. Also the use of powder blown in through the canal is of little avail, except where the drum is almost entirely destroyed. When the perforation of the **drum membrane** is found situated in its upper part, indicating caries of the incus, operation, consisting of the removal of the two external ossicles, should be done. When there is indication of disease of the attic and of the ossicles, the removal of the latter furnishes the best means of draining the upper part of the tympanic cavity. Perforation in the posterior part of Shrapnell's membrane, running to the bony border, indicates disease of the antrum, and in these cases operation is always necessary. Stacke's operation generally affords the best results. [G.B.W.]

October 16, 1900. [47. Jahrg., No. 42.]

1. Cystitis Typhosa. CURSCHMANN.
2. A Contribution to the Knowledge of Lithopedons. KROEMER.
3. Disinfection with Smouldering Blocks of Carbolformal. DIEUDONNE.
4. The Frequency and Significance of Crystals in the Feces. SCHILLING.
5. The Cure of Hematuria, Due to Hemophilia by Gelatin. HAHN.
6. A Contribution to the Technic of Amputation Through the Leg. MENDEL.
7. The Earliest Stages of Idiopathic Cardiac Hypertrophy, and the Significance of Dilation as a Result of Weakness of the Cardiac Muscles, in Considering Availability for Military Service. WOLFFHÜGEL.

3.—Dieudonné has performed a series of experiments with the carbofomal smouldering blocks; these are really small rectangular blocks containing about 50 gm. of solid paraformaldehyd. When lighted, care should be taken that they do not burn with a flame, but simply glow slowly, so that the formaldehyd is liberated in the form of gas. It is exceedingly important in this method, that all the exposed surfaces should be thoroughly moistened with water.

To accomplish this, his method is to heat some stones red hot, and then pour boiling water over them; when steam is very rapidly produced. In the experiments the gas was allowed to act for about 7 hours, and it was found that a proportion of 6 blocks for each cubic meter of space in the room sufficed to kill all forms of bacteria, even the spores of anthrax. Smaller quantities, however, were inadequate. The method is particularly advantageous in the country, where elaborate apparatus for testing infection is not obtainable. [J.S.]

4.—Schilling has studied the **crystalline forms** that are found in the feces. The commonest are oxalates and carbonates of lime, and particularly the triple phosphates. The oxalates and the carbonates are found in the edible fungi. The triple phosphates occur in especially large numbers after indulgence in beef, pork, or game. They are present in stools with acid, as well as in those with alkaline reaction. The author mentions a number of other forms of diet giving rise to crystals, and describes certain chemical reactions by which their nature can be recognized. He admits that they are of little value in diagnosis. [J.S.]

5.—Hahn reports a case of **hematuria** due to hemophilia, in which, after other methods had failed to stop the hemorrhage, the patient was given large quantities of gelatin with his food. The result was excellent. He recommends the method on account of its simplicity and effectiveness. [J.S.]

7.—Wolffhügel concludes his paper upon the **idiopathic forms of cardiac hypertrophy**, and the significance of the forms of muscular weakness producing dilation, in deciding the question of military serviceableness. He believes that particularly among recruits there is a tendency to endeavor to perform their duties after symptoms of cardiac exhaustion are well pronounced. In other callings this is less likely to be the case, because a feeling of shame in admitting exhaustion is not so likely to be present. Moreover, the equipment of soldiers is so arranged that it diminishes the vital capacity of the lungs, and contributes in this way to the development of dyspnea. He calls attention to the distinction that should be made between mitral insufficiency which has a regulatory function, and that which is due to functional incapacity of the valves. In the latter, there is always dilation of the auricle, whereas in the former this does not occur. The regulatory form may be regarded as the resource possessed by the heart for escaping the results of pressure in the aorta, that cannot be overcome by the muscles of the left ventricle. Considerable valuable information is obtained by examination of the pulsation of the heart with the fluoroscope. He reports a very interesting case in which a man who had formerly been a locksmith, and had previously performed his military duties in an acceptable manner, after running a distance of about two miles and a half, suddenly fell dead. At the autopsy the right ventricle was enormously dilated, and there was also fatty degeneration in the heart wall. This patient had been in the habit of consuming large quantities of beer, but Wolffhügel believes that this was of less importance than the severe physical exertion to which he had been subjected for a long time. [J.S.]

Wiener klinische Wochenschrift.

October 4, 1900. [13. Jahrg., No. 40.]

1. Eulogy upon the late Professor Eduard Albert, with a Detailed list of all his Works Published. ADOLF LORENZ.
2. The Movements Seen in the Mouth and Throat, in Aortic Insufficiency. HERMANN SCHLESINGER.
3. The Treatment of Phthisis with Intravenous Injections of Hetol by Landerer's Method. ANTON KROKIEWICZ

2.—A **pulsation** has been noted in **aortic insufficiency** upon the mucous membrane of the mouth and pharynx, an inward movement, following the beat of the carotid, most marked in the tonsils and in the walls of the pharynx. Or a rhythmic swelling is seen passing in a wave over the softer parts, the tongue growing palpably thicker in systole, and decreasing during diastole, showing a difference of 1 to 1½ mm. When this phenomenon is well marked throughout the buccal mucous membrane, the cavity of the mouth grows periodically narrower. This pulsation in the tongue was noticed in 10 out of 40 cases. The tonsils, the palatine

arch, and uvula came next in frequency. The uniform narrowing of mouth and pharynx occurred 4 times in 40 cases. Once the right side of the uvula showed the pulsation, while the left side remained perfectly still. While not always seen, it is a **sign of great clinical interest**, and should always be sought. [M.O.]

3.—Krokiewicz treated 43 cases of phthisis with **injection of hetol**, increasing 0.0005 g. at each injection, repeated at intervals of 2 to 4 days, up to 0.005 g. In 25 cases this was the only treatment, the 18 others had subcutaneous injections of arsenious acid also. Recovery resulted in 1 case, 5 cases improved with the arsenic added, and 5 without, in all, **25% improved**. After a full review of the reports hitherto published, and a detailed list of his cases, he concludes that hetol injections are of use only in the very beginning of phthisis; that they cause a general leukocytosis, followed by local reaction and a tendency to heal, finally, and that they are not a specific against phthisis. [M.O.]

October 11, 1900. [13. Jahrg., No. 41.]

1. A Study of Trachoma. C. ZIEM.
2. The Normal Great-toe Reflex in Children. FRITZ PASSINI.
3. Formaldehyde Disinfection. BASIL KLUCZENKO.

1.—Will be abstracted in the next number.

2.—Passini confirms Babinski's observations that extension of the great toe follows tickling the sole of the foot in a patient with an organic lesion of the pyramidal tracts, while flexion occurs in normal individuals (**Babinski's reflex**). This extension is marked during the last day of tubercular meningitis, flexion generally occurring before that time. Extension occurs in very young children normally; only during the last three months of the first year does flexion appear. Well-developed infants may show it earlier, while backward children may give extension even after the first year. [M.O.]

3.—A 40% watery solution of formalin is the best for disinfection purposes. This is burned (the formaldehyde rising with the steam) for 7 hours, in a room, all the openings into which have been well closed. The articles to be disinfected therein should be spread out, so that the gas comes in contact with them. Before opening the room, **ammonia** should be introduced (a 25% watery solution being heated outside the door, the gas entering through the keyhole) which **unites with the formaldehyde gas, forming Hexamethylenetetramin**. An hour later, the windows should be opened wide, and the drops of steam which had condensed about the room carefully dried. No odor of the formaldehyde remains. [M.O.]

October 18, 1900. [13. Jahrg., No. 42.]

1. The Cortical Visual Centers. ST. BERNHEIMER.
2. A Peculiar Condition of Cyst Formation in the Central Nervous System, Postmortem. FRITZ HARTMANN.
3. A Study of Trachoma. C. ZIEM.

1.—After a complete review of the experiments done, and the conclusions reached by other investigators, Bernheimer describes his experiments upon the brains of embryos, infants, and children. His results confirm von Monakow's hypothesis, that there is no macula lutea center either in the anterior or the posterior part of the fovea calcarina. After detailed discussion of the views of the others, he concludes that light impulses will reach the cortex, perhaps somewhat weakened, even though the usual conducting fibers between the corpus geniculatum and the cortex are wholly or partially destroyed by disease, as the neighboring visual fibers, from their close contact in the internal capsule, can assume the function of the disabled bundles. Therefore, as long as any undiseased visual fibers exist, it is as hard to imagine the total abolition of the macula function as the existence of a circumscribed macula nucleus in the cortex. [M.O.]

2.—The patient, a major, aged 68, had a sudden attack of **unconsciousness**, followed by **aphasia**, **ptosis**, **right facial paralysis**, and drowsiness. Death occurred on the eighth day, total paraplegia having come on gradually. The autopsy revealed small cysts, containing gas in great quantities, and very sclerotic bloodvessels throughout the entire central nervous system. Small bacilli were found in the

bloodvessels of the brain and about the cysts. There were no signs of inflammatory or degenerative changes about the cysts. Hartmann believes that the bacilli entered through the circulation during life, but multiplied after death, and that the cysts were caused by the gas generated postmortem by the bacteria. The literature upon the subject is reviewed. [M.O.]

3.—Besides the theory of contagion from contact with gonorrheal patients, from towels, etc., generally accepted in our crowded communities as the cause of **trachoma**, Ziem gives the etiology of the disease in countries where it is epidemic or endemic (Hungary, Egypt, Syria, etc.). He divides the causes into (a) excessive heat and glare; (b) fine powder and dust; and (c) miasmatic material from swamps, moors, etc., which acts directly upon the conjunctiva or upon the mucous membrane of the nose; or, entering the alimentary tract, reaches the circulation, and finally becomes localized in the eye. In explanation of each, he gives long and interesting detailed, historical, and geographical facts, backed with references and statistics. Then he suggests numerous sanitary and hygienic measures tending to lessen the occurrence of this condition. [M.O.]

October 25, 1900. [13. Jahrg., No. 43.]

1. The Study of Hereditary Syphilis in the Second Generation. EDMOND FOURNIER.
2. The Occurrence of Acute Nephritis in Secondary Syphilis. (Nephritis Syphilitica Praecox). ABRAHAM STEPLER.
3. Echinococcus of the Kidney. LUDWIG STEIN.

1.—Fournier has collected the histories of the children born of the wedding of hereditary syphilites. Out of 45 such marriages, **abortion** occurred 43 times in 145 pregnancies, 39 infants were either still-born or died soon after birth, a total of 82 dead children (56%). Only 63 of these children lived, and they all showed some hereditary syphilitic stigmata. In 19 families, both grandparents were syphilitic, and one of the parents had hereditary syphilis. The histories of the 45 families are given. [M.O.]

2.—Stepler reports a case of **acute nephritis** occurring in a farmer, 20 years of age, 6 weeks after a chancre. In the urine were blood-corpuscles, casts, and 12% albumin. No other cause for the nephritis could be found, and mercurial inunctions, with potassium iodid internally, cured him in 7 weeks, by which time albumin and casts had disappeared. An extensive review of the literature of the subject follows, with a description of the cases of Dieulafoy and Etienne. [M.O.]

3.—Stein reports a case of **echinococcus cyst of the right kidney**, in which the surgeon removed the cyst, leaving drainage through the abdominal wound. The patient recovered in 24 days. After discussing the advisability of performing nephrectomy, in place of removing the tumor with subsequent drainage, he concludes that the decision must rest with the surgeon during operation, after he sees the exact condition present. [M.O.]

November 1, 1900. [13. Jahrg., No. 44.]

1. The Diagnosis of Latent Carcinoma of the Esophagus. C. HÖDLMOSE.
2. A Case of Posthemiplegic Intention Tremor. M. INFELD.
3. The Treatment of Epilepsy with Bromipin. WILHELM LORENZ.

1.—Hödlmoser reports two cases of **cancer of the esophagus**, in both of which the cardinal symptom, **dysphagia**, was absent. Unilateral recurrent paralysis was the one marked diagnostic symptom. The first case died with signs of a malignant neoplasm, localized within the gastrointestinal tract by epigastric pain, vomiting, and flatulence. There was great pain over the liver, which was hypertrophied and nodular; besides, a diffuse peritonitis. Chemical examination showed the absence of hydrochloric acid and lactic acid. The stomach was somewhat dilated. There were no esophageal symptoms; only the recurrent paralysis and some enlarged subclavicular lymph-glands. The second case, a woman who emaciated rapidly, complained of trouble in moving her tongue, with some pain in the neck. Her liver was hypertrophied, and both recurrent and hypoglossal nerves on the right side were paralyzed. The tumor was attached to a tubercular bronchial gland. [M.O.]

2.—Infeld describes in full a case of intention tremor in a man of 40, alcoholic, with a criminal history. When about 30 years old, signs of severe cranial disease appeared, unilateral headache, starting at a spot on the left side of the vertex, where he had been stabbed, and cerebral vomiting, followed suddenly by right-sided hemiplegia, with right-sided disturbances of vision and epileptic attacks (with biting of the tongue and involuntary micturition). These symptoms gradually grew better, leaving only paralysis of the right side. Two years later, the **intention tremor** appeared, at first in both right arm and leg, permanent, however, only in the hand. Right-sided ataxia also existed. The cause naturally seems to be some change in the brain, due to the injury, the alcohol, or both. The entire literature of the subject is given, with the quotation of many opinions, making a very interesting article. [M.O.]

3.—Lorenz used **bromipin** in 34 epileptic cases. In 11 patients the attack grew worse; in the rest they remained about the same. In 13 cases the number of attacks were less; in 3, the attacks were temporarily less frequent; the rest remained unchanged. The majority of the patients gained in weight, and seemed in better general condition. These results are far superior to those given by the opium-bromid treatment. [M.O.]

Berliner klinische Wochenschrift.

October 15, 1900. [37. Jahrg., No. 42.]

1. Hydrophobia up to the End of the Nineteenth Century. V. BABES.
2. Contributions Concerning the Action of Johimbine. A. LOEWY.
3. Downe's Urine Segregator. A. FREUDENBERG.
4. Several Cell Problems and Their Significance for the Scientific Establishment of Organotherapy. D. HANSE-MANN.
5. Methods for Preserving Anatomic Preparations True to Nature. L. PICK.

1.—Babes has concluded from a series of experiments that the changes in the **medulla oblongata** and **spinal cord** caused by hydrophobia are extensively diffused, in contradistinction to Schaffer, who believes that the changes are localized in those areas of the spinal cord into which those nerves enter that come from the wound. He states that it was not a sense of scientific investigation, but a pity for human suffering, which incited Pasteur's discovery. The results obtained in combating hydrophobia during the nineteenth century are from a practical point of view to be attributed to the preventative measures adopted by police departments and the enforcement of laws on sanitation. [M.R.D.]

4.—The author concludes his article by discussing the **biologic foundation** upon which organotherapy is based. There exists, according to the author's views, an altruistic relation between different varieties of cells and a **mutual sympathy** between a certain form of cell and the remaining variety. Changes in one form of cell are followed by changes in other varieties and in such a manner that a progressive metamorphosis leads to an altruistic **hypertrophy** while a regressive change leads to an altruistic **atrophy**. [M.R.D.]

October 22, 1900. [37. Jahrg., No. 43.]

1. From the Surgical Clinic in Greifswald: Trigger-Finger. TILMANN.
2. From the Second Obstetric and Gynecologic Clinic at Budapest (Prof. W. W. Tauffer), Molecular Concentration of the Blood in Puerperal Eclampsia. A. S. ZILI.
3. Fracture of the Greater Tuberosity of the Humerus. H. WOHLGEMUTH.
4. Hemorrhagic Erosions of the Gastric Mucous Membrane. C. PARISER.
5. Hydrophobia up to the End of the Nineteenth Century. V. BABES.

1.—Tilmann, after reviewing the literature on the subject, reports 5 cases of his own. A thickening of some portions of the flexor tendons was found by him in each one of the

cases; the thickening was always found on those fingers which were employed in the performance of unusual manual labor, and which, according to the author, is the cause of the affection. The author's experiments upon the cadaver have shown that the localized thickening is due to the **bruising of the tendons** between the hard substance that is handled and the transverse ridges on the palmar aspect of the metacarpal bones. The treatment consists of immobilization of the finger by means of a splint, applications of tincture of iodine, and, later on, massage. In obstinate cases surgical intervention is the only means for procuring permanent relief. The author splits the tendon, removes the cicatricial nodule; this is generally followed by good results. [M.R.D.]

2.—Zili states that of the various theories advanced regarding the origin of eclampsia in pregnancy the one of Bouchard stands preeminently in the foreground. This author's explanation is that in eclampsia of the pregnant woman large quantities of **toxic materials accumulate in the organism** and cause the convulsions; the increased amount of metabolism caused by the fetus causes poisonous products to be thrown into the circulation. The liver is prevented from exerting antitoxic influence and the kidney is hindered in its process of elimination. These two points are especially emphasized by the French. The author obtains the degree of **molecular concentration** of the blood in eclampsia by comparing its **freezing point** with that of distilled water. He states that if the kidney is not able to eliminate the albuminous products of metabolism held in solution in the blood, the freezing point will be higher. The molecular concentration of normal blood-serum is constantly varying between 0.56–0.58° C. (Korányi, Dreser). It remains for the kidney by its properties of elimination to maintain this equilibrium. As small molecules like salts and the many derivatives of albumen metabolism slightly affect the freezing point, a special apparatus was employed. The blood was obtained partially by cups and partially by venesection, immediately after the convulsions. As Kovac has shown that carbon dioxide raises the freezing point, the blood was subjected to a stream of oxygen. After a series of experiments the following conclusions were deduced: (1) The blood in eclampsia does not show any appreciable variation in its freezing point from that of normal blood; (2) therefore in eclampsia there is no retention of urinary salts or of urea; (3) the normal value of the freezing point of the blood in eclampsia shows that the permeability of the kidneys is not affected in proportion to the most uremic processes; (4) we are therefore led to the assumption that the supposed toxic material responsible for eclampsia is to be found in a greater atom-complex than in a regressive albumen metabolism, probably an intermediate product derived from albumen molecules. [M.R.D.]

3.—Wohlgemuth states that a **fracture of the greater tuberosity of the humerus** occurs extremely rarely as an individual injury; it does occur, however, as an accompanying injury in luxation and fracture of the neck of the humerus. The rarity of the affection can be seen, when Gurlt could only collect 4 cases from literature. The diagnosis, although considerably assisted by the x-rays, can, nevertheless, be made sometimes from the clinical symptoms. These, however, are only characteristic when confined to the greater tuberosity. The symptoms are those which, in rare cases, are due to an extreme exertion of the supraspinatus, infraspinatus, and teres major muscles, like lifting with the outstretched arm, throwing missiles, and cracking a whip. The arm is slack, can only be raised with great pain, and the head of the bone can be plainly felt in the socket. But, at the first glance, the appearance of the shoulder is that of luxation, the deltoid being flattened, the acromion prominent, and the anteroposterior diameter of the shoulder is increased. On the other hand, the supra- and infra-spinatus muscles are not subject to tension, but are flabby, and upon careful palpation a small tumor will be felt next to the head of the bone, somewhat up and posterior; this is the fractured tuberosity, between which and the bone there extends a deep sulcus, in which is situated the tendon of the biceps. If pressure is made upon the tumor in the direction of the head of the humerus, and rotation at the same time performed, crepitus will almost always be felt, excepting in those cases where the tendon of the biceps has been interposed. External rotation of the arm is seriously impeded, because the points of insertion of the muscles have

been removed. If the fracture of the greater tuberosity, as is generally the case, is complicated by a subcoracoid or subglenoid luxation, the diagnosis is more difficult and almost impossible from the clinical manifestation, provided reduction has not yet been accomplished. There is considerable doubt as to whether luxation and fracture of the greater tuberosity occur simultaneously, and, if not, which one of the two affections is the primary one. [M.R.D.]

4.—Pariser gives a resumé of the views on this affection. The **symptoms** are anorexia, a burning pain in the gastric region, profound emaciation, and nausea; vomiting is rare. Unlike a gastric ulcer in which the character of the pain is cramp-like and nagging, in this affection it is of a markedly burning character. Examination of the gastric contents by means of the test-meal reveals little else in most of the cases than subacidity. The cause of the affection is a circulatory disturbance in the mucous membrane, causing acute inflammation and spasm of the muscular fibers. Observers differ as to whether this is a distinct affection *per se* or an indication of chronic gastritis. Treatment consists of gastric lavage with 1:1000 or 1:2000 solution of silver nitrate followed by neutralization with decinormal salt-solution. [M.R.D.]

October 29, 1900. [37. Jahrg., No. 44.]

1. Vesical Calculi. C. POSNER.
2. The Clinical Value of A. Schmidt's Method for Testing the Function of the Intestines. H. PHILIPPSOHN.
3. Rose's Diabetes Milk. SANDMEYER.
4. Four Cases of Disturbance of Equilibrium. RIEKEN.
5. Contribution to the Treatment of Callous, Resilient Strictures. H. LOHNSTEIN.

1.—Posner discusses at length the various theories regarding the etiology of **vesical calculi**. Palpation is of great value in recognizing the affection, especially in children. The addition of sounds, cystoscopy, and the x-ray render the diagnosis absolute. [M.R.D.]

3.—Sandmeyer states that Rose's diabetes milk, is absolutely **free from sugar**, contains but little albumin, considerable fat, and is of a pleasant taste. The author has employed it in about 50 cases of diabetes mellitus with excellent results. Even in very grave cases, he not only succeeded in maintaining the bodily weight, but often even increased it. Elaborate formulae are appended. [M.R.D.]

4.—In discussing this condition, Rieken believes it probable that **gastrointestinal autointoxication** is frequently responsible for this affection. He reports 4 cases which came on suddenly during damp weather, at a time when influenza and rheumatism were prevalent. The symptoms simulated in many respects Menière's symptom-complexes. The absence of deafness places these cases in sharp contradistinction to Menière's disease, and lead us to reflect whether there is not some unrecognized portion of the ear which, in its relation to the economy, may be the seat of these disturbances. [M.R.D.]

5.—Lohnstein has devised an instrument for the treatment of **callous, resilient strictures**. After dilatation and enlargement of the stricture ad maximum, the instrument, whose principle is that of a Bottini electric knife, is employed. The modification of the instrument is such that a urethrotome in a canula is formed. The author reports remarkable success in 17 cases. He considers the instrument as indicated in cases where there are cicatrices in the urethra that have run their full course. [M.R.D.]

November 5, 1900. [37. Jahrg., No. 45.]

1. The Mechanism of Certain Cortical Disturbances of Vision in the Dog. E. HITZIG.
2. Nephrectomy for Pyelonephritis Calculosa. L. THUMIN.
3. Purpura Rheumatica and Angina. A. BRUCK.
4. Vesical Calculi. C. POSNER.
5. The Clinical Value of A. Schmidt's Method for Testing the Function of the Intestines. H. PHILIPPSOHN.

1.—Hitzig investigated the relation of the **reflex closing of the lids** to the visual disturbances produced in dogs by operating on certain areas of the occipital lobe. He found that the disturbance of the optic reflex was entirely independent from the visual disturbances. Injuries to the motor areas of the cortex also, as a rule, disturb the motor func-

tions connected with the act of vision, that is, the optic lid reflex, while in disturbances of the sensory portion of the cortex this may not occur. According to the author, the disturbance of the optic reflex can only be due to a lesion of the **subcortical center**. [M.R.D.]

2.—Thumin reports a case of repeated renal colic, on the right side, in a woman aged 31. Repeated examinations of the ureter by means of a catheter gave negative results. Later on, however, a diagnosis of **purulent pyelitis** of the right kidney was made. In order to test the functional activity of the right kidney, the phloridzin test was employed. The left kidney was found to be secreting normally and the right not, showing a disease of the parenchyma. Complete recovery after nephrectomy, and confirmation of the diagnosis upon examining the pathologic anatomy of the diseased viscus. [M.R.D.]

3.—The author makes a plea not to neglect the tonsils in all cases and varieties of rheumatism. He refers to the extensive literature on the subject concerning the relation between **tonsillitis** and **rheumatism**. He quotes 4 cases occurring in his own practice in which tonsillitis was followed by a typical petechial rash resembling purpura. It is not necessary that the throat symptoms should be of a very severe nature, but that sometimes they may be very mild and yet the constitutional symptoms of rheumatism be quite severe. [M.R.D.]

November 12, 1900. [37. Jahrg., No. 46.]

1. Contribution to the Symptomatology of Facial Paralysis. M. BERNHARDT.
2. Autopsy in a Case of Akromegaly. E. MENDEL.
3. The Treatment of Catarrhal Adhesive Processes in the Middle Ear by Intratubular Pilocarpin Injections. F. FISCHENICH.
4. The Clinical Value of A. Schmidt's Method for Testing the Function of the Intestines. H. PHILIPPSOHN.

1.—Bernhardt has observed in cases of congenital and early acquired facial paralysis that the musculature of the paralyzed side contracted when the facial nerve of the **unaffected** side was subjected to electric stimulation, and that this even occurred when currents were employed which would not even affect the healthy side. He believes this to be due to the **anatomic relations** that exist between the facial musculature of the right and left sides. The fact that in healthy individuals electric irritation of one side will not bring about contractions of the opposite one is not considered to be of value in pathologic conditions. [M.R.D.]

2.—Postmortem examination of a case of **akromegaly** occurring in a woman of 25, that had been under observation for some time, is reported by Mendel. Upon opening the cranium the external surface of the dura was found to be markedly adherent. The inner surface of the dura was smooth, and the sinuses were bloodless. At the base of the brain, near the chiasma, a sarcoma a little larger than a walnut, and composed of large, round cells, was found. The pineal gland was throughout normal. The thyroid gland was considerably enlarged, and extended to the lower border of the manubrium. In the anterior mediastinum there was found a vestige of the thymus gland about 8 cm. in length. The spleen was very soft; the right ovary was the seat of cystic degeneration; the left ovary normal. The breasts were markedly developed. Heart, lungs, liver, and kidneys were normal. The bones of the skeleton, excepting the symmetrical increase in volume, were normal. There were nowhere any osteophytic deposits. [M.R.D.]

3.—Fischenich recommends the employment of a 2% aqueous solution of **pilocarpin muriate** as an injection, for catarrhal adhesive processes in the middle ear. The dose varies from 6 to 16 drops, and is often followed by dizziness, which only lasts for a brief period. The acoustic acuity may even increase after treatment has been stopped. The injections are made with a catheter in the usual manner, and may have to be repeated 30 to 50 times. [M.R.D.]

Deutsche medicinische Wochenschrift.

November 29, 1900. [26. Jahrg., No. 48.]

1. The Treatment of Cardiac Diseases. H. HELLENDALL.
2. The Value of the Serum Reaction for Early Diagnosis of Tuberculosis. S. ARLOING and P. COURMONT.

3. Second Report Concerning Malaria and Mosquitoes on the West Coast of Africa. H. ZIEMANN.

4. The Technic of Röntgen Examination. ALBERS-SCHÖNBERG.

5. The Skiagram of a Metal Spoon in the Esophagus of an Adult Maniac.

1.—Hellendall describes a procedure which is not widely different from that of Abbé [see *Münch. med. Wochenschrift* abstract] excepting that the latter author put a band around the body while he describes an **apparatus** which consists of suspenders thrown over the shoulder to keep the apparatus in the proper vertical position, and a band passing around the body holding a spring and pad, so that the result is much like that of a truss, the pressure being exerted almost exclusively on the pad and there being no compression of the chest in general. The pad is placed below the left breast so as to give support to the heart. He states that the results from the use of this apparatus have seemed to him excellent, and he believes they cannot be explained through suggestion alone. He found that the apparatus was not usually of practical value except in the after-treatment in organic cases, but it was then worn with great satisfaction. In purely functional cases it may be worn with great comfort through the course of the treatment. Unfavorable effects were not observed, and the patients all stated that they felt a general sense of comfort. The palpitation became less, there was less dyspnea, and the patients were all unwilling to stop the use of the apparatus after they had once tried it. [D.L.E.]

2.—The article is a reply to a recent article of Beck and Rabinowitch, abstracted in this journal from the same source. As to the criticisms of the German authors concerning the **bacillus** used by Arloing and Courmont, the latter authors state that it comes from the ordinary **bacillus** of Koch, and always retains the fundamental peculiarity that it produces tubercles, but under different circumstances from the ordinary bacillus. As to the criticism that no such agglutination and clarification of the fluid could be observed as in cholera and typhoid, they state that the phenomenon of agglutination is one that is subject to a certain amount of variation with whatever variety of bacillus it is undertaken, depending upon the energy of the action taking place between the agglutinating and agglutinated substances. They consider that more or less variation in the behavior in tuberculosis as compared with that in typhoid cannot stamp the test at once as valueless. The most stinging part of their communication is their study of the tables presented by Beck and Rabinowitch, and the substance of the final statements of Arloing and Courmont is that a careful observation of the tables reported by the German authors will show that while they state that they compared in 73 cases the reaction to tuberculin with the serum reaction, one can readily see that the tuberculin reaction was either carried out only 11 times, or that it was negative in all but 10 cases. The only conclusion to be reached is that the serum-reaction was really not compared with the tuberculin-reaction, or that the tuberculin-reaction was positive in only 10 of the tuberculous subjects. In the latter case Arloing and Courmont state that they are content to rest upon the testimony offered since it shows that the serum-reaction was positive in a larger number of cases than the tuberculin reaction. They also report their results from the serum-diagnosis of 80 calves and 70 cows, the latter of which were more or less tuberculous. Autopsies were made by public inspectors who knew nothing of the result of serum-diagnosis. The calves were all free from tuberculosis, and none of them gave reaction in a dilution as high as 1:5. With one exception all the tuberculous cattle gave a reaction in a dilution greater than 1:10. They state that they do not consider that the serum reaction can be absolutely depended upon in every case, but it is very easily carried out when the proper cultures are obtained; it does not in any way interfere with the comfort of the patient, and it could be undertaken in every case without objection from the patient. [D.L.E.]

3.—Ziemann continues his article by considering the treatment. **Quinin** is a sovereign remedy. **Phenocoll** and **methylene-blue** he found practically useless. Quinin should be given during the intermission, and not during the fever; 30 grains a day is the largest dose necessary. He

believes that quinin acts directly upon the protoplasm and the parasites, and only secondarily upon the chromatin. If patients are very sensitive to quinin, he considers euechinin very useful. He has found quinin a very valuable prophylactic; the amount, then, given should depend upon the individual and upon the region in which he lives. He believes, however, that it should be given every 4 days, in doses of about 7 grains, on an empty stomach. This will not absolutely secure one from an attack of malaria; but if malaria does occur, it is milder and is much more readily managed by treatment. The proper hygienic conditions of the dwellings, proper clothing and food, are extremely important in prophylaxis. Soldiers sent to the tropics should be at least 25 years old, and should be well-chosen, thoroughly healthy men. Ziemann was able, in Kamerun, Victoria, and also in Togo, to find specimens of the *Anopheles* containing malarial parasites. He considers this testimony that the mosquito is probably very active in these regions in spreading the disease. The methods in attempting to stamp out malaria which he recommends are: To keep well covered at night with mosquito nets; keep rooms well aired and lighted, so that the mosquitos will not collect in them; turn the sea-water into fresh ponds along the coast, where possible; and use petroleum upon the surface of stagnant water, when this can be carried out. The latter procedure, in Ziemann's belief, can very inexpensively and readily be made of a good deal of value in many regions. He insists, also, that the blacks, whose hygiene is never good, should not be allowed to collect in the neighborhood of whites. Quinin prophylaxis, as recommended by Koch, he is inclined to think, is an idle dream, as it can be done only in individuals, and in order to be effectual it should be carried out in every person in the neighborhood who had malaria or who is likely to have a relapse of old malaria. This Ziemann considers impossible, but he does believe that quinin can be made very useful in prophylaxis in a good many individual cases, and particularly among the whites. He is rather inclined to believe that man is the only intermediate host of the malaria parasite. [D.L.E.]

4.—Schönberg does not believe it possible for physicians in private practice to become expert enough in the use of the x-rays to make a careful diagnosis on account of the technical knowledge required. Improvements are constantly being made in the apparatus and a person not familiar with the technic is unable to decide the usefulness. The quality of the ray depends upon the management, and kind of apparatus used, the light should be steady and especially so for the instantaneous work and for this a good current breaker is required. Some of the mechanical breakers, those with a stream of mercury, are very good, and the Wehnelt is a good one also, but it makes too much noise and the fumes of sulfuric acid cause considerable inconvenience. For tissue differentiation a lamp with a good vacuum regulator is needed and for carrying large currents some cooling device is necessary, and it is with these tubes that pictures of sclerosed arteries, thickened joints, etc., can be made as well as examinations of the chest for pathologic processes in the heart and lungs. [W.S.N.]

5.—Stembo found by means of the x-rays a spoon in the esophagus in a man suffering from melancholia, the bowl of the spoon was toward the stomach, the length 20½ cm., width 4.1 cm. It was removed by performing a gastrostomy. [W.S.N.]

December 6, 1900. [26. Jahrg., No. 49.]

1. The Collective Presentation of the Results of the Malaria Expedition. R. KOCH.
2. The Reparation of Lost Tissue. E. ZIEGLER.
3. The Occurrence of Apnea in Diphtheritic Paralysis; Recovery. W. EBSTEIN.
4. Athyrosis in Infancy. QUINCKE.
5. The Multiplicity of Antibodies Occurring in Normal Serum. M. NEISSER.
6. Automatic Heat-regulator for Baths. G. GOTTSSTEIN.
7. Clinical Experiments with Hedonal. S. HEICHELHEIM.
8. The Proof of Typhus Bacilli in the Blood of Typhus Patients. M. AUERBACH and E. UNGER.

1.—Koch's article is a general review of the observations made in his foreign expedition. In German East Africa he found beside the ordinary tertian and quartan parasites only

one parasite which is of ring form or half-moon shape, and produces fever attacks of a distinctly tertian type, the type becoming irregular if quinin has been used. This type of fever he prefers to call tropical fever, and the parasite the tropical parasite. He found that an enormous percentage of the children in various regions showed evidences of malaria, while as age advanced the percentage of those affected decreased very decidedly. He considers from this that there is evidence of the existence of an acquired immunity in a very large percentage of the natives. He believes that this immunity is further shown by the fact that many of the adults, if they go from one region to another where malaria is rife, are not attacked by the disease. He does not think that the reason that so many children are affected is because they are excessively susceptible rather than that adults are partially immune; were that the case he thinks they would become constantly more gravely ill, and finally would all die. The susceptibility that exists in adults is often sufficient to cause their death, and if the figures in children were due merely to a greater native susceptibility the mortality among them would be extremely great. His method of examining for parasites is as follows: After making smears, the preparations are moved rapidly to and fro until they are dry, often a difficult thing to accomplish, since in the tropics the humidity is sometimes 100%; they are then placed in a box surrounded by blotting paper and put in a glass receptacle which is well stoppered, and which contains a little calcium chlorid. This prevents the preparations from spoiling as a result of the constant humidity. He fixes by holding the preparation in the fingers over a flame and warming, then putting them in absolute alcohol. He stains with borax methylene-blue obtained from the Hoechst factory. Examinations of the spleen in children discovered this organ often extremely large. This is found only rarely in very young infants. It was found once in a child 6 months old, and never below this age. It is most common between 3 and 6 years of age. Splenic tumor and malaria vanish spontaneously later on, and in later life there are no evidences of malaria left, and the children become strong and healthy adults. He thinks that malarial cachexia occurs only in those who have not acquired a sufficient degree of immunity. [D.L.E.]

2.—Ziegler gives a general review of the question. Scar tissue is usually fibrous connective tissue. In the skeleton it often changes into cartilage, then into bony tissue, and finally into well-formed bone containing marrow. The scars of the skin, intestine, genital organs, lungs, spleen, lymph-glands, heart, bloodvessels, brain, and various glands, are generally connective tissue scars which may be covered by epithelium. In the liver it is not uncommon to find the production of new bile channels, and in the intestinal and uterine mucous membranes the scars are frequently covered by epithelium, and this may grow into the scar and assume the character of glands. In the kidneys and testicles, while damaged tubules may acquire new epithelium, there is no real production of new tubules. In the brain and spinal cord there may be, besides the connective tissue production, some growth of glia, but this is of relatively slight importance. The muscles may produce new muscle fibers, after a time largely replacing the scars. This does not occur to any extent in the unstriated muscular tissue. Peripheral nerves heal by the production of new connective tissue, and there is also a considerable production of new nerves, so that the scars are traversed by numerous new nerves. There may be a new production of glandular cells in the liver, the kidneys, the mucous glands, the thyroid, and in the genital glands. Those cells which show the most ready new growth are the cells of the fibrillar and areolar connective tissue and the endothelium of the blood and lymph vessels. Cartilaginous tissues show new growth only imperfectly. Nerve-fibers grow purely through outgrowths from the axis-cylinder. In some cases when the tissues of the damaged area are unable to cover in the defect, transplantation of tissue of the same kind from elsewhere will accomplish the desired result. All animal organisms have the power to replace in some way tissue that has been lost; a number of instances are mentioned, including protozoa and higher forms of life. When tissues which are not replaceable by local growth are lost, and thus cause damage to the organism, there is a compensatory growth of the remaining tissues and an increased function of these tissues. The cause of the repair of the tissues after injury lies in the power of growth and proliferation that the

tissues show. The starting point in this growth is in the fact that some of the factors which hinder growth are done away with by the injury. In compensatory hypertrophy of the tissues the cause of the new growth is to be found in the increase of function which acts both as a nutritive and formative irritant. [D.L.E.]

3.—The case reported was that of a child of 10. There was severe diphtheria of the throat and subsequently a widespread involvement of various nerves with marked paralysis and ataxia of the lower extremities. There was also some paralysis of the hypoglossus and of the left side of the soft palate and of the left vocal cord. Ocular accommodation was largely paralyzed, and there was much decrease of sensation in the legs. These nervous changes improved slowly. While in the hospital the child had sudden and violent attacks of apnea. In the first attack it looked as if the upper respiratory passages had been plugged by mucus, and the child seemed about to die. Removal of the mucus from the mouth and throat did no good; on the contrary, the apnea increased and persisted for 4 hours, and the child was kept alive only by artificial respiration. These attacks were repeated five times. They varied in duration from 5 to 34 hours. There was after the first attacks evidently some aspiration pneumonia, but the attacks in general were certainly not due to any local change in the lungs. There was no paralysis of the diaphragm. The only cause to be thought of was either a lesion of the respiratory center or of the nerves coming therefrom. The most satisfactory explanation is, in Ebstein's belief, a lesion in the respiratory center produced by a poison, probably produced by the diphtheria directly. [D.L.E.]

4.—Quincke reports the case of a child who had the following history: It was born in 1896 of tuberculous parents. It had had some skin eruption when six weeks old, but no other definite signs. When about six months old the child was brought to the clinic because it swallowed badly. The tongue was thick, the child was lethargic, did not know the mother, had a coarse voice, had a cretin-like face, the nose was broad, the body was moderately nourished. The thyroid gland was found to be a small hard tumor about the size of a pea. The child was given iodothyron with some improvement. Afterward thyraden was added, and the child improved very greatly. When the thyraden was stopped the child grew worse again, and when the thyraden was once more ordered there was again a very marked improvement. The child had distinctly improved, when three years after first seen it disappeared from observation. Even at that time, however, the improvement had been only moderate. The child died in 1900 of an intestinal affection. The postmortem showed brownish stumps of teeth, the fontanel was only imperfectly ossified, the thymus was found very small, and the thyroid gland was absent. The adrenals were not discoverable. Quincke directs attention to the fact that there was evidently a progressive atrophy of the thyroid gland in this case, so that it was entirely gone when the child died, in its fourth year. In other words, that the change was a progressive pathological process in the gland, and not congenital absence of the gland. The cretin-like symptoms appeared in the first six months of life. It was notable that the skin was not like that of myxedema, but soft, though somewhat thickened. Unusual symptoms were nystagmus, a shaking movement of the head, and it was notable that the child's height was not below the normal. The case is additional proof of Kocher's view that cretinism is due to a qualitative or quantitative change in the thyroid function. It is possible that special toxins are active in the disease, and that they damage both the thyroid gland and other organs, so that the picture of the disease is due not only to damage of the thyroid gland, but to the effect upon other organs. [D.L.E.]

5.—There has been, in Neisser's belief, sufficient testimony in many ways to show that there are numerous anti-bodies in normal serum. An example which proves this is the fact, which has been demonstrated, that horse-serum will protect rabbit's blood-corpuscles against tetanolyisin or staphylo-lysin, and other hemolysins, and that there is apparently a distinctly qualitative difference in the action of the horse-serum toward these various hemolysins. When anti-hemolysins are used, it is found that they act only against the homologous hemolysins. Further demonstration of the multiplicity of the anti-bodies is shown by the work which Neisser reports here. He took the serum from 4 normal horses,

and determined quantitatively their anti-action upon tetanolyisin and staphylo-lysin; he then determined the amount of staphylo-lysin and tetanolyisin which produced complete solution of the corpuscles in one drop of rabbit's blood, and then determined the amount of horse-serum which sufficed to overcome completely the dissolving influence of these poisons. The result was that the influence of the four serums upon the tetanolyisin and the staphylo-lysin was very different. The ratio of action upon the tetanolyisin and the action upon the staphylo-lysin in the first serum was 1:10, in the second serum 1:0.67, in the third 1: over 40, in the fourth 1:1. Such results can be explained only by the acceptance of two different anti-bodies. [D.L.E.]

6.—A description of a special thermoregulator for use in cases in which skin diseases, severe burns, etc., require prolonged and permanent baths.

7.—Methyltrolycarbinolurethan has been given in oblate form and has no unpleasant taste. The dose used is from 7 grains to 30 grains. The use to which it was put was to produce sleep in simple insomnia produced by overexcitement, hysteria, neurasthenia, old age, etc. Seventy-two cases are reported. The conclusion reached was that it can be well given in any case in which sleeplessness is not produced by pain. Sleep is usually induced within an hour. No unpleasant collateral effects of any kind were observed. One advantage over other hypnotics is that one can increase to relatively high doses if necessary. [D.L.E.]

8.—Auerbach and Unger made cultures from the blood of 10 cases of typhoid fever, obtaining the blood by introducing a needle into a vein. In 7 of these cases bacilli were obtained. Only 1 of these was a severe and fatal case. The others were mild or only moderately severe. The tests were made between the twelfth and forty-second days. The cultures were made in about 300 cc. of bouillon in an Ehrlenmeyer's flask; 18 to 24 hours afterward hanging drops were prepared, and usually the bacilli were at once visible. They were afterwards identified by the usual means. The authors consider that this procedure is a very valuable diagnostic measure. It is but little more difficult to carry out than the Widal test, or bacteriological examination of the spots. In one case in which the Widal test was negative the spots were absent, but the diazo reaction was positive. Cultures showed the presence of typhoid bacilli in the blood. [D.L.E.]

Neurologisches Centralblatt.

December 15, 1900. [19. Jahrg., No. 24.]

1. The Venereal Paralysis of Horses; a Contribution to Comparative Neuropathology. J. MAREK.
2. The Technic of Nerve-cell Staining. M. BIELSCHOWSKI and M. PLIEN.

1.—Marek has made some very interesting studies upon a venereal disease that apparently occurs only in horses, and is characterized by a slight local catarrh with the formation of small nodules and erosions. At rather variable intervals there appear spots on the skin about the size of a thaler, and slightly elevated. They are not tender nor warm. These disappear in the course of from 1 to 8 days, others reappearing in different parts. The animals suffer from a general pruritis and hyperesthesia of the skin. The nerve-trunks are tender, the cutaneous reflexes are exaggerated, the tendon reflexes are lost or diminished. The electric reactions of the parietic muscles are very greatly decreased, or show the characteristics of degeneration. The animals show various degrees of paralysis, and may die of sloughing sores. Microscopically the brain and spinal cord are normal, the peripheral nerves show the characteristic changes of neuritis; there is round-cell infiltration, particularly in the neighborhood of the bloodvessels, and degeneration and disappearance of the nerve-fibers. In the muscles there is some degeneration of the intramuscular nerve-fibers, but no inflammatory change. Marek regards the condition as a type of polyneuritis infectiosa equorum.

2.—Bielchowski and Plien recommend very highly the use of cresylviolet for staining nerve tissues. It has a strong affinity for the chromophilic substance, and appears to replace thionin, toluidin-blue and methylene-blue, and it gives a metachromatic effect with basophilic granules and amyloid substance. [J.S.]

Original Articles.

TWO CASES OF EPILOPEXY IN CIRRHOSIS OF THE LIVER.*

By JOHN B. ROBERTS, M.D.,

of Philadelphia.

THE suggestion to suture the great omentum to the anterior abdominal wall for the purpose of establishing a collateral venous circulation, in cases of cirrhosis of the liver, appears to be founded on good physiological premises. Two cases recently operated upon are, perhaps, worthy of record.

The previous history of Case No. 1 is as follows:

A man, aged 49, of temperate habits, whose father it is said died of cirrhosis of the liver, though he also was a temperate man, came under my care for distention of the abdomen in November, 1900. He was referred to me on account of the cause of the abdominal distention and the ascites being obscure. The slight yellow tinge of his conjunctivae and the other symptoms led me to believe that the abdominal dropsy was due to cirrhosis of the liver. One of the other physicians who saw him was inclined to the diagnosis of tubercular peritonitis. The distention of the abdomen began about 3 months before I saw him. There had been some jaundice varying in degree for about 2 months.

It was determined to evacuate the fluid in the peritoneal cavity, and at the same time explore the condition of the abdominal organs, by an incision, which would permit the entrance of my finger. A 3-inch incision was made in the middle line above the umbilicus. This disclosed a hardened liver with a roughened surface, and the diagnosis of hepatic cirrhosis was made. This operation was done under ether narcosis, because the patient complained so much of the manipulations, after the abdominal incision had been made under local anesthesia with cocain. The wound was closed with interrupted sutures.

The patient for a number of days suffered from partial suppression of the urine, due evidently to the ether and the cirrhotic condition of the kidneys. An examination of the urine had shown albuminuria and casts. Under the use of pilocarpin his condition improved, and 24 days after the first operation omental fixation was performed.

On December 4, 1900, the patient was operated upon under local anesthesia with cocain. He was given, about half an hour previous to operation, a hypodermic injection of a quarter of a grain of morphin and a hundredth of a grain of atropin. The tissues in the middle line above the umbilicus were then infiltrated with Schleich's solution No. 2. The incision was made in the line of the previous exploration wound. A 2-inch incision was sufficient to admit the forefinger of the operator and permit the necessary intraabdominal manipulations. Inspection of the omentum showed near its lower margin a small white nodule of hard consistence. This was about the size of a pea; and, with a portion of the omentum, was excised in order to permit subsequent microscopic examination. It was thought possible that it might be malignant in character, though the exploration of the surface of the liver with the finger, made at the time of the previous operation, revealed no nodules in the liver as far as its surface could be examined through the small wound.

The peritoneal surface on each side of the abdominal wound was rubbed with a finger, covered with a layer of gauze, for the purpose of irritating its serous surface. The omentum was then spread out and stitched on each side of the wound by four sutures of chromicized catgut. These were introduced from the cutaneous surface through the entire thickness of the abdominal wall. For this purpose a large curved needle was used. The chromicized catgut employed for suturing purposes was tied on the external surface of the belly. The amount of skin included in each stitch was about one inch. The abdominal wound was then closed

with interrupted catgut-sutures and the whole surface covered with gauze and collodion. The two outer fixation-sutures ran horizontally across the abdomen; the two near the middle line lay a little obliquely upwards and inwards. The two-inch incision gave sufficient room for manipulation and seemed to be more desirable than a longer incision, which would have been required, if the sutures had been introduced through the omentum and the internal tissues of the abdominal wall, from within the abdominal cavity. The long sutures carried through the skin would, it was thought, give a broader surface of contact between the omentum and the peritoneum than the shorter sutures usually used when intraabdominal suturing is employed. A month later the patient had less ascites and the external veins of the abdomen and anterior surface of the chest seemed much more distended than before. His general condition was that of advanced liver and kidney disease. He was more jaundiced and more drowsy. He died about 6 weeks after the epiploxy. An examination by Dr. Stahr showed the omentum attached to the belly-wall for about 3 inches. The nodule taken from the omentum resembled a spindle-cell sarcoma. A full autopsy was not made.

The other case operated upon on the same day had a previous history as follows:

A man, aged 54, stated that he had been a heavy drinker and that for the last 8 months the abdomen had become distended. Since the abdominal swelling had first been noticed by him, he had been tapped eight times. It was probable that the disease had existed much longer than 8 months. When I first saw the patient he was emaciated, a good deal jaundiced and very weak. His nervous condition suggested the possibility of approaching delirium tremens. The abdomen was greatly distended with fluid and the superficial veins of the abdomen were very prominent. There was edema of both legs. Examination of the urine showed albumin and a few hyalin casts to be present.

The man's general condition was so bad that instead of suturing the omentum to the abdominal wall, as I was inclined to do, I simply tapped him and drew off 6 pints of ascitic fluid. This was on November 26, 1900. Eight days later, operation for evacuation of the fluid in the abdomen and epiploxy was done. At that time there was scanty urine, and the man was still in bad condition, though better than when I first saw him.

In this instance a 2 inch incision was made in the middle line, just below the umbilicus, because I thought that I could probably reach the lower portion of the omentum better than if the incision was made above the umbilicus. I found, however, that it was impossible to reach the omentum with my finger, because it had been pushed upwards by the intestines floating upon the ascitic fluid. Even when the fluid, which was large in amount, was emptied from the abdomen through the opening, the omentum could not be felt. A second incision of about the same length was therefore made above the umbilicus. The omentum was then found and pushed downward, so that it could be reached with the finger introduced through the lower incision. It was then very easy to spread out the omental tissues; and two sutures of chromicized catgut were introduced on each side of the upper incision. While the sutures were introduced, the forefinger of the operator's right hand was introduced through the lower opening to hold the omentum in place and protect the intestines from injury with the needle, which was carried through the entire thickness of the belly-wall with the left hand. This operation, which was done under cocain anesthesia, was made quite easy because of the great relaxation of the anterior belly-wall, due to the prolonged dropsy of the peritoneum. The assistant was able to pick up the relaxed wall in a vertical fold so that the curved needle could be introduced without going near the intestine. This was probably an error in technic, as it made the sutures more liable to tear through the omentum when the abdominal wall was released by the fingers.

The patient died in uremic coma the day after the operation. On opening the abdomen three of the stitches were found to have torn through the omentum. At the place of one stitch a small portion of the omentum was still held against the abdominal wall, and in

* Read before the Philadelphia County Medical Society, January 23, 1901.

two places an ecchymosis was seen in the tissue of the omentum showing where the needle puncture had been made at the time it was sutured to the belly-wall. One stitch was still holding. There was no evidence of inflammatory lymph at the point where the stitches were inserted. This probably was due to the weak condition of the patient at the time of the operation. The liver was very small and hard and the surface nodular. It was in appearance a typical hobnail liver. The kidneys were small, with notched surface and adherent capsule. The cortex was diminished in amount. Microscopic examination subsequently showed the cirrhotic nature of the hepatic condition.

It is much too early to reach a definite conclusion as to the clinical value of epiploexy in cirrhotic liver; but the operation is so comparatively trivial and the disease so intractable that a comparatively early resort to it seems justifiable. Both of these cases would have been operated upon earlier by me, if the general condition had been better.

The patient whose operation is reported first became seriously ill from partial suppression of urine after the exploratory operation done to determine whether he was suffering from tubercular peritonitis or cirrhosis of the liver. That operation had been started under anesthesia by cocain, but was concluded under ether because of the patient's assertion that he was being hurt. It was this serious condition, the result of etherization in connection with his bad kidneys and liver, that made me a little anxious about the operation for fixing the omentum.

The case which is here reported as No. 2 was exceedingly ill when first brought under my observation, with edema of the lungs and a nervousness which seemed to indicate the probable occurrence of delirium tremens. He was in a bad condition when operated upon, having passed for a few days previously a much less amount of urine daily than is physiological. I was led, however, to operate upon both cases because of their apparent hopelessness under medicinal treatment.

These cases have taught me a few points in regard to the technic of the operation. I believe the method carried out in them is, in general, the best. By this I mean that the incision should be made above the umbilicus under local anesthesia, and that the sutures should be carried through the external skin by means of a curved needle, while the forefinger of one hand within the abdomen holds the omentum against the anterior abdominal wall. It probably is unimportant whether or not the parietal peritoneum be previously scraped with a curet or rubbed with a finger covered with gauze. It is, however, important that the omentum be rolled up a little, at the point of each suture, into a sort of cord, so as to prevent the stitch tearing through the friable tissue. The stitch should include quite a wide area of omental structure. On this account it is undesirable that the anterior abdominal be pinched into a fold during the insertion of a stitch, because when the tissues are relaxed the catgut-suture is liable to tear through the omentum.

I had originally intended in these cases to make a sort of rope of part of the omentum and stitch this in the incision in the anterior wall, so that the omental tissue would be in contact with the superficial fascia. I had thought of even spreading its end out under the skin. I did not do this because I thought the contraction of the scar-tissue in the wound would prevent venous circulation through the portion of omentum thus drawn

through of the muscular wall. The importance of keeping the omentum fixed against the peritoneal surface of the wall of the abdomen until adhesion occurs, makes it desirable that it should be thus caught in the wound. Even if cicatricial contraction prevents circulation through the scar, and even if a weak spot is made in the wall, creating a liability to hernia, I believe that such fixation in the wound is important.

I did not undertake to stitch the surface of the liver to the anterior wall of the abdomen in either case. In both instances the disease was so marked that it would probably have been difficult to have pushed the small liver forward against the abdominal wall and to have held it there by suturing, without causing greater tension on the sutures than is desirable. Epiploexy, should, in my opinion, be done as soon as practicable after the diagnosis of cirrhosis of the liver is made. In late cases the operation will probably not be of much therapeutic service. It seems as if there were good physiological grounds for believing it advantageous in early cases. The discomfort liable to arise from the abnormal adhesions and the remote possibility of intestinal obstruction by entanglement of the small bowel are too unimportant to weigh against the possibility of delaying the onward march of an almost hopeless, progressive, hepatic disease.

THE SURGERY OF THE STOMACH.*

By ALBERT L. BOUFFLEUR, M.D.

of Chicago

BEFORE considering the subject assigned to me, I desire to express to the officers and members of the Society my keen appreciation of the honor conferred upon me in my selection as one of the speakers upon this memorable occasion.

It was, however, with considerable diffidence that I consented to present such a large and important subject in the limits of a single paper before such a critical audience; knowing as I did, that it would be impossible to do the subject full justice in so short a time, and that to cover it at all would mean the briefest mention of several conditions and procedures, any of which might claim our attention for a whole hour, and feeling as I did, that there are members of your Association who are able to speak authoritatively upon the matters to be considered.

The phase of the symposium upon which I have been requested to address you forms one of the most interesting chapters in modern surgery. While gastrotomy was performed as early as 1602 by Mathis and again in 1635 by Schwabe, the works on surgery gave it but little attention until quite recently; and likewise, Sedillot seems to have performed gastrotomy as early as 1849, but the operation was practically unheard of until 1886 when Hacker again presented the subject.

Modern gastric surgery can be said to have begun about 25 years ago, when Billroth and his assistants began to develop the technic which has made the subsequent wonderful procedures possible. The radical measures seem to have preceded the milder ones in the surgery of this organ. Billroth successfully performed pylorotomy in 1891, while Heinecke and Mikulicz presented pyloroplasty in 1886-7. The great mortality of

* Address delivered before the Michigan State Medical Society, Mackinac Island, Mich., July, 1900.

the more radical procedures, even in the hands of such experts, made the necessity of less heroic measures imperative. This is frequently the case in surgery; the ideal giving way to the practicable.

With the wonderful strides of abdominal surgery, that of the stomach kept pace, and within a brief space of 10 years nearly all of our present procedures were successfully performed. Since 1890 the progress has been in the direction of modifying and improving the technic of the established procedures, and in widening the scope of their application until, as a fitting climax to the close of the brilliant nineteenth century, the most formidable of all possible operations upon the stomach—its total extirpation—was successfully performed.

The stomach forms such an important part of the *primæ viæ* that its presence has until comparatively recently seemed absolutely indispensable to life. While from practical experience it has been known for years that a patient could not only be sustained but hypernourished per rectum, and while resections of the major portion of the stomach had been successfully performed several times, it remained for Schlatter, a bold Swiss surgeon, to positively demonstrate that man could not only withstand the operation of total gastrectomy, but that the functions of assimilation and general bodily nutrition could be carried on quite satisfactorily without any stomach.

While this fact, perhaps, is of the greatest interest to the physiologist, it serves its purpose for the surgeon by demonstrating conclusively that it is admissible for us to resect larger areas of the stomach and even the whole of that organ for local disease and thereby to give to our patients greater chances of freedom from local recurrence.

The surgery of the stomach has been made possible by the fact that rectal feeding is feasible and practicable in all cases, at least for a few days. While operative measures were formerly largely for emergency conditions, the absence of the necessity for nourishment by mouth, the frequency with which early diagnosis is now made, the greater simplicity and perfection of operative technic and the increased dexterity of operators have made it practicable to operate for elective as well as emergency conditions.

The surgery of the stomach can very properly be divided into operations for disease of the stomach itself and for conditions incident to the disease of other organs.

Diseases or conditions of the stomach which may require operative treatment are congenital and acquired deformities, wounds, stenosis or orifices, dilation, displacement, ulcer and cancer. The presence of foreign bodies in the stomach also call for surgical measures. The two conditions of other organs most likely to call for operation upon the stomach is stricture—malignant or benign—of the esophagus and of the upper part of the intestinal tract.

Since I have been advised that the other gentlemen will not consider the surgical diseases of the stomach, it has seemed desirable, in order to make my remarks more comprehensive, to briefly mention the characteristics, clinical history and diagnosis of the conditions before presenting the treatment; and to avoid useless repetition I will leave the description of the various operative measures until the last.

CONGENITAL MALFORMATIONS.

Congenital malformations of the stomach have been

observed frequently, but the character of the conditions has been varied. Congenital malposition may be present and is most commonly connected with congenital defects in the diaphragm or congenital abdominal fissure. A septum dividing the stomach into two chambers more or less completely has been observed, and congenital or acquired constriction of the stomach may give rise to an "hour-glass" shape. The acquired constriction is the result of cicatrized ulcers.

Prolapse of the gastric mucous membrane through the umbilicus has been observed by Tillmans.¹ The same author mentions congenital atresia of the pylorus as of very rare occurrence. A condition of marked congenital hypertrophy of the pylorus has been observed in several instances and has been the subject of special investigation by several, including Dr. John Thomson of Edinburgh, whose valuable contribution, fortified as it is by the result of postmortem and microscopic examination, forms an invaluable addition to the literature of gastric diseases.²

The symptoms are those of pyloric stenosis and death is from starvation. Thus far surgical measures have apparently not been resorted to, but as a probable diagnosis can now be made, there would seem to be no reason why gastroenterostomy or pyloroplasty, or perhaps gastrotomy with dilation, should not be of service in this condition, not only as a palliative but also as a curative measure. (Kammerer has since collected four successful cases.³)

Wölfler was the first to operate for marked "hour-glass" contraction. In 1894 he made an anastomosis between the two chambers—gastroanastomosis.⁴ Up to date the operation has been performed six times with one death.⁴

WOUNDS.

Wounds of the stomach are justly classed with the most serious injuries of the body. MacCormac gives the mortality-rate of wounds as 99%.¹ The principal symptoms are shock, vomiting of blood, and severe epigastric pain, to be followed with fever and peritonitis. The more distended the stomach the more unfavorable the prognosis. That penetrating and perforating wounds are not always fatal even without prompt surgical closure was demonstrated by the celebrated case of Alex. St. Martin, treated by Dr. William Beaumont, in this city in 1822, and who subsequently became the subject of the exhaustive experiments and observations which placed the name of Beaumont on the list of our great physiologists. Both MacCormac and Tillmans have also reported cases of bullet wounds, and Larrey and Archer saber wounds of the stomach, which have recovered without operation.¹

In those cases in which death does not rapidly supervene from hemorrhage or septic peritonitis, abscesses may result, which may be relieved by modern operative measures. There can be no question but that early celiotomy, with accurate suture of the gastric wound and careful toilet of the abdominal cavity, will greatly reduce the mortality of wounds of the stomach.

STENOSIS OF THE ORIFICES.

Stenosis of either the cardia or pylorus may result from cicatrization of an ulcer or a wound, from hypertrophy of the pyloric musculature, or from the growth of malignant or benign neoplasms. Malignant growths demand resection for their removal or the formation of a fistula for the relief of their most distressing symp-

toms. Nonmalignant stricture of the cardia can be most readily reached through the stomach. Gastrotomy with immediate dilation, or gastrostomy with immediate or later dilation, is indicated.

Nonmalignant stenosis of the pylorus can be treated by dilation—pylorodiosis, pyloroplasty or gastroenterostomy. Loreto has practised dilation after gastrotomy in cases of nonmalignant stricture of the pylorus with considerable success since 1882,⁴ but the statistics of Barton⁵ show a mortality of 10 in 25 published cases, which is greater than that of pyloroplasty which is more likely to be permanent in its effect. Hahn dilates the pylorus without opening the stomach by invaginating the anterior wall on the dilating finger. This procedure, while comparatively safe, can obviously be of value in only the mildest cases.

Pyloroplasty has a mortality of about 10%,⁴ and while it is usually effectual, the condition demanding its performance may return. When the mass is very extensive or thick or bound down by many adhesions, the performance of gastroenterostomy is to be preferred. The low mortality, the ease and quickness of its performance and the results of gastroenterostomy make it the operation of election, and unless the conditions are very favorable for pyloroplasty, gastroenterostomy should always be performed.

DILATION.

Dilation of the stomach is usually indicative of muscular atony and functional inefficiency of that organ. While in the vast majority of cases dilation is secondary to some chronic diseases of the stomach or to obstruction on the pylorus or duodenum, it does occasionally develop as the result of overloading of the stomach, and as a result of chemical insufficiency resulting in fermentation and muscular insufficiency. It may also be due to adhesions to other organs or to generally impaired nutrition as observed in anemia, tuberculosis, etc.

In addition to the general symptoms of chronic gastric and intestinal disturbances, the symptoms of the primary disease and the individual's personal history, the vomiting at long intervals of a large quantity of undigested food is characteristic. As local measures, including lavage, have proved ineffectual in many cases, they may have been, as a last resort, referred to the surgeon, in the hope, no doubt in many instances, that even if the operation did not benefit, it might interrupt the long period of suffering.

The medical treatment of gastric dilation should be largely dietetic and antiseptic. Frequent feedings of small quantities of concentrated and easily digested foods with lavage and the use of innocuous antiseptics will frequently effect wonderful improvement and even relief of the condition. To Küssmaul is due the credit of introducing the lavage method of treatment in 1867.⁶ It lessens the weight, removes the mucus and products of fermentation, and affords a means of cleansing and locally treating the mucous membrane.

Gastroplication or "reefing" of the stomach wall, as first practised by Bircher²⁶ in 1891, has been resorted to in a number of cases of simple dilation with encouraging results. The mortality rate of the operation itself has thus far been nil as far as I have been able to learn. If the dilation be secondary to pyloric obstruction, that obstruction must be overcome by divulsion after a gastrotomy or gastrostomy, or circumvented by a gastroenterostomy which is by far the most rational and successful procedure.

GASTROPTOSIS.

Gastroptosis may be present as a single affection, but as a rule it is attended by ptosis of other abdominal organs, particularly the colon and the small intestines. Gastroenteroptosis is a peculiar affection and dependent largely upon 4 factors: Weakened attachments, increased weight, pressure, and lessened abdominal support. It is frequently accompanied by dilation, and in many instances is undoubtedly caused thereby; or both may be due to the same general state of malnutrition. It occurs in persons of large, flabby, relaxed and pendulous abdominal walls, and in thin, pale, neurasthenic individuals, particularly females. In thin persons only is the condition productive of marked symptoms. Pain, indigestion and vomiting, with chlorosis, headache, palpitation, nervousness, etc., form the common group of symptoms. Palpation and inflation usually demonstrate not only a downwardly displaced stomach, but frequently a dilated viscus as well.

Rest in bed, with massage and proper diet, will relieve many of these patients of their distressing symptoms. If the dilation is great, lavage and even "reefing" may be required. If the displacement is marked, gastropexy is indicated, and if accompanied by dilation, both operations should be performed. Gastropexy is of value in relieving the symptoms of a displaced stomach, but to be permanently beneficial, reduction and fixation of any other displaced organs should be performed and attendant constitutional and local conditions should be given proper treatment subsequently.

ULCER.

Both Ewald and Welch have made careful postmortem investigations into the frequency of round or peptic ulcer of the stomach, and have estimated that it occurs in fully 5% of mankind.⁵

The presence of this ulcer seems dependent upon lowered vitality of the gastric mucosa, as by disturbance of the circulation, etc., impoverishment of the blood, as in anemia and chlorosis, and the presence of an excess of hydrochloric acid in the gastric juice. Lowered vitality and local resistance with increased digestive power of the gastric juice would naturally result in a digestion of the stomach-wall with the production of an ulcer—a peptic ulcer.

It occurs in females 50% more frequently than in males, and while 75% of all cases occur between the ages of 20 and 60, no age is exempt. The greatest number of cases are observed in females between 20 and 30, and in males between 30 and 40, but the total observations are nearly equally divided between the 4 decades mentioned. It is most common in servant-girls, dressmakers, and women affected with anemia, chlorosis and menstrual disorders, and in men employed in occupations wherein the stomach is subjected to pressure, as first noted by Habershorn⁵ and in alcoholics and those afflicted with arteriosclerosis. Rasmussen holds that any pressure of the costal arches induces anemia and atrophy of the gastric mucosa.

The ulcer is usually single, but may be multiple and is most frequently situated, according to Frazier,⁷ as follows: 52% on anterior wall; 31% near lesser curvature; 27% near the cardia; 13% near the pylorus; and 8% on the posterior wall.

The ulcer varies from 1 to 10 cm. in diameter, and Peabody⁸ has reported one 10 by 19 cm. in size. It may be superficial or deep with a tendency to destruc

tion of adjacent tissue. This destructive tendency leads to erosion of the bloodvessels with the production of hemorrhage in fully 50% of the cases, and in over 6%, according to Welch,⁵ it results in perforation.

If the perforation is anteriorly, general peritonitis usually follows; if posteriorly or at the lesser curvature, subphrenic abscess in the cavity of the lesser omentum is to be expected; while if the perforation is preceded by a plastic peritonitis with adhesions the establishment of a fistula into one of the abdominal viscera or thoracic cavities could occur.

From the foregoing data it would appear that over 50% of the cases of ulcer are attended by hemorrhage or perforation and, therefore, the condition is to be regarded as a truly serious one.

The diagnosis may be easy, but it is frequently exceedingly difficult, not to say conjectural. It is based upon the presence of some of the foregoing predisposing factors and upon the existence of pain, hemorrhage and vomiting. The pain is usually localized, varied in character, and aggravated by taking food; but it may come at irregular intervals, and even be relieved by eating or pressure.

The hemorrhage which is so common in ulcer, may appear in small quantities or be very profuse. It may appear in the vomitus or in the stools. Sudden vomiting of a large amount of bright red blood is quite characteristic of ulcer. The vomiting usually occurs after meals, and affords relief from pain. Localized epigastric tenderness is often marked, but in other cases firm pressure alone seems to relieve the suffering. The symptoms may subside and even disappear with healing of the ulcer, but it may recur, or the cicatrix may distort the conformity of the stomach, or be painful, or even be the site of a carcinoma.

In the treatment of gastric ulcer, medical measures like ice, astringents, opium, etc., with absolute rest are indicated for first and second attacks, according to Rodman,⁸ but after the second attack and particularly in all cases of recurrent hematemesis, operative measures are positively demanded. Operation during acute hematemesis, and particularly the first, has been very unsatisfactory. Robson¹³ gives the mortality as 64.2%, which he contrasts with 5% to 10% mortality of acute hemorrhage treated medically. The reflex effect of hot water enemata at a temperature of 112° to 120° F. has been advanced and successfully employed by Tripiér in a number of cases.⁹

A sufficient number of operations have now been reported to warrant some definite statements as to the advisability and success of operating. Rodman⁸ collected 31 operations for recurrent or chronic hemorrhage with 6 deaths, a mortality of 19.3%, and he quoted Robson as reporting a mortality of 16.4% in all operations for gastric ulcer and of only 10.5% in chronic cases. These statements are certainly most encouraging, and with early diagnosis and operation at the proper time, these figures should be materially reduced.

Of the various methods which have been employed partial gastrectomy or pylorotomy, depending upon the location of the ulcer, and the ligation of the mucosa *en masse*, have been the procedures of direct attack most successfully employed. According to Tillmans¹ and Keen,¹⁰ Czerny was the first to successfully excise a gastric ulcer in 1882, but Greig Smith¹¹ and Curtis²⁶ give the credit to Rydygier in 1881, while Wier and Foote¹² ascribe it to Kriege in 1892. Mikulicz appears to

have been the first to operate by treating the ulcer directly in 1887.⁸ He combined cauterization with pyloroplasty.

When the nature of the process is considered it will be appreciated that cauterization or ligation of the bleeding vessel alone does not meet all the surgical indications presented.

Gastroenterostomy is rapidly gaining favor as the elective operation for ulcer with chronic hematemesis. By placing the stomach at rest and draining off the over-acid gastric juice, it provides the two essential factors for healing of the ulcer. Robson¹³ is particularly favorable to the procedure.

In cases with profuse hemorrhage some local measures seem demanded, and anyone of the foregoing methods, particularly when combined with gastroenterostomy, would be indicated.

In cases of acute perforation, immediate gastrorrhaphy is unquestionably demanded. Lund has shown that during the past 3 years operations within 12 hours gave a mortality of only 14%, and within 24 hours 27%, which contrasts markedly with the earlier statistics, which showed a mortality of 50 to 90%.⁷

The investigations of Greenough and Joslyn¹⁴ revealed the fact that only $\frac{1}{2}$ of the 80% of ulcer patients discharged from the Massachusetts General Hospital as relieved, remained well at the end of 5 years, which would show that permanent relief failed in 60%, and that 20% of the total number died.

CARCINOMA.

Excepting the uterus, primary carcinoma occurs in the stomach with greater frequency than elsewhere. Welch¹⁶ found it present in over 21% of cases. It is most common in males, while over 75% of the cases occur between the ages of 40 and 70. It may occur in the young, Sutton having reported a case in a girl only 13 years old.¹⁶ Heredity seems to be a predisposing factor. Some have thought that gastritis, traumatism and peptic ulcer were also important factors in its production.

The varieties occur in the following order of frequency: Cylindrical-celled, encephaloid, scirrhus and colloid. Welch determined its location in 1,300 cases as follows: Pyloric region 791, lesser curvature 148, cardia 104, posterior wall 68, diffuse 61, greater curvature 34, anterior wall 30, fundus 19. Secondary cancer may occur in the stomach, but Welch¹⁵ was able to collect only 37 cases, 17 of which were secondary to carcinoma of the breast. Metastasis is frequent, particularly in the lymphatic glands and in the liver.

The first symptoms noted are usually those of chronic gastritis, anorexia, distress, flatulence, and occasionally nausea and vomiting. These are in turn followed by anemia, loss of weight and strength, and cachexia. Pain may or may not be present. Hemorrhage is usually slight, and the vomitus has a dark "coffee-ground" appearance. The vomiting is most common when the tumor is at the cardia or pylorus.

The absence of free hydrochloric acid is no longer considered pathognomonic, but rather only a confirmatory evidence of cancer. Boas¹⁷ and others hold that the pressure of free lactic acid in the stomach, sufficient to give the Uffelmann reaction, *i. e.*, the canary-yellow tint to the carboferric chlorid solution, is of greater significance.

Progressive anemia of the secondary pernicious type is most commonly present. The blood-count is rarely

below 50%, but the hemoglobin is low, and leukocytosis is usually marked.

Examination commonly reveals the presence of a tumor in the epigastric region, and if it is located at the pylorus, dilation of the stomach also. According to Senn,¹⁶ carcinoma of the stomach, with few exceptions, proves fatal within a year.

The treatment of carcinoma of the stomach is palliative and radical. To enable radical resection measures to be successful the diagnosis must be made early and the case subjected to operation before regional dissemination of the process has occurred. Resection of the pylorus, of the stomach-wall, and of the whole stomach have their indications and scope of employment, but statistics will demonstrate the comparative uselessness of radical measures, except when the disease is early recognized, and when it is localized and in a readily accessible part of the organ. The mortality of pylorotomy is given as from 20 to 70%,¹⁸ and of extensive or total gastrectomy from 28 to 33%. The fact that the immediate mortality of these operations is so great is due largely to the lateness with which these patients are sent to the surgeon and their terribly reduced condition. That many of those who survive the operation finally succumb to the disease but emphasizes the vital importance of early diagnosis and early radical operation.

It is in this class of cases that a surgeon can afford to occasionally err in diagnosis and even to perform a needless operation rather than to allow the golden opportunity for a possibly successful radical operation for a beginning carcinoma to escape. The man who is not willing to assume the responsibility of a probable diagnosis under such circumstances is not worthy the title and honor of being a surgeon. Exploratory laparotomy for diagnostic purposes is recognized as a justifiable procedure in pelvic and intestinal surgery, and surely it is equally justifiable, and, in our opinion, imperatively indicated in the obscure diseases of the stomach.

The radical operations of the stomach require great skill and dexterity, and a degree of familiarity with abdominal surgery possessed by comparatively few, for their proper and yet essential rapid performance. The presence of local dissemination, unless limited to a few very accessible glands, contraindicates radical measures. In such cases lavage with salol and bismuth should be employed to prevent fermentation and dilation, and their resulting malnutrition.

The palliative operative measures consist in making a gastrotomy for disease of the cardia or a gastroenterostomy when the tumor is located in the pyloric region or lesser curvature. These operations are in no sense curative, but are performed for the sole purpose of prolonging the patient's life and relieving the terrible suffering incident to a death by starvation.

The mortality of these operations for cancer has been reduced by modern methods from over 30% to 10.5%, but even the greater mortality is as nothing compared to the comfort which is afforded those who survive. When performed early and under favorable circumstances the mortality should be practically nil.

FOREIGN BODIES.

Foreign bodies gain access to the stomach through the mouth and occasionally accidentally as the result of a wound or the falling into the stomach of some insoluble mechanism used for performing gastroenterostomy.

The list of articles which have been removed from the stomach or intestines after passage through the stomach is quite remarkable. Pins, needles, nails and balls of hair are comparatively common, but considerable pieces of wood and glass, sets of teeth, keys, pocket knives, table forks and knives, etc., have been successfully removed by gastrotomy or enterostomy. The more irregular the shape, the more pointed the article, or the more pain and other symptoms produced, the greater the demand for immediate operation. The use of the x-ray is of special value in determining the presence, nature, location and quantity of such articles contained in the gastrointestinal tract.

DISEASES OF OTHER ORGANS.

The utilization of the stomach as a route for attack upon disease of the esophagus particularly has been most satisfactory. By the performance of gastrotomy, disease of that organ can be investigated often by direct digital examination, and nonmalignant strictures may be detected and divulsed or divided. In malignant disease of the esophagus, and in complete stenosis of that organ, gastrostomy affords an avenue for the proper nourishment of the individual.

In like manner gastroenterostomy establishes a channel by which food may pass directly into the intestines below an obstruction in the upper intestinal tract. In this manner the local disease is isolated from the food current, and if it is of a malignant character, the rest lessens the rapidity of the growth, while if the obstruction is of a nonmalignant character it may effect permanent relief.

OPERATIONS UPON THE STOMACH.

As an essential to successful operating upon the stomach this organ must be both empty and clean. Preliminary lavage with warm water and boric acid solution should be emphasized. It is good practice to utilize rectal feeding *before operation* in order to accustom the rectum to its new duties and to derive the benefit of increased nourishment. The bowels should be thoroughly emptied and the general condition of the patient looked after with special care, as his bodily vigor is often greatly reduced.

The surgical operations performed upon the stomach consist of gastrotomy, gastrorrhaphy, pyloroplasty, pylorodiosis, ligation of mucosa *en masse*, gastrostomy, gastroenterostomy, gastroanastomosis, pylorotomy, gastrectomy, gastroplication, gastropexy and gastrolisis. Of these 13, several have numerous modifications, while some must be preceded by gastrotomy.

GASTROTOMY.

The operation of simply opening into the stomach has been most frequently made for the removal of foreign bodies, but at the present time it is claiming more attention as a preliminary operation to those directed to the diseased areas themselves. In ulcer when it is proposed to cauterize or ligate the area, and also when it is desired to explore the stomach, or the patency of its orifices or the lower part of the esophagus, as well as when the dilation of stricture of either orifice is contemplated, it is, of course, necessary to first perform celiotomy and gastrotomy.

The abdominal incision should vary with the location of the disease; if at the pylorus, either median or vertical incision at outer border of right rectus; or if in other parts of the stomach, an incision parallel to and

about one finger's breadth from the edge of the left cartilages will expose the whole viscus to good advantage.

The incision into the stomach is usually made in the anterior surface after the peritoneal cavity has been well protected by hot moist pads, and after controlling the hemorrhage of the stomach-wall the remaining contents of the stomach are removed. After exploring the stomach, removing the foreign body or treating the pathologic condition found, the wound is closed by gastrorrhaphy. Gastrotomy was first successfully performed in 1602 by Mathis and again in 1635 by Schwabe.¹⁹

GASTRORRHAPHY.

Gastrorrhaphy means the suturing of the stomach-wall. Some writers use the term to indicate suturing of the stomach to the abdominal wall—gastropexy. Some prefer making a continuous suture of the mucous membrane and other of the muscular and serous coats before applying the Lembert suture. Still others content themselves with the application of the simple Lembert suture. There would seem to be no reason to doubt but that in an organ so liable to straining of the line of sutures by vomiting, special precaution against leakage should be taken. There is certainly good reason for applying two rows of sutures in all gastrorrhaphies, and the use of at least one continuous suture is in our opinion demanded.

PYLOROPLASTY.

This procedure consists in the making of an incision through all the coats of the pylorus parallel to the long axis of the stomach and the suturing of the same at right angles thereto. The Lembert suture is employed and may be preceded by a suture of the mucosa, or fortified by a second row of sutures. It is known as the Heineke-Mikulicz operation, both having simultaneously devised the same method in 1886-7. The mortality is given as 10%, but this seems altogether too high with our present technic.

PYLORODIOSIS.

Loreta's operation for dilation of stenosis of the pylorus is equally applicable and probably even more indicated in stenosis of the cardia. It consists in the performance of gastrotomy and the dilation of the stricture by the insertion of one or two fingers or the use of the uterine dilator.

LIGATION OF MUCOSA EN MASSE.

In operating for ulcer, its location is frequently determined to be in a position not admitting of ready excision. For this class of cases and particularly when the stomach is fixed by adhesions, the ligation of the mucosa *en masse* has been successfully practised in several instances. Unless the area is supported by external Lembert sutures perforation is liable to occur, as demonstrated by Andrews and Eisendrath.²⁰ If to this should be added gastroenterostomy all surgical indications would seem to be filled.

GASTROTOMY.

As has been previously indicated, this is an operation establishing a fistula to admit of the repeated dilation of stenosis or to prevent starvation. It was first performed by Sedillot in 1849.¹⁰ Many methods and modifications have been proposed to prevent leakage. Those

providing a valvular orifice have apparently been most satisfactory. The oblique incision parallel to the left costal arch is usually employed.

Witzel's method (1891) consists in passing a medium-sized, soft catheter through a small opening into the stomach and then burying it in the gastric wall in a vertical position by sewing the peritoneum over it for a distance of 5 to 6 cm. (2 to 2½ inches). The stomach is then sutured into the abdominal wound.

Frank's method, variously called Albert-Frank-Kocher and Ssabanajew-Frank method, consists in making a valve out of a small cone of the stomach-wall. The oblique incision is made and a cone of the stomach pulled out and its base sutured to the parietal peritoneum. A second incision is made just above the rib-margin, the bridge of the skin elevated and the cone pulled up beneath it and the apex sutured into second wound. Tube is inserted and first skin-wound closed.

Marwedel's method (1896) resembles Witzel's in all respects, but he incises the serous and muscular coats for 5 cm. (2 inches), then passes the tube through the mucosa and buries it by closing the incision in the stomach-wall.

Kader's method (1896) produces a funnel projecting into the stomach by suturing two sections on either side of a tube placed vertically into the stomach. Each pair of sutures increases the amount of peritoneum about the tube and further depresses the point of entrance of the tube.

E. J. Senn's method (1896) consists in making an automatic valve out of the stomach-wall by constricting a cone near its apex with purse-string suture and after incising the apex inverting it into the stomach and securing it there by Lembert suture.

The methods of Kader and Marwedel are most popular at the present time, but the method of Senn would seem to be an improvement over the Kader procedure.

GASTROENTEROSTOMY.

The establishment of a connection between the stomach and intestine was first performed by Wölfler in 1881,¹⁰ and is indicated in the several conditions previously noted, but particularly in pyloric obstruction, cancer and ulcer.

While the mortality has been about 10% in the non-malignant, and about 30% in the malignant conditions, there would seem to be no good reason why, with our present technic, the mortality of this operation when early performed should not be practically nil. There is certainly nothing about the operation itself which should, in careful and dextrous hands, cause any mortality.

The anastomosis should be made on the posterior wall of the stomach at its lowest point and the union effected by a Murphy button or suture.

Masse¹ has demonstrated that regurgitation of bile is of no consequence, but to avoid the possibility of annoyance Braun suggests the making of a simultaneous duodeno-enterostomy.

The incision for gastroenterostomy is made in the median line above the umbilicus, the stomach is located and then the upper part of the jejunum is found and either turned over the transverse colon or a small slit is made in the mesocolon and the posterior wall of the stomach seized and both are brought into the wound. If the sutures alone are to be employed a continuous suture should be applied in the most posterior part of the area of intestine and stomach to be approximated,

before either viscus is opened. After making the incision in both organs it is best to make a continuous suture approximation of the two wound edges and then to carry the first suture completely around the second one. This is a rapid and effectual method.

If a Murphy button is to be employed a small incision is to be made in one viscus, two lateral sutures introduced as advocated by Murray, half of button introduced and suture tied. After the same is done on the other side, the button is closed. This can be fortified by a row of sutures, but if the rent in the mesocolon is closed about the point of anastomosis it affords sufficient additional protection. The fact that this operation with a Murphy button and a continuous row of sutures can be performed within 10 minutes will commend its use until some better mechanism is devised. It would seem that having the lower half of the button larger than the upper half would prevent its dropping into the stomach, and thus avoid an objection which has been advanced against its usage. If time is an object, the button should be employed, otherwise the operator can choose his method, as both are excellent. Chaput, McGraw, Sonnenburg, and later Kocher have devised methods for the formation of valvular openings to prevent regurgitation. In 1898 Podrez²¹ performed gastroenterostomy by inserting two sutures at right angles and tying tightly to produce pressure necrosis. Sokoloff²² reports failure in 2 out of 4 cases. If it is to be successful, elastic ligatures should be employed as advised by McGraw in 1891.²³

GASTROANASTOMOSIS.

Gastroanastomosis or gastrogastrostomy was first performed by Wölfler in 1894, and independently by Watson in 1896,³ for the relief of marked "hour-glass" contraction of the stomach. Its technic is identical with gastrectomy or gastroenterostomy.

PYLORECTOMY.

This procedure was advised by Merrem in 1810,¹⁶ Pean was the first to perform it in 1879—while Billroth performed the first successful operation in 1881.¹

The mortality of the operation has been so great that its performance would seem to be rarely justifiable, but the present results of abdominal and gastric surgery would seem to warrant a more favorable immediate prognosis than was formerly given.

The oblique incision of Billroth directly over the tumor or an incision along the outer edge of right rectus is made, pylorus liberated and pulled well into the wound. The section should be made from 3 to 5 cm. (1½ to 2 inches) beyond the tumor. After excision the duodenum can be sutured into the gastric wound by double row of Lembert sutures, or the latter can be closed and the anastomosis of the duodenum into the posterior wall effected, or both wounds can be closed and a gastroenterostomy performed.

GASTRECTOMY.

The technic of partial gastrectomy is identical with that of pylorotomy. Robson collected 14 cases of extensive resection with mortality 28.5%. In total gastrectomy, the section of the duodenum is first made and then the omenta and ligaments divided between clamps. The stomach is then cut off from the esophagus, leaving a little of the stomach-wall if possible. The duodenum is then united to the esophagus by suture or a Murphy button.

Schlatter successfully performed complete gastrectomy in September, 1897. Death occurred 14 months later from general carcinomatosis. Since that time the operation has been successfully performed by Brigham (patient well 2 years after), Delatour (patient well 17 months after), Richardson (patient lived 11 months and died from local recurrence), MacDonald (patient well 18 months after), and Harvie (just reported²⁴). Death on the table or within 36 hours occurred in the cases of Chavasse, Kobb and Bernays. Of the 6 successful cases, 2 have died in 14 and 11 months. Four are still living.

A mortality of only 33% for the operation *per se* is certainly remarkable, and this fact, with the ultimate results presented, demonstrates the practicability of this life-prolonging and life-saving measure. The remarks made under the treatment of carcinoma concerning the importance of early diagnosis and early operation need no better proof as to their correctness than the above data.

GASTROPLICATION.

Gastroplication or "reefing" of the stomach-wall, as first practised by Bircher in 1891,²⁵ is effected by the insertion of two or more rows of sutures in such a manner as to approximate two broad areas of the anterior surface of that organ. The sutures include only the serous and part of the muscular coats.

GASTROPEXY.

Gastropexy consists in the fixation of a displaced stomach in its normal position. This is usually accomplished by the coaptation and fixation of a considerable area of the stomach-wall to the anterior parietes by several sutures. In some cases it may be possible to reef the lesser omentum. It is usually necessary to fix the colon and other displaced organs at the same time.

GASTROLYSIS.

The term gastrolisis is used to designate the operation of dividing adhesions which may fix or distort the stomach. If the adhesions are cord- or ribbon-like its performance is both easy and safe, but if they are broad and extensive their removal may compromise the gastric wall sufficiently to necessitate resection.

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Budapest.—Dr. Kuesara, professor of surgery at the University of Tokio, Japan, is at present visiting the University of Budapest. Dr. Kugandi, professor of anatomy, Tokio, also spent several weeks inspecting the medical institutions of Budapest.

A CASE OF LIGATURE OF THE INNOMINATE ARTERY FOR ANEURYSM.*

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Triple ligature of the innominate artery for high innominate and carotid aneurysm and also axillo-subclavian aneurysm, followed by a simultaneous double ligature of the common carotid and vertebral arteries at a subsequent operation. Death from exhaustion on the twenty-first day.

The case which I submit for your consideration is at the same time rare and important, and further should excite your special interest in that the first successful case was performed in this city in 1864. It will, no doubt, give rise to criticism; but do we not learn by our failures as much as by our successes, and does not the history of medicine, surgery especially, show that it is made up of mingled failures and successes? So, although it is my misfortune to report a failure, I trust my experience will be of some service to those surgeons who will be bold enough to undertake this hazardous operation.

On considering the history of this operation, since it was first performed by Valentine Mott, in 1818, one is so forcibly struck by the almost unbroken record of fatal results as to question its advisability.

It must be remembered, however, that the majority of the recorded cases belong to the preaseptic period, and some of the more recent cases have succumbed from faulty asepsis. Hence, viewed from the light of modern surgery, the operation of ligature of the innominate artery is not only justifiable, but feasible, though it still remains one fraught with danger. I cannot help believing that the results obtained in the next series of cases will be much more encouraging.

History of the Case.—A negro, 58 years of age, is admitted in my service at the Charity Hospital, on June 2, 1900. He is a man of good development, well nourished, and presents a pulsating tumor, the size of a large orange, on the right side of the chest. In his right shoulder, he complains of constant pain, fulness and throbbing, which have existed with varying intensity for several weeks before admission. He states that pain in his shoulder is the first symptom that called his attention to his present trouble, and that occurred in January. Two months later he noticed a sense of throbbing at the upper part of the right side of the chest, and very soon afterwards loss of power in the right arm. A swelling below the clavicle slowly made its appearance and has gradually grown to its present size. The pain likewise kept pace with the growth of the tumor, and is now so intense as to cause him to seek relief.

On the forehead, between the superciliary ridge and right above the nasal spine, a depression and scar are very conspicuous. When a boy of 16 years he was struck with a hatchet and thereby suffered a fracture of the frontal bone. This injury seems to have caused no bad effect.

A somewhat indefinite history of previous apoplexy is elicited. The attack occurred eight months ago, he was confined to bed for about one month and was unable to use his left upper extremity for about the same time. He soon recovered and resumed his work as a laborer.

His family history is easily told, inasmuch as negro hospital patients, as a rule, are unable to give any information on that point.

A physical examination shows the existence of an aneurysmal tumor behind the right pectoral muscles, filling the bottom of the axillary space and extending to the right clavicle. The cutaneous veins over that region are much dilated. A

systolic bruit is distinctly heard, and an expansive thrill readily made out.

The heart-area is enlarged, and the apex is fully $\frac{1}{2}$ inch to the outer side of the mammary line. Two murmurs are discerned: one at the apex with the first sound, the other at the second right interspace with the first sound. No difference can be detected between the arteries in the wrists, either in strength, fulness, or rhythm.

The radial and ulnar arteries on both sides are very superficial and their atheromatous condition can be felt. There is no edema of the right hand. Pressure with the thumb on the subclavian artery over the first rib obliterated the radial pulse and pulsation in the tumor.

As well as can be ascertained the lungs are normal. Nothing abnormal is detected from an examination of the abdominal organs. The urine contains a trace of albumin, otherwise there is nothing noteworthy. The veins of the lower extremities have a tendency to varicosity. The pupils are regular. There is no cough, and no laryngeal irritation. Temperature up to 100° nearly every day.

Attempts were made to secure sphymographic tracings of the right and left radial pulse, but no record could be

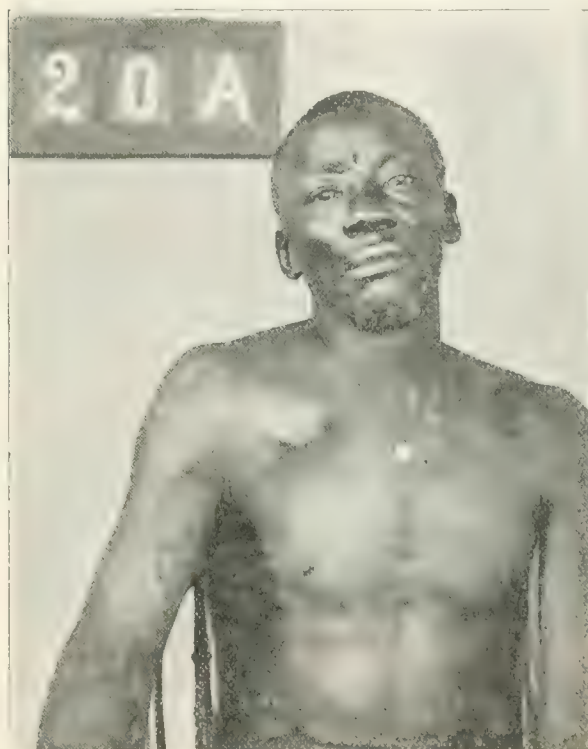


FIG. 1. Appearance of tumor, enlarged veins, etc.

obtained. The diagnosis of an idiopathic axillo-subclavian aneurysm depending on a general arteriosclerosis is made.

The patient is placed in bed and put on a low diet combined with potassium iodid in large doses. An ice-bag on the tumor is also used. At the end of the first week the tumor appears to be larger. At the end of the second week, the pulse still continues high, the tumor increases in size, while the pain in the arm is unbearable; the patient lies in bed with the arm outstretched and begs for relief. The medical treatment has thus far been without any appreciable result. I then had a consultation with Drs. Bloom and Parkham, and as the result of the consultation it was decided to attempt operation upon the third portion of the subclavian, and in the event of that proving diseased upon the first portion, and as a last resort upon the innominate, and also if practicable to complete the operation with a ligature of the axillary artery above the subclavian.

Operation—On June 16, with the cooperation of Drs. Bloom, Parkham, Marion, Souchon, and other members of the hospital staff, the following operation was carried out:

The patient having been chloroformed was placed in the usual position on his back, with the shoulders elevated and

* Read before the Orleans Parish Medical Society, November 24, 1900

the head well drawn towards the left side. Having drawn the cervical skin upwards I made an incision 3 inches in length, extending from the outer border of the trapezium to the posterior border of the sternocleidomastoid muscle. The skin flap with the superficial fascia and platysma muscle was drawn back and the cellular tissue was dissected away, exposing the upper or supraclavicular portion of the sac. The fibers of the subclavius muscle were pushed upwards, carrying with them the dilated supraclavicular vein. On further dissection I discovered that the aneurysm not only

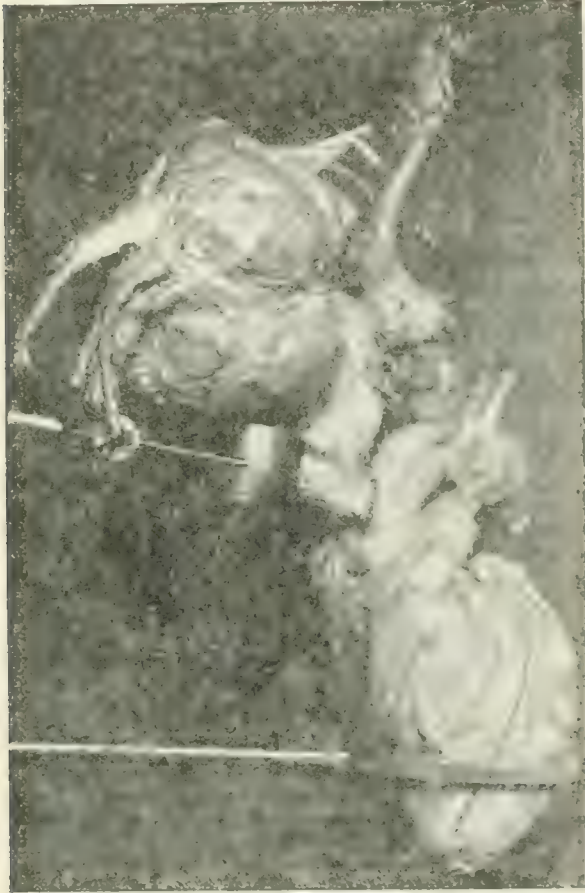


FIG. 2. Aneurysm exposed.

involved the entire third portion of the subclavian artery, but extended to the second portion. Ligature at either portion was out of the question. The cutaneous incision was then prolonged to the middle of the manubrium. The sternomastoid muscle was divided close to its insertion into the clavicle and sternum. In the cellular tissue now exposed a medium-sized vein was severed between two ligatures. The sternohyoid and sternothyroid muscles were also divided.

The artery exposed to view was of very large size, so much so, indeed, that some of those present thought I had reached the innominate artery. The vessel filled the field of operation so completely that an incision of the clavicle and sternum was decided upon.

The inner third of the clavicle was carefully dissected and its periosteum peeled off. With a Gigli saw section was made from below upwards. The sternal end was freed with care and the section removed without injuring the delicate structures behind. A flat retractor was slid underneath the manubrium to protect the underlying parts. The right sternoclavicular articulation and the right half of the notch of the manubrium were cut out with the rongeur forceps, thus enabling me to place the ligature in a far more satisfactory manner than if the ligature was slid down, in the dark, behind the sternum.

I now went further down in search of the bifurcation, but this was an extremely tedious and anxious proceeding owing

to the dilated and diseased condition of the artery. It was found impossible to expose the first portion of the subclavian artery; it could only be felt with the finger deep in the wound behind the dilated innominate artery.

I had here to deal with a fusiform aneurysm of the innominate artery involving the bifurcation and extending up and on the common carotid in addition to the subclavian aneurysm. The artery near its origin from the arch was about double its normal size and at its upper part was fully $1\frac{1}{2}$ inches in diameter. As far as could be ascertained the innominate aneurysm continued upwards as the common carotid, forming one continuous sac. The first portion of the subclavian artery was hidden behind the aneurysmal tumor, and could not be exposed; to the finger it felt of normal size. It was believed that enough of the innominate was fairly healthy to place a ligature between the fusiform aneurysm and the aorta. The left innominate vein above and the right pneumogastric and phrenic nerves and internal jugular vein, on the side, were plainly seen in the wound and drawn out of harm's way. The sheath of the innominate artery could not be separated as it was closely adherent throughout the extent of the artery. The index finger was passed down to the arch of the aorta below and around the innominate artery, near its origin.

Three ligatures, two of kangaroo tendon and one of braided silk, were applied in the following manner: I placed the first kangaroo tendon a little over an inch above the aorta, and before tying tested the effects of pressure upon the artery between my finger and the ligature, slightly lifting the artery from its bed, and finding a diminished pulsation in the radial artery and aneurysm I secured the ligature with 3 square knots, using moderate firmness only, with the



FIG. 3. Aneurysm exposed.

idea of not rupturing the coats of the vessel. This ligature was not tight enough to serve as a buffer and protection for the second one. The second ligature of kangaroo tendon was placed about a half inch below the first and about three-fourths of an inch from the arch of the aorta. Gradually it was drawn tighter until the circulation was completely cut off. A third kangaroo tendon ligature was tied in the same place to reinforce the other two, but it broke. I then used a braided silk ligature that com-

bly rupturing the coats. The ligatures were all passed from within outward and were put in position with a large aneurysmal needle. It was my purpose, if possible, to ligate the common carotid and vertebral arteries, but the patient, who had taken the anesthetic admirably well and had been under its influence for over 2 hours, now gave evidence of shock, so it was deemed advisable to close the wound as rapidly as possible and defer further operation to a more propitious time. The overlying muscles were sutured with kangaroo tendons in approximately their original positions, and the edges of the wound were brought together with silkworm-gut sutures. The pulsation was gone from the subclavian aneurysm and right radial artery. The right upper extremity from finger to shoulder was wrapped in sheets of wadding and bandaged to maintain its temperature. The patient was at once put to bed, and was in fairly good condition. The operation lasted over 2 hours; it was done with deliberation and care, and was practically bloodless. The preliminary operation for exposure of the third portion of the subclavian artery, the excision of the clavicle and sternum, and the dissection of the aneurysm of the innominate artery, were procedures that consumed considerable time and account for the tediousness and duration of the operation. A slight pulsation in the right radial artery is detected at 6 P.M., about 4 hours after the operation. The patient is drowsy and does not recover easily from the anesthetic. Has a restless night; nausea and vomiting.

June 17.—A.M., temperature 100°, pulse 110, respiration 30. Patient restless, mental condition dull. A small but distinct radial pulse is felt, synchronous with left radial. There was no pain and no vomiting. He complains of headache.

June 18.—A.M., temperature 99.4°, pulse 104, respiration 20. Mental condition somewhat improved. Marked pulsation is felt over the tumor. P.M., temperature 100°, pulse 114, respiration 18.

June 19.—A.M., temperature 99°, pulse 100, respiration 16. Mental hebetude continues. Tumor decidedly denser and smaller. Bowels moved. Dressings stained with serous oozing. Changed the dressings. Urine: 3% moist albumin, casts. Got up from bed during night to get water. P.M., temperature 100°, pulse 108.

June 20 (5th day).—A.M., temperature 98½°, pulse 100; P.M., temperature 100°, pulse 106. Is comfortable and free from pain.

June 21 (6th day).—A.M., temperature 99°, pulse 100; P.M., temperature 99½°, pulse 110.

June 22 (7th day).—A.M., temperature 100½°, pulse 112; P.M., temperature 99½°, pulse 110. Mental condition unchanged. On changing dressings pus was detected at two sutures.

June 23 (8th day).—A.M., temperature 99½°, pulse 106; P.M., temperature 99½°, pulse 116. Changed dressings. A little purulent matter escaped from the wound. Irrigation with formalin solution and hydrogen dioxid solution was made.

June 24 (9th day).—A.M., temperature 100°, pulse 118; P.M., temperature 99½°, pulse 112. Pulse in right radial is strong and bounding. There is a small sinus which extends downward and toward the sternum, under the skin and 1½ inches deep.

June 25 (10th day).—A.M., temperature 100½°, pulse 108; P.M., temperature 99°, pulse 114. Mental condition improved.

June 26 (11th day).—A.M., temperature 99½°, pulse 104; P.M., temperature 99½°, pulse 112. Restless at night. Mental state is changed in that the delirium is more active and talkative. Has to be restrained and tied to bed. Daily dressings continued.

June 28 (13th day).—A.M., temperature 100°, pulse 110; P.M., temperature 99½°, pulse 96. Mental condition same. Very little pus, but granulations are unhealthy.

June 30 (15th day).—A.M., temperature 98½°, pulse 92; P.M., temperature 99½°, pulse 104. Slight edema of right hand.

July 1 (16th day).—Patient is natural in appearance and feels comfortable. Since the operation his mind has not been perfectly clear, at times there is actual delirium.

July 2 (17th day).—A.M., temperature 98½°, pulse 112; P.M., temperature 99½°, pulse 92. Delirium less active. Wound looks more healthy, sinus appears to be closing. Hardly any discharge.

July 5 (20th day).—A.M., temperature 102½°, pulse 120; P.M., temperature 102°, pulse 116. Nothing to explain elevation of temperature. Patient is quiet and resting comfortably.

July 6 (21st day).—Mr Terry, the interne of the ward, was called at 6 o'clock that morning to see the patient, who had had a slight hemorrhage a few minutes before. Patient stated that he felt weak and chilly. Temperature 100°, pulse 120. One-fourth of a grain of morphin was given and a shot-bag applied over the aneurysm and neck. When I saw him that morning at 10 o'clock he was very weak and his face was covered with perspiration. The hemorrhage from the wound had been easily arrested and little blood had been lost. At that time his temperature and pulse were 100½° and 140° respectively. I was only waiting for the wound to be completely healed before attempting the ligature of the common carotid and vertebral arteries.

In view of the fact that the secondary hemorrhage in these cases usually comes from the distal end of the artery, and that pulsation in the common carotid had been felt three days after the operation, I decided, notwithstanding the patient's unfavorable condition, to re-open the wound and expose that artery, feeling justified in the belief that that vessel was the source of hemorrhage. Remembering also Smyth's brilliant ligation of the vertebral artery, I included it as a possibility in the operation. The patient was placed upon the table and chloroformed. With Dr. Bloom's assistance I made the usual incision along the anterior border of the sternomastoid muscle and readily exposed the right common carotid artery. A silk ligature was applied half an inch below the bifurcation. More difficulty was experienced in exposing the vertebral artery, not only on account of its deep situation in the neck, but owing to the adhesion which had formed since the first operation. The artery was finally dissected out and a silk ligature placed about a half inch from the vertebral foramen. Just as the wound was being prepared for closure, the patient's heart stopped. During the operation very little chloroform had been used, as his condition had been poor, demanding active stimulation. For half an hour artificial respiration was tried, but in vain.

Postmortem Examination.—An autopsy was held an hour after death by myself, but as the body was claimed the examination was limited to the neck and thorax: that is, those parts actually involved in the disease and operation. The original line of incision was practically healed with the exception of a small sinus barely admitting the introduction of a slender probe. The sinus extended toward the sternum and contained at its external end a small elongated clot; presumably this was the channel through which the hemorrhage had taken place.

The clavicular stump was well covered with a mass of fibrin, and the sternal cavity well filled with the same material. The left lung was normal and free from adhesions. The right lung was closely adherent to the second and third ribs about the mammary line, at a place corresponding to the base of the subclavian tumor, otherwise the lung was normal. The pericardium was smooth. The heart was greatly hypertrophied, the left ventricular wall being about an inch thick, all the cavities of the heart, particularly on the left side, were dilated. The valves were thickened and hard. The arch of the aorta was thickened and dilated, the dilation affecting equally the circumference of the artery. Of the large branches springing from it, the left common carotid and subclavian were normal in size but thickened. The innominate artery was a little over two inches in length and at its upper part presented a fusiform dilation that was continuous upwards into the common carotid for about one and a half inches. The innominate artery about its middle part was surrounded by a thick and wide ring of firm cicatricial tissue. No sinus was discovered leading to the lumen of the artery. The entire silk ligature was found lying in the lumen of the artery; the knot was intact and the ligature was held by a posterior segment of the artery. It had

gradually cut its way through the artery and the fibrinous ring about it had been sufficiently organized to prevent hemorrhage from the severed artery. No trace of the kangaroo tendons was found; they had evidently been completely absorbed, the distal and proximal ends of the divided artery were pervious, and it is to be supposed that circulation through the artery had been reestablished a few days after the operation.

The common carotid was found dilated, the lower third forming a part of the innominate aneurysm and the ligature was found half an inch below the bifurcation of the artery. The subclavian artery was found to spring from the posterior aspect of the innominate aneurysm, it was normal in size but atheromatous. The branches of the thyroid axis were all much enlarged, the vertebral was ligated about one inch from its origin, the suprascapular was enlarged to three times its usual size and passed over the upper portion of the subclavian aneurysm. The second and third portions of the subclavian artery and the first and second portions of the axillary artery were involved in the subclavian aneurysm.

The aneurysmal tumor was found to spring from the posterior aspect of the third portion of the subclavian artery and the first portion of the axillary. It was flattened below where it rested on the first, second and third ribs; above it was deeply grooved by the clavicle. A portion of the second rib was absorbed, producing a pathologic fracture.

Portions of the first, second, and third ribs were removed with the attached tumor, together with the heart; the two solid parts, the heart and tumor, being joined together by the first portion of the subclavian artery as by a hyphen. The whole part was taken out en masse.

An incision was made into the aneurysm parallel to its base. It contained a mass of dark, thick clots occupying the cavity. The process of cure was evidenced by fibrinous layers upon the walls and on the inner sides of this coating were masses of coagulum less firm but evidently undergoing consolidation. To summarize it may be said that this case is one of arteriosclerosis affecting the aorta and the large arteries and even the veins, presenting a fusiform aneurysm of the innominate and common carotid arteries, also a sacculated aneurysm of the subclavian and axillary arteries, in which a triple ligature of the innominate artery was applied, followed by nonocclusion of the artery by the ligatures, severance of the artery by the lower ligature with subsequent probable ulceration and slight hemorrhage, the ligature remaining within the artery and the continuity of its lumen being restored, and in which a double ligature of the right vertebral and common carotid arteries was placed at a subsequent operation, followed by death from exhaustion.

In dealing with this case I was fully impressed with its gravity. The various plans of medical treatment, as well as other operative measures besides ligature of the innominate, such as amputation at the shoulder-joint, distal ligature of the subclavian at its third portion, Stewart's method of electrolysis through a wire, MacEwen's needling, had been considered and set aside as impracticable or unsuitable. It was then with a full appreciation that I undertook it, and, notwithstanding the fatal termination of my case, I still believe that ligature of the innominate artery may be safely done.

"The operations on the vessels behind the clavicle and sternoclavicular joint," says Barwell (on Aneurysm, p. 55), "are among the most arduous in surgery, requiring both steadiness and a certain courage. . . . Given, however, that the operation has been performed in a moderately short period, and has been properly selected, there is no reason why the patient should not get well, provided the ligature has not divided any of the arterial coats."

In 1895 was published the monograph of Professor Edmond Souchon, of our city, a most masterly and exhaustive treatise which has received uniform commendation. In it he gives a full account of all previous operations and formulates definite rules of procedure. So succinct, definite and valuable are the rules laid

down by him, that the operative methods he advises are generally followed. It should, however, be stated that no method advised by him is original, every one having been employed by earlier operators. But Dr. Souchon's work has given a remarkable impetus to the operation for ligature of large vessels. He insists on two points as of paramount importance for success, namely, two or more noncontiguous, absorbable ligatures and the non-rupture of the coats.

The adhesion of the coats may be effected in smaller vessels without difficulty, says Thomson (*British Medical Journal*, Vol. II, 1882), but in such a large vessel as the innominate there must be a certain amount of crumpling of the vessel within the ligature loop when that is drawn tight. Upon this circumstance Barwell observes: "It would seem that the tube, puckered and narrowed to a mere rift by the ligature, would afford an excellent surface for, and would soon get occluded by, blood-clotting."

The postmortem examination in Thomson's case showed this condition to be actually present. Although the ligature was drawn home, a chink still appeared to have been left, but that chink was closed by a firmly organized clot, which projected through it towards the carotid and subclavian arteries. These vessels were indeed closed by a clot which was throughout continuous with the large mass which occupied the cardiac portion of the innominate.

A protest against the principle of division of the vessel's coats, when tied in its continuity, was made by Charles Bell so late as 1842, and the opinion of modern surgeons has upheld him in that opinion. As to the necessity of the formation of a clot for the perfect closure of an artery, Spence's experiments (*Lectures on Surgery*) show that the presence of a coagulum within the vessel, filling up its canal for some distance, and ultimately becoming adherent to and incorporated with its parietes, was not essential to perfect obliteration. His experiments further showed that however common the presence of a clot, or however valuable as an accessory it might be when present, it was not essential in the process.

Recent experience shows the importance of applying two ligatures to the vessel to insure complete and permanent closure of its lumen. They should be placed about half an inch apart, if space will allow. The distal ligature is depended upon to permanently close the vessel, and the proximal one protects the first from the powerful concussion of the arterial current. In the present case, just as in Burrell's case, the proximal ligature cut its way through the arterial coats and was found inside the vessel, the lumen of which had been restored. The danger from hemorrhage in such cases is averted by the formation of a thick, fibrinous ring around the artery at the seat of ligature.

As to the question of the division of the innominate artery between two ligatures, I can do no better than quote Gray's explicit opinion: "It does not seem wise," says he, "to divide the innominate artery between the ligatures to relieve axis tension, as has been done with apparently good results in tying the carotid and other large vessels. The violence of the systolic impact, the strain upon the proximal ligature, and the tendency of that thread to cut through the arterial coats, the unreliable character of the proximal thrombus, the lack of the firm lateral support which is present in the neck, thigh, and other large arteries, the fact that the innominate artery is surrounded by loose, cellular tissue,

suspended, as it were, in soft, nonresisting structures, would all seem to militate against the practice of severing the artery for fear of secondary hemorrhage."

It must not be forgotten that successful ligation of the innominate artery is largely a matter of asepsis, and it is here that modern surgery should demonstrate its superiority. The surgeon, nowadays, does not wait expectantly for the separation and withdrawal of the ligature about the tenth day as formerly, but seals up the wound and trusts in his asepsis and technic.

The various materials which have been used for ligatures in ligation of very large vessels are as follows: Silk, hemp, catgut, ox aorta, kangaroo tendon, etc., in fact every variety of material has been employed. "It would seem," says Harte, "that a ligature composed of animal substance which would in time lend itself to the tissues and yet be sufficiently strong, would be most likely to meet with success; although there is always an element of uncertainty in the employment of such a ligature for fear that it may become absorbed too soon or its knot become insecure through the softening process of heat and moisture."

Burrell employed two flat, braided silk ligatures, passing one above the other about a half an inch apart. His object was to rest the artery by severing the vessel between them, thus avoiding the tracheal tug.

The ligature must be aseptic, and a silk ligature can be rendered more thoroughly aseptic than any other without injuring its strength.

The collateral circulation in these cases is established through the left carotid and vertebral arteries, the circle of Willis, the corresponding arteries of the right side, also through the thyroid arteries, the intercostals, especially the superior, the mammary, the profunda and princeps cervicis, and doubtless through many other smaller vessels of the arterial system.

It has been suggested by some surgeons, and I think it unquestionably safer that in such an operation as this, the common carotid and perhaps the vertebral ought to be ligatured at the same time, with the object of cutting off the recurrent circulation not only from contact with the seat of ligature on the innominate and preventing the formation of a clot, but from supplying the distal tumor. The carotid was so treated in Smyth's case. Thomson states that as a matter of fact the carotid has been frequently found closed when the innominate only was tied.

The failure of other methods than ligation for the treatment of aneurysms of the very large arteries has led surgeons to persist in the method offering the best results. After consideration of the uniform fatality of the operation by the proximal ligature, it would seem that Basedow's method of tying the carotid and subclavian arteries would offer a more promising method of procedure. In the only opportunity I have had of witnessing the application of this method the result was not encouraging. The case was Dr. Parham's, who, two days prior to my first operation on the present case, operated for a large aneurysm of the innominate artery, and syphilitic in origin. A catgut ligature was placed on the third portion of the subclavian artery and on the right common carotid near its bifurcation. The patient lived 20 days after the operation and finally died of suffocation by pressure on the trachea—a result probably due also to too much back-pressure upon the heart.

For the treatment of aneurysms various methods have been recommended, several of which have apparently been followed by good results, but the history has sel-

TABLE—SHOWING CASES IN WHICH THE INNOMINATE ARTERY WAS LIGATED FOR SECONDARY HEMORRHAGE.

NO.	OPERATOR.	DATE OF OPERATION.	SEX AND AGE.	CONDITION REQUIRING OPERATION.	ARTERIES LIGATED.	LIGATURE USED.	DATE OF HEMORRHAGE.	TIME OF DEATH.	CAUSE OF DEATH.	PLACE OF RECORD.	RECOVERIES AND REMARKS.
1	Huclin, Paris.	1842	M. 27	Secondary hemorrhage. Penetrating wound, injuring long thoracic artery.	Third portion of subclavian; then innominate, 9 days after.	Not mentioned.	None from innominate.	12 hours after operation.	Hemorrhage.	Lancet, 1842, Vol. 1, and Archives de Chirurgie Française et Éttrangère.	
2	Lynch.	1867	27	Secondary hemorrhage from gunshot wound of inferior carotid and vertebral arteries.	Innominate; common carotid had been tied a month previously.	Not mentioned.	12th day.	12th day.	Hemorrhage.	Quoted by Burrell, Boston Medical and Surgical Journal, 1895, Vol. 133.	
3	Partridge, S. B., Chicago.	1876	M.	Secondary hemorrhage from carotid aneurysm.	Innominate; 13 days previously, common carotid had been tied.	Not mentioned.	13th day from carotid.	1½ hours after second operation.	Shock.	Indian Annals of Medical Sciences, Vol. XIV, p. 22.	
4	Lewtas, J., Iowa.	1880	M. 20	Hemorrhage following traumatic subclavian aneurysm.	Innominate and carotid.	Catgut.				British Medical Journal, 1889, Vol. II, p. 332.	Recovery reported 43 days after operation.
5	Harte, R. H., Philadelphia.	1897	M. 26	Secondary hemorrhage from gunshot wound of neck (common carotid.)	Innominate; right subclavian and carotid.	Silk.	On day of second operation and 10 days previously.	A few hours after operation.	Hemorrhage.	Annals of Surgery, 1897, Vol. XVI, p. 489.	At last operation, right common carotid had been tied in two places.

TABLE—SHOWING CASES IN WHICH THE INNOMINATE ARTERY WAS LIGATED FOR SUBCLAVIAN ANEURYSM.

NO.	OPERATOR.	DATE OF OPERATION.	SEX AND AGE.	CONDITION REQUIRING OPERATION.	ARTERIES LOCATED.	LIGATURE USED.	DATE OF HEMORRHAGE, IF ANY.	TIME OF DEATH.	CAUSE OF DEATH.	PLACE OF RECORD.	RECOVERIES AND REMARKS.
1	Mott, V. New York.	1818	M. 37	Aneurysm of innominate, carotid and subclavian.	Innominate.	Silk.	23d day.	26th day.	Hemorrhage.	Medical Repository, N. Y., Vol. I, 1818.	Innominate artery was closed.
2	Græb, Berlin.	1822	M. 30	Aneurysm of right subclavian.	Innominate.	Not described.	A few days before death.	67th day.	Hemorrhage.	Med. and Phys. Jour., 1823, p. 475; Brit. Med. Jour., 1882, p. 728.	Aneurysm needle had partially transfixed artery, accounting for hemorrhage.
3	Norman, Bath.	1824	M.	Subclavian aneurysm.	Not described.	Not mentioned.	None	3d day.	Hemorrhage.	Guy's Hospital Reports, Vol. XVIII.	
4	Arceuth, St. Petersburg.	1827	M. 36	Subclavian aneurysm.	Innominate.	Not mentioned.	None	8th day.	Sepsis (exhaustion.)	Guy's Hospital Reports, Vol. XVII, p. 126; Wyeth's Essays, p. 164.	
5	Hall, J. Baltimore.	1836	M. 52	Subclavian aneurysm.	Not described.	Not mentioned.	At operation	6th day.	Hemorrhage.	Baltimore Med. and Surg. Jour. and Review, 1838, Vol. I, p. 125.	
6	Blanch, W. Paris.	1842	M.	Subclavian aneurysm.	Not described.	Two threads.	17th and 18th days.	18th day.	Hemorrhage.	Lancet, 1882, Vol. II.	
7	De la Haye, N. S. W. Paris.	1844	M.	Subclavian aneurysm.	Innominate.			3d day.	Hemorrhage.	Leçons Orales de Chirurgie Chirurgicale, Paris, 1844, p. 611.	
8	Lazear, Edinburgh.	1847	M. 26	Subclavian aneurysm.	Innominate.	Not described.	10th, 20th and 21st days.	21st day.	Hemorrhage.	Lancet, 1897, Vol. II, p. 445 and 607.	
9	Gair, R. F. Bath.	1855	M. 52	Subclavian aneurysm.	Innominate.	Hemp.		17th day.	Shock.	Lancet, 1878, Vol. II.	
10	Pirrell, St. Petersburg.	1856	M.	Subclavian aneurysm.	Innominate.	Not noted.	None.	48 hours after operation.	Septicemia, probably.	Guy's Hospital Reports, Vol. XVII, p. 137.	Reset the sternum.
11	Cooper, E. S. San Francisco.	1859	M. 40	Double aneurysm of carotid and subclavian.	Innominate.	Not noted.	None.	9th day.	Sepsis, probably.	American Jour. Medical Sciences, N. S., Vol. XXVIII, 1869.	
12	Cooper, J. S. San Francisco.	1860	M.	Subclavian aneurysm.	Innominate.	Not noted.		34th day.	Hemorrhage.	San Francisco Med. Press, Jan., 1861; Guy's Hosp. Rep., Vol. XVII, p. 136.	Recovery
13	Smith, A. W. New Orleans.	1861	M.	Subclavian aneurysm.	Innominate and vertebral.	Not noted.	14th, 33d and 51st days.	2d day.		Successful operation in a case of subclavian aneurysm, New Orleans, Medical Press and Circular, 1877.	
14	Porter, Geo. H. Dublin.	1867	M. 43	Subclavian aneurysm.	None.	Clamp applied to innominate for 3 days, then removed.	6th day.	7th day.	Hemorrhage.	Medico-Chirurgical Trans., 1873, Vol. LVI, p. 129.	First used a lead wire passed under innominate, 2 days before applying ligature. Sac ruptured into pleural cavity.
15	Baker, F. R. Liverpool.	1868	M.	Subclavian aneurysm.	Innominate.	Double silk.		23d day.	Hemorrhage.	Wyeth's Essays, 1879, p. 163.	
16	Mott, A. E. New York.	1873	M.	Subclavian aneurysm.	Innominate and carotid.			Few minutes.	Shock.	Quoted by Burrell, Boston M. and S. Jour., Aug. 8, 1895.	
17	Buchanan.	1873	M.	Subclavian aneurysm.	Innominate.	Not described.	None	20 hours after operation.	Shock.	Power of Arteries, third edition, p. 49.	Two inches of the clavicle were removed.
18	O'Grady, E. Dublin.	1882	M.	Subclavian aneurysm.	Innominate.	Ox aorta.	30th and 30th days.	42d day.	Hemorrhage.	British Medical Journal, 1882, Vol. II.	
19	Thomson, W. Dublin.	1882	M. 40	Subclavian aneurysm.	Innominate.	Kangaroo tendon.	23d day after last operation.	37th day.	Hemorrhage.	British Medical Journal, 1885, Vol. I, p. 250.	
20	Banks, M. H. Liverpool.	1885	M. 40	Subclavian aneurysm.	Innominate and carotid.	Double catgut.		33d day.	Hemorrhage.	Burrell, Boston M. and S. Journal, 1895.	
21	Boyle, New York.	1884	M.	Subclavian aneurysm.	Innominate, right common carotid and vertebral simultaneously.	Catgut.	10th day.	19th day.	Hemorrhage.	Lancet, 1886, Vol. I, p. 1064.	
22	Max, Bennett. Birmingham.	1885	M.	Subclavian aneurysm.	Innominate, right common carotid and vertebral.			16th day.	Hemorrhage, hemiplegia.	Brit. Med. Jour., 1889, Vol. II, p. 79.	
23	Dunlop, F. Rome.	1885	M.	Subclavian aneurysm.	Innominate.	Not noted.		18 hours after operation.	Shock.	Lancet, 1890, Vol. I, p. 1562.	Cerebral complications.
24	Tracy, Geo. F. New York.	1890	F. 53	Fracture, subclavian aneurysm.	Innominate and carotid.	Silk.				Lancet, 1893, Vol. II, p. 327.	Recovery. Exhibited 42 days after operation.
25	Coppinger, Charles. Dublin.	1894	M. 53	Subclavian aneurysm.	Innominate, common carotid divided by two ligatures.	Two silk.		42d day.	Hemorrhage (anaplex).	Boston M. and S. Journal, 1895, Vol. 133.	Recovery. Death on 10th day from atrophies and by peripneumonia.
26	Baker, F. H. Boston.	1895	M. 4	Aneurysm involving innominate, subclavian and carotid arteries.	Innominate.	Three silk.	19th, 32d and 42d days.	9th day.	Hemorrhage.	Boston M. and S. Journal, 1897, Vol. 137.	
27	Gray, Geo. W. Boston.	1896	F. 4	Aneurysm involving innominate, subclavian and carotid arteries.	Innominate.	Silk.		21st day.	Cerebral aneurysm.	Medical Record, 1898, Vol. LIV.	
28	Champion, F. L. Liverpool.	1900	M. 42	Double aneurysm of subclavian and common carotid.	Innominate.	Two kangaroo tendons.	21st day.	21st day.	Exhaustion.		

dom been followed up for a time sufficiently long to acquaint us with the ultimate results of the operation.

The much lauded gelatin-injection treatment, from which, after the favorable French accounts, so much was expected, has proved a failure in other countries. The latest device, however, which consists in the wiring of aneurysm followed by the passage of a mild electric current, has given excellent results. But a few weeks ago we listened with pleasure and interest to Dr. Matas' elaborate report of a case of abdominal aneurysm treated by this method. Stewart's pioneer achievements in this method of treatment have proved a source of encouragement to the profession throughout the country. He reports (*Brit. Med. Journal*, vol. ii, 1897) a case of a large innominate aneurysm completely cured by the employment of electrolysis through ten feet of snarled, coiled, fine gold wire introduced into the sac. The patient died from cerebral thrombosis three and a half years after the operation. Stewart says that the result of electrolysis through the introduced wire was very decided. Clot-formation, leading apparently to solidification of the sac, was early manifest. This method is worthy of further trial in the treatment of large aneurysms.

The operation proposed by Fergusson, amputation at the shoulder-joint, with ligation of the artery as close as possible to the sac, was performed five times with two recoveries (Souchon). It was done on the right side by Rose with partial success. Rose also tied the carotid and thus succeeded in saving the patient. Spencer (*Brit. Med. Journal*, 1889, p. 73) makes mention of two cases of subclavian aneurysm that were treated by amputation at the shoulder-joint. The first case was operated on by Holden, who removed the upper extremity for an aneurysm of the subclavian artery. Death on the thirty-seventh day from pleurisy and bronchitis resulted. The other case was Willett's. He tried to ligate the third portion of the subclavian artery for subclavian aneurysm and had to abandon the attempt owing to his inability to reach the proximal side of the aneurysm. The upper extremity was then amputated at the shoulder. Death followed.

As the postmortem examination in my case showed, no further operation would have been successful.

The cause of death after operation is either from sepsis, secondary hemorrhage, usually from the distal side of the ligature, or shock.

I have made a very full search into the literature of the subject and have succeeded in obtaining verifications of 34 cases, including my own case, in which the innominate artery has been tied for subclavian aneurysm. Twenty-nine were performed for aneurysms of the subclavian artery, generally involving the function of the common carotid and innominate arteries, and five times it was performed for trauma. Of these five, one was for hemorrhage from the subclavian (Lewtas), one from secondary hemorrhage following ligation of the subclavian (Hutin), three for secondary hemorrhage following ligation of the common carotid (Lynch, Partridge, and Harte).

According to Spencer (*Brit. Med. Journal*, vol. ii, 1889) subclavian aneurysm is about three and a half times more common on the right side than on the left, and on the right side about six times more frequent on the third portion than on the first. The spontaneous are six times more common than the traumatic.

Of the 34 cases just mentioned four are usually reported as recoveries. The first is Smyth's, of New Orleans, in 1864. In that instance, following the sug-

gestion of Mott, he ligated the common carotid artery also. This well-known case survived the operation, narrowly escaped the usually fatal result, lived ten years, then died from rupture of the reformed aneurysm, the result of reverse collateral circulation. The second case is Lewtas', of India, in 1889, reported cured at the end of 43 days. The third is Coppinger's, of Dublin, in 1893, who reported a recovery at the end of 42 days. If these last two cases are accepted as recoveries, a fourth might with justice be added to the list, that of Burrell, of Boston, in 1875. Burrell justly takes exception to the too early report of Lewtas' and Coppinger's cases when viewed in the light of his own case that lived 104 days and died of hypertrophy and dilation of the heart and general arterial sclerosis, and also of the case of Graefe, of Berlin, operated on in 1822, which died on the sixty-eighth day.

But a careful analysis of these four successful cases will show that not a single one has been a complete cure. Smyth's case came nearer being a positive and complete cure than any other. Still, his patient died of hemorrhage from the aneurysm ten years after the operation. The second and third cases had not been under observation sufficiently long to establish positive cure.*

Whether we think of the hopeless character of these subclavian aneurysms and their most painful course, we are led to believe that other surgeons will in the future devise some safer and more successful method of treatment. In the meantime we must depend on our present unreliable methods. And still such is my confidence in the method adopted in this case, that I am bold enough to assert, in conclusion, that under favorable circumstances the operation by ligature is in certain conditions justifiable and advisable, and that, with the improvements in the physical characteristics of the ligature and in the method of its application, also the modern aseptic methods, it may yet be followed by favorable results.

In the accompanying statistical table of the 29 ligations for subclavian aneurysms, which I append to this report, I have carefully eliminated those cases wherein secondary hemorrhage led to the ligation of the innominate and the unfinished operations. These I present in separate lists. In compiling these tables I am indebted to the statistics contained in the works of Thomson, Burrell, and Souchon. In the five years since the publication of Souchon's monograph, there have been recorded five operations for the ligature of the innominate artery, with as many deaths.

LIST OF UNFINISHED OPERATIONS.

1. Porter, W. H., 1831, Dublin, for subclavian aneurysm; ligature of innominate, abandoned on account of dilated vessel. (*Dublin Journal*, 1832, vol. i.)
2. Halbrunn, New York, 1839, for subclavian aneurysm, attempt to ligate abandoned on account of size of the innominate. (*Barrell, Boston Medical and Surgical Journal*, 1895, vol. 137.)
3. Key, London, 1841, for innominate aneurysm; abandoned operation on account of size of aneurysmal tumor. Death 23 days after operation. (*Dublin Quarterly Journal*, 1866, vol. 13.)
4. Passoto, Rio Janeiro, 1881, patient is a man 33 years of age, with hemorrhage from right ear. Ligature of common carotid. Hemorrhage. Extant ligature placed around innominate three weeks after carotid ligation but not tied, and removed after 5 days. (*Memorias do Instituto de Hygiene*, 1885, vol. 19.)
5. F. W. Parham, New Orleans, for cervical aneurysm, involving the innominate. Man, age, 48 years. The aneurysm was excised by removal of a part of the skin, but not ligated because the two blood vessels could not be tied. Death from shock 17 hours after operation. (*New Orleans Medical and Surgical Journal*, 1896.)

* In a personal letter of Dr. Alfred Willett to Dr. Coppinger, dated July 4, 1895, more than two years after the operation, the writer states that the patient had been in St. Bartholomew's Hospital because his nervous system seemed somewhat broken down, but he was quite free from any sign of his old aneurysm (Souchon).

BRANCHIAL CYSTS AND FISTULAE.*

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As a result of the complex developmental processes requisite to the formation of the organs arising in the neck segment of the embryo a multitude of malformations are rendered possible. The formation of the branchial arches and associated clefts or more properly furrows, and the fact that, at the bottom of the furrows, internally as well as externally, the epithelium of the entoderm and ectoderm becomes contiguous, considered with possible errors at the anterior median junction of the projected developing columns, such as failure of median coalescence, render it at once apparent that all sorts of malformations or arrests in development may result. Such more or less complete persistence into extrauterine life of conditions normally entirely fetal may be manifested by almost any degree of abnormality from fissure of the entire neck to trivial fistulae, or from absence of more or less of the esophagus, lung, or other structure normally derived from the foregut, to the persistence of fistulae (often of capillary dimension†), blind sacs or cyst accumulations due to external and internal closure of canals without coalescence of intermediate tracts. I shall not attempt to go into the developmental processes concerned in the formation of the branchial clefts, as such information is attainable in any of the current works on embryology.

Hunezowski² (1789) reported two cases of congenital cervical fistulae; Dzondi³ (1829) called them tracheal fistulae and Ascherson⁴ demonstrated their pharyngeal connection. Heusinger⁵ reported 2 cases and gave a table of cases, 46. In his inaugural thesis (Paris, 1877) and later, Cusset⁶ gives with considerable detail the result of his studies on the subject. Guzman's⁶ thesis in 1886, and Bland Sutton's⁷ work on tumors should also be consulted. Senn⁸ discusses branchial cysts under teratomata. Recently Frederick Shimanck⁹ reported cases of branchiogenic carcinoma and reviewed the literature of malignant disease, arising in these abnormal cavities.

With regard to the classification of branchial cysts much diversity of opinion is found. Fevrier¹⁰ speaks of median and lateral cysts. Depending upon their proximity to the surface the cysts are spoken of as superficial or deep. As it is not always possible to determine accurately from which cleft the cyst originated the proposition to base the classification upon the embryologic origin of the defect can be scarcely regarded as satisfactory. Less satisfactory probably is the attempt to subdivide these cysts according to the contents, as the latter must be materially influenced by the presence of inflammation, hemorrhage, and infection, as well as its source; similarly situated and genetically identical cysts may contain dissimilar materials.

Based, however, upon the hypothesis that such a classification is justifiable such cysts have been called atheromatous (branchial dermoids), mucous, serous, and hematocysts. As none of these cysts are primarily blood-cysts it is probable that the last-named subdivision is hardly justifiable. In Marsh's¹¹ case the cyst contained a gelatinous material.

It has been proposed to name these cysts according to their anatomic position in the adult. From this

point of view such cysts are called auricular or auditory, parotid, submaxillary, sublingual, pharyngeal, tracheal, etc. If carried to its legitimate conclusion such a classification would be scarcely consistent, as we would have substernal, sternocleidomastoid and other anatomic subdivisions that would endanger our losing sight of the embryologic origin. Although possessing many disadvantages the classification based upon the character of the cyst wall, taken in connection with the origin of the process, possesses many advantages. This would at once subdivide the entire group into two subgroups, one in which the wall showed to a varying degree the histologic characters of the skin and which would merit the name branchial dermoid, and the other in which the epithelial lining showed more or less striking resemblance to the mucosa lining the mouth, pharynx, or respiratory tract. Cysts of the latter type would be called mucous branchial cysts. While considering the subject of classification it is well to remember that the branchial cyst is but one type of a malformation that may be manifested by at least four pathologic possibilities: 1. Branchial fistulae, canals extending from the external surface to one of the mucomembranous tubes or cavities, such as the pharynx, larynx, etc. 2. Where the external opening has been closed a blind fistula, pouch or tract with its internal opening retained, results. 3. An external fistula in which the pharyngeal, laryngeal or other internal orifice has been closed while the external opening persists. 4. Cysts like that observed in the case reported in which both internal and external orifices have been obliterated, giving rise to a closed cavity the wall of which possesses an epithelial covering. In the experience of Trelat¹² fistulous openings are seven times as common as true cysts.

As already indicated the structure of the wall depends to a certain extent upon the type of tissue that it imitates. In branchial cysts of the dermoid type the wall does not differ from that found in other dermoids except from the almost constant presence of lymphoid elements in the extradermal layer. This lymphoid layer may be scanty, consisting of a few aggregations of lymphoid cells scattered here and there or such agminations of lymphoid tissue as to constitute distinct nodes. While it is true that other dermoids may occasionally possess more or less lymphoid tissue it is very rare to find such accumulated masses as are observed in the dermoids of the type at present under consideration. In the branchial cysts imitating the mucous membrane in the character of the cyst wall the condition is practically always that observed in the case here reported. In a small number of cases the lining has been composed of cylindrical epithelium, rarely of the tall variety, and only exceptionally ciliated. Where the epithelium has been subjected to considerable internal pressure it may be flattened, of a low columnar (cuboidal) type, or less frequently quite resembling squamous epithelium. In only exceptional instances is it simple, usually stratified, the number of layers not uniform in different areas of the same cyst wall and not infrequently showing marked morphologic peculiarities in different areas of the same lining. When stratified the genetic layer shows more or less tendency toward a distinctly columnar type. It is not probable that epithelium is ever absent, and the only reported case that I have been able to find in which it was sought and not found is that recorded by G. Broesike,¹³ but as the specimen was not studied in the fresh condition the

* Read before the Philadelphia Pathological Society, January 10, 1901.

† In one of Heusinger's cases a thick whisker could be passed into the opening.

absence of demonstrable epithelium is not surprising. The muscularis mucosa may be demonstrated with difficulty or it may be on the other hand quite conspicuous. Sometimes it is composed of a scattered layer of smooth muscle cells, abundant at points, irregularly scant in other areas, and rarely arranged as a continuous membrane. Sometimes this layer is in immediate apposition with a firm connective tissue stratum composed of fully formed fibrous tissue in which may be found numerous leukocytes, usually of the lymphoid type. This fibrous tissue merges into the loose connective tissue by which the cyst is attached to neighboring structures. Elastic fibers are present in the case reported. Adjacent to the fibrous tissue and, when it is absent, adjacent to the muscularis mucosa could be found a varying amount of lymphoid tissue. Sometimes this lymphoid tissue is in type and arrangement a more or less accurate reproduction of the structure of the tonsil. In other instances there is a lawless aggregation of lymphoid elements with a scant reticulum scattered along the submucosa at irregular intervals and in various sized aggregations.

A number of observers, Cusset,⁵ Roth,¹⁴ Monad and Dubar,¹⁵ and Guzman,⁶ have called attention to the presence of glands in the walls of branchial cysts. These glands may be of the serous or mucous type and show such aggregations as are found in the pharynx and esophagus of lower animals, and though less abundant in man; such glands may be distended by secretion, constituting true cysts in the primary cyst wall, or possess patulous ducts communicating with the general cyst cavity. Commonly the glands are not abundant and apparently may be absent or overlooked. The cyst wall may be uniform and quite smooth or it may be irregular, as in the case reported, of varying thickness depending upon the amount of lymphoid and fibrous tissues rather than upon the thickness of the epithelial layers.

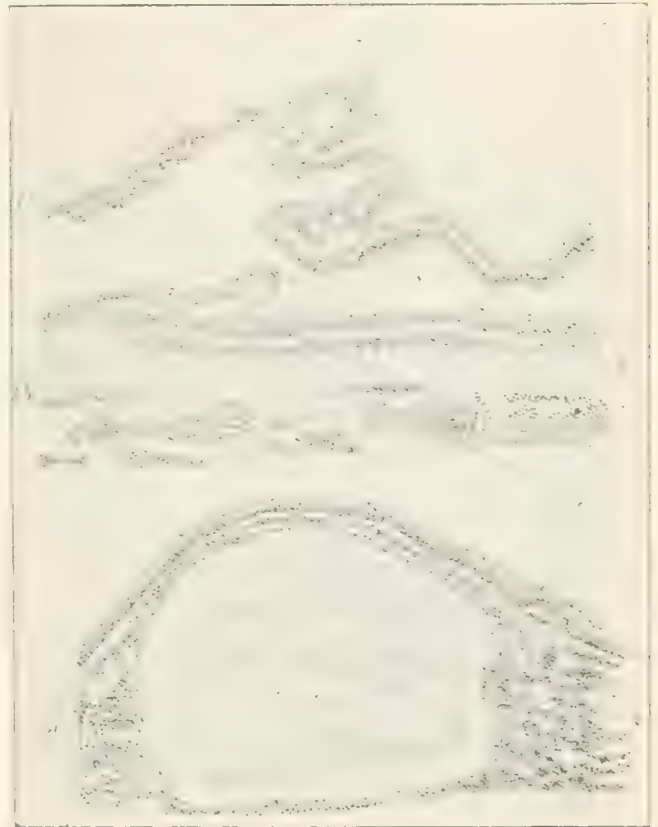
Sometimes the cyst extends in finger-like projections between the muscles, great vessels, and nerves of the neck, or behind the hyoid bone, or downward behind the sternum or along the course of the auditory canal, rendering total ablation sometimes quite difficult, if not impossible. Sometimes the tumor projects into the pharynx or esophagus or passes posteriorly to that structure or between the esophagus and trachea or larynx, and while presenting superficially as a rather simple and readily accessible mass it may at operation present unexpected difficulties.

The communication of blind or open fistulae with the air-passages may give rise to air-sacs; those sacs possessing internal openings into the trachea may present the features of that rare condition variously termed aerial goiter, aerial bronchocele, tracheocele and hernia of the trachea. Stuart Eldridge¹⁶ reported one such case and collected the literature bearing upon the subject. I gather from a perusal of his paper that he believed it quite possible for the defect to be latent, a mere point of weakness, which, under unusual stress, became manifest.

With regard to the symptoms of this condition little need be said, as they suggest themselves. The external opening of fistulous tracts may be situated almost anywhere in the anterior portion of the neck, about the auditory canals, in the temple, in the neighborhood of the jaws, etc., but always anterior to the sternocleidomastoid muscles. The external opening is commonly marked by a discoid area of scar tissue or sometimes it

may be so inconspicuous as to escape superficial examination. Only rarely can the fistulous tract be followed by a probe. Fevrier¹⁰ reports the occurrence of severe reflex symptoms—pallor, palpitation of the heart—as a result of attempted exploration of a pharyngeal fistula. The discharge is usually clear mucus, but may be mistaken for salivary secretion from which it is easily differentiated by the usual chemical methods.

Where the fistula is complete and communicates with the esophagus or pharynx droplets of milk may escape during deglutition.⁷ The location of the external opening is rarely a guide to the extent and relations of the fistulous tract or sac. Stimulation of salivary secretion by citric acid or mastication usually stimulates the secretion from the sinus even when it does not communicate with the alimentary canal.



A. Section from thick portion of wall of branchial cyst. Tissue shown is richest in lymphoid tissue, and is without preservation of any of the original epithelial structure, and is freely infiltrated by connective tissue. B. Section of wall of branchial cyst at point where finger-like projection is extending toward the external opening. Layers shown are: a. Serous layer; b. Epithelial layer; c. The submucosa; d. The connective tissue layer. C. Section of wall of branchial cyst. Epithelial layer of cyst wall. b, b', b' connective tissue layer. c, c' lymphoid elements in cyst wall. At d' these lymphoid elements are aggregated in masses resembling the tonsil. In the center of the section a dilated gland duct is observed in the cyst wall. f. Irregularly dilated gland ducts. Tissue fixed in Heidenhain's solution, infiltrated with paraffin, stained with carmalum and cleared in cedar oil. (J. Mass. Journ. April, 1909, vol. 1, page 15, No. 2.)

When opening internally without an external opening the condition is commonly spoken of as a pouch or diverticulum (congenital);* when communicating with the esophagus it may fill during feeding or the internal opening may be so small as not to admit food. It may be evacuated by pressure, or the patient may find that by assuming a certain position the food does not enter the diverticulum.

* For description of cases of this type see No. 2, p. 15, loc. cit.

Like the fistulae the cysts are, in the neck, located anteriorly to the sternocleidomastoid, in the parotid or auricular region, in the neighborhood of the hyoid bone, or maxilla, in the interclavicular notch, or less commonly substernal, presenting at the last-named point.

The character of the contents has already been considered. The striking resemblance in some cases to pus or to the caseous contents of tuberculous lesions may mislead the operator; as indicated in the report which follows it would seem that the character of the cells found in the fluid should at once clear up the diagnosis.

With regard to the age at which the lesions manifest themselves it may be said that the fistulae are usually present at birth. They may appear later as a result of opening of pouches or cysts or incomplete extirpation. Like dermoids of other kinds the cyst may escape detection until adult life or later. In Cussett's⁵ cases the patients were 10, 15, 21, 22, and 26 years of age. In the case reported the specimen was sent to the laboratory by Professor W. W. Keen, to whom I am indebted for the following clinical notes:

C. E., age 36, first consulted me November 6, 1899, at the instance of Dr. C. W. Richardson, of Washington, D. C. His father and mother are living, and in good health. Of his grandparents he knows nothing, except that his paternal grandmother died of old age at about 85; he believes that all of his family were healthy. One sister died of diphtheria. Three years ago he noticed a lump on the lower jaw on the left side, no pain, no inflammation, in fact no symptoms whatever. Its size was that of a peach stone until about 8 months ago, when it began to grow quite rapidly. There have been, however, no symptoms connected with it, excepting a slight, dull pain about the side of his face, and he thinks it has affected his head, as he has become very forgetful. He has lost 28 pounds in the last 6 months, weighing at present 175 pounds, but this may be due to other causes. On examination I found a soft, almost fluctuating tumor, 10 by 6 cm., presenting the features of a lipoma.

Operation, November 15. An incision was made parallel with the jaw, and after cutting down through the m. laryngoid the back of the tumor was reached. This proved not to be a fatty, but a cystic tumor. The fluid looked very much like pus. My judgment was that it was a cold abscess either in the connective tissue or in a very much enlarged and softened gland. I was able to dissect the whole of it out, exposing at the bottom of the wound the great vessels of the neck. I very carefully washed the wound out with salt solution, and then closed it with drainage. He made a perfectly smooth recovery, highest temperature being 100° F.

Pathologic Report—Specimen, cystic tumor of neck. Specimen consists of an almost empty, flaccid sac, measuring 7 cm. in its longest diameter. It is oval or slightly pear-shaped. It contains a pinkish-white opaque fluid that resembles pus. The external wall of the cyst is covered by an aborescent outline of bloodvessels. The lines of dissection from the adjacent tissues are recognizable. By reason of perforations in its wall it was impossible to refill the cavity and determine its capacity. Approximately one-half the cyst wall is thin (1 to 2 mm.) perfectly transparent, and containing a few bloodvessels. The remainder of the wall is thicker, but quite irregular in thickness. Its maximum thickness occurs in slightly bossed elevations approaching 1 cm. The average thickness of the wall does not exceed .25 cm. It is irregularly studded by greyish translucent elevations. The largest of these elevations are palpable, resembling tubercles. At one point in the thickened wall is a yellowish mass apparently caseous. This mass is ovoid, .7 cm. by .5 cm. in diameter. It is situated within the thickened wall and covered by a thin layer of tissue. At other points the cyst-wall is traversed by thin septa, dividing it into irregular depressions. In a general way the color is pinkish with areas of what appears to be hemorrhage, some of which are purplish. At some points the wall is fibrous and very dense, in other areas it is soft and yielding. Weight 17 gms.

Fluid contents of the cyst: The quantity is insufficient to determine the specific gravity. The cells vary in size and contour in the size of the nucleus and in the quantity of perinuclear protoplasm. The best picture of these cells is obtained in spreads, dried, fixed by heat, and stained in hematoxylin and eosin, toluidin-blue and eosin, and Unna's polychrome methylene-blue.

1. The most abundant cell observed in such preparations is of relatively large structure, varying in size from 12 or 15 μ to 35 or 40 μ . In shape these cells are irregularly oval, a few are round or discoid, while by far the large part are irregularly polyhedral. The majority of these cells are mononuclear; occasionally, a cell is to be found containing two nuclei, and in very rare instances three distinct nuclei can be recognized. Some of the nuclei, indeed one may say the majority, are in a fair state of preservation. Nuclear fragmentation, fissuring, vacuolization and polychrome reactions are recognized. In some of the cells a distinct nuclear structure is no longer to be recognized. In others the nuclear remains are but faintly tinted, constituting irregular shadows in the cellular protoplasm, while in still others the chromatin is fragmented into irregularly outlined granules which stain unevenly. In many of the cells the nuclear margins are indistinct. The perinuclear protoplasm is, for the most part, finely granular, and takes the acid stain with varying degrees of intensity. Its volume varies within wide limits: the different-sized cells owe their differences in size to variations in the quantity of protoplasm rather than to any variation in size of the nucleus, which is rather uniform. There are apparently free nuclei which probably belong to these cells as indicated by the irregular, ragged rim of protoplasm which stains unevenly and often but slightly. The protoplasm is vacuolated in many of the cells, the vacuoles varying in size from 1 or 2 μ to 7 or 8 μ . In some of the cells of this group, the margin is fairly regular and clearly defined. In others, the margin is ragged but sharply outlined, while in still others the protoplasm fades off, and is gradually lost without any sharply outlined limit.

2. An occasional finely granular oxyphile leukocyte can be recognized, although the number of such cells is remarkably small.

3. Occasionally one finds a cell morphologically and tintorially like a mononuclear leukocyte. These cells, however, are not abundant. There are a few masses of cells, in which distinct differentiation cannot be made out, and within these might be included other cells than those described. A few erythrocytes are present.

A count of a thousand cells in spreads made from the fluid gives the following result in percentages:

1. The large cells resembling the squamous epithelial cells described above, 93.7%.
2. Finely granular oxyphile leukocytes (polymorphonuclear leukocytes), 1.8%.
3. Erythrocytes, .5%.
4. Uninuclear leukocytes and unidentified cells, 4%.

Portions of the cyst wall at various points were fixed in Heidenhain's solution, infiltrated with paraffin, sectioned, and sections stained with carmalum alone and with picric acid, hematoxylin alone and with eosin, Unna's acid orcein, Unna's polychrome methylene-blue, toluidin-blue alone and with eosin, toluidin blue with differentiation in styron and glycerin-ether, and by Gram's method, and for tubercle bacilli with carbolfuchsin.

For convenience in description, and for the sake of

brevity, the sections from the following areas will be considered :

A. Sections from the thin part of the wall. B. Sections from the thicker areas.

A. The best sections from this part of the wall are in the neighborhood of areas where the thin wall is suddenly or gradually converted into a thick wall by changes which will be mentioned later.

The inner aspect of the wall is lined by large polygonal cells, evidently epithelial. Toward the free margin the cell outlines are not distinct, the nuclear stain is not strong, and vacuoles are abundant in the perinuclear protoplasm, which, under a very high power, is slightly granular; although it is impossible to give accurately the thickness of this layer (which varies) as it merges gradually with the cells below, it may be stated that it approximates two or three of the cell-layers. Just under this layer the irregular polygonal cells become more sharply defined both in outline and stain reaction. Toward the upper layer already described, the nuclei are less distinct, becoming more and more clearly defined, and stained with greater intensity as we approach the subepithelial layer. The germinal or basement layer of epithelium is irregularly columnar, with deeply stained nuclei, in some of which changes suggestive of karyokinesis are to be recognized. From this layer passing upward can be recognized the gradual transition from the irregularly columnar form to the more or less flattened, irregular, and poorly stained cells already described as present upon the free surface.

As indicated by the above description the epithelium of the wall cannot be divided into distinct layers, although there is the suggestion of a stratum corneum and stratum Malpighii. A distinct muscularis cannot be recognized in sections stained in the usual nuclear dyes, although here and there a few long spindle-shaped cells with rodlike nuclei are to be recognized. In sections stained in acid orcein a delicate basement membrane can be recognized at nearly all points; this structure sends trabeculae downward in many areas, penetrating the lymphoid tissue below. While the stratum germinativum is slightly irregular one cannot say that there is anything more than a mere suggestion of papillae. Immediately under the epithelial layer described one finds nearly the whole length of the section a slightly irregular layer of lymphoid tissue. The reticulum varies in quantity, being at some points rather abundant and at other areas scanty. It is not rich in blood-vessels, particularly toward the epithelial surface; as we approach the outer limits more vessels are to be recognized. The cells occupying the reticular spaces correspond for the most part with the usual type of lymphoid cell, and scarcely merit further description. A few finely granular oxyphile leukocytes are present, although there is certainly no excess of these elements. At points the outer wall, or I might better say outer limit of the wall, is formed by lymphoid tissue. In other areas it is formed by masses of fibrillated connective tissue comparatively rich in bloodvessels and containing a few unstriped muscle-fibers. The roughened and irregular free margin at this point is, of course, due to its dissection from adjacent tissue. I have not been able to demonstrate the presence of striped muscle-fibers in this area.

B. *Sections from Thicker Areas in the Wall.*—As the increased thickness of the wall in different areas is due to different causes it would be necessary to consider these areas separately.

1. Areas in which the thickening is due to a thicker wall of lymphoid tissue. The epithelial covering in these areas deserves no special description, as it varies little if at all from the epithelial layer seen in the thinner wall. Partly as a result of its increased thickening and possibly from other causes, the cellular elements usually present on the mucous surface can be more readily recognized, although, as is usual under such circumstances, differentiation into layers is not clear. Cross-sections of flattened cells, such as those already described as present in the fluid contents of the cyst, with flattening, or slight elongation of their nuclei, are to be recognized. There is the same gradual transition from the irregularly columnar germinal layer to the flattened surface layer already described. In some of the thicker areas the lymphoid tissue is more abundant and the reticulum scanty. In other areas the reticulum is more abundant, with a suggestion of proliferative change and corresponding reduction in the richness of lymphoid cells. Distinct arrangement of cells such as compose adenoid follicles of a lymphatic gland can be recognized, and occasionally there is a suggestion of medullary cords, although demonstration of these structures is not complete. External to the lymphoid areas just described there is the same area of fibrillated tissue containing a few long, spindle-shaped cells with rodlike nuclei. A further study of these lymphoid masses reveals the presence of necrotic spots. Such points embrace only a few cells. Just beneath the germinal layer in some of the sections there is a lymphoid infiltration of the connective tissue not associated, however, with the presence of finely granular oxyphile leukocytes. These bodies are not abundant at any point in the section.

2. Areas in which the increased thickening of the wall is due to the presence of cysts. The epithelial covering in these areas merits no further consideration than that already given. Only one of these cysts will be described. In designating this distinctly as an additional cyst, the possibility of its communicating at some points with the larger cysts cannot be overlooked, although such communication cannot be demonstrated even in serial sections. The wall of this cyst is formed by an inner zone of squamous epithelium which has been detached or has disappeared from some areas. It shows the same general appearance as that already given for the epithelial lining of the larger cyst. At one point the two cavities are separated by a thin wall less than 1 mm. in thickness composed of two epithelial surfaces between which is a small quantity of fibrillated tissue rich at points in lymphoid cells.

Macroscopically on section this cyst possesses a diameter of .3 cm. and corresponds with what was mentioned in the gross description as a distinctly yellowish mass measuring .7 by .5 cm. The difference between the diameter in the gross specimen and the section is probably to be attributed to shrinking and the removal of fluid from the interior of the cyst or to the section not passing through the greatest diameter. The cyst contents as examined in the fixed and infiltrated preparation are usually composed of fine, intensely acidophilic granules resembling in many respects the detritus in caseous areas. That it is not caseous in the true sense is shown by the fact that it contains large squamous epithelial cells such as have been identified in the fluid from the larger cyst. Most of these cells have lost their characteristic stain reaction, selecting only the acid dye and therefore possessing indistinct, irregularly defined nuclei and cell outlines.

The contents as here studied must be considered to be the product of degenerative changes in the epithelium which has been cast off into the cyst cavity. Three smaller cysts identical in all their essentials with that just described have been found, and it is reasonable to infer that the many small whitish or greyish, translucent elevations mentioned in the gross description were probably, or at least some of them, cysts resembling the one just described.

3. Sections from other areas in the cyst wall show evidences of chronic inflammation manifested by a lymphoid and plasma cell infiltration with the production of fibroblasts, and in some areas cicatricial tissue. At a few points the mucosa shows distinct papillae. They are, however, not abundant. Occasionally there is a distinct fold resembling the irregularities or rugae observed in mucosae surrounding cavities whose walls possess considerable distensibility. Transverse section of the overhanging rugae gives the appearance, at times, of superficial gland-like projections. Serial sections, however, show clearly that these are folds. In other areas distinct glands are demonstrable and it is evident that the cysts already described have resulted from distention of gland acini, or ducts, or both.

Bacteriology.—Cultures were not obtained from the cyst contents. Spreads and sections show the presence of a few cocci in the cyst contents and in the wall; these cocci stain by Gram's method, are apparently staphylococci, few in number, and the absence of cellular infiltration as well as the scant necrosis would indicate that the infection, if such existed at the time of extirpation, is inconsequential.

Diagnosis and Remarks.—There can be no doubt of the branchial origin of this cyst. The character of the epithelial covering, its arrangement, the morphology of its cells, the structure of the submucosa, the presence of cysts in the wall, the abundant lymphoid tissue and the cyst contents all point to the branchial origin. From a practical view the character of the cells found in the fluid contained within the cyst offers important diagnostic aid. The small number of leukocytes of the type usually found in pus and the presence of large mononuclear cells rich in perinuclear protoplasm, and the absence of necrotic material should be in the future of value in diagnosis. In cysts of endothelial origin, similarly located, it is not likely that exfoliated cells would ever present the morphologic and tinctorial characters recognized in the case reported. Endothelial cysts possessing richly cellular fluid contents would, no doubt, owe their cellular elements to the presence of migrated leukocytes and exfoliated endothelium, in which case no such a cell count as that reported would be found. It would therefore appear to the writer that an examination of the fluid that came from such a cyst, taken in consideration with its location and clinical history should make the diagnosis less difficult than it at first appears.

With regard to the treatment little need be said; total ablation, where possible, is the only commendable plan. Pockets that cannot be excised may be cauterized. Poncet¹² used chlorid of zinc but does not give the strength of the solution used; tincture of iodine, carbolic acid or the actual cautery may be used. All surgeons are agreed that the use of irritants and escharotics, either by injection or application with a swab, is untrustworthy.

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METHOD FOR RAPID ELIMINATION OF THE GONOCOCCUS.*

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In the treatment of acute anterior gonorrhea we should devote our efforts to the avoidance of complications and to the rapid elimination of the gonococcus, aiming in this way to shorten the course of the disease. Much has been done and written upon the various methods of treatment of acute anterior urethritis with the object of shortening the course of the disease. Nearly all the methods, however, which have been employed have either entirely overlooked the first condition I have mentioned—and directly or indirectly produced complications by a too violent form of treatment—or else by the use of too weak solutions or a faulty technic have failed to overcome the resistance of this very obstinate microorganism.

In this paper I shall refer entirely to the treatment of gonorrhea in its incipient stage; that is to say, within 24 to 36 hours from the time any moisture has appeared at the meatus.

In a series of 30 cases in which this treatment was carried out, $\frac{7}{8}$ of the patients recovered after 8 to 10 days; in the remaining $\frac{1}{8}$ no complications ensued, but the treatment did not markedly shorten the course of the disease. Before describing the method which I have used successfully I will refer to some of the other methods of treatment of acute anterior gonorrhea. By one method, at the earliest sign of discharge or local manifestation, the front urethra is washed out with a 10 : 15,000 volume peroxid solution, and then, by the aid of an endoscope or frame speculum, the anterior urethra for fully an inch beyond the diseased area is wiped out with a silver-nitrate solution—5 to 10%—applied on a cotton swab; this procedure to be repeated, if necessary, in 48 hours. In some cases this treatment has been successful, but occasionally the reaction following the use of strongly irritating solutions and manipulation in making the applications led to complications; while in others, the course of the disease was much aggravated and prolonged. In other words, the treatment was much too violent for the sensitive mucous membrane of the urethra. This method of treatment I believe has been, at the present time, largely discarded.

The advocates of irrigating the front urethra in the early stage of gonorrhea claim that much can be accomplished by large volumes of hot medicated solutions. One method of using these solutions is the so-called Janet method; that is, washing out the whole urethra and bladder by overcoming the resistance of the shut-off muscle. This method I believe to be too energetic in the acute stage, and when the front urethra is alone in-

* Read before the Harvard Medical Society, November 24, 1900.

volved, unnecessarily thorough; if we had to deal with an urethral tract alone it might do, but considering that the genital organs are intimately connected with the urethra this treatment is liable to produce complications and is, therefore, in my opinion in acute gonorrhea unsatisfactory and dangerous.

Another method of irrigating the front urethra is by the double-flow nozzle introduced at the meatus and attached to a fountain syringe. This has been used to a considerable extent, the outlet opening being larger than the inlet to avoid any overdilatation of the urethra. It has been demonstrated, however, that the urethra, after being filled with the solution in this manner, simply remains distended, the fluid entering from the nozzle immediately flowing out without producing any general change in the body of the fluid within the urethra. This method is little better in my opinion than the time-honored one of filling the urethra with a solution from a hand-syringe, allowing it to remain in contact with the urethral membrane a few minutes and then repeating the operation.

Still another method by which irrigation has been used is by the aid of a soft rubber catheter passed a few inches into the urethra and the fluid from a fountain-syringe allowed to flow back over the canal from the eye of the catheter. In this way the whole urethra is bathed by a continuous flow of the solution. I believe this to be the best of the three methods just described for washing out the anterior urethra. If not introduced too far and carefully used it is devoid of danger. I believe, however, that one objection to these methods is that some of the secretion remains in contact with the urethra, thus preventing the solution coming in contact with the underlying gonococci. We must, of course, reach these deep microorganisms in order to prevent their growth.

The method I have used, and shall now describe, is a compromise between the endoscope and silver nitrate abortive treatment and plain irrigation. During the past 4 years I have used several preparations of the silver salts which I have found to be much more satisfactory and less irritating than silver nitrate; in fact, I believe some of them to be of much more value than other antiseptics in the treatment of the earliest stage of gonorrhea. I have used argonin, protargol, and largin. Argonin has been the one chiefly employed by me. In order to test the comparative antiseptic powers of argonin and protargol I tested these salts with pure cultures of the streptococcus and Klebs-Löffler bacillus, the results of which tests are given in the following tables:

STREPTOCOCCUS.

Argonin . . .	1% solution; 10 minutes exposure.	growth in 24 hours.
Protargol . . .	5% " " " "	no growth in 24 hours.
Protargol . . .	1% " " " "	no growth in 24 hours.
Protargol . . .	5% " " " "	no growth in 24 hours.

DIPHTHERIA BACILLUS.

Argonin . . .	1% solution; 10 minutes exposure.	no growth in 24 hours.
Protargol . . .	1% " " " "	no growth in 24 hours.

It will be seen from this table that argonin and protargol seem to have about the same antiseptic effect. I also made some tests with argentamin and other silver salts, but my results are insufficient for tabulation. I did not test the effect of argonin and protargol with the gonococcus in my bacteriologic experiments because I believe the gonococcus, which grows with difficulty in artificial media, to be much more easily destroyed than when in the human body. Such ex-

periments have been made, but I am of the opinion that they are not of much value. None of the animals available for bacteriologic work can be infected with the gonococcus. This statement is borne out by the majority of well-known investigators. There have been a few isolated instances where a gonorrheal infection of animals has been reported, as Finger's case of gonorrheal involvement of the knee-joint of a dog, and a few cases of peritoneal infection in mice. We must, however, accept the fact that animals are of no practical value in bacteriologic experiments with the gonococcus, so that artificial media and animals are of little aid in testing the effect of drugs on this microorganism. We must, therefore, draw our conclusions from the tests of various drugs on this microorganism in the human being. I have had much less experience with protargol, which contains 8.2% of silver, than with argonin, which contains 4.2%; silver nitrate, containing 6.35%, occupies a middle position between the two first-named preparations in its proportion of the basic salt. Both argonin and protargol are freely soluble in water. Argonin should be freshly prepared for each treatment. Protargol keeps better in solution than argonin. I have found argonin to be nonirritating.

I shall give the results obtained by the use of argonin within 12 or 36 hours after the first signs of local disturbance, as shown by slight moisture at the meatus, feeling of warmth in the end of the penis and slight burning on urination. Used later—that is, after the gonococci have buried themselves deeply in the mucous membrane of the urethra—the treatment I advise would be of little advantage. The case must be one of acute anterior urethritis with no old, deep trouble. This condition must be determined by an examination of the urine and of the rectum as well as by careful consideration of the past and present history of the patient.

I first take a specimen of the discharge for microscopic examination, then the patient passes urine, after which the urethra is washed out with hot water; I then, twice a day, introduce a 10% solution of argonin freshly made; this is introduced by a Ultzman's deep injection syringe or, better still, by a rubber bulb holding about 6 drams. This bulb should have a rubber tip about 2 inches long; the bulbs are sold under the name of ulcer syringes. The solution is introduced hot and is kept in the front urethra by pressing the lips of the meatus together as the point of the bulb is withdrawn. Then I make an application with an applicator tightly wrapped with absorbent cotton, of 10% argonin solution, introduced into the urethra while the solution previously introduced is allowed to gradually flow out. It is much easier to introduce the applicator while there is some fluid in the urethra. The cotton swab should be applied gently to all parts of the anterior urethra for two 2 or 3 inches and then withdrawn. The solution remaining in the urethra is then allowed to escape and the operation is repeated, not using the applicator if the patient complains of much pain. In some cases a gentle kneading of the urethra while the solution is in place is of advantage.

I do not believe in using cocain, as a rule, to deaden the pain, because it interferes with our power of gauging the patient's condition by his natural sensations. Everything must be done very gently and slowly. The solution must be kept in 5 or 10 minutes. The first two or three treatments will usually show what the

case is going to do; if all is going well, the disease instead of progressing in the usual manner remains stationary for 2 or 3 days and gradually subsides. This treatment should be given by the physician himself. Internally, citrate of potash may be given to render the urine bland. The patient is directed to soak the penis in hot water three times daily; the general condition of his health, the use of alcohol, etc., regulated. The patient should be kept as quiet as possible.

If the progress is favorable the strength of the solution is gradually increased and may be used as strong as 30%. In addition, at the end of two or three days, if everything is going favorably, I advise the patient to use an astringent injection composed of lead acetate, tannic acid, zinc sulfate, copper sulfate, of each 2 grains, in tablets. One of these tablets is placed in 4 to 8 ounces of water and used by the patient after each urination. Of course this is in addition to the argonin applications.

The personal equation comes into this treatment as into many others; on this account dispensary patients have not been as satisfactory as private cases. I examine for the gonococcus every other day. I expect, in satisfactory cases, to see improvement in three to four days; disappearance of the gonococcus on the sixth to seventh day, and disappearance of the discharge on the eighth to tenth day. The treatment should be continued for a week after the gonococci and discharge have disappeared. Of course the strength of the solution and the amount of treatment have to be changed with the condition of the patient. I will here give the result of the treatment in a case which is typical of several others in which I used this method.

CASE 1.—Referred to me by the courtesy of Dr. Duel. July 26, H. W. C., aged 32 years, complains of discharge of one day, no other symptoms except slight burning at the meatus. Had clap a year ago, which recovered after 2 weeks. Examination shows reddened meatus, first urine cloudy, second perfectly clear, discharge mucopurulent and fairly abundant. Deep parts by rectal examination normal. Specimen taken for examination. Gonococci found. Argonin 10% solution used on the 26th, at night; 27th twice; 28 h twice; his condition remained practically the same. No urgency or frequency of urination; slight burning of the urethra on urination; slight pain over left groin not increasing; general condition very satisfactory. July 28 introduced swab soaked in argonin solution 2 inches. Some slight erection in early A.M. 30th, another specimen taken for examination; gonococci fewer; urine shows less pus, few particles from front urethra. July 31st: 30% solution. Reddening and discharge much less; burning subsided; few erections now. August 1st: Discharge very thin, no gonococci in specimen, discharge only seen on pressure. Discharge disappeared on the 2d of August; on the 8th was still absent. Injection, of the formula given above, has been used in the last few days in addition to the argonin treatment. On August 2d, argonin injections reduced to one a day which was continued up to the 8th when the patient was discharged cured and has remained well. In this patient it will be seen that there was no discharge after the seventh day, the gonococci disappearing at the end of 6 days. The patient complained of little discomfort on the application of the swab with argonin.

In conclusion I will add—

1. That this method of treating incipient clap I believe is devoid of danger.

2. All the cases which have been satisfactory, as far as traced, have shown permanent results, there being no return later from deep lesions produced by the treatment, as is sometimes seen after the use of irrigation which has affected the genital organs.

3. Solutions must be freshly prepared each time and must be used hot, temperature of 110–120° F.

4. Unless the patient is prepared to give himself up completely to the physician's directions in all particulars there is no use in attempting to make a rapid cure of his case by this method.

RETARDATION OF GROWTH AS A CAUSE OF SHORTENING AFTER COXITIS.*

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THE muscular wasting, so constant in the early stage of hip disease, appears to be hastened and increased by immobilization, compression and suspension of the affected limb. After months or years of pathological or mechanical interference with function the limb is finally much shrunken, not only in its muscular elements, but in all its tissues, including the bones, whose growth has not kept pace with that of the well limb either in extent or structure; they are finally smaller, shorter, and more brittle.

While the wasted muscles always seem capable of development after the subsidence of inflammation, within the limits imposed by joint-function, one cannot fail to be struck by the superficial resemblance between the shrunken appearance and bluish, clammy, surface of many of these bandaged and restricted limbs, and the atrophied limbs following infantile paralysis. This similarity extends in a remarkable degree to the retardation in growth, both longitudinal and circumferential, of the long bones of the affected member.

My attention was somewhat forcibly called to the importance of retarded growth after coxitis by the case of a boy of 15, who returned in 1891 after several years' absence; during the last two he had not worn any apparatus and had remained free from disease. He had grown rapidly and was in excellent health, but complained that his leg had grown shorter. On measuring the lower limbs, it was found to my surprise and chagrin that the shortening had increased from a trifle over 1 in. in 1887 to 4½ in. four years later. This led to separate measurements of the femurs and tibias, which disclosed a shortening of 2 in. in the femur and of 1½ in. in the tibia of the affected side. The remainder of the shortening was doubtless due to upward displacement of the femur, but here was over 2½ in. loss of growth in 4 years.

This incident made a deep impression and led to comparative measurements from time to time of the long bones of the limbs after coxitis, and occasionally after other affections. It soon became evident that differences of 1 in. in the length of the tibia and of ½ in. or more in the foot in old cases of coxitis were not at all uncommon. Within the last few months these measurements have been repeated in a series of cases of coxitis, and also in other disabling affections of one limb, to see if any generalization was warranted. Since the principal object of the investigation was to ascertain the length of the shaft of the long bones on the two sides, the femur was measured from the tip of the trochanter to the knee in the hip cases, to eliminate erosion, displacement and bending of the neck, which do not directly concern this study. Measurements of the length

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of the tibia, of the length of the foot, and of the breadth of the patella were also taken.

The results in 37 cases of coxitis may be seen in the table, which is divided into 3 sections according to the duration of the disease; the approximate averages are given for each group.

The results may be briefly summarized as follows:

Femur.—In 23 cases the shaft of the femur of the affected side was from $\frac{1}{4}$ to $2\frac{1}{2}$ in. shorter than that of the well side. In 9 cases there was no demonstrable difference, and in 1 case the femur was about $\frac{1}{4}$ in. longer.

always smaller and narrower; in many cases its bulk seemed to be less than half that of the well side. Twenty-six cases showed a difference of from $\frac{1}{8}$ to $\frac{1}{2}$ in. in transverse diameter, usually about $\frac{1}{4}$ in. In one measured case only was no difference found; this patient had walked freely and had never worn a brace.

Foot.—In 31 cases the foot was from $\frac{1}{2}$ to 1 in. shorter, and often distinctly smaller in other dimensions. In 5 cases no difference in length was noted.

If the cases are divided into 3 groups according to

SHORTENING IN INCHES AFTER COXITIS.

Case.	Sex.	Age.	Disease.	DURATION—YEARS.			Limb.	SHORTENING.			
				Lame-ness.	Treat-ment.	Abscess.		Femur.	Tibia.	Foot.	Patella.
1	F.	3 $\frac{1}{2}$	L. H.	1 $\frac{1}{2}$	1	No.	1 $\frac{1}{2}$		1 $\frac{1}{2}$		1 $\frac{1}{2}$
2	M.	7	R. H.	1 $\frac{1}{2}$	1	No.	1 $\frac{1}{2}$		1 $\frac{1}{2}$		1 $\frac{1}{2}$
3	M.	5	L. H.	2	1 $\frac{1}{2}$	No.	1 $\frac{1}{2}$		1 $\frac{1}{2}$		1 $\frac{1}{2}$
4	M.	5	R. H.	2	1 $\frac{1}{2}$	No.	1 $\frac{1}{2}$		1 $\frac{1}{2}$		1 $\frac{1}{2}$
5	M.	6 $\frac{1}{2}$	L. H.	2 $\frac{1}{2}$	1 $\frac{1}{2}$	Yes.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$		1 $\frac{1}{2}$
6	F.	9	L. H.	2 $\frac{1}{2}$	2	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
7	F.	4 $\frac{1}{2}$	L. H.	3	3	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
8	F.	6 $\frac{1}{2}$	R. H.	3	None.	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
9	M.	6	R. H.	3	2 $\frac{1}{2}$	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
10	F.	13	L. H.	3 $\frac{1}{2}$	3 $\frac{1}{2}$	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
11	F.	7	L. H.	3 $\frac{1}{2}$	3 $\frac{1}{2}$	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
12	M.	7	R. H.	3 $\frac{1}{2}$	3 $\frac{1}{2}$	Yes.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
13	F.	11	R. H.	3 $\frac{1}{2}$	1 $\frac{1}{2}$	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
14	F.	9	L. H.	3 $\frac{1}{2}$	3 $\frac{1}{2}$	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Average				7		2 $\frac{1}{2}$	2		3 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
15	M.	7	R. H.	4	3	Yes.	3 $\frac{1}{4}$		1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
16	M.	7	R. H.	4	4	No.	1	3 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
17	F.	8 $\frac{1}{2}$	R. H.	4	4	No.	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
18	F.	12	R. H.	5	4	Yes.	3 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
19	F.	11	R. H.	5 $\frac{1}{2}$	4	Yes.	2 $\frac{1}{4}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
20	F.	13	L. H.	6	3	No.	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
21	F.	10	L. H.	6 $\frac{1}{2}$	4	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
22	F.	10	R. H.	7	7	Yes.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
23	M.	14	L. H.	7	7	Yes.	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
24	F.	15	R. H.	7	5	No.	2 $\frac{1}{4}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
25	M.	9 $\frac{1}{2}$	R. H.	7	1 $\frac{1}{2}$	Yes.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Average				11 $\frac{1}{2}$		6	4		1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
26	F.	13	R. H.	8	7	Yes.	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1	1 $\frac{1}{2}$
27	M.	15	R. H.	9	6	Yes.	4 $\frac{1}{2}$	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
28	M.	10 $\frac{1}{2}$	L. H.	9		No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
29	F.	18 $\frac{1}{2}$	R. H.	9	7	No.	2 $\frac{1}{4}$	4	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$
30	M.	12	L. H.	10	2	No.	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$
31	M.	18	R. H.	11	10	Yes.	2	1 $\frac{1}{2}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$
32	F.	15	L. H.	11	7	Yes.	3	1 $\frac{1}{2}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$
33	F.	15	R. H.	11	5	Yes.	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
34	F.	15	R. H.	11 $\frac{1}{2}$	3	Yes.	3	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
35	F.	16	L. H.	14	1	No.	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
36	F.	21	L. H.	17	6	Yes.	5 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Average				15		11	6		2 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
37	F.	40	L. H.	40	37		3	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$

— Denotes that the measurements on the two sides were equal.
Where there is a blank in the table, no measurement was recorded.

The shaft of the affected femur was often very much thinner to palpation, and the condyle much narrower and smaller. In 4 cases the femur was not measured.

Tibia.—In 35 cases the tibia was from $\frac{1}{8}$ to $2\frac{1}{2}$ in. shorter on the affected side; in 2 cases there was no difference. In 20 cases the shortening of the tibia exceeded that of the femur; in 7 cases the two were equal, and in 6 the shortening of the femur was the greater.

Fibula.—In a number of cases in which the fibula was measured, it showed about the same amount of shortening as the tibia.

Patella.—The patella of the affected side was nearly

the length of time which had elapsed from the beginning of the disease to the date of the last measurement the total shortening, as well as the shortening of the individual long bones, and of the foot, and the narrowing of the patella is found to increase progressively with the duration of the lameness. In some instances cases of long standing, which have had but little mechanical treatment, show less shortening, though there might be deformity and relapse, than cases of equal duration where mechanical treatment had been prolonged. After forcible correction of the deformity retardation of growth was exaggerated, though the cases are too few to generalize. In some cases retardation was much

* Left femur longer.

Left leg longer, coxa valga?
Scarlatinal.

No treatment, always walked on leg.

Forcible correction.

Fracture, forcible correction.

Left off brace $2\frac{1}{2}$ years ago; relapse.

Forcible correction.

No treatment last 6 years.

May, 1899, Gant's. No treatment before.
Carries lumbar spine. Gant's, 1891.

above the average and in others much below, from unknown causes.

Infantile Paralysis.—In the third group of hip cases with an average age of 15 and an average duration of lameness of 11 years, the average bone shortening was slightly under $\frac{7}{8}$ in. in the femur and slightly under 1 in. in the tibia, or about $1\frac{3}{4}$ in. total. This group may be compared with a group of 10 cases of unilateral infantile paralysis with an average age of 13, and an average duration of lameness of 11 years, where the average shortening was about $1\frac{3}{4}$ in. and in no case over $2\frac{1}{2}$ in.

While the condition of the muscles in the atrophied legs after poliomyelitis is pathologically different, the fact that the longitudinal growth of bones seems to be no more retarded after paralysis than after coxitis, and that in both the affected limb is used very imperfectly, if at all, in support and locomotion, suggests that interference with the normal function of the limb may be an important factor in the retardation of skeletal growth. This inference is strengthened by the consideration that just as we may produce a partial paresis of the circulation by bandaging and suspending a limb, so we may cause such a condition to disappear in certain paralytic cases by bringing a useless limb into action.

Infantile Hemiplegia.—Many cases of infantile hemiplegia of long standing show a certain retardation of growth of the long bones of the affected side, though usually less than in poliomyelitis. (It is to be noted that the leg is used more in walking than in infantile paralysis.)

Congenital Dislocation of the Hip.—In 10 cases of unilateral congenital dislocation of the hip from 4 to 13 years of age the total shortening varied from $\frac{1}{2}$ to $2\frac{1}{2}$ in., but the femur was shorter ($\frac{1}{4}$ in.) in only one case, and the tibia ($\frac{1}{8}$ to $\frac{1}{2}$ in.) in 5. The foot was $\frac{1}{2}$ to $\frac{5}{8}$ in. shorter in the older cases, and the patella was slightly narrower in 6 cases. Here also we are to note that locomotion is constantly practised.

Hip Excision.—One case of excision of the head of the femur, at 2 years, showed no difference in any of the bone lengths at 5 years, though there was upward displacement of 1 in. It is my impression, however, that the considerable shortening after hip excision in children will be found to be partly due to retarded growth, after as well as before the operation. After knee-excision in children this shortening has been shown to be a progressive and most serious factor, owing as has been supposed to interference with the epiphyses.

Fracture of Neck of Femur and Coxa Vara.—No opportunity for measuring cases of fractured neck of the femur in children has recently presented itself. Dr. Whitman reports increasing shortening, which he attributes to change in the angle of the neck. It is possible that these cases and those of coxa vara occurring in the period of rapid growth may show some retardation on the affected side, but since the limb gets a fair amount of use, the retardation, as in the congenital hip dislocations, would probably be small and occasional only.

Osteitis of the Knee.—Of 9 cases measured, aged from $3\frac{1}{2}$ to 33, 6 had a duration of lameness under 5 years. All these showed lengthening of the affected limb, ranging from $\frac{1}{8}$ to $\frac{7}{8}$ in. The 3 older cases showed shortening from 1 to $2\frac{1}{2}$ in. In the first group the femur was longer in 4 from $\frac{1}{4}$ to $\frac{3}{4}$ in. The tibia was longer in 2, equal in 2, and shorter in 2. In the second

group the tibia was from $\frac{1}{2}$ to $2\frac{3}{4}$ in. shorter. In 7 cases the affected foot was shorter from $\frac{1}{8}$ to $1\frac{1}{2}$ in., and in all, the affected patella was from $\frac{1}{8}$ to $\frac{5}{8}$ in. narrower.

Here the proximity of the inflammation to the principal epiphysis for growth modifies the result. There is for a time acceleration of growth in length near the focus, but this goes hand in hand with retarded growth of the patella, and foot, and of the leg bone, unaffected by the irritation. The primary acceleration is followed by a later retardation from disuse, which usually more than counterbalances it.

Congenital Defects of One Lower Limb.—The type of congenital defect of a limb, characterized by imperfectly developed or absent long bones, especially of the fibula, and certain bones of the fibular side of the foot, shows a progressive retardation of growth. Here the tibia or femur, or both, may be the fraction of an inch shorter in early infancy, but the limb is little, if at all serviceable for locomotion, and falls behind its mate in growth until at 14 or 15 years the difference often amounts to several inches. Cases of congenital pes equino-varus will sometimes show considerable differences in the length of the limbs, tibia, and foot, and breadth of patella, after the lapse of some years.

In considering these results it should be remembered that not only is the affected limb underdeveloped in all the instances given, but that the sound limb may be overdeveloped, since it does far more than half, and often more than the normal amount of work, as is plainly evident from its circumferences. It is not impossible, though difficult to prove, that not only is the affected limb shorter than normal, but the sound limb may be longer as well as stouter than normal.

If so, this would exaggerate the difference between the two sides, and tend to make one overestimate the amount of retardation.

While there may be a primary neural factor in certain classes of growth retardation, and while disuse may produce its effect in part through the nerve centers, the writer is inclined, from a study of the facts here presented, to attribute to fixation, compression, and suspension of the affected limb, and to faulty or absent locomotion, an important role in growth retardation.

If this inference is correct, while one should not hesitate to make necessary sacrifices in order to promote the comfort of the patient, combat deformity, and to eliminate disease, it is not a matter of indifference how long the use of the limb is restricted. Protected locomotion, permitting joint and muscle action, with a minimum of strain and pressure, would seem to be indicated in the stage of convalescence from joint disease. That method of treatment, operative or mechanical, should evidently be selected which will give the best functional result with the least restriction.

A rather hasty search has revealed but few references to this topic in medical literature. Hüter makes some general observations on retarded growth of a limb after coxitis in his work on Joint Disease, published (second edition) in 1877. An excellent study, by Dr. Russell A. Hibbs, of shortening of the tibia and femur in 50 cases of tuberculous disease of the hip-joint, published in the *New York Medical Journal*, December 16, 1899, shows results similar to those here given.

Quite unexpectedly to the writer, and to some extent contrary to his preconceptions, this study, so far as it goes, appears to justify the following conclusions:

1. Considerable retardation of growth, both in the length and thickness of the limb and its component

bones, is the rule after coxitis, and other affections causing long periods of lameness or disability in childhood.

2. The amount of retardation appears to bear a distinct relation to the amount and duration of the restraint or disability.

3. This inhibitory effect of restraint should be considered in selecting treatment for disabling affections of the lower limbs. Other things being equal, locomotion is desirable, and restraint for long periods harmful, though complete or partial interference with function must often be enforced as the least of evils.

A REPORT OF A CASE OF RABIES.*

By FREDERICK KRAUSS, M.D.,

of Philadelphia.

Six weeks previous to the attack, Ida Z—, aged 8 years, fondled a sick dog, which her elder sister brought in from the street because it seemed to be suffering. Suddenly, without any warning, the dog bit her in the upper posterior border of the helix of the right ear.

The small wound bled rather freely, and was immediately cauterized by a physician in a neighboring drug store. The wound healed nicely, and no further attention was paid to the incident. The dog was thrust into the highway, and was lost sight of immediately after the child had been bitten.

Six weeks later, on Saturday, August 11, 1900, the child complained of toothache, lassitude, and was nervous. Her mother gave her a dose of castor oil, which operated freely. She passed a sleepless night, but did not complain until the next morning when her mother began to wash her, when she sprang back and complained of pain in her throat. This pain returned whenever she was touched about her face or throat with the wet towel, or even at the slight draught of air that was caused by the movement of the towel. At the breakfast table she tried to drink coffee, but could not on account of pain in her throat. As the child seemed to be well otherwise, the parents did not send for me until about 12.30 P.M., expecting the symptoms to pass away.

When, for the first time I saw her, near that hour, the child seemed very bright, but shy in manner. Her pupils seemed abnormally dilated, the tongue thickly and evenly coated, the breath very offensive. The temperature was 100° F.; pulse, 104. Her gait and manner seemed normal. When asked to drink water from a glass, she at first refused with an expression of dread, saying it hurt her throat so much, and made her short of breath. Upon urging she took the glass, and with sudden determination took a mouthful of water. Immediately that the water touched the pharynx, there was frightfully intense tonic spasm of the constrictors of the pharynx and other muscles of the neck, lasting from 10 to 15 seconds, and probably associated with a spasm of the glottis, as it was associated with dyspnea and followed by a gasping breath. Although some tonic spasm still remained, she succeeded in swallowing the small mouthful of water in repeated efforts after the more intense spasm had subsided. She suffered from extreme thirst, but each effort at drinking produced the same frightful result, thus causing her to suffer the punishment of Tantalus. Solids could not be swallowed. A slight, artificially produced draught of air caused a similar, though less marked attack.

During the intervals she was apparently only suffering from slight feverishness. The wound caused by the dog-bite was healed, the scar being slightly reddened. She passed a sleepless night in spite of large doses of bromide and chloral. On the following morning, August 13, 1900, she and her parents were delighted because of her ability to swallow, after much effort, about one-half glass of milk. The child thought she felt better; but her temperature had risen to 101.5°, her pulse being extremely rapid—130 per minute. She insisted that she was not afraid of anything, but was easily startled. She was led to think that she would get well, but at times she was haunted by a nameless dread of something. She still had the great pain, dyspnea and spasm in

her throat upon attempting to swallow. She was kept in bed and was fairly quiet until 4.15 P.M., when she suddenly sprang up and assumed a crouching position at the edge of the bed, with an expression of intense, horrible fear continuing upon her face, staring at the opposite wall, giving vent to short, unintelligent cries also expressive of fear. This lasted for one or two minutes, when she would wake as from a dream, fondle her mother, saying "she had thought she was near death then." She again laid down quietly for a few minutes, when a similar attack occurred. She always clung to her mother's waist, kissing her face repeatedly after each attack, and asking whether her mother loved her still. I asked her gently not to kiss her mother, as I feared a possible inoculation, and she immediately desisted. After a hypodermic injection of $\frac{1}{4}$ gr. of morphin with $\frac{1}{16}$ gr. of atropin, the attacks became less frequent. She was sent to St. Christopher's Hospital, during an *entire remission* of symptoms from 5.15 P.M. to 8 P.M. During this interval she was quiet and rational. Afterward she became restless; later extremely excited, throwing arms, legs, and even entire body about violently, losing all consciousness of surroundings, emitting short cries as though in fear, and trying to escape. These convulsive and maniacal attacks were relieved by inhalations of chloroform, but recurred after one-half hour's interval of stupor. During the attacks the pupils were widely dilated, the lips withdrawn from the teeth, and an expression of wild fear was upon the face. The pulse was rapid but strong. The temperature, respiration, and pulse were as follows:

	Temperature.	Pulse.	Respiration.
At 6 P.M.	103.0° F.	144	28
" 9 P.M.	104.6° F.	150	26
" 12 P.M.	102.8° F.	160	28
" 3 A.M.	103.1° F.	150	32
" 6 A.M.	101.8° F.	170	40

The patient received alcohol and water sponge-baths whenever temperature exceeded 103° F. The maniacal spasm, being most intense, was not affected thereby. Hypodermic injections of morphin were given to prolong the action of the inhalations of chloroform. The attacks of maniacal excitement continued until 6 A.M., when the patient became quiet and died at 7 A.M. of August 14.

The coroner was notified and a postmortem examination made by Dr. Wadsworth, who found severe congestion of the cerebral and spinal meninges, numerous punctate hemorrhages in the spinal cord, and a rupture of the pleura. A portion of the spinal cord was sent to Dr. Mazjick P. Ravenel, of the University of Pennsylvania, for diagnosis. In a private communication the latter says: "I have passed it through 4 generations of rabbits with positive results always. The examination of the intervertebral ganglion after the method of Van Gehuchten and Nélis, and of the bulb after Babe's method, confirmed the diagnosis positively."

In spite of the evidence presented, the coroner of Philadelphia, a layman, has entered the case upon the city health records as a case of convulsions, denying the existence of such a disease as hydrophobia.

The name hydrophobia appears to be a misnomer, as the patient was not afraid of the water, but of the painful spasm and dyspnea caused by the touch on the throat or upper part of chest of any liquid, or solid, or air—in other words, a centripetal impulse sent to the ganglion centers in the lower part of the medulla and upper part of spinal column, apparently the first portion of the cerebrospinal axis to become affected.

In the early stages, the suggestion to the patient that she should drink milk or water produced a slight spasm, in memory apparently of the terrible spasm caused by attempts to drink. Later on the sight of water was not especially distasteful, except that it was additional torture for the thirsty soul, who longed to drink and even asked frequently for a drink of water, but always found that she could not swallow without terrific and painful local spasm.

* Read at a meeting of the Northern Medical Association, January 11, 1901.

The prominent symptoms were the temperature, rapid pulse, deeply-coated tongue, offensive breath, slightly reddened but healed wound, lassitude, convulsive contraction, frightful in intensity, of the muscles of the neck and larynx upon the slightest peripheral irritation, dilated pupils, her tendency at first to be somewhat irritable, later very tender and loving as long as she retained consciousness. Later the intense fear and frightful convulsive movements of the body made in an apparent effort to escape from a most terrible vision, the convulsion being sufficiently great, indeed, to rupture the pleura, unconsciousness, and an apparent total absence of paralysis were the final features of this disease, so rare apparently in the human species in the United States.

Phloridzin Diabetes.—Seelig (*Deutsche medicinische Wochenschrift*) enters into a discussion of the exact role played by the kidneys in phloridzin diabetes. The most characteristic points of this form of diabetes are, that a glycosuria occurs after the injection of phloridzin, but instead of hyperglykemia, as in true typical diabetes, the sugar of the blood is not increased and may even be diminished. The two chief theories as to the production of this glycosuria are, that some change occurs in the kidneys which allows of the passage of the sugar; and, on the other hand, that the phloridzin is split up by the kidneys into phloretin and phlorose, and the free phloretin keeps continually uniting with sugar and being broken up again by the kidneys, the sugar being excreted and most of the phloretin for a considerable period going through the same cycle until ultimately all of it also is excreted. An observation made by Seelig is of interest in this connection. A rabbit which had been given one gram of phloridzin daily for four weeks, and had continuous glycosuria, was operated upon and one kidney removed for microscopic examination. The animal recovered, and secreted sugar for about 3 weeks without any more phloridzin being used. The iron chlorid reaction for phloridzin persisted 2 weeks after the sugar excretion had ceased. The glycosuria might be explained in this case by two means, it was either the result of the sudden extirpation of the kidney which had so reduced the excretory power of the remaining kidney that the phloridzin was excreted only with abnormal slowness, or it was produced by changes in the kidney, due to the phloridzin, from which the animal had recovered only very slowly because of the loss of the other kidney. This result, however, was obtained but once in a series of experiments. The occurrence of acetonuria is of interest in phloridzin poisoning and other conditions. Acetonuria occurs readily in men in inanition, and in various other conditions. Dogs do not show acetonuria as a result of any change in diet, but do readily show it as a result of phloridzin poisoning, or removal of the pancreas, and Seelig finds that the prolonged use of phloridzin does cause acetonuria in dogs but does not cause it in rabbits; nevertheless rabbits showed distinct necrosis in the tubules of the kidneys and they presented decided glycosuria. It has been claimed by some authors that the changes in the kidneys in phloridzin poisoning are due to the irritation of the acetone excreted by them. This Seelig claims is not true because of these observations on rabbits; there was no acetonuria, hence the necrosis must be attributed to the phloridzin, and he thinks the just conclusion from this is that the glycosuria was the result of these changes. One would expect if the epithelium of the canaliculi of the tubules of the kidneys were damaged by any other poison, glycosuria would not result from phloridzin poisoning. This is not the case. Various poisons have been used and followed by phloridzin, with the constant production of phloridzin glycosuria. This, however, cannot be used as testimony against the renal origin of glycosuria, as it is well known that very minute remnants of the organ may be sufficient to carry on its function fairly satisfactorily. Richter found that very small doses of cantharidin given subcutaneously produced glycosuria which gradually disappeared as an increasing albuminuria appeared. Large doses did not cause glycosuria. Seelig directs attention to the fact that Richter

observed that the glycosuria did not occur when the tubules were damaged, but did appear when the dose was so small that the tubules were left uninvolved, while the glomerules showed exudation and hyperemia. He explains this by stating that just as in phloridzin diabetes the glycosuria is a function of the renal epithelium, so must it be in cantharidin glycosuria, and if the dose of cantharidin has been so large as to destroy the epithelium the glycosuria will not appear. He considers that cantharidin in small doses has a severe effect upon the glomerules, but upon the tubules exercises only sufficient irritation to produce glycosuria. In discussing the cases in human beings which have been reported as renal diabetes he states that not one of these is truly such a case. That of Kolisch and Buber has been frequently considered to be true renal diabetes. Seelig, however, directs attention to the fact that glycosuria occurred only after taking food; it was not, therefore, a true diabetes, but merely a regulatory glycosuria, in other words an instance of tachyglycosuria.

The Connection Between Disease of the Uterus and Gastric Affection.—C. Tuszkai (*The Hungarian Medical Press*, No. 41.) Diseases of the uterus and stomach frequently coexist. A diagnosis of disease between these two organs is often difficult as symptoms may be referable to either viscus. This may be due, first, to the nerve tract, whose center is not in the brain or the spinal cord but in the sympathetic nervous system. From reflex action symptoms arise which relate to both organs. The reflex tracts being anastomosis spermatica, anastomosis pudendohemorrhoidalis, genitogastrica, cutaneocavernosa, and the nervi splanchnici. Also the anastomosis uteroceliaca and anastomosis uterospinalis. The immediate roads of the reflex tracts are direct connections of the vagus (excluding the ganglion solar) with the sympathetic nervous system. The second manner in which mistakes may occur are due to dislocation of the respective organs. The circulation only plays a minor role in this connection.

The Pathogenesis of Anemic Conditions in Childhood.—L. Fürst (*Therapeutische Monatshefte*, 1900, No. 9) believes that congenital anemia not infrequently is due to heredity. Habitual anemia of the parents, cachexia as a result of tuberculosis, malignant neoplasms, diseases during pregnancy, poor nutrition and lack of hygiene, may all, according to the author, give rise to anemia in the child. The anemia is transmitted by means of the placental circulation and continues to develop in the fetus in utero. The alimentary form when present in the nonanemic newborn is due to an exclusive milk-diet which in itself is deficient in iron. The anemia occurring from 5 to 12 years of age is characterized by rapid growth, loss in bodily fat, and is due to the increased processes of oxidation during which the formation of new blood-cells cannot keep pace with the increased tissue waste. The total amount of blood decreases because there is such a great demand upon hematogenesis to supply the new bone and muscle. The author describes a development-anorexia which is seen in both sexes during their school years, but which occurs especially toward puberty in the female between 12 and 15 years of age and is occasioned by an overexertion and overburdening of the brain, nervous excitation, and sedentary habits [M.R.D.]

Changes in the Spinal Cord in Pernicious Anemia.—W. Goebel (*Mittheilungen aus den Hamburgerischen Staatskrankenstellen*, Bd. II) reports the postmortem examination of 6 cases of pernicious anemia. In a child 5 years of age with the exception of a slight extravasation of blood into the frontal lobe, there was no degeneration of the brain or spinal cord. In older individuals there were some profuse degenerative changes in the cells, areas of disseminated myelitis pigmentation and degeneration of the ganglion cells (as a consequence of the cachexia) and in two cases changes were found in the extramedullary roots. The pia was always found in a delicate and normal condition with no changes in the bloodvessels to which the etiology could be ascribed. The changes in the gray matter were always less than those in the white and were absent entirely whenever the white matter seemed to be affected; the intensity of the affection of the gray matter was not in direct proportion to that of the white. The commissural fibers were intact. [M.R.D.]

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Queen Victoria's Death.—The Queen's death evidently illustrated the truth of the old medical aphorism that a person's life is just as long as the life of the blood-vessels. Her Majesty apparently succumbed to the changes in the cerebral circulation, brought about by arterial sclerosis. This mode of death is very commonly seen in the aged, in whom, after death, it is not always possible to find gross or focal lesions in the brain. The most conspicuous pathological picture, as a rule, is the thickening and brittleness of the vessels forming the circle of Willis and its branches. The roughening of the inner coats of these vessels causes small thrombi to form; the lumen of the vessel is narrowed or obliterated; slowing or stasis of the blood-current results; more or less edema occurs, and nutrition and function are both seriously involved. The process once started probably spreads from one vessel to another. It is not necessary in every case that extensive necrosis or softening of the brain-substance should result. The clinical picture thus presented is that which is popularly called apoplectic, although it does not always come on with abruptness in its entirety. In the Queen's case there seem to have been successive attacks. According to apparently authentic reports, there was hemiplegia, or rather hemiparesis, the latter being the more common in these cases.

With the passing of Queen Victoria, a great epoch in English history closes, and one which has been conspicuous for the advances made in the medical sciences. Those advances, in their vast extent, cannot be chronicled here and now, and they are not especially associated with the personality of the English Queen, but they will long be associated with the period which bears her name. Towards the profession itself she was reputed to be liberal and broad-minded, and to some members of it she was deeply attached. It will be difficult for a long while to realize that the venerable sovereign, who has for so many years been associated in all minds with the power and prestige of the British Empire, is no more.

Infantile Scurvy.—Dr. Griffith's paper in the present number of the JOURNAL calls attention to the fact that infantile scurvy is rather more common than is generally supposed, and that it is capable of doing an immense amount of harm simply from the fact that it is so readily overlooked. This affection simulates a

number of diseases rather closely although superficially, but in the light which has been shed on it in recent years there seems to be no excuse any longer for an error in diagnosis. Scurvy is not rheumatism, and rheumatism is not scurvy, but the painful affection of the joints in both diseases is apt to mislead a careless or ignorant observer. Scurvy in infancy is a disease which is almost as easily cured in most instances as it is easily diagnosed. A simple exercise of common sense in returning the child to the kind of diet that nature originally intended for it, is practically all that is required in most cases. In other words, the correct diagnosis of the disease is nine points of the treatment, for when the disease has been once recognized the indications for treatment are plain and unmistakable.

While this is true Dr. Griffith very properly calls attention to the fact that although the cause of scurvy is clearly dietetic, yet there is no one dietetic fault that can alone be held responsible. It does seem, however, that a too large or too exclusive use of a farinaceous diet is often an etiological factor. Thus, as we called attention in these columns only recently, a rice diet has been found to cause this disease in Cuba. In this country there is no doubt a tendency toward a large use of commercial foods. It is probably true that when these foods are properly mixed with other ingredients, such as milk, which is essential to the welfare of the child, they are beneficially borne, and the risk is not so much that the physician but rather that mothers and nurses fall into the way of giving these foods too exclusively. They should be only a supplementary portion of the diet, not a mainstay. The collective investigation of the American Pediatric Society, made some years ago, proved the truth of this statement apparently beyond doubt. As to the sterilization of milk, it also is possibly a contributing cause, although Dr. Griffith evidently does not consider it an important one. It is well, however, for physicians to remember that milk which has passed through the process of cooking is not the kind of milk which nature originally intended for an infant. We trust that the exposition of this whole subject of infant feeding, which is given in the eminently useful and practical papers published in this number of the JOURNAL, will be of use to clarify this whole subject, as concerns both diagnosis and treatment, in the mind of the general practitioner.

Rheumatic Fever in Children and the Prevention of Cardiac Complications.—A strong argument in favor of the infectious nature of acute rheumatic fever is its behavior in children. As Heiman has pointed out in a recent paper (*Archives of Pediatrics*, January, 1901), the liability to joint involvement in children is reduced to a minimum, and, in certain cases, growing pains may be the only subjective symptom complained of. On the other hand, in the little folks, there is great danger of involvement of other tissues, particularly of the serous membranes, such as the endocardium. A short time ago Barbier and Tollemer reported to the Société de Pédiatrie (*Revue Mensuelle des Maladies de l'Enfance*, January, 1901) the case of a little girl aged 11 years who was suffering from an acute polyarthritis of 18 days' duration. This child was suddenly seized with aphasia and right-sided hemiplegia. After several days she died, and, at autopsy, a vegetating endocarditis of the mitral valve and multiple emboli in the cerebral artery were discovered. Realizing the danger of involvement of the serous membranes we should first place our patients under the most favorable conditions for the prevention of such a complication and then be on the lookout constantly for the first signs of endocardial mischief, so as to cure the lesion, if possible, before it becomes chronic. Caton ("The Prevention of Valvular Diseases of the Heart," London, 1900) has worked on this problem for 19 years and, in his book, gives the results of his studies and notes of 86 cases in which his method has been attended with a greater or less degree of success. For the prevention and cure of endocardial lesions this author has adopted the following method: His patients are clad in flannel night-gowns. They are kept in bed so as to secure complete physiological rest of mind and body, thereby reducing the demand made upon the heart to the physiological minimum. Pain is relieved by the salicylates. Small blisters are applied over the upper portion of the chest. These act in reality as direct stimulants to the vasomotor and trophic nerves of the ailing part. He exhibits the iodides and mercury as absorbents, and these drugs together with the salicylates are kept up for 3 or 4 weeks, or longer, if necessary, after the acute symptoms have subsided. He believes that those drugs that act directly and specifically on the heart, the so-called cardiac tonics, including digitalis and caffeine, are distinctly injurious. Heiman, in order to prevent the occurrence of endocarditis, gives from 3 to 5 grains of salicylate for one week of each month for a year or more after the acute symptoms have disappeared.

We believe that the strontium salt is the best form of the salicylates because it is the least likely to disagree with the stomach.

Caton emphasizes the fact that the mitral valve is affected much more frequently than the aortic—at least ten times as frequently in his experience. He explains

this by the mechanical principles involved at the time of closure of the mitral valve during each systole of the heart. At this moment intracardial pressure is immensely increased, and when the cusps come together they have to withstand this pressure. These cusps are nourished and repaired through connective-tissue channels, no bloodvessels existing nearer than the attached margins of the cusps. Under the strain and defective nutrition the infecting agent attacks the valves at their most vulnerable points. Counterirritation, he thinks, acts by influencing nutrition through the nervous system.

Enterocolitis.—The diarrheal diseases are exceedingly difficult to classify, as the severity of the symptoms are not necessarily dependent upon the gravity of the local lesions. Diarrhea may be defined as a condition in which soft or fluid evacuations occur frequently, the stool being either large or small. The fluid character of the dejecta is caused by an increase of the watery elements entering into their formation. This is primarily caused by the thin contents of the jejunum and ileum being poured too rapidly into the large intestine without being absorbed; or a massive transudation may occur from the wall of the intestine either from the bloodvessels or the lymph-glands. In the former case a reaction for bile is frequently obtained with nitrous acid, but not invariably. The presence of bile pigment in the stool shows absolutely that the diarrhea is dependent upon causes in the small intestine. Increased peristalsis either in the small or large intestine is the second factor upon which the occurrence of diarrhea depends. The pathological increase of peristalsis is dependent upon many causes. In the majority of instances, however, it is due to some anatomical morbid lesion of the bowel itself. This is, however, not invariably the case. Increased peristalsis may be due to the presence of irritating substances in the bowel, or in case that the contents of the intestines are normal, to an increased irritability of the nervous structure of the bowel (the ganglion or the sensory nerve); or the central nervous system may be at fault; or toxic substances may be present in the circulation which increase peristalsis. Any one of these causes are sufficient to produce the symptom-complex known as diarrhea. It is, however, probable that several of the causes acting together give rise to the condition.

It is now generally conceded that acute enterocolitis is almost invariably the result of microorganisms, their toxins or a combination of both. Hence the affection should properly be considered a toxemia, and although inflammatory changes arise in the bowel they are not the cause but the result of the influence of the bacteria and the ptomaines. No specific bacterium has as yet been isolated. The means by which the microorganisms gain access to the susceptible gastrointestinal tract is undoubtedly by way of the mouth. The ho

season has been given as a marked predisposing cause for this affection. This is true in so far only as heat increases the development and activity of the organisms which are productive of this affection. Almost every practitioner has seen cases of severe enterocolitis arising in children in the cold months of the year in which food unquestionably and not heat was the etiological factor.

The treatment of the affection should consist first and foremost in ridding the individual of the cause of the affection. The physician who treats symptoms will often disregard this in paying attention only to the prominent symptom of the affection, the diarrhea, and attempt to check this. The contents of the intestinal tract should be properly evacuated. This may be best accomplished by the use of castor oil, calomel in broken doses, or a saline. If these are not retained and vomiting be a principal symptom, as it sometimes is, enteroclysis of water often satisfactorily accomplishes the same purpose. If high temperature be a marked symptom, ice water may be used for this purpose. Opium as a routine treatment is dangerous, especially in children under one year of age. The use of some intestinal antiseptic, such as salol, or the bismuth salts in large doses, is considered good practice. A valuable adjunct to the treatment, besides most careful attention to the diet, consists in a change of climate. A high mountain climate, or preferably the seashore, will in many instances, without any further medical treatment, especially in the milder cases, promote a rapid recovery.

Hysteria in Children.—Oppenheim, in his work on nervous diseases—recently translated into English by Dr. Edward E. Mayer, of Pittsburg—calls rather more pointed attention to this subject than used to be the custom in textbooks. The old fallacy that hysteria is an affection of the morbid womb, has been most tenacious, and it naturally excluded children from the sphere of this disease. The recognition of hysterical phenomena in children has therefore been a long time coming, and even yet the disease as it affects children is not accorded due notice, as a rule, outside of special treatises. Oppenheim seems to have had a unique experience, for he tells us that he has repeatedly observed hysteria in children of from 2 to 3 years of age. He also saw the disease successively in 4 children of an hysterical father—a fact which illustrates the now well-known heredity of hysteria. Clouston's statistics, based upon 272 cases, include but one authentic case at the early age of 3 years. In fact, until 7 the disease is rare. Oppenheim even goes to the extent of attempting to establish an analogy between infantile convulsions of the ordinary type and the hysterical crises of adults. Both, he thinks, are due to incomplete development of the inhibitory centers. The child's brain, therefore, is analogous to that of the adult hysteric. This is rather an unhappy attempt at

finding analogies, and may mislead some students. It also shows that German neurologists have not yet acquired the clear analytical view of hysteria, which characterizes the French writers, for infantile convulsions are very unlike the convulsions of true hysteria (whether in the child or in the adult) and are more to be compared with epilepsy. They are probably of toxic origin, and are marked with a profound unconsciousness that differs from that seen in hysteria. They are common, too, as a rule, in much younger children, and they are not associated with, or followed by, the permanent stigmata of hysteria.

The chief importance of this subject to the general practitioner arises from the fact that this psychoneurosis may sometimes complicate in a most confusing way the picture of organic disease. It is not that hysteria simulates organic disease, but that it complicates it; this is the important fact. The difficult task is to differentiate, to disentangle the organic from the psychic. By failing to do this, grave errors may arise, not only in diagnosis, but in treatment. It is true, finally, as Oppenheim has not failed to recognize, that hysteria may complicate one of the other neuroses; thus, in young children, an infantile convulsion, of the ordinary type, due to toxemia, may be followed by the manifestations of hysteria. In such cases it is needful to exercise unusual care and acumen in order to make a correct diagnosis.

The Disorders of Dentition.—We shall confine ourselves to the morbid conditions associated with dentition, rather than any abnormalities in the teeth themselves or their period of eruption. A wealth of clinical experience has shown the frequent coexistence of certain diseased states and the process of dentition. Yet our seer has set us the watchword through the centuries that experience is often "fallacious," and no doubt a host of conditions have been ascribed improperly to dentition which have had nothing whatever to do with the process, the fault being, not of our experience, but its interpretation.

We are confronted by two extreme views upon this question. It was the habit formerly to blame dentition for practically all of the ailments from which a teething child suffered. This led to numbers of cases of neglect of timely treatment, it being believed generally by the laity and even the profession that such ailments would be quite relieved when the offending tooth was cut. Again, it has been too often declared that a little patient *with its 20 milk teeth*, and under the age of second dentition, was ill merely from teething. This is an error arising from the lack of elemental knowledge.

Jules Comby, of Paris, and many others hold that dentition being a strictly physiological process has no diseases dependent upon it. We believe with Vogel, of Dorpat; E. Henoch, of Berlin, and others that the

middle ground is the sound one. It is difficult to believe that all of the coexisting morbid conditions associated with dentition are accidental. We know that inflammatory conditions of the buccal mucous membrane may, at times, be local, but are often general and may give rise to a stomatitis, either of the catarrhal or aphthous form. Extension of the inflammatory process, and the reflex irritation thus caused, have been held accountable with some degree of authority¹ as a cause of acute anterior poliomyelitis and possibly spinal meningitis.² The excessive dribbling of saliva often wets through the child's garments and gives rise to a coryza and bronchitis, which might also very readily arise from extension of the inflammation of the mucous membrane to the upper and lower air-passages. Swallowing quantities of saliva causes a form of diarrhea prevalent during dentition and gastric and gastrointestinal disorders. The mere presence of a local inflammation is sufficient exciting cause of the frequent elevation of temperature observed. This, however, in these cases is not usually alarming.

The occurrence of skin eruptions associated with the cutting of certain groups of teeth and subsiding when the teeth have appeared is too familiar to be gainsaid. These include urticaria, occasional lichen and prurigo, eczema and impetigo. Nor must we forget the crusta lactea of the hairy scalp.

The nervous system of an infant is disturbed easily by reflex influences, and most important are the convulsive phenomena varying from slight twitchings to pronounced eclampsia. Henoch has observed a partial contraction of the muscles of the throat and neck during dentition, due to nerve irritation. Competent authorities have called our attention frequently to the presence of an otitis media of which dentition has been the causal factor, and we must not overlook the conjunctival blennorrhea associated with the cutting of the canine—or very properly named “eye” teeth. The precise connection of cause and effect in these cases is often difficult to trace. That a physiological process should give rise to such manifold complications raises the spirit of doubt in many minds. But the incontrovertible repeated association of certain conditions with the process of dentition forces us to ascribe an etiological rôle to the process itself, whether the cause be exciting or predisposing.

The question is somewhat vital at times, for many apparently serious conditions, in which the cause is unrecognized, might induce a method of treatment quite inappropriate; for instance, in treating a conjunctival blennorrhea or an otitis media radically, when the cause is resident in the cutting of a tooth in a class of cases in which recovery will occur promptly when this has been accomplished. Again, it is important to guard against the misinterpretation of certain gastric or gastro-

intestinal disorders in which the recognition of the cause is far more important than routine treatment, with the cause constantly operative. The value of lancing the gums as a routine measure is quite generally deprecated, but in certain conditions the local depletion and the relief of tension thus brought about will be of the greatest service.

Rubeola and Rubella.—If one consults the medical dictionaries he finds that the word rubeola receives two definitions. The first makes it a synonym for rubella, or that which is more commonly known in this country as German measles, and the second gives the word as a synonym for measles. There is, therefore, some confusion as to the proper significance of the terms rubella and rubeola. Jürgensen (Nothnagel's Special Pathology and Therapeutics, Vol. V, Part II) shows that rubella is a nosological entity, and that it has nothing to do with either measles or scarlet fever. Furthermore, the majority of recent writers describe the two diseases separately. The following, as is well known, are the chief differences between measles and rubella:

In measles the period of incubation is from 5 to 14 days, or an average of about 12 days, while in rubella, or German measles, this period is from 7 to 21 days. In measles the onset is gradual with anorexia, fever, and marked catarrhal symptoms, while in rubella the onset is usually without symptoms until just before the rash appears. Enlargement of the cervical, axillary, and inguinal glands is very common in the latter. In measles the febrile stage is rather more pronounced than in rubella, and in the former disease the eruption does not appear until the fourth day, whereas in rubella it appears on the second day. This eruption in measles is coarse, papular, dark red, and much more pronounced than in rubella. Finally, there are many more complications or sequelae in measles than in rubella. Among these complications are the following: Purulent conjunctivitis, stomatitis, bronchitis, catarrhal pneumonia, otitis media, and intestinal derangements. One way out of the difficulty caused by this unfortunate misuse of terms would be to always use the word rubella to signify röteln or German measles, but a still better way would be to drop the term rubeola altogether and refer to the two diseases as measles and rubella. We doubt, however, whether any of these Latin terms, namely roseola, rubella, and rubeola, will ever become popular with the profession. Even now many of the best-read men will hesitate a moment if they are asked for a prompt definition of these individual terms. On the other hand the terms measles and röteln, or German measles, are perfectly well understood, and are not liable to be mistaken.

The Etiology of Yellow Fever.—Since the paper on the etiology of yellow fever, by Reed and his co-workers, appeared in the PHILADELPHIA MEDICAL JOUR-

¹ Erb. ² Erb.

NAL of October 27, 1900, these investigators have diligently pursued the study, and, in the issue of this journal of December 22, a telegram from Dr. Reed to the surgeon-general of the army stated that inoculations had been successful in 80% of cases. Carlos Finlay, of Havana, is the author of the theory of the transmission of yellow fever through the agency of *Culex fasciata*. As early as 1891 this author stated, in a paper which was published in part only, in 1892, that the first idea of the mosquito as the habitual agent of the disease arose from the difficulty of accounting for the propagation of yellow fever upon any supposition but that of an infection produced by a natural inoculating agent which should first become contaminated from a yellow-fever patient and afterward communicate the disease by inoculating susceptible persons with the germs which it had picked up and retained. Bérenger-Féraud attacked the theory on the ground that an epidemic propagated from Havana to Saint-Nazaire through the *Anne-Marie*, in 1861, could not possibly be thus accounted for. In the *New York Medical Journal*, January 19, 1901, Finlay explains this epidemic according to the mosquito theory. It seems that the *Anne-Marie* left Havana on June 13, 1861, manned by the same crew that had navigated her from France to Cuba one month before. At the beginning of the return voyage the vessel was becalmed for 12 days in the Florida channel, with suffocating heat, frequent squalls, and heavy rains. On the first and second of July, 1 nonfatal and 2 fatal cases of yellow fever developed among the crew; these 3 men must have been infected before the ship left Havana. Between the fourth and the eighth of July, 6 new cases developed, of which none was fatal. With the loading and the provisioning of the ship it is highly probable that a considerable number of mosquito eggs and larvae were introduced on board, and that a whole brood of new mosquitoes was produced on the vessel while she was becalmed during the first 12 days of her voyage, and that by stinging the first 3 patients taken ill, some of them infected the next 6 men who were prostrated. At this time the calms had ceased and the vessel had reached cooler latitudes, which, together with the attraction of the sugar, caused the insects to take refuge in the hold. No new cases developed on the voyage to France; but when the hold was opened at the wharf at Saint-Nazaire, on July 27, the inoculated mosquitoes began to sting all the nonimmune persons who came within their reach, 19 in all, and all of these contracted the disease. Five other persons appear to have taken the infection on the wharf or on the decks of other vessels in close proximity to the infected ship. The infection of 4 other persons who were not near the ship is accounted for. Owing to climatic influences unfavorable to the development of new broods of mosquitoes, the brood hatched on the ship early in July would have become extinct during the second week of August, and, in point of fact, the epidemic ceased at that time. The chain is also traced to

the *Arequipa*, a ship moored next to the *Anne-Marie* at Saint-Nazaire. The mosquito theory of the transmission of the disease has been attacked by Wasdin (*PHILADELPHIA MEDICAL JOURNAL*, November 17, 1900), principally because Reed and his fellow laborers have failed to isolate the *Bacillus icteroides* from their patients. We see, however, no reason why the mosquito theory of transmission of the disease is incompatible with Sanarelli's theory of the specificity of the microorganism. While the work of Sanarelli is most valuable, his organism has not been finally accepted by the profession as the cause of yellow fever. Neither has the profession accepted the new theory of the transmission of the disease. We should be ready to be convinced by competent observers both that the *Bacillus icteroides* is the cause of yellow fever and that it is carried from one person to another by mosquitoes.

Prager medicinische Wochenschrift. — It again becomes our pleasant duty to congratulate one of our contemporaries across the sea. The beginning of this century marks the twentieth-fifth anniversary of the *Prager medicinische Wochenschrift*. With its present contributors and the high-grade character of its articles, it cannot fail to maintain its position in medical journalism.

Douglas Abscess in Perityphlitis.—Rotter (*Deutsche med. Wochenschrift*, Oct. 4, 1900) says that among the abscesses caused by perityphlitis the most frequent is (1) that of the pelvic cavity; (2) the Douglas abscess; (3) that of the lumbar region; and (4), the rarest, the subphrenic abscess. Out of 182 cases of perityphlitis he reports 41 of abscess in the Douglas cavity, or about $\frac{1}{4}$. He defines a Douglas abscess as one which has its base in the peritoneal folds of the Douglas sac, and, increasing, reaches the intestinal loops above, which, when adherent, form a covering for the pus cavity, separating it from the abdominal cavity. The Douglas abscess is formed when the perforation of the appendix permits the infecting material to scatter through the abdomen and sink to the lowest point, the base of the Douglas fold. It occurs in case of a fresh, circumscribed perityphlitic suppuration in which there is a serous outflow into the peritoneal cavity accompanying a general peritoneal inflammation, and this fluid collecting in the Douglas pouch becomes infected. A frequent symptom accompanying a Douglas abscess is a distended abdomen with severe suffering of the patient, simulating the symptoms of a diffuse peritonitis; but these symptoms are the result of the pressure of the abscess upon the rectum and other organs, causing constipation, etc., and they diminish as soon as the abscess is emptied. In women it is often difficult to determine whether the Douglas abscess is caused by disease of the appendix or of the generative organs, but Rotter believes that when the contents contain colon bacilli it is of perityphlitic origin. The diagnosis of the Douglas abscess is comparatively easy and certain by means of rectal examination, and this is the best method by which to ascertain the proper operative treatment; for when the presence of an abscess is no longer in doubt, there can be no other treatment than operative. In women the incision can usually be made through the posterior vaginal wall, though in young girls Rotter prefers to reach the Douglas abscess through the rectum. If other abscesses are found to exist which cannot be emptied through the Douglas sac an abdominal incision becomes necessary; but this involves the danger of spreading the infection and causing peritonitis, only to be avoided by the greatest care and surgical cleanliness. [W.K.]

Correspondence.

PARTIAL TRAUMATIC PARALYSIS OF THE TRIFACIAL NERVE.

BY HENRY M. FISHER, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

MICHAEL S., while working in a stable one month ago, was struck by a companion with a pitchfork. One of the prongs of the fork caused a pretty severe lacerated wound of the mucous membrane of the right cheek and the other made a penetrating wound of the left lower eyelid about one-third of an inch to the left of the middle of the eyeball. He was taken to the Pennsylvania Hospital where the wound of his right cheek, which was bleeding profusely, was sutured.

For two or three days there was complete anesthesia of the left side of his face and he experienced difficulty in speaking and in swallowing. Anesthesia is no longer absolute on the affected side, but even now, if he does not pay strict attention, part of his food regurgitates through his left nostril.

No hemianesthesia of the tongue. For a few days hearing was slightly impaired in the left ear and even now he experiences occasional deafness on that side.

ABOUT THE RED BLOOD-CELL.

BY M. GIRSDANSKY, M.D.,

of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE human red blood-cell is ordinarily described as "a circular, biconcave disc, with rounded edges, composed of a colorless, structureless, and transparent filmy framework or stroma. (Kirke's Physiology.)

When, however, the red blood-cell is destroyed, as, *e. g.*, in "laky blood," it appears under a high power "as an obscurely spongy reticulated disc," which may be stained by various reagents (Foster).

This is all more or less ancient history, and, of course, very well known to all of us.

Under the following procedure the red blood-cell will appear as a beautiful fenestrated reticulum, somewhat resembling the foliated tracery of Gothic architecture:

With the ordinary precautions of cleanliness, make a thin spread of newly-shed blood in the usual manner. Fix the film either by leaving the slide for 2 hours in a mixture of equal parts of absolute alcohol and ether, or by gently heating the slide over the flame of an alcohol-lamp for a few minutes. Flood the slide with the following solution:

Saturated alcohol-solution of methylene-blue,	3 parts.
Water.....	3 parts.
Absolute alcohol.....	3 parts.
Carbolic acid, C. P.	1 part.

Mix; wash it in a gentle stream of water and restain with

Eosin—sat. alcohol-sol.....	1 part.
Water	10 parts.

Mix; wash it in a similar manner and restain with Loeffler's solution:

Concentrated alcohol-solution of methylene-blue.....	30 parts.
1:10,000 watery solution of caustic potash.....	100 parts.

Mix; wash in water, dry and examine without cover-glass in cell or oil with a $\frac{1}{2}$ oil-immersion lens.

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. Edward Stieren of Pittsburg, Pennsylvania, has been appointed ophthalmic surgeon to the McKees Rocks General Hospital.

Dr. Charles A. Oliver has recently received the honorary degree of A.M. from Lafayette College and has been made one of the honorary vice-presidents in the section of ophthalmology at the Third Pan-American Medical Congress.

State Board Examination.—Eighty-seven applicants for medical diplomas took the examination before the board of medical examiners of the State Medical Society of Pennsylvania at Philadelphia last December, and 48 passed, 35 failed, 2 withdrew and 2 were disqualified.

German Hospital Election.—The annual meeting of the trustees of the German Hospital was held January 29, and the following officers elected for the ensuing year: President, John D. Lankenau; vice-president, M. Richards Macklé; secretary, Rev. F. Wischan; treasurer, Charles Woerwag; solicitor, Joseph A. Rosengarten. The entire medical staff was reelected.

Results from Antitoxin.—A report prepared by the Lancaster Board of Health, relative to the use of antitoxin in treating diphtheria, shows the following results: Last year 262 cases of diphtheria were reported to the board of health, of which number 28 resulted fatally. In 1892, when antitoxin was unknown, 260 cases were reported, and there were 63 deaths. In 1895 there were 229 cases and 68 deaths, and in 1897, 197 cases and 38 deaths.

Philadelphia Polyclinic.—At the annual meeting of the corporators of the Philadelphia Polyclinic, the following trustees were elected: William K. Donovan, Judge Ashman, Franklin B. Kirkbride, J. E. Sterrett, Hon. Henry K. Boyer, George T. Lippincott, Nathaniel B. Crenshaw, William F. Read, C. S. W. Packard, Henry B. French, Nelson Z. Graves, John Scott, Jr., and James Crosby Brown. Miss Marie Blanchard and Mrs. Thomas S. Kirkbride, Jr., were elected members of the corporation. Dr. Howard F. Hansell, President of the Faculty, presented a report covering the medical work of the institution during the past year, and Miss Banfield, Superintendent of the Hospital, presented a report of the hospital and training schools.

Additions to Hospital Staff.—At the meeting of the Department of Charities and Correction, January 24, there were 13 additional members appointed to the medical board of the Philadelphia Hospital. The board is constituted as follows:

Surgeons.—Drs. W. Joseph Hearn, L. W. Steinbach, Orville Horwitz, Ernest La Place, Edward Martin, J. C. DaCosta, Alfred C. Wood, Charles H. Frazier.

Physicians.—Drs. R. G. Curtin, J. H. Musser, F. P. Henry, W. E. Hughes, S. Solis Cohen, J. L. Salinger, James Tyson, Thomas G. Ashton, A. A. Eshner, Alfred Stengel, H. B. Allyn, David Riesman.

Ophthalmologists.—Drs. Barton C. Hirst, Edward P. Davis, George Y. McKewey, J. M. Fisher, R. C. Norris, W. Frank Hachman, Elizabeth L. Peck, John B. Shober.

Obstetricians.—Drs. C. K. Mills, F. N. Deroun, Charles W. Barr, F. Savary Pearce, William G. Spiller, Charles S. Potts.

Ophthalmologists.—Drs. G. E. deSchweinitz, Charles A. Oliver, Howard F. Hansell, John W. Cheskey.

Dermatologists.—Drs. W. H. Stelwagon, H. B. Hartzell, E. S. Gans.

Pathologists.—Drs. W. M. L. Coplin, Joseph McFarland, Simon Flexner.

Pathologists.—Dr. L. N. Boston.

Pathologists.—Drs. George Morley Marshall, E. B. Gleason, Charles P. Grayson.

Anesthetists.—Dr. Charles Leonard.

Pathologists.—Drs. R. H. Nemes, M. H. Cryer, I. Norman Broomall, C. Stelwagon, Jr.

Pediatricists.—Drs. William C. Hollopeter, E. E. Graham, J. P. Crozer Griffith, J. Madison Taylor.

Orthopedic Surgeons.—Drs. H. Augustus Wilson, J. P. Mann, G. G. Davis.

Registrars.—Drs. Joseph Sailor, William C. Pickett, Robley D. Newton, B. Franklin Stahl, W. A. N. Dorsland, J. H. McKee.

The present corps of 50 outdoor physicians, consisting of 1 regular and 1 homeopathist to each of the 25 districts into which the city is divided for this purpose was reappointed.

Vital Statistics of Philadelphia for the week ended

January 26, 1901:

Total mortality	536	
	CASES.	DEATHS.
Inflammation of appendix 3, bladder 1, brain 14, bronchi 12, kidneys 24, lungs 68, peritoneum 7, stomach and bowels 15, spine 2, of larynx 1, of liver 4, pleura 1, nerves 1		153
Inanition 13, marasmus 9, debility 4		26
Tuberculosis of lungs		53
Apoplexy 25, paralysis 16		24
Heart—fatty degeneration of 3, neuralgia 2, other diseases of 34		39
Uremia 11, diabetes 4, Bright's disease 13		28
Casualties		11
Carcinoma of breast 2, stomach 5, uterus 3, face 1, bladder 1, neck 1, back 1, bowels 1, rectum 1, liver 1		17
Convulsions		10
Diphtheria	101	15
Brain—softening of 1, congestion of 1		2
Typhoid fever		16
Old age		16
Burns and scalds		2
Dysentery		1
Suicide		5
Cirrhosis of liver		5
Alcoholism		1
Cyanosis		3
Scarlet fever	75	4
Influenza		10
Abscess—of brain 1, of head 2, psoas 1		4
Asthma 3, anemia 3, congestion of the lungs 2, carbuncle 2, cellulitis of neck 1, croup 1, membranous croup 5, diarrhea 1, drowned 1, epilepsy 2, erysipelas 1, senile gangrene 1, of the foot 1, hemorrhage from lungs 1, homicide 1, jaundice 1, leukemia 1, obstruction of the bowels 3, edema of lungs 2, purpura hemorrhagica 1, retention of urine 1, arterial sclerosis 2, surgical shock 4, septicaemia 1, sarcoma 1, of the chest 1, stricture of esophagus 1, tumor of abdomen 2, of brain 1, ovarian 1, ulceration of the stomach 3, whooping-cough 1, gastric fever 1		32

Philadelphia County Medical Society.—At the stated meeting, held January 23, DR. ALBERT E. ROUSSEL reported 3 cases of malignant endocarditis. In Case 1 the disease followed measles. In Case 2 the patient was but 9 years of age and was convalescing from a typical attack of typhoid fever. During the attack of endocarditis the temperature was mostly subnormal, rarely rising above 101°. There was enlargement of the axillary and cervical glands, a leukocytosis of over 50,000 with the presence of poikilocytes and macrocytes, and the spleen extended below the umbilicus. Autopsy showed valve lesions and infarcts in the spleen and liver. The case was reported as one simulating leukemia. Case 3 terminated in recovery. This naturally threw some doubt on the diagnosis, but this was believed to be correct because (a) the patient had shortly before passed an examination for life insurance; (b) during the attack multiple abscesses were opened in various parts of the body and these contained streptococci; the blood also contained streptococci; (c) the heart lesion has persisted since the attack, as shown by murmurs. In discussing the paper DR. JAMES TYSON said he had seen no recoveries and had come to think the recovery of a case meant error in diagnosis. As to the terminology, he would class cases as simple infective and malignant infective. DR. J. M. ANDERS said the chief interest lay in the diagnosis. Sometimes a reasonably certain diagnosis can be based on a septic temperature, murmurs, and embolic symptoms even though there be no primary disease to suggest endocarditis. Visceral and cutaneous embolism are the most important diagnostic points. In obscure cases a diagnosis by exclusion from typhoid fever, cerebrospinal fever, and malaria, can now be made by methods not formerly in vogue, as blood examinations, lumbar puncture, etc.

DR. J. H. B. ROBERTS read a report of two cases of **epi-
ploxy in cirrhosis of the liver** and described the technique of the operation which he uses. Both cases died, one in 6 months, the other the day following the operation. Dr. Roberts stated that it was yet too early to know the real value of operation in these cases, but as the operation itself is a trivial one and the disease is so intractable early operation seems advisable. The operation is done under local anesthesia, an incision being made above the umbilicus and a finger introduced to hold the omentum against the abdominal wall. Sutures of chromicized catgut are then passed by

a long curved needle which penetrates the skin, abdominal wall, and omentum, coming out through the skin about an inch from the point of insertion. The abdominal wall or omentum should not be rolled up as this makes the stitches liable to tear out. The omentum should also be anchored in the wound when the abdominal incision is closed. This operation should be done as soon as practicable after the diagnosis is made. DR. TYSON stated that he had had one obstinate case operated upon, the patient leaving in 2 or 3 months apparently cured. The impression made by this case was a favorable one and he is inclined to encourage the procedure in selected cases. DR. W. M. L. COPLIN considers it a question as to whether anything is gained by short-circuiting the portal circulation. At autopsy, in cases of cirrhosis, a subcapsular vein is often seen through which a probe can be passed from the portal to the hepatic vein. One case was cited in which ascites ceased after the patient had been tapped at various times during several years. Autopsy showed a tortuous vein on the under surface of the liver connecting the portal and hepatic veins, yet the patient died. If operation is to relieve ascites it is effective. If it is to overcome the condition causing ascites it does not promise so much. DR. ERNEST LAPLACE said that in these cases the liver was already incapacitated for doing work and so differed from experimental cases where the liver function was suddenly stopped. He believes the operation is a rational one. It does not cure the patient but prolongs life.

DR. ALBERT BERNHEIM read a paper on **Albuminous nutrition and nutritious albumin-tropon**. Several cases illustrating the value of tropon were cited.

A paper by DR. L. F. FLICK, **The summer cold; swimming-pools as an etiologic factor**, was read by title.

Pathological Society.—The meeting of January 24 was devoted to a **Symposium on diabetes**. DR. D. L. EDSALL spoke on **The metabolism of diabetes**. The speaker stated that the disease was a partial starvation affecting the carbohydrates of the food. The sum total of metabolism in a case of diabetes is normal. The excessive output of nitrogen has been explained in 3 ways: (1) It is the result of taking in large quantities of nitrogenous food; (2) it is the result of some toxic or nervous excitant; (3) not enough food is taken in and the tissues are breaking down. The last may be proved correct by putting the patient on a nitrogen balance. As a rule, there is no disturbance of digestion. Alimentary glycosuria is the condition most closely resembling diabetes, but differs from it in the following particulars: (1) Alimentary glycosuria is purely dependent on the taking of sugar in over amounts; (2) it does not tend to increase; (3) the sugar excreted is the same kind that is taken; (4) only carbohydrates will cause it.

DR. EDSALL spoke for DR. SIMON FLEXNER (who could not be present) on **The relation of the kidney, liver, and pancreas to diabetes**. Concerning the kidney it was stated that there is no satisfactory evidence of glycosuria without hyperglycemia. Pathologically, there is no evidence that the kidney is related to diabetes in a causal way. The so-called hvalin degeneration of the kidney is a deposit of glycogen. As to the liver there are pathological alterations in a large number of cases of diabetes, but they are of much greater frequency when diabetes is not present. Dr. Flexner has stated that he can tell a diabetic liver by looking at it owing to a peculiar appearance of the organ. There is no conclusive clinical evidence that the liver is a cause of diabetes and experimental results are against it. It is, therefore, probable that it is not a primary cause but is accessory and intensifies the condition if there is liver disease in connection with diabetes. As to the pancreas, the results of experimental work with animals show that diabetes is inevitable if the pancreas is removed. This result is avoided if only a small part of the organ be left. Some observers state that in diabetes there is a sclerosis surrounding the islands of Langerhans in the pancreas. This has not been proven.

The paper of DR. JOHN MARSHALL on **The chemistry of the urine in diabetes** was read by DR. A. C. ABBOTT. The various tests for sugar were reviewed and their errors pointed out. Especial attention was called to the fact that formaldehyd, chloral hydrate, and chloroform will reduce cupric to cuprous oxid. The various phases of the subject of the evening were discussed by DRs. WADSWORTH, RIESMAN, COPLIN, DALAND, WILSON, McFARLAND and SHUMWAY.

Neurological Society.—The meeting of January 28 was devoted to a **symposium on brain tumors**. DR. WHARTON SINKLER reported two cases of **paresis with symptoms of brain tumor**. Attention was called to the fact that in some cases of paresis almost typical Jacksonian convulsions occur. Later on in the disease hemiplegia, and at times aphasia, occur. In these cases when mental symptoms are not prominent it is difficult to believe that brain tumor is not present. Two cases illustrating this point were detailed. DR. F. X. DERGUM gave the history of a colored boy, 12 years of age, who had **hemiplegia, homonymous hemianopsia, and Wernicke's symptom**. Autopsy revealed a large irregular mass in the left occipital region, subcortical, which cut off the fibers of Gratiolet and interfered with the optic thalamus. Wernicke's symptom was probably due to pressure. DR. JOHN K. MITCHELL reported a case of **extensive endothelioma of the brain**. Points of interest in the case were: 1. The long period of growth, symptoms being prominent for about 9 years. 2. The intermittent character of the symptoms. There were intervals of days and even weeks when absolutely no symptoms were present. 3. A period of temporary improvement followed the use of iodids. 4. The large size of the tumor, which measured 7 by 8 cm. DR. CHARLES K. MILLS spoke of the **localization of brain tumors** with special reference to the parietal and prefrontal regions, 5 cases being cited. The importance of sensory disturbances before motor phenomena appear was strongly emphasized, as it is largely by these, with visual changes, that the diagnosis is made. Another point to be remembered is that every tumor of considerable size invades some locality other than that in which it originates. The reflexes show this well. Take the Babinski reflex when the tumor is in the parietal region. If there is not much pressure this reflex will not be present. As the tumor grows toward the motor region the plantar reflex changes. The same is true of ankle clonus which comes on as the tumor invades brain tissue. There is a difference in the sets of phenomena depending on which cerebral hemisphere is involved, there being a more distinct disordering of the muscle sense when the lesion is in the left hemisphere. DR. A. A. ESHNER exhibited for DR. DAVID RIESMAN a case showing **unilateral oculomotor palsy probably due to a gumma**. DR. W. W. KEEN, in opening the discussion, spoke of the advantage of the large osteoplastic flap. In one case he turned down a rather triangular-shaped flap, the apex of the triangle being below and very small. A sign elicited in one case was a cracked-pot sound, which could be elicited from the frontal region to the binauricular line. This was due to the bones forming the coronal suture being slightly separated by the pressure of the tumor. The amount of injury that can be inflicted upon the brain without ill results is very great. In a recent case the lateral ventricle was opened, this being recognized by the change in color of the blood due to admixture with the fluid of the ventricle. No untoward symptom followed. The early recovery of motor-function after an operation is noticeable, one boy moving his previously paralyzed arm and leg within 48 hours after the operation. One surgical problem is difficult to solve—the avoidance of both hemorrhage and fungus cerebri. Two of the five cases reported by Dr. Mills (all of whom were operated upon by Dr. Keen) died, one from shock and the other from hemorrhage. This hemorrhage was oozing which followed the operation. Drainage would perhaps have saved that patient, but one is tempted to close the wound without drainage in these cases in order to prevent fungus cerebri. Warned by the case lost, however, drainage of gauze was used for 24 hours in a case operated upon a few weeks since. Despite the early removal of the gauze, fungus cerebri is now threatening. This, however, is more readily dealt with than is hemorrhage. Nothing will be done with the condition should it develop except a daily dressing and cutting it off even with the scalp. One case healed perfectly by thus treating it conservatively. In very large tumors it is desirable that the operation be done in two stages. The importance of early operation was strongly urged. The family physician or neurologist is the first to see these cases. If treatment for 6 weeks—almost always by the iodids—causes no improvement operation should be done at once. DR. W. J. TAYLOR said that there was always more danger from venous than from arterial bleeding. A point in the operation

is the determination of the thickness of the skull. DR. KEEN now usually makes a preliminary opening with a small trephine for this purpose. The flap is then made with chisels. DR. G. E. DESCHWEINITZ spoke on changes in the eye caused by brain tumors. From statistics published it is safe to say that optic neuritis occurs at some period during the course of at least 78% of brain tumors. Personally, DR. DESCHWEINITZ believes that the percentage is larger than this. Tables giving the relative frequency of location were read. It has been said that two regions are never affected—the hypophysis and medulla. The former is incorrect. Death from tumors of the medulla comes too soon to allow of optic neuritis. This condition may be unilateral. When so it is 4 times as frequent on the affected side. Choked disc is not always present, the inflammation taking the form of a papillo retinitis. The star-shaped figure seen in the macula is of importance in that it also occurs in Bright's disease and in syphilitic retinitis, hence it is not pathognomonic of brain tumor. Optic neuritis is of no value as a localizing symptom. The size of the tumor has no influence on the degree of neuritis. The effect of operation on choked disc is to produce a lessening soon after and there is also an improvement in vision in the majority of cases. The appearance of total blindness is of some localizing value. At times there is a degeneration of ganglion cells in the retina causing alterations in the visual field which must not be mistaken as a sign of brain tumor. This is a point which has not received the attention that it deserves. As to the varieties of choked disc there are three: an elevation due to edema of the disc; elevation due to inflammation, and elevation the result of a blending of these two. Wernicke's symptom is of importance, but is the most difficult to elicit of any test used in connection with the eye. The best way to examine for this is to have the patient behind a lamp with a rather weak mirror throwing a light in his face. A strong or short focus mirror is then used to throw a beam of light in the eye. DR. DERGUM said that for astereognosis to have a localizing value in cerebral tumors sensation must be preserved. If cortical it must be accompanied with motor or sensory phenomena, especially motor. He has seen Wernicke's symptom in one case when the patient was simply in a dark room and a candle was used.

NEW YORK.

Numerous persons were vaccinated in Oswego, N. Y., as a preventive of smallpox. The schools have been closed for this purpose.

Tuberculosis Bill.—The bill provides that the Commissioner of Agriculture instead of the State Board of Health shall have jurisdiction over domestic animals affected with tuberculosis, and further provides for the appointment of a State Appraiser of condemned cattle. The bill carries with it an appropriation of \$10,000. The committee decided to report the bill favorably.

State Medical Society.—The following resolution was adopted by the Medical Society of the State of New York: *Resolved*, That the Medical Society of the State of New York heartily endorses the report of the Tenement house Committee appointed by Governor Roosevelt, and urgently request, the legislature to adopt its recommendations regarding the improved housing of the poor, and the further control of the spread of infectious diseases.

Woman's Medical Association of New York City.—The Alumni Association of the Woman's Medical College of the New York Infirmary for Women and Children, has undergone certain changes. It was deemed advisable to make the society a living force by adopting its present more comprehensive name, and making women physicians, graduates of regular schools at home and abroad, eligible to active membership. The president of the Association is Dr. Elizabeth M. Cushier, and the secretary Dr. Evelyn Garrigues.

New Bill Defining Practice of Medicine.—The following bill is under consideration in New York State: "Any person shall be regarded as practising medicine within the meaning of this act who shall prescribe, direct, recommend, or advise, for the use of any other person, any remedy or agent whatsoever, whether with or without

the use of any medicine, drug, instrument, or other appliance, for the treatment, relief, or cure of any wound, fracture, or bodily injury, infirmity, physical or mental, or other defect or disease. This article shall not be construed as prohibiting the service of any person in an emergency, or the domestic administration of family remedies."

NEW ENGLAND.

Dr. Charles W. Stevens died suddenly, January 24, 1901, at his home, in Charlestown, aged 64. Dr. Stevens was born in Marlow, N. H., his father having been a distinguished surgeon, prepared for college at Wilbraham Academy, and was graduated at Harvard in the class of 1860. He went abroad in 1861 and began the study of medicine in London, at the same time teaching school. He came home before completing his studies and took his M.D. from Harvard in 1870. He at once located in Charlestown and remained there until his death. He served as city physician in 1872, and was at one time surgeon to the Wilson & Furness line of steamers. Dr. Stevens compiled the first book of college songs ever published in this country and was the author of many works.

CHICAGO AND WESTERN STATES.

For a State Hospital.—A bill has been introduced into the Senate of Missouri for the erection of a State hospital to cost \$1,000,000.

Smallpox in Iowa.—Forty cases of smallpox have been reported in various parts of the State notwithstanding every possible precaution.

Smallpox in Chicago.—A requisition has been made by the Health Department for 8 more men, on account of the prevalence of smallpox.

Dr. S. J. Quint, formerly resident physician of the California Hospital, has been appointed instructor of materia medica in the medical department U. S. C.

Appointment.—Dr. J. H. Davisson, Dr. Charles F. Taggart, Dr. J. W. Trueworthy, and Dr. C. W. Bryson have been appointed members of the Los Angeles Board of Health.

Hospital for Tuberculosis.—Treasurer Edward G. Uhlein of the citizens' committee for the erection of a hospital for the treatment of consumptives, has issued a report for January, showing that \$454 has been donated during the month. The amount now on hand for the undertaking is \$20,067.

Officers Chosen.—At the annual meeting of the Medical Society of City Hospital Alumni, St. Louis, the following officers were elected for the ensuing year: President, Dr. Norville Wallace Sharpe; vice-president, Dr. Francis L. Reder; secretary, Dr. John Green, Jr.; treasurer, Dr. Horace W. Soper.

Dr. Henry J. Herrick, a widely known physician and surgeon, died at Cleveland, Ohio. He was for many years professor of the medical department of the Western Reserve University. He was a member of the Loyal Legion, and served as a surgeon-general of the Ohio national guard during Governor Foraker's administration.

Fox River Valley Medical Society.—The annual meeting of the Fox River Valley Medical Society, of Green Bay, Wis., was held January 22, about 50 members being present. President L. O. Oviatt, of Oshkosh, presided, and Dr. J. S. Reeve, of Appleton, acted as secretary. Dr. W. A. Slaughter, of Green Bay, was elected president of the society; Dr. A. M. Kiersten, of Depere, first vice-president; Dr. C. E. Boyd, of Kaukauna, second vice-president; Dr. S. J. Reeve, of Appleton, secretary and treasurer; Dr. H. B. Tanner, of Kaukauna, censor. It was voted to hold the next annual meeting in Green Bay. The quarterly meetings were decided upon as follows: Waupaca in July, Neenah in April, and Oshkosh in October.

SOUTHERN STATES.

Smallpox in the University of Virginia.—It is stated that there are 4 cases of varioloid and 2 cases of smallpox in the infirmary.

Smallpox in Virginia.—Smallpox has developed near Ewing, Va. Nine cases have developed in one family, and the community has been placed in quarantine.

The College of Physicians and Surgeons of Baltimore has established a Pasteur Department for the preventive treatment of hydrophobia, at the Baltimore City Hospital.

Pension Board.—The following physicians have been appointed on the new Pension Board for Baltimore City: Drs. A. Trego Shertzer, fleet surgeon United States Naval Veterans, president; Henry S. Jarrett, of Towson, secretary; and Chauncey T. Scudder, treasurer.

Children's Hospital Board.—At the annual meeting of the incorporators of the Children's Hospital at Washington, January 21, the following were elected members of the board of directors: Landon W. Burchell, Clement W. Howard, S. W. Woodward, H. L. Biscoe, Gustav Lansburgh, T. N. McAboy, J. William Henry and Joseph E. Willard. The board of directors elected officers as follows: F. L. Moore, president; S. H. Kauffmann, vice-president; Dr. W. P. Young, secretary.

Richmond (Va.) News.—On the first of the month there was held a meeting for organization of the Ophthalmologic and Otologic Section as a branch of the Richmond Academy of Medicine and Surgery. It is composed of the members of the profession practising only on the eye, ear, and throat. The meetings will be held once a month at the different members' houses, the chairman of the meeting to be the entertainer of the evening. Dr. W. J. Mercer was elected permanent secretary.

MISCELLANY.

Hospital for Army Nurses.—A bill has been introduced some time ago and is again being revised regarding the erection of a hospital for army nurses.

Smallpox Epidemic.—It is stated that Dr. John B. Fulton, secretary of the Maryland State Board of Health, regards smallpox as epidemic in the whole United States.

To Establish Leper Colony.—Major Maus of the Surgeons' Department; Captain Ahern, chief of the Forestry Bureau, and Captain Horton, assistant Chief Quartermaster, sailed, on January 26, on board the *Alava*, from Manila, to complete the inspection of certain of the southern islands and recommend sites for leper and penal colonies.

Obituary.—DR. H. L. STICKEL, of York County, Pa., at Harrisburg, January 24, aged 48 years and 7 months.—DR. J. STUART LEECH, of Downingtown, Pa., January 23.—DR. R. E. BEACH, of Vandalia, Ill., on January 23.—DR. ROBERT GRAHAM at Pittsburg, Pa., January 19, aged 79.—DR. GRAFTON M. BOSLEY, of Lutherville, Md., at Baltimore, Md., January 25, 1901, aged 76 years.—DR. ERSKINE E. HAMILTON, at Springfield, Mass., January 22, 1901, aged 35 years.—DR. A. G. PRIEST, at Shelbyville, Mo., January 24, 1901, aged 72 years.—DR. T. S. DAVIS, at Wesson, La., January 23, 1901, aged 45 years.—DR. W. L. SIMPSON, at New York, January 26, 1901, aged 38 years.—DR. H. D. REARDON, at Elmira, N. Y., January 27, 1901.—DR. FREDERICK S. NEILSON, aged 37, at New Market, N. J., January 27, 1901.—DR. EDWARD J. MARSHALL, aged 60 years, at West Chester, Pa., January 28, 1901.—DR. W. J. HARRIS, aged 60 years, at Beatrice, Neb., January 26, 1901.

Hospital Corps Exercises at Manila.—A correspondent at Manila under date of December 7 describes the exercises attending the graduation of the second class of the hospital corps company of instruction. The event took place in Manila on December 4 in Hospital No. 2, of which Major John S. Kulp, surgeon, is in charge. That officer in his address said:

"On behalf of the officers of Hospital 3 I am glad to welcome you this morning, and to extend a cordial invitation to all to visit our company of instruction, hospital and camp. Without venturing to occupy the time of those who are so much better qualified to speak, I beg the privilege of a word in answer to a question asked a few minutes ago. What is the hospital corps? Wherever our flag floats over a garrison, from Fort St. Michaels to our own Bangao, we find men of the hospital corps, which numbers about 550 non-

commissioned officers, and over 3,500 men. The reason that one does not hear about them is because they are usually at work, and their work is very multifarious. First of all the private must be a good nurse, and we have yet to hear, so far as the hospital corps is concerned, of a patient pinning a note to his bed with the legend 'too sick to be nursed today.' In addition this man must be a soldier, for his work often takes him under the fire of the enemy, and a Mauser bullet is no respecter of persons. Then he must have a knowledge of pharmacy, must be something of a clerk in order to make out reports, must be a fairly good cook or he will find himself unpopular with his comrades and in short must be able to fill any place in hospital or camp. In most military hospitals, as in this institution, every position is filled by men of the hospital corps. But, I am asked, what is the need of military discipline? When in a crowded ward a case of cholera or plague develops, it is upon the strict obedience and attention to duty of the men of the hospital corps that the salvation of the surrounding city depends. When in the operating room a sudden emergency arises, it is upon their instant and unquestioning obedience that the life of the patient depends. And it is the soldier of the hospital corps who, through the long hours of the night, watches by the bedside under orders, for the symptom that he knows is but the surface play of the danger beneath. And so we think that the highest form of discipline is none too strict for those who at any time may be called upon to stand sentinel over the lives of our friends."

He was followed by Lieutenant William J. Lyster, assistant surgeon, commanding company instruction, and by Colonel Charles R. Greenleaf, chief surgeon of the division of the Philippines. The audience then joined in singing "The Battle Hymn of the Republic," the music of which was composed by a brother of Colonel Greenleaf, who also wrote the original words of "John Brown's Body." Other demonstrations followed by the class, showing the means used for the resuscitation of apparently drowned persons; the various manners of carrying injured men by single bearers and the final feat, which showed that a corps man, in addition to his multifarious duties, is required to be an athlete of no mean order. Six men, including the four litter bearers, took a litter with a patient on it over an obstacle more than eight feet above the floor, and that without disturbing the patient in any way. General MacArthur then presented the certificates to the class. The general had prepared to make an address to the men, but owing to a misunderstanding, it was cut out.

The graduates with their general averages, are as follows: Robert S. Ferguson, 91.5; Samuel B. Price, 89.7; William C. Hill, 87.2; Frank J. Foy, 87; Gordon F. Lyon, 85.3; Claude B. Bredford, 84.8; Arthur F. Wolf, 82.5; Edgar R. Hurst, 80.3; Michael J. Dorgan, 77.2; Ira L. Mather, 74.8; William Van R. Jenner, 73.3; Mayhew Elliot, 72.5; William D. McCary, 71.5; Herman A. P. Zybalski, 70.8; David M. Long, 70.2; Rudolf V. Steiner, 67.8; Charles A. Batchelder, 67.6; Raleigh Sebree, 67.4. Prizes and honors were as follows: For the best general average, Robert S. Ferguson, honorable mention, Samuel B. Price; best drilled man, Henry C. Leatherman, honorable mention, Claude Bredford; best examination in elementary anatomy and physiology, Samuel B. Price, honorable mention, William Van R. Jenner.

Changes in the Medical Corps of the U. S. Army, for the week ended January 26, 1901:

MULLINS, THOMAS K., acting assistant surgeon, is granted leave of absence for 1 month.
The following named acting assistant surgeons will stand relieved from temporary duty at their present stations on the day of the sailing of the "Grant," and will report on that transport for temporary duty during the voyage: ABRAHAM D. WILLIAMS, Camp of Casuals, Presidio; WALTER B. CHESTER, and CARROLL D. BUCK, Army General Hospital, Presidio.
BAILEY, GUY C., acting assistant surgeon, is granted leave of absence for 1 month.
The following named acting assistant surgeons will stand relieved from duty at their present stations on the day of sailing for the Philippine Islands of the Army transport "Grant," and assigned to temporary duty with troops on that transport: upon arrival at Manila they will report to the commanding general, division of the Philippines, for assignment to duty: HENRY D. BROWN, JOSEPH W. REDDY, JOSEPH PETTYJOHN, THEODORE H. WEISENBERG, and JOHN H. ALLEN; JOHN S. HILL, COMPTON WILSON, Presidio; LAWRENCE McCLEON, ALFRED T. SHORT, FREDERICK W. RICHARDSON, ROBERT S. SPILLMAN, Army General Hospital, Presidio.
WILLIAMS, ALLIE W., acting assistant surgeon, will upon expiration of present leave proceed to Governor's Island for assignment to duty at Fort Columbus.
DISNEY, FRANK A. E., acting assistant surgeon, now in Washington, D. C., will proceed to San Francisco, Cal., and report for temporary duty at the General Hospital, Presidio.

WILLIAMS, ALLIE W., acting assistant surgeon, is granted leave of absence for 1 month.

REED, Major WALTER, surgeon, will, upon the adjournment of the Pan-American Medical Congress at Havana, Cuba, proceed to Washington, D. C., and report to the Surgeon-General of the Army for the purpose of continuing his investigations at the Army Medical Museum with reference to the cause and prevention of yellow fever.

RICHARDS, First Lieutenant WILLIAM E., resignation of, is accepted to take effect February 3.

BELT, HARRY D., acting assistant surgeon, is granted leave of absence for 2 months, without pay.

TRUAX, JESSE P., acting assistant surgeon, now en route to Fort Casey, is relieved from the further operation of the order which directs him to proceed to Fort Casey, and he will report at Fort Flagler for duty, relieving Acting Assistant Surgeon William M. Hendrickson.

HENDRICKSON, WILLIAM M., acting assistant surgeon, will proceed to Fort Casey for duty.

HARRIS, HERBERT I., acting assistant surgeon, is detailed as a member of the board of officers appointed January 15 to meet at St. Paul, Minn., for the examination of officers for promotion, vice Lieutenant Colonel Calvin DeWitt, deputy surgeon-general, relieved.

BISPHAM, First Lieutenant WILLIAM N., assistant surgeon, is relieved from duty at Columbia Barracks, Cuba, and will proceed to No. 21 Fifth street, Vedado., Havana, Cuba, reporting to the commanding officer, Second Artillery, for duty at batteries Nos. 3 and 4, and the regimental hospital, Vedado, relieving Acting Assistant Surgeon P. C. Field.

FIELD, P. C., acting assistant surgeon, will proceed to Columbia Barracks, Cuba, for duty.

CARR, Major LAWRENCE C., surgeon, will upon the expiration of the leave granted him December 17, proceed to Havana, Cuba, and report to the commanding general, department of Cuba, for assignment to duty.

MORSE, ARTHUR W., acting assistant surgeon, now at Odell, Ill., will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty.

CONN, FREDERICK A. W., acting assistant surgeon, is relieved from duty in the department of Cuba, and will proceed to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty with troops en route to the Philippine Islands, where he will report to the commanding general, division of the Philippines, for assignment to duty.

NEALE, JOHN S., hospital steward, now at Columbia Barracks, Cuba, will be relieved from further duty at that post, February 10, and sent to Washington, D. C., reporting to Major John Van Horn, surgeon, medical supply officer, for duty in the pathological laboratory at the Army Medical Museum.

The following named officers will report to Colonel Alfred A. Woodhull, assistant surgeon-general, president of the examining board at the Army Medical Museum building, Washington, D. C., for examination for promotion: Captains CHARLES M. GANNETT, JEFFERSON R. KEAN, HENRY L. RAYMOND, EDWARD R. MORRIS, LEONARD WOOD, JEFFERSON E. PENDLETON, CHARLES E. WOODBRUFF, assistant surgeons.

Changes in the Medical Corps of the U. S. Navy, for the week ended January 26, 1901:

FISKE, G. N., assistant surgeon, detached from the "Wheeling" and ordered to the "Mohican" when the former is put out of commission.
SHIFFERT, H. C., assistant surgeon, appointed assistant surgeon from December 26, 1900.
BERTOLETTE, D. N., medical inspector, detached from the Medical Examining Board, Washington, and ordered home, January 31.
RUSSELL, A. C. H., surgeon, ordered to Washington, for duty as a member of the Medical Examining Board, January 31.
RUSH, W. H., surgeon, ordered to the Pensacola Naval Station for recruiting and other duty.
SMITH, R. K., passed assistant surgeon, detached from the "Pensacola," February 2.
STONE, M. V., assistant surgeon, detached from the "Solace" and ordered to the "Isla de Luzon."
HASS, H. H., assistant surgeon, detached from the "Isla de Luzon" and ordered to the "Solace."

Changes in the U. S. Marine-Hospital Service, for the week ended January 24, 1901:

PURVIANCE, GEORGE E., surgeon, granted leave of absence for 2 days, January 18, 1901.
WILLIAM, L. L., surgeon, granted leave of absence for 3 days, January 21, 1901.
BEAN, L. C., acting assistant surgeon, granted leave of absence for 3 days from January 18. January 17, 1901.
CRANE, R. C., acting assistant surgeon, granted 7 days' extension of leave of absence. January 22, 1901.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended January 26, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
DISTRICT OF COLUMBIA:	Washington . . . Jan. 12-19 . . .	2	
FLORIDA:	Jacksonville . . . Jan. 12-19 . . .	7	
ILLINOIS:	Cairo . . . Jan. 5-19 . . .	5	
	Chicago . . . Jan. 12-19 . . .	12	
KANSAS:	Wichita . . . Jan. 12-19 . . .	6	
KENTUCKY:	Lexington . . . Jan. 12-19 . . .	2	
	Louisville . . . Jan. 4-18 . . .	1	1
LOUISIANA:	New Orleans . . . Jan. 12-19 . . .	7	3
	Shreveport . . . Jan. 12-19 . . .	5	
MASSACHUSETTS:	Lawrence . . . Jan. 12-19 . . .	1	
MINNESOTA:	Minneapolis . . . Jan. 12-19 . . .	11	
	St. Paul . . . Jan. 5-12 . . .	8	
NEBRASKA:	Omaha . . . Jan. 8-15 . . .	7	
N. HAMPSHIRE:	Manchester . . . Jan. 12-19 . . .	39	
NEW MEXICO:	Fort Stanton . . . Jan. 14 . . .	1	
NEW YORK:	New York . . . Jan. 12-19 . . .	9	5
	Utica . . . Jan. 12-19 . . .	1	
OHIO:	Cincinnati . . . Jan. 12-19 . . .	3	
	Cleveland . . . Jan. 12-19 . . .	57	1
OKLAHOMA:	Sixteen Counties . . . Jan. 11 . . .	289	
PENNSYLVANIA:	Erie . . . Jan. 12-19 . . .	1	
	Pittsburg . . . Jan. 12-19 . . .	3	
TENNESSEE:	Memphis . . . Jan. 12-19 . . .	6	
TEXAS:	Houston . . . Jan. 12-19 . . .	44	
UTAH:	Salt Lake City . . . Jan. 12-19 . . .	32	
WISCONSIN:	Green Bay . . . Jan. 12-29 . . .	1	

SMALLPOX—FOREIGN.

BELGIUM:	Liege . . . Dec. 15-22 . . .	1	
BRAZIL:	Pernambuco . . . Dec. 8-15 . . .		34
EGYPT:	Alexandria . . . Dec. 17-24 . . .	2	2
ENGLAND:	Leeds . . . Dec. 5-12 . . .	1	
	London . . . Dec. 29-Jan. 5 . . .	1	
FRANCE:	Paris . . . Dec. 29-Jan. 5 . . .	6	
INDIA:	Bombay . . . Dec. 18-25 . . .		1
MEXICO:	Vera Cruz . . . Dec. 28-Jan. 5 . . .		3
SCOTLAND:	Edinburgh . . . Dec. 29-Jan. 5 . . .	1	
"	Glasgow . . . Jan. 4-11 . . .	66	3
"	Leith . . . Dec. 29-Jan. 5 . . .	1	
STRAITS SETTLEMENTS:	Singapore . . . Dec. 1-15 . . .		2

YELLOW FEVER.

COLOMBIA:	Cartagena . . . Jan. 1-7 . . .	2	
CUBA:	Cienfuegos . . . Jan. 14 . . .	1	
"	Matanzas . . . Jan. 5-12 . . .		2
MEXICO:	Vera Cruz . . . Dec. 29-Jan. 5 . . .		1

CHOLERA.

INDIA:	Bombay . . . Dec. 18-25 . . .		4
STRAITS SETTLEMENTS:	Singapore . . . Dec. 1-18 . . .		58

PLAGUE.

INDIA:	Bombay . . . Dec. 18-25 . . .		118
ENGLAND:	Hull . . . Jan. 19 . . .	5 deaths on S.S. "Friary."	
RUSSIA:	Tsarevak district . . . Jan. 5 . . .	19	15

foreign News and Notes.

GREAT BRITAIN.

Indian Medical Association.—The twenty-second meeting of the council of the Indian Medical Association was held December 15, at Calcutta.

Smallpox in Glasgow.—An epidemic of smallpox is raging in Glasgow. Twenty-nine cases were reported on January 26, and 100 cases in the hospitals.

Dr. John White Aldred, of Altrincham, is reported to have died of typhoid fever at Kroonstadt, South Africa. Dr. Aldred was a distinguished student at Owens College.

Plague among Troops.—According to the *Petit Bleu*, bubonic plague is raging among the British troops in Cape Colony, and many deaths that are attributed to enteric fever and dysentery are due to plague.

Enteric Fever in Ceylon.—On account of the increase of enteric fever in the Boer camp in Ceylon, the government of India has ordered one medical officer of the rank of captain to proceed there; another one will shortly follow him.

Prize for X-ray Tube.—The Council of the Röntgen Society at London announces that the president has placed at its disposal a gold medal to be awarded to the maker of the best practical x-ray tube for both photographic and screen work.

Sheffield Bacteriological Laboratory.—At a recent meeting of the Sheffield Medico Chirurgical Society, Dr. Robertson read a paper on the work done at the bacteriological laboratory in connection with University College since its establishment. Courses of instruction for medical students and post-graduate courses, have been held. During the past 18 months 1,605 swabs have been examined from patients suspected to be suffering from diphtheria, nearly 500 specimens of blood have been examined for serum reaction, and 663 specimens of sputum have been examined for tubercles.

Sir W. H. Farrington, Bart., M.D.—Sir William Hicks Farrington, Bart., M.D., who died suddenly on January 5, at Penshurst Kent, was the eldest surviving son of Sir Anthony Farrington, Bart., of Ottery St. Mary. He began his medical education at St. Bartholomew's Hospital in 1856, became a member of the Royal College of Surgeons, and Licentiate of the Society of Apothecaries in 1859-60, and graduated at St. Andrew's in 1862. He held the appointment of resident accoucheur at St. Bartholomew's under Dr. West, and subsequently he became resident medical officer at the London Fever Hospital. On resigning this post he was appointed medical officer to Her Majesty's convict establishment at Gibraltar. Returning to England in 1866 he settled at Penshurst in Kent, taking the practice of Dr. J. H. Baller, who was retiring from active life. In 1870 he married the youngest daughter of the late Mr. Alexander Glendinning, of Redleaf, Kent, who survives him.

CONTINENTAL EUROPE.

A clinical service devoted to tropical diseases has been instituted at the Medical College of Algiers. Prof. M. Brault has been appointed to take charge of the service.

Medical Club of Paris.—The following officers were elected for 1901: President, M. Peyrot; vice-presidents, M. M. Chevallereau and M. Hallopeau; secretaries, M. M. Doléris and Lefèvre; treasurer, M. Desnos; librarian, M. Chassevant.

Appointments.—BRUSSELS: Dr. Bayet was appointed professor of the dermatological clinic, and Dr. Chevel professor of the laryngological clinic.—WÜRZBURG: Dr. Friedrich Schenck has succeeded Professor Kossel as ordinary professor of physiology at the University of Marburg.—HEIDELBERG: Professor Albrecht Kossel was appointed ordinary professor of physiology as well as director of the physiological laboratory at the University of Heidelberg.

A Case of Calcareous Infiltration of the Liver.—E. Mihel (*Srpski arhiv za celokupno lekarstvo* 1900, No. 10 (Serbisch) in performing an autopsy upon a boy aged 17 years, who had suffered from chronic pulmonary tuberculosis with cavities and an old parenchymatous nephritis with acute hemorrhagic exacerbation, noticed that the liver grated under the knife. The organ was of a normal shape, somewhat diminished in size, the tissue showing considerable vascularization and markings resembling a nutmeg-liver. Upon closer observation minute grayish yellow ramifications were noticed which felt rough to the palpating finger. Microscopical examination showed that these arborescent structures represented an extensive impregnation of the liver-parenchyma with lime salts. The application of a 5% solution of hydrochloric acid caused the calcifications to become invisible under the microscope, and as they were seen to disappear without the formation of gas bubbles, it was deduced that the salts consisted of phosphate of calcium. The calcareous impregnation of the liver-cells was most marked around the central veins. At those areas where the salts had been removed by the acid it was plainly seen that the parenchyma had been replaced by fatty degeneration. The author could find no similar case in literature where a nutmeg liver followed chronic pulmonary tuberculosis. [M. R. D.]

The Latest Literature.

British Medical Journal.

January 12, 1901. [No. 2089]

1. Observations on Wind Exposure and Phthisis. WILLIAM GORDON.
2. Jaundice in Typhoid Fever. GEORGE OGILVIE.
3. Influenza and the Nervous System. JAMES CARSLAW.
4. The Detection of Arsenic in Beer and Brewing Material. SHERIDAN DELEPINE.
5. Note on the Value of Inoculation Against Enteric Fever. HENRY CAYLEY.

1.—After a study of the statistics and the death-rate, Gordon concludes that the distribution of the phthisis death-rate in the rural sanitary districts of Devon is due to some other cause than general sanitation. On the other hand, a comparison of a diagram of the deaths from tuberculosis of the lungs and a diagram indicating rain and all suggests a kind of rough correspondence. The town with the highest death-rate has the greatest rainfall and that with the lowest death-rate has the lowest rainfall. The correspondence is by no means complete, however, and the author concludes that probably, for Devonshire generally, the paramount influence that determines a higher or a lower rate of **mortality from tuberculosis of the lungs** is the degree of exposure to or shelter from the west and the southwest winds. [J.M.S.]

2.—Ogilvie reports 4 cases in which **jaundice** complicated **typhoid fever**. In the first, the patient was a young woman, aged 22 years. The jaundice was present from the beginning of the disease and began to disappear when the temperature began to fall. It had not quite cleared up 8 weeks after the onset when the patient was sent to a convalescent home. The second patient was a man, aged 30 years. The jaundice appeared on the fourth day after admission to the hospital, or was about the end of the first week of the disease. It gradually disappeared as the temperature fell, and lasted nearly throughout the whole of the disease, about 6 weeks. The third patient was a man, 30 years old. In this patient the jaundice preceded the advent of the attack of typhoid fever by about 4 weeks and lasted for about 3 weeks of the course of the disease. The case is one of typhoid fever in a jaundiced patient and the jaundice cannot be thought to be a symptom of the typhoid. The attack was probably of catarrhal origin, although it might have been due to some toxic process dependent on dysentery. The fourth patient was a girl, aged 16 years, who passed a lubricoid worm during the attack of typhoid. The worm had evidently obstructed the common bile duct and had caused the jaundice. After a study of the reported cases in the literature, the author concludes that the frequency of jaundice in typhoid fever is between 1% and 1½%. This would indicate that jaundice is not so rare and so fatal a complication of typhoid fever as has been frequently presumed. It is a most unusual occurrence for jaundice to appear at the onset of the disease, to last through its whole course, and to disappear with the falling of the temperature, and yet to lead to no serious results. In fact, similar occurrences are so rare that they may lead to doubts as to the correctness of the diagnosis of typhoid fever. The cases reported by the author, however, seem to be true typhoid fever as indicated by the presence of the agglutinating reaction of the blood-serum in addition to the classical symptoms of the disease. Clinical and pathologic evidence seem to prove that catarrhal jaundice in typhoid fever, so far from being the rule, is an exceedingly rare occurrence. While in the first 2 cases reported in the paper catarrhal jaundice can be excluded, it is more difficult to come to a conclusion as to the causation of the symptom. It is possible that there is some direct action of the specific microorganism of typhoid fever on the liver or the bile channels, as suggested by DaCosta, that accounts for the occurrence of the jaundice in these cases. [J.M.S.]

3.—Carslaw reports 4 cases that illustrate the influence of **influenza upon the nervous system**. The 4 patients suffered from acute meningitis. This meningitis may have been the principal incident of the attack of influenza, or, on the other hand, the infection may have been a mixed one,

and the attack of influenza may have simply paved the way for the entrance of other toxic agents as well as for the bacillus of Pfeiffer. Although 3 of the cases were fatal, a post-mortem examination was permitted on only 1, and in that case the examination was limited by the friends to the contents of the skull. In this case the meningitis was found to have been of a very acute type. Its bacteriology, however, was not very satisfactorily made out. Diplococci of comparatively large size were found in the films prepared at the post-mortem, but the attempt to make cultures from the purulent effusion failed. It is possible that the influenza bacillus was present in addition to the diplococcus, both being difficult to cultivate except in specially prepared media. Of course, the infection may have been a pure diplococcic invasion from the respiratory tract, the catarrhal involvement of which would have favored such an extension whether the primary disease was influenza or not. There was in this case an alveolar sarcoma of the round-celled type involving the pituitary body. The patient had always been considered a healthy, strong, and well-developed young man, and had presented none of the symptoms of akromegaly. The only symptom that could be considered to bear any relation to this tumor was occasional attacks of pain in the head, of short duration, which the patient had experienced for about 6 months before his illness. The other fatal cases resembled each other very closely. In each the illness lasted about a week and occurred in strong and healthy young men, not the subjects of tuberculous disease. The first symptoms in each case were those of influenza, and the patients passed somewhat suddenly into a state of unconsciousness from which they never rallied. The patient who recovered was a boy, aged 9 years, who was probably suffering from acute inflammation of the cerebral meninges and possibly, also, of the spinal meninges. The onset of the illness was sudden and the meningeal symptoms were early and severe, and, in addition to other characteristic symptoms, the patient had a very typical herpes labialis. In all these cases the illness occurred in healthy subjects and at a time when influenza was present in the neighborhood. Some of the patients had early catarrhal symptoms that were considered by their medical advisers to be of an influenzal nature. In all severe headache was prominent, and grave cerebral symptoms developed with alarming rapidity and with no apparent cause in the ears or elsewhere. They were all characterized by very restless delirium and, in general, little or no paresis of limb or ocular muscle to indicate any important localization. Probably the meningitis was more vertical than basal, although, in the case that came to the autopsy table, the exudation was very well marked both at the base and on the convexity. In that case, however, there had been localizing symptoms. The author adds a summary of a very marked case of postinfluenzal multiple neuritis. The patient's illness corresponded with the usual features of alcoholic peripheral neuritis and at first there was a suspicion that the disease might be of that nature. This etiologic factor was excluded, however, and, although the patient had had a distinct attack of influenza, she persevered in her work so that there was more likelihood of a complication, such as neuritis, developing. [J.M.S.]

4.—It is a fact of common knowledge among chemists and biologists that arsenic is one of the most widely-distributed substances. It is frequently associated with other metals and sulphur in various mineral products. Many soils contain arsenic; vegetables growing in such soils may contain traces of that body, which is more abundant in their seeds. The soil may also be rendered arsenical artificially, as when various chemical products are thrown upon the ground. Contamination of water may occur under those circumstances. Some valuable mineral waters, more especially the ferruginous waters, contain minute quantities of the poison, owing to their passage through arseniferous strata. It has also been found in sea-water. It has even been lately asserted that arsenic is a normal constituent of the human body. Taking these things into consideration, Delépine thought that the mere detection of traces of **arsenic** would not be sufficient to prove that any sample of **beer** was actually dangerous to health. No authoritative statement could be found showing that pure beer should be absolutely free from arsenic; on the other hand, it was quite conceivable, on the ground of general knowledge, that minute traces of arsenic might occur in beer even prepared from the best

material, and that this must have, in fact, occurred at all times since beer began to be brewed from malt and hops. After preliminary study, the author felt justified in considering that any beer containing about 0.8 grain of arsenious acid per gallon—that is, 1 part of As_2O_3 per 875,000 parts of beer—should be condemned. By conducting Reinsch's test with care, he found that it was easy to detect the presence of arsenic in 100 cc., and even in as little as 20 cc., of some of the suspected beers. On the other hand, no distinct trace of arsenic could be found in as much as 200 cc. of beer brewed in Bavaria, where the use of malt substitutes is prohibited by law. After further careful study, it was found that a sublimate composed of small but clear crystals of arsenious acid could be obtained from the solution containing 1 part per million without any previous concentration of the beer. This amount of arsenic is higher than that which we have so far found in beers brewed from ordinary malt and hops. On the other hand, this quantity is considerably below that found in beers brewed from arsenical glucose. It will be understood that the standard adopted for the present is purely artificial, and that by Reinsch's method it would be possible to fix a much more stringent standard if necessary, for there would be no difficulty in discovering by this test 1 part in 5,000,000, in 10,000,000, or even less, by increasing the quantity of, or concentrating the fluid under examination. Supposing that an arsenical beer was entirely brewed from malt, the malt should contain at least 4 times more arsenic than the beer prepared with it, since the proportion of malt used may be said roughly to be $\frac{1}{4}$ of the total amount of beer produced from it. We have not, however, found yet any sample of malt containing more than a small fraction of the arsenic present in arsenical beer to which cases of poisoning had been traced. With regard to the glucose and invert sugar, the amount of arsenic found in some samples was more than sufficient to account for the dangerous contamination of the beer. The sulfuric acid used in the factory from which all the arsenical glucose examined came contained so much arsenic that it was actually saturated. A deposit of arsenious acid, or some arsenical compound formed in the presence of sulfuric acid, was actually found at the bottom of the bottle containing the acid sent for examination. By a modification of Reinsch's method described in the paper, the author found that the amount of arsenic acid in one sample of H_2SO_4 was about 2%. [J.M.S.]

5.—Cayley gives the results of the **inoculation** of the members of the staff and establishment of the Scottish National Red Cross Hospital serving in South Africa **against typhoid fever**. The first section of the hospital, consisting of 61 persons, left Southampton on April 21, 1900. During the voyage out all except 4 of the personnel were inoculated twice at an interval of about 10 days. The injections were all made in the flank and were followed in from 2 to 10 hours by marked symptoms, both local and constitutional, that lasted for from 2 to 5 days. In many cases the symptoms were as severe after the second as after the first inoculation. This would seem to show that it takes more than 10 days before any immunity is established. Two of the 7 nurses were not inoculated, because they had already had attacks of typhoid fever, and 2 of the orderlies were only inoculated once. Out of about 300 troops on board, chiefly volunteers and militia, nearly 100 were inoculated. As soon as the hospital reached the Cape it was sent to Kroonstadt, in the Orange River Colony, and remained there as a stationary hospital until the middle of October. During this period there were always many cases of typhoid fever under treatment in the hospital. Furthermore, some of the medical officers and student orderlies had charge of the Kroonstadt Hotel temporary hospital, which was crowded with enteric cases, and the nursing sisters did duty for 3 weeks in the military hospitals at Bloemfontein in May and June when typhoid was at its worst. There was not a single case of typhoid fever among the personnel of this first section of the hospital. The second section of the hospital, 82 in all, left Southampton in May, 1900. Nearly all were inoculated on board ship, but many were inoculated but once. The material for the inoculation had been on board for some time and was not so fresh as in the first instance. Of this second section, one nurse had typhoid at Kroonstadt. She was the only one out of 36 nurses who had typhoid and she was also the only one who had not been inoculated; 5 orderlies of the second section had typhoid, of whom 2 died. Of these 5, 2 had been

inoculated once and 3 had not been inoculated. Of the 2 that died 1 had been inoculated once and 1 had not been inoculated. A third section of the hospital consisting of 20 people went out in July; they were all inoculated and none of them had typhoid fever. At the end of August, the blood of a number of the staff and establishment was examined for the serum reaction. The blood of 23 of the members of the first section, who had been inoculated 4 months before, was examined and of these 21 gave a good reaction and 2 gave a slight reaction, the orderlies who had been inoculated but once. The blood from the 22 members of the second section was tested, these had been inoculated for 3 months. Of these, 11 gave no reaction, 9 gave a very slight reaction, and only 2 gave a good reaction. It would appear from the above that the members of the first section were much more fully protected against typhoid than the members of the second section. It is not quite clear why the inoculations of the first section were so much more effective than those of the second section. Probably the freshness of the material had an influence; and the author thinks that the dose for each individual was more carefully measured for the first than for the second section. So far as could be learned, the members of the first section suffered more severely at the time from both local and constitutional disturbances. The results above given seem to be very strong evidence in favor of the protective power of anti-typhoid inoculations, when they are very carefully performed, and they point to the necessity for 2 inoculations at suitable intervals. During the period of 5 months that the hospital was stationed at Kroonstadt, there were 92 admissions for enteric fever with 11 deaths. Of the 92 cases, 15 said that they had been inoculated. Of the 11 fatal cases, 1 occurred in a patient who had been inoculated once. The author fears that any statistics bearing on the question of the efficacy of the inoculations derived from the hospitals in South Africa, will not be of great value. At the same time he feels convinced that the attacks of typhoid fever were, as a rule, much milder in the inoculated than in the noninoculated, and that the duration of the disease in the inoculated was shorter. [J.M.S.]

Lancet.

January 12, 1901. [No. 4037.]

1. Two Clinical Lectures on the Enlargement of the Prostate. P. Y. FREYER.
2. Pneumococcic Arthritis. EDWARD J. CAVE.
3. A Case of Siriasis. A. E. GRIFFIN.
4. Dorsal Dislocation of the First Phalanx of the Little Finger; Reduction by Farabœuf's Dorsal Incision. HAROLD L. BARNARD.
5. The Treatment of Dupuytren's Contraction and other Points in the Surgery of the Hand. A. H. TUBBY.
6. Loss of the Left Forearm by Amputation; Death 49 Years after; Necropsy; Localized Area of Atrophy at the Base of the Right Second Frontal Gyrus. PEERS MACLULICH.
7. A Case of Chronic Inversion of the Uterus of 7 Months' Duration Successfully Treated by Aveling's Repositor. THOMAS OLIVER.
8. The Relation of the Bowel Lesion of Typhoid Fever to the General Symptoms of the Disease. T. J. MACLAGAN.
9. Reflections on Therapeutics. HARRY CAMPBELL.

1.—Freyer thinks that the term "senile" should not be applied to **enlargement** of the prostate gland, as it is not dependent upon senility. About 33% of men past 55 years have enlarged prostates, but only about 5% ever suffer from symptoms. When the hypertrophy involves the whole gland and the enlargement is uniform, symptoms are not usually present. Enlargement of the middle lobe gives rise to most trouble. Sometimes the overgrowth, when examined histologically, resembles a fibromyoma, but more often the hypertrophy involves the glandular tissue largely, and the growth would seem to be adenomatous, and this is always true in the beginning. The so-called "prostatic tumors," localized hypertrophies, may occur anywhere in the gland, and as they grow, project into the bladder, and have only attachment by small pedicles. The length and course of the urethra may be greatly altered, according to the position of

the hypertrophy. The changes in the bladder-wall are described with the formation of a postprostatic pouch, and the extension of infection from foul urine up the ureter to the kidneys. Constant straining at micturition may produce prolapse of the rectum or hemorrhoids. Freyer inclines to the view that the hypertrophy is analogous to fibroid disease of the uterus, rather than that it is due to a general arterial sclerosis. He describes the symptoms produced by enlargement of the different lobes of the prostate. He advises that when the amount of residual urine is large, as can be determined by palpation and rectal examination, that the whole amount should not be drawn at the first examination. He urges a thorough examination of the prostate by the finger in the rectum, first in the recumbent position and then in the knee-chest position, determining its shape, consistence, degree of tenderness, etc. Examination with the sound and cystoscope will decide the degree of hypertrophy of the middle lobe. Patient should remain in bed for a day. [J.H.G.]

2.—Cave, in an article on **pneumococcic arthritis** states that while the condition is a very uncommon one, many cases escape detection on account of the lack of bacteriological examination. He gives a report of a case of his own and 30 collected from literature. The history of his case is as follows: The patient, a man aged 51 years, follows the occupation of farming. When he was first seen by Dr. Cave the signs of a pneumonia involving the right base were elicited. His illness had existed for 11 days. On the sixth day of the disease his temperature fell by crises, but only to rise again accompanied by signs of consolidation of the left base. When seen by Dr. Cave the patient was in a moribund state and therefore too ill to be carefully examined. At this time it was found that his left shoulder was swollen, red, and edematous. It was ascertained that this shoulder had been injured 5 days before in struggling during his delirium. Death occurred an hour after Dr. Cave's visit. From the shoulder-joint thick, greenish, creamy pus was obtained by aspiration. The pus contained pneumococci. Inoculations were made on agar and blood serum and cultures of the pneumococcus developed. In an analysis of the 31 cases, 23 terminated fatally and 28 were immediately associated with pneumonia. In only 2 cases did the arthritis precede the pneumonia. Three cases occurred without pneumonia. Pneumococcic arthritis is much more common in males than in females, and occurs especially in adult and in advanced life. The upper extremity is involved more frequently than the lower. In 27 of the cases suppuration developed, in 3 there was no pus formation, and 1 case was doubtful. The pneumococcus was demonstrated in 30 of the cases. Manifestations of widespread infection were observed in a number of cases; 6 were complicated with malignant endocarditis, 5 with pleurisy and empyema, 2 with pericarditis, 3 with nephritis, 6 with meningitis, and 1 with peritonitis. In some of the cases more than one serous membrane was involved at the same time. The specific microorganism is found in the fluid of the exudate embedded in some of the cells and upon the free surface of the exudate, but not in the deeper tissues of the joints. Permanent injury to the joint often follows this form of arthritis, but in some of the milder cases complete function is restored. Injury or previous disease of a joint predisposes to pneumococcic infection. He further states that experimental evidence gives abundant proof that the injection of the pneumococci into a joint in susceptible animals is almost always followed by suppurative arthritis. Subcutaneous injection is often followed by inflammation of a joint which has been previously irritated. If the injection be intravenous, arthritis is more apt to follow. If a rabbit be partially immunized to the pneumococcus and then a virulent culture injected, septicemia is not so liable to follow, but rather local involvement, especially arthritis. The clinical manifestations of pneumococcic arthritis vary. The local symptoms may be slight or intense; fever is as a rule high, and the diagnosis depends upon the finding of the specific microorganism in the affected joint, or upon the association with pneumonia or other pneumococcic forms of infection. The prognosis is always grave. As to the treatment, in the suppurative variety of arthritis, early incision, free drainage and rest of the part is recommended. When the effusion is serous or serofibrinous (as determined by aspiration) rest and compression are the important measures. The after-treatment consists in the use of hot-air baths, hydrotherapeutic measures, and massage. [F.J.K.]

3.—Griffin reports a case of **siriasis**. The patient, aged 25, an Englishman, and assistant engineer by occupation, had been in good health up to the time of the present illness. After working for some time in the boiler-room of the ship in which the temperature was 114° F., he developed siriasis. His pulse was as high as 160 per minute, his respiration 60 per minute, and his temperature 108.6° F. After a rather prolonged illness, he finally recovered. The early treatment consisted of ice-packs, cold sponging, and the administration of digitalis. Later, the treatment consisted principally of sponging, and the administration of quinin, calomel, ammonium bromid, and diaphoretics. [F.J.K.]

4.—Barnard describes a case of **dorsal luxation of first phalanx of little finger**, due to a blow on the back of the hand, which it was impossible to reduce by any form of manipulation, but which was readily replaced after division of the splenoid ligament through a small dorsal incision, after the manner described by Farabœuf for the reduction of the same dislocation of the thumb. He does not think that the slipping of the head of the metacarpal bone between the tendons offers the obstruction to reduction that was at one time supposed. He has produced and studied a number of artificial dislocations and concludes the subject thus: 1. That dislocation backwards of the first phalanx of the little finger is rarer than that of the index finger and much rarer than that of the thumb. 2. That, unlike the similar dislocation in the thumb, it is probably produced in most cases by violence applied to the dorsal surface of the head of the metacarpal bone. 3. That the 3 varieties—(a) incomplete dislocation; (b) the complete simple dislocation; and (c) the complete complex dislocation—so admirably described by Farabœuf in the case of the thumb—apply equally to the little finger. 4. That the incomplete dislocation is easily reduced by pushing the phalanx forward; the complete simple form by the method of manipulation suggested by Farabœuf; whilst the complete complex dislocation, the result of ill-directed manipulation, requires the simple operation suggested by Desault, Farabœuf and Hulke.

5.—Tubby notes that **Dupuytren's contraction** of the palmar fascia is more common in men than in women, that it usually comes on after 40 years of age, and that the patients often give a gouty history. Cause is unknown. He recommends the open method where the fascia is dissected outwardly, as preferable to the older method of subcutaneous division of the fascia. The **prognosis** in cases of **tendon division** in the hand, Tubby says, is dependent on 3 factors: first, the power of retraction; second, the amount of fixation of the tendon in its sheath, and, third, the character of the structures at the spot where division occurs, particularly as regards the circulation in these parts. [J.H.G.]

6.—MacLulich and Goodall report the case of a man who had lost his left forearm from traumatism when a boy, and who, at the age of 63 years, developed melancholia and died suddenly of angina pectoris. Examination of the brain showed but one lesion, a softening occupying the gray matter of the base of the right second frontal convolution where it joins the ascending frontal. The area presented signs of having wasted. It looked old, but there was no sclerosis. The subjacent white matter showed no change to the naked eye. The point of interest in the case is the possible relationship between the loss of the arm and this wasted area which was anterior to the portion of the brain supposed to control the forearm and hand. [J.H.G.]

8.—The relation of the **bowel-lesions of typhoid fever to the general symptoms** of the disease is discussed by MacLagan. He notes that fever is the most prominent symptom. He believes that the fever and other general manifestations in the course of this disease are not due to the local lesions, but to the great number of virulent bacilli which have found their way into the circulation. The chief action upon the tissues produced by the bacilli is the consumption of nitrogen and water. He further believes that the essential phenomena of the disease, such as increased elimination of urea, thirst, loss of appetite, wasting, etc., are dependent upon these two conditions, namely, the consumption of nitrogen and water by the contagium. The soda salts are eliminated in diminished quantity or they are retained, while the potash salts are more freely eliminated. The reason for this is that the soda salts are taken up by the bacilli, and the potash salts, which exist in the tissues, for reason of increased dis-

integration, are eliminated. When the glandular tissue, which forms the focus for the morbid process, is destroyed, the general manifestations of the disease come to an end. Recrudescence of the fever is explained as follows: Some of the intestinal lesions are involved late in the course of the disease, while others are undergoing healing. Relapses are explained in a similar way, namely, that the pathological progress in some lesions is greatly retarded. He states that the uneven distribution of the microorganisms in the blood may cause some of the lymphoid structures to escape infection. This may occur even after one or two relapses. The local disturbances are due to the multiplication of the bacilli in the lymphoid tissues of the intestine. The late symptoms in a severe case may be in part ascribed to a septic poisoning during the stage of sloughing and ulceration. At this time various forms of cocci are associated with the primary infection. This is especially likely to occur when gangrenous ulceration develops. [F.J.K.]

New York Medical Journal.

January 26, 1901. [Vol. lxxiii, No. 4.]

1. Gastroenterostomy by the Elastic Ligature. THEO. D. MCGRAW.
2. Cereals, Emulsions and Proteids in Infant Feeding. T. M. ROTCH.
3. I. Septicemia, Acute Bacteriemia; and Pyemia, Chronic Bacteriemia. II. The Indications for Hysterectomy and the Indications for Abdominal Section and Drainage in Puerperal Infection. H. J. BOLDT.
4. Observations on the Toxic Effects of Some Common Drugs. PHILIP F. HARVEY.
5. The Treatment of Influenza. W. H. THOMSON.

1.—McGraw has performed the operation of **gastroenterostomy by the elastic ligature** in 5 cases. Two of these patients died in collapse a few hours after the operation, 2 of the 3 others lived, one 15 days and the other 14 days after the operation, the one dying from starvation due to the anastomosis having been located too near the ileocecal valve, and the other from the formation of the "vicious circle." The third feels in perfect health, unconscious of the disease which must sooner or later end his life. The term "vicious circle" is applied by German surgeons to a condition sometimes occurring after gastroenterostomy, in which the food passes from the stomach into the afferent instead of the efferent limb of the intestine. It then fills the duodenum, soon to regurgitate and pass again into the stomach. The causes of this condition are not well understood. If not relieved it results in the death of the patient. McGraw emphasizes the necessity of a proper technic as regards: 1. The ligature. This should be a hard, round, smooth and strong rubber cord, at least 2 millimeters in diameter. 2. It must include in one loop all of the tissue which it is desirable to sever. 3. The cord must be drawn as firmly and tightly together as possible and fastened by a silk thread which is tied around them. 4. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of 6 or 7 centimeters, and when the ligature has been tied a similar row in the front should complete the function. [W.A.N.D.]

2.—Rotch discusses the subject of **cereals, emulsions, and proteids in infant feeding**. He states that the addition of cereals to the milk is chiefly for one of two reasons: 1. That the resulting food should have a greater nutritive value from the administration of starch in addition to the chief elements constituting human milk, namely, fats, milk-sugar and proteids. 2. To aid in the digestion of proteids by acting in some mechanical way on the coagulum of the caseinogen, so as to render it finer and more closely to approximate the coagulum of human milk. In his experience with milk carefully modified in the laboratories he has many times met with a disturbance of the emulsion, but has not been able to see that it did any special harm, as only part of the emulsion, and a small part, is disturbed. The management of the proteids in an infant's food is important. The results of the experiments as to the coagulability of whey-mixtures are still *sub judice*, but so far as they

go they bear out the theoretic assumption that the coagula are very distinctly finer than in an ordinary modified milk of the same total proteids. The management of the coagulum depends on the management of the caseinogen, and the coagulum will be small and fine if the caseinogen is kept down to its proper relative proportion to the whey proteids. [W.A.N.D.]

3.—Boldt discusses the **indications for hysterectomy and the indications for abdominal section and drainage in puerperal infection**, whether due to septicemia—acute bacteriemia, or pyemia—chronic bacteriemia. He believes that it is impossible, with our present knowledge, to lay down absolute rules for the performance or omission of these operations. He suggests the following indications for hysterectomy, if it is evident that less heroic treatment is useless: 1. If, after a full-term delivery or an abortion, there are no conception-products in the uterus, and the patient has fever with exacerbations, chills, and a small and frequent pulse (120 to 140 or more), if careful observation should show that the infection comes from the uterus alone, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria being free of streptococci are found in the uterus, and especially if the blood shows the presence of pathogenic germs. 2. If there are decomposition-products in the uterus which cannot be removed satisfactorily *per vaginam*, if, on doing a cesarean section, the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis when there is no evidence of an exudate in the pelvis. The adnexa are to be left undisturbed, unless there is some positive indication to do otherwise. [W.A.N.D.]

4.—Philip F. Harvey points to the growing tendency towards **greater conservatism in the treatment of chronic ailments by the use of drugs**, and there is less disposition to push certain medicinal substances beyond the point of tolerance. He details a case in which a patient suffering from a pustular acne declared that she was unable to take arsenic or mercury in any form. He gave her very minute doses of bichlorid of mercury and chlorid of arsenic. (He does not, however, state the doses.) The patient tolerated the treatment extremely well, and in 3 months was completely cured. He deprecates the use of **mercurials in the treatment of syphilitic infants**, it being established by observation that injurious effects may result, and it is extremely doubtful that mercury has any therapeutic value in syphilitic conditions in infancy. In general, Harvey believes that we should be cautious in administering drugs in heroic doses, and that the study of their action is necessary before we can say that the drug is not doing more harm than good. [T.L.C.]

5.—W. H. Thomson considers the **treatment of influenza**. He believes that **aconite** is one of the best remedies for the general aching which characterize the **onset** of so many febrile affections. He has often aborted an **acute tonsillitis** by giving early a dose of the tincture of aconite sufficient to cause this drug's specific sense of constriction of the throat. He believes its action is further promoted by the addition of a small dose of Dover's powder. He combines **phenacetin** with **quinin**, and believes that these two drugs may possibly act as antitoxins to the influenza poison. He recommends a prescription containing in each dose, $\frac{1}{4}$ grain of solid extract of aconite, 1 grain of Dover's powder, 4 grains of phenacetin, and 3 grains of quinin, made into 2 pills. Six pills are to be taken on the first day of the attack, and continued as long as the fever lasts. When **coryza** and **nasal catarrh** are leading symptoms he advises a pill of $\frac{1}{4}$ grain of belladonna, with a grain or two of camphor. To this may be added, flushing of the throat with a fountain syringe, with a solution containing a quart of hot water, to which 2 teaspoonfuls of potassium chlorate and 5 drops of oil of peppermint are added. In those cases in which the supraorbital sinuses become involved with generally periodic attacks of pain, and often photophobia, he has found an extract of ergot in dram doses, repeated every 3 hours, if necessary, to be a specific. In the dry cough which so frequently follows influenza, he has long recommended an emulsion of linseed oil. Adjuvants to this general treatment are advised when indicated, and especial importance laid upon complete rest in bed. [T.L.C.]

Medical Record,

January 26, 1901. [Vol. 59, No. 4.]

1. Early Diagnosis of Mammary Tumors. GEORGE F. SHRADY.
2. Some Further Work on the Mosquito-Malaria Theory, with Special Reference to the Conditions Around New York. WM. N. BERKELEY.
3. The Causation, Prevention, and Cure of Gout. ALEXANDER HAIG.
4. The Nonmyxomatous Character of Nasal Polypi. JONATHAN WRIGHT.

1.—Shrady, in making a plea for early diagnosis in all **growths of the mammary gland** discusses in detail the differential diagnosis between carcinoma and the other tumors of the breast. Among the early symptoms of cancer is the "dimpling" of the skin over the growth, and this the author thinks of the greatest significance, coming on before retraction of the nipple oftentimes. This sign is seen in even deep-seated cancers. The "tumor test" of stroking the breast with the flat of the hand while the patient is recumbent, will always reveal the presence of the growth. These two signs, with darting pains, are, in Shrady's experience, the earliest signs of cancer. With such symptoms the patient should see a surgeon at once. He emphasizes the fact that no mammary tumor can be trusted and that the chances of malignancy are very great. To make a diagnosis of a "simple tumor" one must be very sure of his ground. The diagnosis has a most important practical bearing on ultimate results. Probably 90% of breast-tumors in older women are malignant. Even adenomata are best removed, as malignant changes in them are not an impossibility. [J.H.G.]

2.—William H. Berkeley presents some further work on the **mosquito-malaria** theory, with special reference to conditions around New York. He touches upon: 1. The local species of Anopheles and their natural history. 2. Inoculation experiments. 3. The incubation period of malaria. 4. Prophylaxis and eradication of the malaria endemic in our own locality. Of the three species of Anopheles, native of North America, he has found two around New York: *A. quadrimaculatus* Wiedemann and *A. punctipennis* Say. He describes structural differences between Culex and Anopheles. Anopheles was never found without Culex. Oftenest *C. pungens*. Anopheles was found always in buildings, oftenest on walls and ceilings of recently used bed-rooms, and was far more abundant in the dwellings of the poor. The adults were not found out of doors. Berkeley has placed early March as the period in the spring when the female begins to bite. He found Anopheles as late in the fall as November 6. He determined experimentally that the time from egg to adult does not occupy more than 19 days, and believes that care of the larvae would have further shortened the period. He performed a series of inoculation experiments and succeeded after repeated trials in inoculating *A. quadrimaculatus* with tertian parasite. He was unable to bring about infection in man from the bite of a single infected mosquito. As to the period of incubation between the bite and chill, he reports one case with a clear history in which it was exactly 14 days. As to the prophylaxis he believes the Health Department should require malarial cases to be reported, and that every house should be thoroughly inspected and the inmates instructed to kill all the Anopheles in the house; to provide the windows and doors with screens; to use every precaution to isolate the patient from mosquitoes, and to cause all the standing water in the vicinity to be drained, or heavily petroleized. Rigid treatment with quinin should be insisted upon. [T.L.C.]

3.—Haig gives a general review of his now well known theory concerning the **etiology of gout and rheumatism**. He does not accept the bacterial origin of rheumatic fever, and believes in the identity of gout and rheumatism. His theory makes uric acid in solution responsible for the attacks in both diseases. He does not believe that the salicylates are at all times a useful remedy in rheumatic condition, but that frequently they may do harm rather than good. His chief points in treatment are, that uric acid being a poison should be introduced into the body in as small quantities as possible, and to this end dietetic measures are important. Again it is urgent to provide for the elimination of poison already in the body. It is especially important to

see that a proper quantity of albumin is taken in proportion to the body-weight. In some acute and chronic conditions we should aim to diminish the alkalinity of the blood which is high, for the purpose of favoring the best action of the salicylates. The same principle holds for the acute arthritis of gout. Give the salicylates alone and plenty of them, and on no account with alkali or colchicum, as these increase the alkalinity of the blood. During this treatment he does not cut off wine or cut down meat, for both tend to keep up the acidity of the urine and diminish the alkalinity of the blood. He believes that the high blood-pressure of chronic gout is due to large excess of uric acid in the blood and recommends the iodid of sodium more or less aided by the chlorid and bromid of ammonium and chlorid of sodium. [T.L.C.]

4.—Jonathan Wright calls attention to the histologic error of classing **nasal polypi** as myxomata. As the result of a careful study of polypi, he has found some mucin and occasional embryonal new connective-tissue cells. There is little or no new formation of tissue, but, on the contrary, a separation of the fibers of the preexisting subepithelial stroma serves effusion. [T.L.C.]

Medical News.

January 26, 1901. [Vol. lxxviii, No. 4.]

1. Lakewood as a Winter Resort. WM. GRAY SCHAUFFLER.
2. The Climatic Treatment of Chronic Bright's Disease. JAMES TYSON.
3. Treatment of Syphilis at Hot Springs, Ark. JAMES T. JELKS.
4. Some Topographical and Climatic Features of the Florida Peninsula; with Special Reference to its Adaptiveness as a Winter Health Resort. JAMES K. CROOK.
5. The Climatology of Neurasthenia. F. SAVARY PEARCE.
6. The Tonsils as Portals of Infection. JULIUS ULLMAN.

1.—W. G. Schauffler believes that **Lakewood, N. J.**, possesses valuable physical characteristics as a winter resort and lays stress upon its accessibility and its economic features. The greatest factor in its favor is its **comparative warmth and low humidity**. A point observed has been that in the cold weather when the thermometer fell below the freezing point the day was invariably bright and sunshiny. Damp days are the exception. He recommends the place for convalescents and neurasthenics as well as those suffering from **asthma and bronchial affections**. [T.L.C.]

2.—James Tyson and F. M. Tyson, discuss the general principles of the climatic treatment of chronic Bright's disease. They conclude that there should be as little **cold, moisture and variation** as possible and that **hot dry climates** should be more beneficial than a cold, dry climate; either is better than a temperate climate, such as that found in the United States, with ground saturated with moisture and consequent dampness, with sudden changes of temperature, and marked differences between night and day temperatures. The effect of high winds is highly detrimental. The mortality from renal disease is highest in the Middle Atlantic Coast region, next in the North Atlantic and least in the Southern Central region. In considering these figures we must not fail to take into account the greater centers of population with their accompanying diseases, as syphilis, scarlet fever and pneumonia, which predispose to Bright's disease. Also the habits and surrounding conditions of those of the great cities. In deciding upon a fit climate to send our cases to, we must beware of high altitudes if the patients suffer from a failing heart, or one that has already lost compensation. [T.L.C.]

3.—Jelks considers the very favorable results of the treatment of **syphilis at Hot Springs, Arkansas**, and believes this to be due to the favorable **hygienic surroundings**, and complete absence of business cares and worries on the part of the patients. The eliminating organs are stimulated by **bathing and drinking of the hot water**. It is found that large doses of the acute syphilitic remedies are well borne. As high as 50 to 100 grains of the iodide salts may be safely given at a dose three times a day. The author prefers **mercurial ointment** to any other form of the drug. It is found that this too is well borne in large doses. [T.L.C.]

4.—Crook discusses the climate of Florida and its adap-

tiveness as a winter resort. He believes that the climate benefits (1) those patients who suffer from recurrent bronchitis; (2) those with predisposition to tuberculosis but who present no recognizable lesions of the disease; (3) those cases of beginning phthisis without cavity formation; (4) cases of fibroid phthisis; (5) The large valetudinarian class, composed of old rheumatics, victims of subacute or chronic gout, asthmatics, and intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, neurasthenia, and general debility. [T.L.C.]

5.—F. Savary Pearce considers the **climatology of neurasthenia**. He points out that an altitude of over 2,000 feet is unsuitable as well as districts menaced by high winds, and frequent fogs, cloudy, saturated atmospheres with but slight movements of air-currents, low country (sea-level), with continuous, non-varying, although moderate heat as Bermuda and Florida. The ideal climatic conditions for the neurasthenic include sea-air in a well-wooded country, far enough from the coast to avoid fogs. A sea-voyage, provided it be not stormy, will also prove beneficial. [T.L.C.]

6.—Julius Ullman studies the **tonsils as portals of infection**. In his article, to which is added a copious biography, he concludes: (1) That the normal tonsil has a physiological function, probably protective to the organism; (2) however, this function is frequently impaired and the tonsil becomes the nidus for the growth and distribution of pathogenic organisms in the system; (3 and 4) that in many grave processes as scarlatina, the tonsil is the point of infection; (5) the relation between endocarditis, chorea, rheumatism and the diseased tonsils found in cases of these conditions; (6) in rare cases of typhoid fever in which no intestinal ulceration can be demonstrated, the similarity of the tonsillar tissue to Peyer's patches suggests the possibility of bacterial infection through the tonsil; (7) that scrofulosis is often associated with diseased tonsillar tissue, and this is often the point of selection of the tubercle bacillus; (8) he concludes that much could be accomplished by careful post-mortem studies of the tonsils, which are too seldom examined. [T.L.C.]

Boston Medical and Surgical Journal.

January 24, 1901. [Vol. cxliv, No. 4]

1. A Short Abstract of the Early History of Medicine in Massachusetts to the Year 1800. ELBRIDGE G. CUTLER.
2. The Great Toe (Babinski) Phenomenon: A Contribution to the Study of the Normal Plantar Reflex Based on the Observation of 156 Healthy Individuals. MORTON PRINCE.
3. A Case of Obliteration of the Right Ureter by a Calcified Fibroid; Removal of Fibroid and Implantation of the Ureter into the Bladder; Recovery. MAURICE H. RICHARDSON.
4. A Case of Vesical Implantation of the Ureter by Dudley's Forceps Method after the Failure of Several Plastics. EDWARD REYNOLDS.
5. Pregnancy Following Removal of Both Ovaries and Tubes. M. A. MORRIS.

2.—In order to acquaint himself with the exact character of the **normal plantar reflex**, Prince has lately examined the reflex in 156 presumably healthy men between the ages of 22 and 33 years, all candidates for civil service examination. As a result of these observations the author has been able to satisfy himself that one cause of the discrepancies in the reported observations of different authors is that there may be 2 distinct plantar reflexes, one of which is probably cerebral and one spinal. Both may be absent. The normal spinal reflex movement of the toes in the adult is always, as shown by Babinski, flexion; the normal cerebral reflex is generally extension of the toes and of the foot. If precautions are not taken the cerebral reflex may mask the spinal reflex and give erroneous results, that is, override the spinal flexion and produce an extension. The cerebral reflex can generally be inhibited by an act of will and thus leave the spinal reflex free. With proper precautions taken to inhibit the cerebral reflex, extension of the great toe was not observed once in 92 individuals. In 64 individuals it was only observed once; but in this case the extension of the great toe was slight and was in all probability a cerebral reflex, since

insufficient precautions were taken. The significance, then, of the Babinski phenomenon consists in the extension of the great toe. To emphasize this the best term would be the **great toe phenomenon**. The author believes that the frequency of the spinal plantar reflex, so far as it concerns the toes, has been exaggerated owing to several sources of fallacy having been overlooked, such as (1) mistaking the cerebral for the spinal reflex; (2) in stroking the sole it is not difficult, by moderate pressure over the first phalanges, to cause a purely mechanical flexion of the toes; (3) if the stroke is made from the toe toward the heel, pulling on an elastic skin will do the same. [J.M.S.]

3.—Richardson reports a case that illustrates the **danger of neglecting an old fibroid**. The patient was a woman, aged 58 years, who had always been well until 10 years before the author saw her. At that time the patient noticed a tumor in the lower portion of the right side of the abdomen that gradually increased in size. The tumor was painful and was accompanied by frequent and painful micturition and sometimes by incontinence. On examination, the tumor was found to be fluctuating and it was thought to be an ovarian cyst. On exposure, the growth proved to be a **fibroma of the uterus** on the right side of which there was a large cyst and there were several **calcified areas** near the cyst. As the operation progressed the cyst was torn and was found to be a **dilated ureter**. The divided ureter was sutured into the bladder. On removing the left half of the tumor the sigmoid flexure was torn and the opening was closed by silk sutures. The patient made a complete and uneventful recovery. [J.M.S.]

4.—Reynolds reports the case of a woman, aged 45 years, who, following a complete vaginal hysterectomy, suffered from an **ureterovaginal fistula**. After several plastic operations the author **implanted the ureter into the bladder by Dudley's forceps method**. The operation was followed by complete relief. [J.M.S.]

5.—Morris reports the case of a woman who was subjected to **double oophorectomy**. Soon after the operation, which was successful, the patient began to menstruate, which function continued regularly and painlessly for 4 months. Fourteen months after the operation the patient was delivered, after a **normal labor**, of a healthy girl baby. The child died when it was about 3 weeks old, and soon after that the patient again began to menstruate and has continued to do so regularly and normally since. [J.M.S.]

Journal of the American Medical Association.

January 26, 1901. [Vol. xxxvi, No. 4.]

1. The Diagnosis of Diabetes Mellitus. JAMES B. HERRICK.
2. Diabetes Mellitus. The Mortality therefrom in the City of New York during the Period from 1889 to 1899, from the Official Records. Comments. HEINRICH STEIN.
3. Cutaneous Diseases Accompanying Diabetes. M. B. HARTZELL.
4. Post-anesthetic Paralysis. C. C. HERSMAN.
5. Treatment of Neurasthenia. DANIEL R. BROWER.
6. Intubation in Private Practice and its Perfection. J. TRUMPP.
7. Traumatism During Intubation. Its Prevention and Treatment. JOHANN VON BOKAY.
8. Fracture of the Patella. JAMES M. BARTON.
9. Growths in the Frontal Sinus; Two Cases; Operation; Recovery. W. D. HAMILTON.
10. Treatment of the Gastrointestinal Symptoms in Typhoid Fever. J. H. ANDERS.
11. The Unbroken Skin as an Absorbing Medium. THOMAS F. REILLY.
12. Idiosyncrasy as to Mercury. A Case of Erythema Mercuriale. ALBERT BERNHEIM.
13. A New Objective Test for Mastoiditis, with Report of Case. ALBERT H. ANDREWS.
14. Ocular Manifestations of Diabetes Mellitus. L. A. W. ALLEMAN.
15. Some Remarks on the Plantar Reflex, with Special Reference to the Babinski Phenomenon. J. T. ESKRIDGE.

1.—In an article on diabetes mellitus, Herrick calls attention to the many symptoms or complications accompanying

this condition which are lightly passed over by the physician, the observations of which would lead to an early diagnosis. Among the derangements of the nervous system he calls attention to the neuritic pains in the legs, with loss of the patellar reflex. The trophic changes are falling out of the nails, bullae, herpes zoster, perforating ulcer, etc. Occasionally there are peripheral paralyses, cerebral palsies, monoplegia, and even hemiplegia, without anatomical lesions which can be demonstrated after death. Headaches and dizziness often lead the patient to consult a physician. The eye may give indication of diabetes by paresis of the external rectus muscles. Retinitis and atrophy of the optic nerve, the development of bilateral cataract in early life should lead one to suspect diabetes. Furuncles of the external ear and suppuration of the middle ear with early involvement of the mastoid may occur. The conditions which deserve especial attention are sexual impotence and psychic disturbances, irritability of temper, suicidal tendency, etc. Of the alimentary tract he lays stress upon dilation of the stomach without alteration of its functions. Vomiting and diarrhea, if persistent, may be forerunners of coma. Cirrhotic liver is often present with bronzing of the skin. The examination of the blood is of little value, though the color reaction of Bremer and Williamson might enable one to recognize diabetes without glycosuria. The presence of acetone, Beta oxybutyric acid, and the amount of ammonium excreted are of value from the standpoint of diagnosis and prognosis. The urine in diabetes has a tendency to undergo rapid fermentation, which may occur in the bladder and produce cystitis. After the attention has been called to the urine, the diagnosis is usually readily made, but owing to certain errors may be sometimes overlooked. The sources of error may be (1) in the technic of the examination for sugar; (2) the urine may not be examined by the physician; (3) that there is no sugar present at time of examination. Emphasis is laid on the fact that casts are found in the urine during diabetic coma and that their presence may give warning of the approach of coma. The specific gravity of the urine may be low after the ingestion of large quantities of fluids, although the amount of sugar present is large. Should chronic interstitial nephritis supervene the amount of sugar may decrease or entirely disappear. In conclusion he calls attention to the importance of recognizing the variety of the disease, noting particularly the age, tendency to obesity, heredity and any organic disease as etiological factors. The severity of the disease depends not always upon the amount of sugar present, but rather upon the amount in comparison to the carbohydrates in the diet.

2.—Stein discusses the mortality of diabetes mellitus in the city of New York during the period from 1889 to 1899, inclusive. In this article he gives elaborate statistics, the total number of deaths in this period was 1,867. He also gives a number of tables as to death-rate per thousand population, the mortality during the months of the year, the number of deaths occurring in males and females and their age. [F.J.K.]

3.—The cutaneous lesions which accompany diabetes are discussed by Hartzell. He states that the first noticeable symptoms may be due to inflammatory disease of the skin. In the late stages of the disease dryness and scaling of the skin accompanied by general pruritus, falling out of the nails and thinning of the hair occur. He states that the pruritus is often confined to certain regions of the body and that eczema is not at all uncommon. Erythema and urticaria, especially of the chronic type, are also encountered. Acne, painful furuncles and carbuncles are especially likely to occur in elderly subjects, and that both dry and moist gangrene are serious complications in the course of diabetes. Xanthoma diabeticorum is a very common form of eruption, and bronzing of the skin also takes place in this disease. In the early stages purpura may be a complication. In the management of these skin affections attention must be directed to the underlying cause and the skin lesions treated as those occurring in cases that are not of diabetic origin. [F.J.K.]

4.—In an article on postanesthetic paralyses, Hersman lays particular stress upon that form of paralysis due to pressure upon nerve-trunks. The most common paralysis is that due to pressure upon the brachial plexus. During anesthesia faulty positions of the patient should be guarded against as much as possible by the surgeon, in order to

obviate medicolegal complications. As a rule, recovery rapidly follows these forms of pressure-paralyses unless there be previous degeneration or atrophy of the nerves. As to treatment he recommends the use of strychnia and massage, and electricity for those cases which do not show nerve atrophy. [F.J.K.]

5.—Brower in discussing the treatment of neurasthenia states that a very important indication in the treatment is mental and physical rest. The great majority of cases simply require partial rest, absolute rest being injurious to some of the cases. The second indication is the dietetic management. The food should be of a nitrogenous character and as free as possible from sugar and sugar-producing articles. In some instances predigested foods are very valuable articles of diet. The third indication is the use of electricity, faradism being employed in the absolute-rest cases, while he recommends static electricity in the partial-rest cases. He states that hydrotherapy is the fourth indication and recommends a daily wet pack in those cases which are being treated by absolute rest. In the partial-rest cases the shower bath, using either warm or cold water, the hot-air bath and the wet pack are recommended. Massage should be employed for the absolute-rest cases, while the partial-rest cases may or may not need this measure of treatment. He does not favor long voyages for patients suffering from neurasthenia, but if a change of climate is necessary moderate mountain elevation should be selected. He likewise does not find it desirable for the patients to make a long stay at a sanitarium. As to the medicinal treatment, laxatives should be frequently used. Diuretics are sometimes of service, and for the nervousness he believes the bromids are invaluable. For the anemia Bland's pills are of use. An alternative is sometimes indicated. The one which he prefers is chlorid of gold and sodium. In the dyspeptic cases, the mineral acids are often of use and in the cases which show a malarial element quinin is recommended. He concludes by saying that the patient should be kept busy by following a regular therapeutic schedule. [F.J.K.]

6.—Trumpp refers to the former disinclination of European surgeons to practice **intubation**, excepting in the hospital, where constant watch could be kept over the patient. In making recent inquiry of American and European surgeons he finds few who do not think the operation as useful in private as in hospital practice. The percent of recoveries due to the use of serumtherapy has been more than doubled. He thinks the parents should be left to decide between intubation and tracheotomy, both methods being explained to them, and that no inexperienced physician should attempt the operation. The patient should always be under the surveillance of a reliable person. He strongly urges the use of the O'Dwyer hard-rubber tubes in preference to those of silver. They are much lighter, and therefore less liable to produce ulceration; they adhere more readily to the mucous membrane, and hence are not so easily expelled during fits of coughing. His experience goes to prove the point. He proposes some slight change in the tube and obturator which will render introduction easier, and a slight curve backward in the tube to prevent pressure. [J.H.G.]

7.—Von Bokay, under **traumatism during intubation**, first discusses the injury to the mucous membrane and the formation of a false passage, in introducing the tube. In 1,200 cases seen by him, a false passage was made in 4 cases, which he reports in detail. The diagnosis of the condition is made by the fact that respiration is not impaired by the presence of the tube, but becoming obstructed entirely in a short time; the tube may be felt to occupy an oblique position; the tube may be felt under the skin in front or at the sides of the larynx; on its withdrawal there may be a flow of blood. Emphysema may also occur. Later, inflammation develops around the larynx and an abscess may form. No cure can take place after the formation of a false passage, except a tracheotomy is done. The injury is usually done by careless handling of the instrument, but may be due to a faulty tube. He thinks the sitting position the best in which to introduce the tube. Introduction should be accomplished by keeping the instrument in the median line, or injury to the mucous membrane is likely to occur. After the formation of a false passage the tube should immediately be withdrawn and tracheotomy performed. [J.H.G.]

8.—Barton speaks first of the very unsatisfactory results

obtained in the nonoperative treatment of **fracture of the patella**, mentioning the long confinement to bed, the prolonged fixation of the joint and the so frequent ankylosis. The mortality of the operative methods is very small. Powers reports 711 cases with but 3 deaths, due to sepsis, and Phelps reports 420 operations by New York surgeons with no deaths from sepsis, 1 from delirium tremens, and 1 from carbolic-acid poisoning. Barton thinks that no case should be denied operation because facilities are not at hand within a day or two of the accident, for a little delay is not injurious but of advantage and the patient can always travel without great discomfort. He thinks that in all cases of fracture from muscular contraction there will be found tissue between the fragments which will make bony union an impossibility. The suture should pass through the fragments and not about them, or in the tissues covering them. The suture is brought out on the fractured surface and does not pass all the way through the bone because this irritation of synovial membrane renders manipulation difficult. He uses a suture of heavy silver wire. The best time to operate is about 10 days after the accident unless the fracture is compound, when it should be done at once. Drainage is not usually required. A rigid asepsis is insisted upon. In closing the wound he does not carry the superficial sutures through the entire thickness of the flap lest they be the means of infecting the joint from contact with the skin staphylococcus. [J.H.G.]

9.—Hamilton urges the high mortality of **growths of the frontal sinus** as a reason for early diagnosis and early operation. He reports two cases. 1. A man, aged 36. Growth followed an injury received at age of 14 years. At operation the frontal bone was found thinned and the meninges were exposed. An osteoma, very dense, was removed in fragments, which weighed 4½ ounces. The patient recovered and is attending to his work. 2. A man, aged 27 years. Growth first noticed 3 years before. Besides a prominence over the root of the nose, he had double exophthalmos, interference with vision, and double optic neuritis. The growth in this case was much softer than in the first, and a number of polypi were also found in the sinuses, with an accumulation of mucus and pus. Destruction of the orbital roofs and exposure of the dura were present. The patient recovered with a sinus, but all trouble with the vision disappeared. This growth also proved to be an osteoma. [J.H.G.]

10.—The treatment of **gastrointestinal symptoms in typhoid fever** is discussed by Anders. He states that the medicinal treatment in this condition is subsidiary in importance to such measures as bathing, feeding, nursing, and the proper use of stimulants. In typhoid patients, nourishment should only be taken in a liquid form. Milk, if well borne, should be the chief article of diet. He believes that by regulating the amount and character of the nourishment many symptoms relative to the gastrointestinal tract may be entirely prevented or diminished, thereby rendering medicinal agents unnecessary. He states that the treatment as recommended by Brand has a favorable influence upon the gastrointestinal tract. He advocates the administration of hydrochloric acid after each ingestion of food for deficient gastric secretion, and adds that intestinal antiseptics are valueless in checking the growth of the *Bacillus typhosus*. In the early stages of the disease he employs calomel, and if constipation exists during the entire course, this should be treated by enemata of soapsuds. During convalescence, diarrhea is often checked by a mild laxative. He protests against any specific treatment. Anders uses salol, which he believes has an inhibitory action upon fermentative changes. He recommends turpentine for distention of the bowel, and enemata of oil of turpentine with asafetida when the stomach becomes intolerant. He advocates the use of intestinal irrigation, if judiciously employed, in properly selected cases. Injection of cold water into the rectum may be of service in some cases. [F.J.K.]

11.—Reilly in an article entitled **The unbroken skin as an absorbing medium**, states that the dose of a drug when applied to the skin may be quadrupled in most cases, and that the essential features in absorption are that the drug should be volatile during its application, or that the medicinal agent should be combined with a fatty base. In the latter instance friction should be employed when it is applied. He states that the crypts of the sebaceous glands

are the structures through which absorption occurs. Finally, he adds that the unpleasant effects of some drugs are sometimes prevented when the administration is through the skin. [F.J.K.]

12.—Bernheim discusses **idiosyncrasy as to mercury** and reports a case of **erythema mercuriale** in a woman 50 years of age. The eruption resembled that of scarlet fever and was followed by furunculosis. She had a number of attacks of this eruption during her life which always followed the administration of mercury. [F.J.K.]

13.—Andrews offers a new method of diagnosing mastoid disease. A small stethoscope is placed over the tips of the mastoid, and the handle of a vibrating tuning fork over the antrum. If the cells are obliterated or filled with pus or granulations the sounds are much more perceptible than on the opposite or healthy side. [J.H.G.]

14.—The author calls attention to the fact that **ocular manifestations** occur with sufficient frequency in **systemic affections** to be of great value in diagnosis. While the conditions of the eye-ground in the advanced stages of general diseases have received careful attention and study, the earlier conditions on the other hand also require careful scrutiny and investigation. Ocular complications, while they may exist in all forms of diabetes, are generally found in chronic cases. The patients generally present themselves for supposed errors of refraction. The author quotes a few cases on record in which hypermetropia was caused by diabetes and which fluctuated in amount with variations of the quantities of sugar in the urine. According to Landolt, this is due to a change in the index of refraction of the vitreous. Paralysis of the external ocular muscles are supposed to be due to a peripheral neuritis or to even nuclear or peripheral hemorrhages. Paralysis or paresis of accommodation is a frequent early symptom. The author believes that cataract occurring in diabetes passed middle life is due to a general disturbance of nutrition and arterial degeneration; in the young on the other hand, there is some direct relation between the eye and the general disturbance. He coincides with Hirschberg, that there is a distinct diabetic retinitis, characterized either by a degenerative or hemorrhagic type. Retinal hemorrhages with or without other changes in the retina, accompanied or unaccompanied with conjunctival hemorrhages are always suggestive of diabetes. Symptoms of toxic amblyopia frequently occur in diabetics, without a history of excessive indulgence in either tobacco or alcohol. Plastic iritis is encountered in diabetes. Keratitis, which is notably an exponent of nutritive disturbances occurs in this disease. Atrophy of the optic nerve and amblyopia without any assignable cause are occasionally met with in diabetes. [M.R.D.]

15.—Eschridge in an article entitled **Some remarks on the plantar reflex with especial reference to the Babinski phenomenon** comes to the following conclusions: That from the standpoint of diagnosis and probably in prognosis the Babinski phenomenon is valuable, but that in regard to organic disease of the lateral tract it cannot be considered a pathognomonic sign. Further he adds that a pseudo-Babinski phenomenon may be due to several poisons, and finally he makes a plea for more extensive and careful investigations. [F.J.K.]

Münchener medicinische Wochenschrift.

October 23, 1900. [47. Jahrg., No. 43.]

1. The Treatment of Constipation. ROOS.
2. The Surgical Treatment of Gangrene of the Mouth. VON RANKE.
3. Brief Communications on the Therapeutics of Skin Diseases. SEIBERT.
4. The Treatment of Biliary Calculi with Olive Oil. WITTHAUER.
5. The Treatment of Intestinal Obstruction with Atropin. MARCINOWSKI.
6. A Case of Thoracopagus. TOFF.
7. Bertillon's Method for the Measurement of the Body, Presented in a Practical Form for Physicians. WENGLER.
8. Contribution to the Knowledge of Lithopedons. KROEMER.

1.—Roos has performed some interesting experiments in reference to a novel idea in regard to constipation. In the first place it occurred to him that perhaps the colon bacilli

of a constipated person are more or less responsible for the condition, and therefore he fed these people with cultures of this microorganism obtained from the intestines of persons with normal bowel movements. Seven persons submitted themselves to this experiment, 5 of them suffering from chronic constipation. Three of these experienced a moderate laxative effect lasting for about 14 days. No particular effects were observed in the others. In 2 persons suffering from chronic constipation, the same treatment was employed, and 1 of these was greatly relieved. Dead colon bacilli, killed by fractional sterilization, were also employed, but the results were very slight. The *Bacillus aerogenus lactis* was also tested, but it was inactive, and lactic acid likewise proved useless. Roos then, after a careful consideration of the literature of the subject, discusses his results of the administration of the ordinary brewer's yeast. This was employed in 20 cases; in 4 without result. In 2 cases it produced liquid stools, and in the remaining merely a slight laxative effect. Sometimes, however, it was necessary to repeat the treatment for several days before any result was obtained. In several cases the results were brilliant. One in particular, a girl of 24 years, was relieved for the entire period of subsequent observation, even after the treatment has been discontinued. Further experiments upon 18 persons with yeast that had been destroyed by exposure to 100° for 10 hours, showed that it was quite as effective as the living preparation, positive effect occurring in 14 of the cases, and Roos believes that the plant probably contains a substance that exercises a moderate irritation upon the intestinal canal. [J.S.]

3.—Seibert has employed epikarin in tabs with very excellent results. The drug resembles naphthol, and is produced by the introduction into the naphthol molecule of a carboxyl group, by the means of a cresotic acid. A 10% salve is rubbed all over the body, but particularly in the parts chiefly involved, for 3 successive days. On the fourth day the patient is bathed, and any lesions still remaining treated by the ordinary method. There was only one failure in all the cases treated. The remedy does not relieve the itching and does not improve the eczema that is often also present. It is, however, very convenient and not in the least injurious. In the vulvovaginitis of small children he has employed protargol in 0.5% to 1% solutions. This is used as an injection 3 times a day until the symptoms of inflammation have been relieved. In nearly all the cases, gonococci were present. He has also employed ichthalbin in cases of furunculosis, in which it apparently is of no particular benefit, and in urticaria, in which there certainly seems to be some favorable influence. The remedy was given in doses of 5 gr. 3 times a day to children.

4.—Witthauer has employed olive oil in cases of biliary colic with brilliant success. He gives it first by the mouth in 1-ounce doses, to which a few drops of oil of peppermint have been added. When in the course of time the patients find themselves unable to continue, he employs it in the form of an enema, about 400 to 500 cc. being injected at first every day, and later at longer intervals. He reports 3 cases in which large numbers of stones were successfully and permanently removed by this method, without resort to operation. [J.S.]

5.—Marcinowski reports 2 cases of intestinal obstruction. The first, a woman of 32, after lifting a heavy weight, was attacked by severe pain in the abdomen and went into collapse and vomiting. Opium failed to relieve the symptoms, and $\frac{1}{5}$ of a grain of atropin (0.05) was injected hypodermically. The patient improved very rapidly, an exudate that had formed, disappeared, the bowel-movements became normal and ultimately the patient recovered. In the second case, a man with double hernia suffered from incarceration as a result of a fall. There was severe pain, active peristaltic movements, and bowel constriction. An injection of a similar dose of atropin relieved the symptoms. [J.S.]

7.—Wengler gives a brief but sympathetic description of Bertillon's method for the identification of criminals, and calls attention to its great value to science on account of its extraordinary accuracy. [J.S.]

October 30, 1900. [47. Jahrg., No. 44.]

1. Albumen and its Artificial Oxidation. F. N. SHULTZ.
2. Estimation of the Freezing Point of Blood and of Urine in

Determining the Functional Ability of the Kidneys before Operation. HERMANN KÜMMELL.

3. The Process of Compensation. ADOLPH BICKEL.
4. Mixed Infection with the Influenza Bacillus and the Bacterium Proteus. HANS DOERING.
5. The Substitution of Eucaïn B for Cocain in Cocainization of the Spinal Cord. FRITZ ENGELMANN.
6. Some Little-Known Pupil-reactions and their Therapeutic Significance. HANS KIRSCHNER.

1.—After a review of the chemists' investigations which ended with the crystallization of albumen, Schultz explains the composition of the albumen molecule and its reactions. He ends his very technical article without solving the old problem, why albumen outside the body so energetically resists oxidation, while the albumen of the human organism is so easily oxidized during life. [M.O.]

2.—To find the functional ability of the kidneys before operating, Kümmell—besides advising routine urine analysis, and its examination after subcutaneous injections of different substances (methylene-blue, or phloridzin) with catheterization of the ureters; when normal, the urine from both kidneys would be alike; when one is affected, the urine secreted by the diseased kidney would contain less of the foreign substance than the other—recommends strongly the determination of the freezing point of the blood, which he gives as 56° C. below that of distilled water, normally; if below 58° C., there is renal insufficiency, and the determination of the freezing point of the urine from each kidney, collected by catheterizing the ureters, which, in normal cases, is almost equal, but shows a great disparity when one kidney is affected; the urine from the diseased kidney freezing at a much lower temperature than that taken from its fellow. He uses Beckmann's method of freezing. Three cases are given, in which his diagnosis thus established was confirmed by operation. [M.O.]

3.—Ewald has divided the process of compensation in anatomic defects of the nervous system into (temporary) reparatory phenomena, and (permanent) degenerative phenomena. Bickel gives a series of experiments performed upon lower animals from frogs up to dogs; from which he concludes that the more highly developed the nervous system, the easier and the more widespread become these reparatory processes. He mentions the clinical usefulness of these experiments in many diseases of the nervous system, especially in *tabes dorsalis*. [M.O.]

4.—During the last year Doering saw 152 patients with influenza, 41 of whom had complications. Pneumonia was the most frequent complication. True mixed infection was seen in 13 cases; in 8 with staphylococci, and in 5 with streptococci. In two cases the bacterium proteus was found besides the influenza bacillus. The great destruction found throughout the body, and the bacteriologic investigations are fully described. [M.O.]

5.—Engelmann tested Eucaïn B, which is said to be less poisonous and yet as effective as cocain in producing general anesthesia, when injected into the spinal canal. With one injection of 0.01 ccm. of Eucaïn B, the only effect was a slight paresthesia, no anesthesia at all. His sensations are concisely described. [M.O.]

Deutsche medicinische Wochenschrift.

December 18, 1900. [26. Jahrg., No. 50.]

1. A Collective Statement of the Results of the Malaria Expedition. R. KOCH.
2. Concerning Athyreosis in Childhood. QUINCKE.
3. A Preliminary Communication Concerning the Injuries in the Heidelberg Railroad Catastrophe of October 7 1900. F. VOLCKER.
4. On the Technic of the Elicitation of the Patellar Reflex. WALBAUM.

1.—Koch continues his article. He thinks that the frequently observed decrease in the intensity of the attacks and the appearance of irregular fever are further proof of the occurrence of acquired immunity. He believes, however when splenic enlargement, anemia, and other such symptoms exist, the patient should be considered still a subject of malaria and should be so treated. In such cases para-

sites can frequently be still discovered. In the management of malaria he again lays strong emphasis upon his recommendation of the use of quinin for prophylactic purposes. He thinks that all those who are strongly suspected of malaria or who are proved to have it should be given quinin in order to prevent the development of the parasites. He insists upon the difference between this recommendation and the mere taking of quinin to ward off malaria. In the latter case one merely prevents infection; in the first case one is fighting the parasites which are already lodged in the patient. So far as has been discovered man and mosquito are the only hosts of the parasite. Koch gives a series of tables to show the decrease in malaria in certain regions in Germany since quinin has been freely used. General hygienic measures can produce some good results, but they cannot prevent the disease. In carrying out the quinin prophylaxis it is very important to have a considerable body of skilled assistants searching for parasites. If this cannot be done regular records of the temperature should be kept. Methylene-blue, he finds, next to quinin, to be the most valuable drug, but it works much more slowly than quinin. It is useful when there is a tendency to blackwater fever. He advises the use of only good preparations of quinin, preferring the hydrochlorate, strongly opposing the use of pills; oblates he considers the best method of administering quinin in children and often under other circumstances a solution is best. It is usually best taken in the morning on an empty stomach, when it is quickly and rapidly absorbed. It is often well to give hydrochloric acid with it, or if the stomach is not in good condition to give it hypodermically. It should not be given in doses of less than one gram for adults. It should be administered from 4 to 6 hours before the attack; it is repeated the next morning, and if the attack has not been prevented the dose is increased. On the following morning another dose is given. Using these measures over 500 severe cases have been treated and none lost. To prevent return of the malaria attacks Koch used various methods of administering quinin. He finally decided to give quinin on two consecutive days, repeating this at an interval of 10 or 11 days. If the cases are particularly persistent the time between the doses is reduced to 7 or 8 days, or the dose is increased, the latter perhaps being the better procedure. This treatment should be carried out for at least 2 months, even though the patient lives in a malarial region. It is important to look out for the possibility of blackwater fever in persons who have had malaria before. One should begin with only a grain and a half or two grains of quinin, increasing it very gradually and watching the urine. If a rise of temperature occurs after taking quinin, if the urine appears darker, or if there is a tinge of icterus, the quinin dose should not be increased or should be decreased at once, as these signs are the early indications of blackwater fever. As to other diseases he saw but 3 cases of typhoid, which were all imported; tuberculosis was uncommon; beriberi was quite frequently seen, but was always imported, and evidences of its infectious character were readily seen. This disease quickly gave way to treatment by rest and careful nursing without medication. Syphilis occurred, but was not common. Skin affections were extremely common. [D.L.E.]

2.—Quinke reports another case of **athyreosis** which occurred in a child. It had been a healthy infant and had begun to speak. When 15 months old the features seemed to change, the psychic growth stopped, and from the nineteenth month on there was loss of intelligence and of the power of speech, the child did not walk, and there were nutritive disturbances, particularly of the teeth. Iodothyryn was used. There was improvement after a week, the child seemed normal after 7 weeks, and remained so after 4 years. The thyroid gland could not be felt in this case. These cases are not instances of ordinary cretinism, though they may have points of resemblance in their clinical appearance and in their response to thyroid medication. They are also not ordinary myxedema, the onset is too acute for the latter disease, while it is not congenital cretinism because the onset and symptoms occurred some time after birth, were progressive, and in one case at any rate was accompanied by progressive decrease in the size of the thyroid gland. The skin too, while it showed changes, was soft and moist, with no definite changes in its volume and consistency, and there were no changes in the sweat secretions or growth

of hair. Quinke prefers to call the condition **subacute athyreosis**. In the second case the remarkable and permanent improvement of the child was very striking. This might be explained by the possibility of the presence of an accessory thyroid which had assumed vicarious and increased function, or by vicarious functioning of the thymus. A striking fact in both cases was the destruction of the teeth. The fact that it was so marked was probably due to the early age of the patients and the acuity of the processes. Quinke thinks that these cases are explained only by the acceptance of some relation to the thyroid gland and the presence of an auto-intoxication. It is probable, he thinks, that other organs than the thyroid are involved in some way. This would explain the very varied reaction to thyroid preparations and the variation in the different symptoms. He thinks also that the thyroid gland probably produces other important substances beside iodothyryn. He considers it extremely important that one should look much more frequently for thyroid changes in children, in order to explain obscure conditions, particularly mental changes, when distinctive cretinoid symptoms are not present. [D.L.E.]

4.—Walbaum recommends the following procedure. The half-closed hand is placed with moderate pressure upon the knee to be examined, the finger tips resting over the inferior patellar ligament, while the thenar and hypothenar eminences lie above and to the sides of the patella, and the patella is thereby grasped between the finger tips and the hollow of the hand. One then strikes this hand a light blow with the closed fist of the other hand. If there is even a very slight patellar reflex one can readily recognize it with the finger tips over the ligament, even when it is not visible. [D.L.E.]

December 20, 1900. [26. Jahrg., No. 51.]

1. Concerning the Importance of Pure Vegetable Albumin as Nourishment. A. LOWEY and M. PICKARDT.
2. Concerning the Bacteria in Typhoid Fever and Their Practical Importance. F. NEUFELD.
3. Experimental Contributions to the Question of Iron Therapy. F. MÜLLER.

1.—The paper is chiefly a study of the albumin preparation called **roborat**. It was found to be well absorbed, and the assimilation was fairly satisfactory. It was used on 50 patients with satisfactory results. [D.L.E.]

2.—Neufeld's paper is largely a review of the literature of the question of **typhoid bacilluria**, containing nothing especially new excepting the report of 4 cases. He found urotropin valuable in the treatment of the condition, but insists that this drug should be used for a number of weeks, since if this is stopped there may be renewed infection. He directs especial attention to the importance of a typhoid bacilluria in relation to public health, the urine being even more important than the feces because of the prolonged time throughout which it may show infection. The urine of a typhoid case should be examined by the naked eye at least once daily, and if it is cloudy urotropin should be given and continued for several weeks. Other forms of bacilluria may occur in typhoid fever. An instance of the excretion of large numbers of active colon bacilli through the urine is mentioned. He believes that if urotropin does not overcome the bacilluria it may be considered to be not a typhoid bacilluria. He believes that the use of urotropin in typhoid fever in the army would be of the greatest importance. [D.L.E.]

3.—Müller took newborn pups, giving them only the mother's milk and iron-free food for a long time afterward, and in order to increase the anemia frequently abstracted blood. When the amount of hemoglobin had become very low and constant he gave inorganic preparations of iron, and saw a marked increase in the hemoglobin and red blood-cells, while the same increase did not occur in the other animals that were not given inorganic iron. He estimated the total amount of hemoglobin by drawing all the blood possible and washing the animal's circulation with physiological salt solution until the fluid came out completely colorless. He notes that an average of about 10% of the total hemoglobin was retained in the bone marrow. As to the methods of action of inorganic iron he refers to the view that it is due to excitation of the blood-

producing organs to more active function. He thinks that this is the true explanation, and as testimony for this notes that he found a marked increase of the nucleated red blood-corpuscles of the marrow, and there was a marked increase in the mitoses in the marrow. He directs attention to the fact that many preparations of iron have a caustic effect upon the gastric mucous membrane, and in direct proportion to this effect are they badly absorbed. The oxytartrate of iron does not have this influence, nor do Blaud's pills. They should, therefore, be preferred to caustic preparations, such as the tincture of the chlorid. There is no necessity for using complicated organic preparations. Absorption, he states, takes place through the bloodvessels and not through the lymphatics. [D.L.E.]

Wiener klinische Wochenschrift.

November 8, 1900. [13. Jahrg., No. 45.]

1. A Reflex-Twitching of the Abdominal Muscle, Observed in Pleurisy and Fibrinous Perihepatitis ("Respiratory Reflex of the Abdominal Wall"). RUDOLF SCHMIDT.
2. The Technic of Enterorrhaphy. HERMANN HINTERSTOISSER.
3. The Subcutaneous Rupture of Tendons. L. KIRCHMAYR.

1.—Schmidt details a case in which a **peculiar reflex-twitching** existed in the upper portion of the right abdominal rectus, without any relation to respiration. This "lightning-like" contraction, reaching up to the fifth right intercostal space, occurs upon deep breathing, toward the end of respiration. It could also be caused by pressure upon the painful intercostal spaces. When the epigastrium is drawn in, in forced thoracic breathing, the reflex is increased. It occurs in persons whose reflexes are excited easily and whose muscles are well developed. [M.O.]

2.—Hinterstoisser reports 4 cases in which he performed **enterorrhaphy**, ligating off the longer end of the resected bowel, and attaching it to the abdominal wall, suturing the shorter end into it, above the point of ligation. He also gives the literature on the subject. [M.O.]

3.—Kirchmayr reports 2 cases in which the terminal phalanx of the index finger was forcibly flexed, with **rupture of the extensor tendon**. He gives a similar case occurring in the great toe, followed by operation, the torn tendons being sutured together, good functional recovery following. He reviews the meager literature upon the subject, and concludes that force applied suddenly or gradually will rupture healthy tendons, while degenerated tendons are ruptured even more easily. [M.O.]

November 15, 1900. [13. Jahrg., No. 46.]

1. The Pathology and Etiology of Fulminating Gangrene. FRITZ HITSCHMANN and OTTO T. LINDENTHAL.
2. The Closure of Defects of the Skull by Bone Implantation. KONRAD BÜDINGER.
3. Illustrative Cases of Intestinal Lipoma. FERD. GROSS.

1.—A man, in good general health, came to the hospital for the relief of ankylosis at the elbow joint, between the ulna and radius. Resection of the radius was performed, and to prevent bony union, a celluloid plate was introduced between the resected end and the ulna. This plate had been sterilized by boiling for 10 minutes before its insertion. A few hours after the operation, the patient began to feel severe pain in the arm. His fingers became almost bloodless and cold. On removal of the bandage the circulation improved slightly and also the sensibility. The condition became worse, however, on the next day, and entire hand was anesthetic, cold, and pale. The forearm had a bluish discoloration, and on opening the wound, a foamy serous fluid escaped. Anesthesia continued, and on the next day the process of **spreading gangrene** was well advanced. Amputation was refused, and with the hope of relieving the condition to some degree, extensive incisions were made. This prevented a further spread of the condition, and eventually the line of demarcation formed, and amputation of the forearm at its lower third was undertaken, 8 days after the first operation. The patient made a good recovery from this operation. A very careful bacteriologic and histologic study was made in this case. In the histologic study no

inflammatory change could be found, and Hirschmann and Lindenthal believe that from this study it may be assumed that in this form of gangrene we are not dealing with an inflammatory process, but with a primary necrosis from gas formation and pressure. This single observation they believe is sufficient to show that the commonly accepted ideas as to the pathology of this condition are incorrect. [M.B.T.]

2.—Büdingen reports a case of a boy 5 years old who was suffering from tuberculosis of the left parietal bone. The diseased area was thoroughly removed with a curet and rongeur forceps, leaving two large defects. Ten days after this operation small plates of bone were inserted in the defects in the skull, these plates having been taken from the os calcis of a freshly-amputated leg. The implanted bony plates healed in their position firmly, and a year after their implantation no trace of a bony defect could be felt. After 4 years the child died of general tuberculosis. On examination of the bone which had been inserted very little change in the region could be found. Büdingen recommends the insertion of such plates of bone to supply defects made in **operations upon the skull**. He considers the os calcis particularly well suited for such implantation and emphasizes the necessity for the strictest antiseptic precautions. [M.B.T.]

3.—Gross states that during the last 40 years, 22 cases of **lipoma of the intestine** have been reported. These tumors are of several forms. They may occupy the lumen of the intestine or its outer wall and they may be sessile or polypoid, single or multiple. He reports the case of a man 47 years old who had cramplike pains in the lower portion of the abdomen coming on periodically and lasting but a few moments. A tumor was made out, about 3 cm. in breadth and from 10 to 12 cm. in length, which disappeared on firm pressure with relief of the pain. The abdomen was not distended, it was everywhere soft, not tender on pressure, nor was there any muscle-spasm. On account of the severity of the symptoms, however, an operation was undertaken, and on opening the abdomen a tumor was found within the lumen of the left part of the transverse colon. The intestine was opened by a longitudinal incision and a mass was found the size of a hen's egg covered with normal mucous membrane. It was attached by a pedicle near the mesentery. This pedicle was divided, bleeding points were ligated, the mucous membrane was sutured, and the intestine closed. A good recovery followed. It is believed that the colicky attacks were produced by partial invagination of the intestine from the dragging of the tumor. [M.B.T.]

Berliner klinische Wochenschrift.

November 19, 1900. [37. Jahrg. No. 47.]

1. The Medicolegal Treatment of Border-line Diseases, Together With Some Remarks on Diminished Responsibility. A. CRAMER.
2. The Effect of Bloodletting on Nitrogen Metabolism. G. ASCOLI and A. DRAGHI.
3. The Morphology of Staphylococcus Albus. E. SAUL.
4. Mothers' Milk. M. COHN.
5. Symptomatology of Facial Paralysis. M. BERNHARDT.

2.—The article deals with the relation of **normal nitrogen metabolism** to the blood. Jürgensen states that bloodletting increases the decomposition of albumin just as febrile processes do. Therefore venesection in fevers is an additional causative factor for albuminuria. This should always be considered when venesection is contemplated in fevers where there is already an albuminuria. The author appends 5 tables showing the effect of bloodletting on nitrogen metabolism. On the days when venesection was performed a decrease in the nitrogen metabolism was observed which, according to the author, is probably due to a beginning regenerating functional activity of the organism. [M.R.D.]

3.—Saul, in experimenting with the Staphylococcus albus, comes to the following conclusions: The morphology of the colonies depends upon the principle of **dichotomy**, not in the botanical, but in the anatomical sense of the term. In determining this it is the number of the centers from which the dichotomous divisions originate that must be considered. The colony is not an unsystematic aggregation of cells, but represents the entity of the highest regularity of which the organism is capable. [M.R.D.]

5.—The author concludes his article by presenting a number of cases which showed that there are cases of peripheral lesions in which there is **no reaction of degeneration**. He states that there are cases where contractions are produced on the affected side, in the muscles near the median line of the chin and lower lip, due to the transmigration of fibers from the unaffected side; these are probably congenital. [M.R.D.]

November 26, 1900. [37. Jahrg., No. 48].

1. Flechsig's Opium-Bromide Cure (Ziehen's Modification). E. MAYER.
2. Treatment of Nervous Diseases in the Family. R. GNAUK.
3. Treatment of Septic Infection Emanating from the Uterus. ABEL.
4. The Sensitiveness of Simplified Modifications of the Phenylhydrazin Test for Identification of Sugar in the Urine. A. KOWARSKI.
5. The Medicolegal Treatment of Border-line Diseases Together with Some Remarks on Diminished Responsibilities. A. CRAMER.

1.—The treatment consists of routine administration of opium and the bromides, a very careful diet and cold water treatment. Ziehen emphasizes that the bromides should be given in large doses for about one year. The author believes that the paroxysms are diminished in number and that both bodily and psychic conditions are improved under this treatment. [M.R.D.]

2.—Gnauk discusses the distinctions that are to be drawn in the treatment of nervous diseases in the family and outside of the same. The author believes that in cases in which there are no demonstrable causes, the term "functional" should be avoided. Function is affected in all nervous disorders, and therefore the term functional is not a proper one for purposes of differentiation. There exists between health and nervous diseases the somewhat indefinite conception of **nervousness**. Individuals are frequently seen who show objective signs of nervous disorders like the so-called hysterical stigmata, but who feel healthy and are not incapacitated. The treatment of nervousness is doubtlessly no less important than the treatment of the diseases which may result in consequence of neglecting this condition. The author believes that there are cases which are especially adapted for home treatment, among these being patients who have remained too long in an institution and have accustomed themselves to this form of existence. In these cases, while the disease may have been somewhat checked, the improvement nevertheless did not continue above a certain level, since the pathological condition, as it were, accommodated itself to the conditions and environments of the institution. Furthermore, there are individuals who possess an unconquerable antipathy towards institutions. To this category also belong cases of nostalgia. In no form of disease is uninterrupted contact with the physician of such importance as in nervous disorders. The attention that the physician pays to the treatment of symptoms is often fruitful of astonishing results. This is particularly the case in treating individual organs like the stomach, pelvic organs as well as internasal conditions. Remedies will frequently have to be employed which in other individuals with the same symptoms would not be necessary. [M.R.D.]

4.—The author claims that his method is of value in routine practice. It consists of the following: Five drops of pure phenylhydrazin and 10 drops of strong acetic acid are agitated in a test-tube. To this is added about 1 ccm. of a saturated solution of sodium chlorid, which causes the mixture to assume a thick consistency. Two to 3 ccm. of urine are then added and the whole mixture heated for no less than 2 minutes; by allowing it to cool slowly a yellow precipitate consisting of the typical phenylglycosazon crystals will result. The rapidity of precipitation depends upon the amount of sugar contained in the urine. When the sugar present exceeds 0.2% the precipitate forms in a few minutes; when less sugar than this is present 5 minutes to half an hour will elapse before the reaction is complete. This is a very sensitive test and permits of the detection of even less than 0.1% of sugar, according to numerous experiments made by the author. [M.R.D.]

Revue de Médecine.

December 10, 1900. [20me Année, No. 12.]

1. Etiology of Viteligo. E. GAUCHER.
2. Reeducation of the Movements of the Heart by Methodic Exercises. F. LAGRANGE.
3. Variations in the Quantity of Oxyhemoglobin in the Blood of Nurslings Treated by the Injection of Artificial Serum. M. LABBÉ.
4. Morphin Replaced by Heroin. No Euphoria. No Toxicomania. Treatment of Morphinomania by Heroin. A. MOREL-LAVALLÉE.
5. Contribution to the Study of Pleurotypus and of Pleurisy Due to the Bacillus of Eberth. P. REMLINGER.
6. Notes on Chinese Medicine. Opothrapy in China and Indo-China. J. REGNAULT.
7. Gastric Crises and Syringomyelia. R. PAULY and R. POULY.
8. The Origin of the Leukocytes in the Marrow of Bone in the Normal State and in the Infectious. O. JOSUÉ.

1.—Gaucher has classified the **pigmentary dystrophies of the skin**, according to their etiology, as follows: (1) Viteligo with nervous etiology and nervous pathogenesis, symptomatic or trophic viteligo, such as the pigmentary cutaneous changes of diseases or lesions of the nervous system; (2) pigmentary dystrophies with toxic etiology and nervous pathogenesis. This class includes (a) the hyperchromias of toxic origin, of which arsenical melanoderma is the type; (b) the cutaneous achromias and dyschromias of toxic-microbic origin, such as the leukomelanoderma of syphilis and the white patches of leprosy; and (c) true viteligo, of autotoxic origin, in relation with a previous disorder of nutrition. [J.M.S.]

2.—The article will be abstracted when finished.

3.—**Subcutaneous injections of artificial serum** have a considerable action on the condition of the blood and their repetition produces a marked anemia. Labbé, from a study of 24 cases, concludes that the blood of the newborn contains a higher percentage of **oxyhemoglobin** than the blood of the adult. In healthy infants the blood contains from 15% to 16% of oxyhemoglobin. This proportion diminishes during the first 10 days of extrauterine life to 14%. The blood always contains a high percentage of reduced hemoglobin. The various pathologic conditions in the nursling have a less marked influence on the quantity of oxyhemoglobin than upon the weight and the temperature; for example, in enteritis the loss of liquids by diarrhea and vomiting is very considerable and thus produces a relative concentration of the blood and the oxyhemoglobin is reduced in small proportion or not at all. In children who have been submitted to treatment by the subcutaneous injection of artificial serum, particularly when these injections are prolonged beyond 20 days, there is, in spite of a marked improvement of the general condition and a rapid increase of weight, a progressive diminution of the quantity of oxyhemoglobin. This constituent of the blood may suffer a reduction of as much as half its normal amount, so that it is present in about 8 or 9%. On this account the child presents a pallor of the skin which appears at first sight to be pathologic. This diminution of oxyhemoglobin is not due to the reduction of the red blood-corpuscles, because these elements are not altered by a 0.7% solution of sodium chlorid when the proportion mixed with the blood does not exceed one-fifth. The cause of the change should be sought, then, either in the dilution of the blood, which is incompletely compensated for by the osmotic phenomena between the blood and the lymph; or in the exhaustion of the hematopoietic organs which have been overworked by the task that the artificial serum imposes upon them. The appearance of this progressive anemia indicates that it is best not to prolong the injections too far in children. [J.M.S.]

4.—From his studies of **heroin**, Morel-Lavallée concludes that that drug may be used in all cases in which morphin is indicated, because the former has an antialgic power almost equal to, and a hyperogenic power superior to that of the latter drug. Heroin lacks the greatest inconvenience of morphin, namely, that of producing the agreeable sensations that follow the injection almost immediately, and which incite the patient to use the drug for the pleasure of the thing, even after his pain is cured. Heroin controls pain well, but without that wonderful quickness that is char-

acteristic of morphin; the disappearance of suffering is progressive, relatively slow, and is often accomplished without the patient being conscious of the fact; then no **euphoria** replaces the pain after the injection. There is nothing, in fact, holding out an inducement to the patient to repeat the dose of the drug, and no one will ever become a heroinomaniac. Heroin, in small doses, and kept up just below the somniferous dose, produces without euphoria or any temptation to replace one form of intoxication by another, a sensation of warmth that pervades the entire being and, in the morphinomaniac who feels the need for the drug, stops the enervation and the gnawing of the cold depression; whilst the supporting ration of morphin permits of this result only by increasing the amount, heroin produces the result, at least for the small morphinomaniacs, without giving rise to a necessity for increasing the dose. The therapeutic dose remains in all cases below the narcotic dose which, on account of the profound sleep that the new alkaloid determines, is a guarantee against the danger of poisoning. In the serious question of the **treatment of morphinomania**, it is a true progress to have found the means of doing away with the slow method of suppression by doing away at once with morphin without the knowledge of the patient and continuing the supporting rations of hypodermics with identical effect, except that the euphoria does not accompany the injection. [J.M.S.]

5.—Remlinger has studied the **pleurisies that complicate typhoid fever**. He reports 8 cases. These attacks of pleuritis are almost always caused by the bacillus of Eberth, and the pleurisies due to the microorganisms of secondary infection are the exception. The effusion may be serous, hemorrhagic, or purulent. A serous pleurisy preceding the appearance of mild typhoid fever, or even of an attenuated typhoid fever only manifested by an embarrassment of the gastric functions, is a distinct morbid entity. The author calls this pleuro-typhus. The prognosis of the pleurisies that appear in the course of typhoid fever depends upon the character of the effusion; if the effusion is purulent, the prognosis is grave. The purulent infection of the effusion depends upon the period of the appearance of the fluid; a pleurisy appearing late is apt to be purulent. Whether the effusion is serous or purulent, it offers considerable resistance to absorption. In one case the effusion persisted for 75 days. The most interesting peculiarities of these pleurisies are their usual involvement of the left side, their subacute evolution, and their tendency to become sterile by progressive attenuation of the virulence and then by the complete disappearance of the bacilli of Eberth. A very interesting class of pleurisies due to the typhoid bacillus is that in which the pleural lesion results as a secondary infection in the course of some other disease. In 2 published cases a pleural effusion containing the *Bacillus typhosus* developed in the course of tuberculosis. This particular point in the history of pleurisies due to the bacillus of Eberth merits special study. A tabulation of 23 published cases, in addition to those reported in the body of the paper, is given. [J.M.S.]

7.—R. Pauly and R. Pouly (Pauly) publish the history of a case that shows the possibility of the occurrence of **gastric crises** in the beginning or in the course of **syringomyelia**. This is a new point in the relation between syringomyelia and tabes. The patient was a man, 40 years old, who presented lightning pains, gastric crises, and an osteoarthritis of the right foot. The diagnosis of syringomyelia was made from the absence of the sign of Romberg, the Argyll-Robertson pupil, the exaggeration of the knee-jerk on one side and its normal character on the opposite side, preservation of sensibility to contact, disorders of the sensation of pain, and thermo-anesthetic troubles in the lower extremities. If these latter symptoms had been reversed the diagnosis would have been more difficult. [J.M.S.]

8.—Josué has found that in the infections the **bone-marrow** plays an extremely important role in the production of **white blood-corpuscles**. The normoblasts are not concerned in the formation of leukocytes, being only interested in the production of red cells. By histologic methods the author has demonstrated all varieties of leukocytes, except the lymphocytes in the marrow, in uninterrupted series from myelocytes through the stage of large mononuclear leukocytes to the polymorphonuclear forms. It should be remembered that the polymorphonuclear forms

are augmented in the majority of the infections. The experiments also show that the products of the growth of the staphylococcus have the power of starting the leukocytopoietic activity of the bone-marrow, thus explaining the curious reaction that even a circumscribed suppuration produces in the bone marrow. It seems not to be the nervous system that determines the reaction, but rather that the products of microorganismal growth act directly on the bone-marrow after reaching it through the blood-paths. [J.M.S.]

La Semaine Médicale.

January 2, 1901.

1. On the Medical Treatment of Hepatic Colic with a View of Preventing Recurrence. M. A. CHAUFFARD.
2. Evolution of Medical Doctrines of the Nineteenth Century. LÉON CHEINISSE.
3. The Occlusion of the Superior Mesenteric Artery at the Junction of the Duodenum and Jejunum.

1.—Chauffard mentions the relative frequency of cholelithiasis in private practice among the better classes and its comparative rarity among the hospital cases. He criticises the fact that most physicians rest content when they have allayed the acute suffering of the **hepatic colic** without proceeding systematically to treat the case medically with a view to its complete cure. He deplores surgical intervention, remarking that while the cure may be attained temporarily, the same conditions exist for the formation of additional calculi. He thinks the chief factors which should be considered in any proposed treatment must include efforts to check the reflex excitability of the gallbladder, to prevent the formation or increase of gallstones, to increase the biliary circulation by rendering the bile more fluid and more abundant, to maintain the bile in an aseptic condition. He believes these conditions may be met medically, but that prolonged treatment must be instituted to insure success. The treatment should be interspersed with frequent periods of cessation of medication. He places **salicylate of soda** in the first rank as meeting the indications outlined. The drug should be administered carefully, in doses of from 1 to 2 grams per day. The condition of the kidneys must be watched and the cumulative effect of the drug borne in mind. Frequently Chauffard adds a gram or two of **Carlsbad salt** to the treatment. This treatment should be rigorously followed for 9 or 10 days consecutively of each month and continued for many months. He believes it will only be by long-continued use that the permanent cessation of the attacks may be brought about. He has also found **Harlem oil** of great value as an adjuvant to this treatment. He advises the alternation of the **benzoate** with the **salicylate of soda**. Alkaline baths, exercise, massage, and careful attention to personal hygiene are very important. He appends the history of 2 cases illustrating the gratifying results of this treatment. [T.L.C.]

3.—In the superior portion of its insertion to the vertebral column the mesentery crosses the third portion of the duodenum, with the result that in this last portion a loop is formed and the tension is increased by the presence, at this level, of the **superior mesenteric artery**. Occlusion of this artery is not a common condition. The author has collected 24 reported cases. It is probably dependent upon some anomalous condition, and the tendency to occlusion seems to be increased by a weakened physical state. It has occurred during the simple administration of chloroform, when no operation has been undergone. Ptoisis of the intestine increasing the mesenteric tension, and acute dilation of the stomach, as well as vague nervous derangements, have been said to produce the condition. The general symptoms would be those of high obstruction generally. The persistent vomiting would remain bilious in character and not become fecal. Constipation, as a rule, is absolute, following, perhaps, one passage of feces which was present in the lower bowel. There is considerable hypogastric tympany; no fever; a pulse ranging as high as 120. The measures for relief are at first simple. The patient is placed either in the knee-chest position or lying flat on the abdomen. Absolute diet is insisted upon. Rectal nutrient enemata may be employed and gastric lavage practised. These measures failing, **gastro-enterostomy** is our last resource. [T.L.C.]

Original Articles.

SCURVY, NOT RHEUMATISM,

With a Report of 16 Cases of Infantile Scurvy.*

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Of all the diseases of infancy, that denominated "infantile scurvy" is, in most instances, one of the easiest to recognize as it is to treat. In a few, however, it offers considerable difficulties, and in some it seems to be one of the stumbling-blocks of physicians who have seen either little or nothing of the affection. This is generally because the symptoms simulate at first other affections, particularly rheumatism. On this account it may be of value to detail the following 16 cases, all of them seen within little more than 18 months, and 9 within 6 months before the date of writing this report. Most of them illustrate the likeness to which the title of the paper refers and the mistakes which have arisen. In a few the diagnosis offered no difficulties.

CASE 1.—A lady from Wilmington was one day telling me of the serious attack of rheumatism her little grandchild was experiencing under the care of homeopathic physician of that city. The little girl had for weeks been suffering severe pains, especially in her legs, and had not improved in spite of treatment. I felt free to say in response to her anxious questions, "Mrs. —, I cannot tell you positively what your grandchild has, but I feel practically sure it is *not* rheumatism."

On June 1, 1899, the child was brought to me, and the following history given:

Marion B., 18 months old. Though delicate originally, she had been in good health for months. The feeding had been varied: Malted milk for the first few weeks of life, then Reed & Carnrick's food, next Robinson's barley, and finally Imperial Granum. The latter had been commenced in September, 1898, and continued for the 9 months preceding the time of examination. It was boiled in water and then mixed with milk, which had been scalded only, no prolonged heating being used. In the last part of March, 1899, the child, then 16 months old, developed pain in lifting the right arm. This soon disappeared, but returned. Next her legs grew painful. Early in May the gums of the incisor teeth, especially of the lower jaw, became swollen and red and bled easily. A change in diet at last was ordered by the physician, who now probably suspected that his earlier diagnosis of rheumatism had been incorrect. She was already somewhat better when I saw her.

A necessarily hasty examination showed the child very pale, and with the gums slightly affected. The treatment ordered consisted of orange juice, raw milk, beef juice, the withdrawal of Imperial Granum, and, later on, the giving of eggs, oatmeal, and a more extended diet. Improvement was very rapid.

One must remain in doubt here regarding the cause of the disease. It is possible that the too early and free use of cereal food may have had some influence, though I am by no means sure of it. Perhaps the child had required a more varied diet.

CASE 2.—Mr. C., of one of the neighboring towns of New Jersey, asked me to visit his child, which I had treated about 6 months before. He stated that the baby cried nearly all the time, night and day, and that it appeared to have rheumatism in its legs. The physician in attendance had been unable to reach a positive diagnosis, but inclined to rheumatism, and had treated for this.

The child was seen on April 10, 1899. Its history and appearance were as follows:

James C., 14 months old. He had been plump and hearty, and never ill, except for a curious convulsive condition when about 7 months old. He had been fed on Malted Milk, except for a very brief interval, until November, 1898, when Just's food with sterilized milk was substituted. About February 1, the gums became sore, and about 3 weeks later both knees became swollen. The child lost strength and weight, and often cried as though in pain. Finally, he cried most of the time, and grew unable to straighten his legs. There had been some bleeding of the gums.

Examination showed a pale but well-nourished baby. While sitting he kept the legs flexed and hanging downwards as though paralyzed, giving much the appearance of the paralysis of a poliomyelitis. There was some tenderness of the knees and a distinct enlargement of the right tibia. The gums of the incisor teeth were red and swollen. The head was slightly rachitic and a rickety rosary was present. The diagnosis of scurvy was clear.

I ordered the administration of orange juice and beef juice, the withdrawal of Just's food, and the use of raw milk. Improvement was immediate. The constant crying stopped almost at once, and in a very few days all pain, pseudoparalysis and redness of the gums had vanished.

Here, again, it appears that a dietetic error was certainly the cause of the disease, but the exact nature of this is uncertain. The simulation of rheumatism on the one hand and of paralysis on the other, was very striking.

CASE 3.—"Doctor," said Dr. —, as I met him at a suburban railroad station, "I have a puzzling case I want you to see. The child appears to have rheumatism, but I wanted to ask you whether this is not a very uncommon disease in infancy."

I replied that it certainly was so in my experience. Making a mental "snap diagnosis" I presently asked: "How are the child's gums?" Hearing that they had been very much inflamed, the diagnosis of scurvy now became very probable.

At the house the following clinical history and results of examination were obtained:

Rosemary MacN., 1 year old, seen May 6, 1899. She had suffered from malnutrition in the early months of life, but later became plump and hearty. She had been fed on Mellin's food and sterilized milk. About 6 weeks previously the left knee became painful, and then the right. Very soon the middle of the right thigh grew thicker and was painful when touched. Only for the last 2 weeks had the gums been swollen and purplish. Quite recently there had been some pain in one arm. Antirheumatic treatment had been given without effect.

Examination showed the right thigh swollen and hard. There was no involvement of the joints. The knees were flexed most of the time. The child let its legs hang as though they were paralyzed. The gums of the upper incisors were swollen and deeply purple-red.

I gave it as my opinion that the baby had scurvy, with which the attending physician entirely concurred, saying that he felt as though "scales had fallen" from his eyes.

The child was ordered raw milk, Mellin's food was withdrawn, and orange juice prescribed. Pain disappeared and health was regained with very great rapidity.

Dietetic error was clearly the cause in this case also. Whether this was due to the use of Mellin's food or to the sterilization of the milk cannot be definitely determined.

The following case of scurvy, occurring in Germantown, is of interest only from an etiologic point of view. Dr. Th. C. Potter, with whom I saw it, had already made the diagnosis.

CASE 4.—Roland F., 9 months old, seen February 19, 1900. The child had been healthy and well nourished. He had been fed on Mellin's food, with which was mixed milk and water, which was heated but not quite to boiling. About 4 weeks before seen by me he developed fever and great pain when his right leg was moved. No swelling could be found at that time. This condition continued about 36 hours, and

* Read at the meeting of the Philadelphia County Medical Society, December 26, 1900.

afterwards appeared intermittently, lasting a couple of days at a time. Finally it developed more persistently, accompanied also by edema, and last by involvement of the gums.

Examination showed the right leg and thigh edematous and somewhat painful on passive movement. It could not be determined whether the tibia was thickened or only the soft tissues affected. The gums of the upper incisors were quite swollen and purplish.

The child was put upon orange juice, Mellin's food was withdrawn, and the milk not heated above body heat. Recovery was very rapid.

In this case we can at least exclude any deleterious action of prolonged high temperature upon the milk, since this was at no time employed.

The intermittent nature of the pain as often seen in this disease is also well exemplified.

CASE 5.—The next case is one of peculiar interest from the fact that it was brought to the Surgical Out-patient Department of the Children's Hospital, on account of pain in one hip, which rendered the diagnosis of hip-joint disease probable. Dr. Jopson carefully examined it there for the existence of coxalgia, and decided to apply an immobilizing dressing as a provisional measure. This was worn for some days, the child meanwhile visiting the dispensary once or twice. Finally, at its visit on May 19, 1899, the other hip was also found to be painful. Dr. Jopson then decided that the affection was scorbutic and referred the case to the Medical Department, where the following history and examination were obtained.

George T., 13 months old. He had been fed on condensed milk for the first 4 months of life; next on Mellin's food until 8 months old; and since then on Malted Milk. He thrived indifferently well, but for 5 months sweating had been profuse. He had been very fretful recently.

Examination showed the child plump and of good color, with no osseous symptoms of rickets, except slight beading of the ribs. Movement at both hip-joints and both knees was very painful. There was no affection of the gums. A slight petechial eruption was present over the dorsum of the feet.

The diagnosis of scurvy seemed very certain. The baby was ordered orange juice, beef juice, and a mixture of milk and water which was to be scalded. In a very few days he had evidently much less pain, and could move the legs more freely. The eruption was disappearing. In a few days more the symptoms of scurvy had entirely vanished.

It is clear that sterilized milk was not an etiologic factor in this case, since no milk was added to the Horlick's food. In fact, the use of scalded milk was one of the therapeutic means employed in the treatment of the disease.

CASE 6.—The next case was a child of a physician and had been under my care. I can offer no excuse for a failure to make the diagnosis earlier than I did.

Joseph C. A., born March 28, 1898. He had been a healthy, well-nourished child, and had been thriving for months on a sterilized mixture of cream, milk, and water, with dry malt extract. When 7 months old, he was exposed considerably on a river trip and, a few days later, just before the end of October, he became cross and fretful, and lost his appetite to some extent. For the last 3 days he would cry out suddenly while in the arms, as though afraid or in pain. The pain seemed to be situated chiefly in the legs.

Examination by me on October 31, 1898, showed a large, fat child, with slight beading of the ribs. Forcible extension of the right leg made the child start and cry. No swelling or redness could be discovered anywhere. There was no affection of the gums. The 2 lower incisor teeth had been cut.

The history of exposure made me underestimate the possibility of scurvy, and I made a provisional diagnosis of rheumatism of the right knee, and asked the father to report in a few days.

The report did not reach me, however, until nearly a month later (March 23). The child had continued fretful and with pain in the right leg. For a few days he had had pain in the other leg also, and had seemed unwilling to move

either of them. Passive motion of them often gave pain. There was some sweating of the head. About a week ago the upper gums in front looked like a "blood blister" but this had improved.

I at once made the diagnosis of scurvy, and visited the child the next day. Examination then showed the gums of the upper incisors swollen and a little red; no discoverable swelling of the tibiae, some beading of the ribs.

I ordered orange juice, the withdrawal of malt extract, and the stopping of all cooking. In 2 days the pain was nearly and in 5 days more, entirely gone.

It is impossible to be sure in this case whether the scurvy was due to the addition of malt extract or to the sterilizing of the milk, or to some other cause. I was unwilling to make a therapeutic test to determine this.

CASE 7.—The following case was interesting on account of the long continuance of the attack, about 6 months in all, and of the difficulty in diagnosis which it presented. The attributing of pain to a trauma is worthy of note.

The case occurred in the family of a prominent resident of Easton. The father called upon me on June 14, 1899, to talk over the condition of his child, the nature of whose ailment had not, he said, seemed clear to several physicians who had been in attendance at different times. One had insisted that the child must have had a fall, while others suggested the possibility of rheumatism. From the father's description of the symptoms, I felt it extremely likely that the case was one of scurvy. Two days later I saw the child and obtained the following history and examination:

E. D. W.; 16 months old. His nutrition had at first been very poor, and he weighed but 9 pounds at 4 months of age. At that time he was taking Eskay's food and sterilized milk. Later different foods were tried, such as Horlick's, Mellin's, and egg albumen. Finally a return to Eskay's food was made and this diet was continued. About February 1, or late in January, the child, being then about one year old, suffered from swelling and tenderness first of one knee, and then of both. He could not use the legs at all. Next one arm became painful. The pain in the arm was intermittent, and to some extent that in the legs also. Beef juice was commenced in February and continued until warm weather began. During February and March he lay on his back with his feet drawn up and making very little movement of his legs. In April and May he was better and had very little trouble except for a short relapse in April. About the end of May he grew much worse. For about two weeks before he was seen the gums had been "congested." On May 31 he had nosebleed and developed an ecchymosis about both eyes, giving the appearance of a large bruise. The gums bled on June 8. Since then they had been purple. Severe nosebleed occurred on June 7, and from this time the child had been pale, languid, and weak, unable to sit up, and had edema, rapid respiration, loss of appetite, a poor digestion, and rather frequent vomiting.

Examination showed a child fairly well nourished but looking very ill, quite anemic, and with the legs and feet very edematous. Every touch of them elicited cries of pain. Movement of the arms was painful. The ecchymosis of the eyes had disappeared, no subperiosteal swellings were discoverable in the arms and legs and no petechiae found. The gums of the upper incisors exhibited a slight purplish tint. The fontanelles were opened, the ribs beaded, the epiphyses of the wrists enlarged.

In the way of treatment, there was ordered the juice of one orange daily, one ounce of beef juice 3 times a day, the withdrawal of Eskay's food, the giving of equal parts of milk and water which should be pasteurized at first but raw after a few days, the administration of iron, and the removal to the seashore. This treatment was commenced at once, the child being taken to Atlantic City on June 19. On June 21 he was able to sit up and by June 22 all evidences of pain had disappeared. Ten days later all edema had vanished, the color was returning and the child was playing. The after-history is uneventful. The symptoms of scurvy remained absent and the rickets slowly disappeared under treatment and in 6 months was nearly gone.

The diagnosis in this case was clear. The prognosis

was somewhat uncertain at first owing to the very greatly impaired strength of the digestion, the marked anemia and the edema. The result, however, was brilliant, as it usually is in this disease.

CASES 8 AND 9.—In March, 1900, I received a letter from a physician asking me to see with him a case of rheumatism in a baby living in Germantown. Before we reached the house, he told me that he had used antirheumatic treatment in vain, and that he was beginning to suspect the existence of scurvy. In fact, he had recently ordered fruit-juice and vegetable soups, which, however, we found that the mother had not given, as the diet seemed to her unreasonable.

In the diagnosis of scurvy I entirely concurred after seeing the child—or rather the children, for the interesting feature is that we had here scurvy occurring in *twins*. One of these cases was, without exception, the worst I have ever seen. The history is as follows:

CASE 8.—Wallace McC., aged 13 months, visited March 25, 1900. The child had been fed on Mellin's food with sterilized milk from the age of 5 months. About 11 weeks before seen by me the gums had become purple. About 3 weeks later pain and edema developed in one leg below the knee and then extended to all the extremities. The child had become unable to move its legs in the slightest degree. There had been profuse sweating. The condition of the arms had later improved considerably.

Examination showed an anemic and evidently ill and suffering child. He lay helpless on his back with his legs extended and swathed with cotton and wrappings. He was bathed in perspiration and wet with urine, for pain on motion was so great that moving, dressing, or changing of the child seemed almost impossible. He was indeed a pitiable object. Both legs and both thighs were greatly swollen throughout. Subperiosteal thickening of the tibiae was easily discoverable and there was distinct thickening and tenderness of the right clavicle. Slight beading of the ribs was present. The fontanel was nearly closed. The gums of the incisor teeth were somewhat swollen and red.

He was ordered orange juice, beef juice, and cod-liver oil with iron, and the use of raw milk without Mellin's food. Improvement was rapid, and in about a week pain had practically disappeared.

CASE 9.—The twin brother, Lansing McC., had been fed in a similar manner and developed the disease at the same time, 11 weeks before I saw him. The first symptoms were redness of the gums as in the other case. After 3 weeks—as in the first case—pain developed in the legs and arms. This had, however, been much less severe than in the brother and had later disappeared. He had never been incapacitated by it.

Examination showed a well-nourished child with a pasty, anemic appearance. The gums were swollen and very red. There was no discoverable pain or edema anywhere.

The treatment ordered was the same as in the last case and the improvement was as rapid, although not, of course, as striking, since the condition was so much less grave.

These 2 cases are extremely suggestive. It is a curious fact that the disease developed at the same time in both children upon food which was not different from that used for months, and which had apparently agreed perfectly. The reason for this we can hardly understand, unless we assume the existence of an infection, and for this we have hardly sufficient ground. Again, it is interesting to note that whereas the symptoms in one brother ran to edema and subperiosteal involvement, in the other the chief characteristics were the marked anemia and the affected gums.

CASE 10.—The following case is to me extremely interesting from the point of view of the causative influence of food.

Lawrence MacE., 8 months old when seen first on January 27, 1900. The child was a wretched, marantic specimen, always suffering from indigestion and diarrhea. He had been fed for the first 2 months on the breast and bottle, then

solely on Malted Milk, and then on condensed milk. When 5 months old he was placed upon barley water and white of egg for 2 months and, finally, for the last month upon Mellin's food. When first seen he exhibited some edema of the feet and of the cheeks. Involvement of the limbs and of the gums was looked for, but not found. I started the child upon raw, laboratory percentage milk, which contained barley water and a very low proportion of proteids and of fat.

On February 19, 1900, before circumstances had permitted more than a very slight increase of the percentages, the gums of the upper incisor teeth were found to be swollen and very purplish. Orange juice was at once ordered and continued, and the symptoms of scurvy rapidly disappeared. No immediate change was made in the food, although later, and as soon as the digestive power improved, the percentages were raised.

It is impossible in this case to determine whether the disease began to develop when the child was upon Mellin's food, as indicated by the edema, or whether the involvement of the gums marked the onset of the disease, which was then to be attributed to the very low percentages of the milk mixture. It is to be noted that a certain small amount of starch in the form of barley water was present in the food ordered, but that there was no cooking of the food whatsoever. I am inclined to view the edema as the earliest symptom.

CASE 11.—The next case illustrates, as many of the others have done, the simulation of rheumatism by scurvy. It also illustrates the development of scurvy independently of any heating of the food, and upon nourishment which seemed perfectly suited in every way.

Emily J., first seen when 4 months old. She had been a fairly healthy child, and was well-nourished, although not gaining much weight. None of the various methods of feeding previously tried had agreed well. I placed her on a raw low-percentage mixture of laboratory modified milk with barley water. This agreed nicely, and the weight steadily increased. By the middle of March, 1900, when 6 months old, she was the picture of perfect health, jolly, rosy, plump. She was now taking a mixture of fat, 3.75%; sugar, 7%; proteid, 1.50%.

In April the child lost appetite, was fretful, and ceased to eat much or to gain in weight. The fat percentage was tentatively reduced to 3.50%, and finally to 3%, owing to continued indigestion. About the first of May she commenced to have pain in the legs, only discovered when they were handled in a certain way, and apparently situated somewhere about the ankles. There was still no gain in weight, owing apparently to the occurrence of a sharp bronchitis with fever. She grew pale and had continued signs of indigestion.

Examination on May 18, at the age of 8 months, discovered pain on passive movements of the legs and indisposition to active movements of them. There were no swellings, edema, or affection of the gums. The child had cut no teeth.

The diagnosis of incipient scurvy was made and the child given orange juice, beef juice, salt baths, oil massage, and, later, codliver oil internally. The 1.50% of proteid was increased to 1.75. The mixture was pasteurized and barley water was stopped.

In a week the pain had practically gone, and the child had begun to increase in weight. By the end of May she was doing well, and the percentages in the food were now increased to fat 3, sugar 7, proteid 2.25.

What is most interesting about this case, apart from the simulation of rheumatic pain, is the fact that the scurvy developed on a mixture in which no heat was employed and in which the percentages seemed to have suited admirably. I am inclined to think, however, that possibly a still greater increase of proteid was needed; yet it is to be noted that recovery began after a very inconsiderable increase, .25%, of the proteids was made, which seems to show that the orange juice was the curative agent. It is conceivable that the barley water may have been an etiologic factor. Pasteurization

was commenced after scurvy had appeared and was continued on account of the weather being quite warm, and for fear that changes might be taking place in the food.

CASE 12.—The following case is like the last in that the cause of the attack probably consisted in a deficiency in the amount of proteids. Yet this is not certain.

Mary C., 3 months old when first seen, December 29, 1899. The child, always bottled-fed, had never thriven in spite of various changes in her diet, and was a feeble, emaciated specimen with extremely weak digestion. I gave her a pasteurized low-percentage laboratory milk with barley-water, and gradually increased this in strength. The child meanwhile did remarkably well, and by the end of June, 1900, being then 10 months old, had gained 7 pounds in 5 months. By this time the percentage strength equalled, fat, 3; sugar, 7; proteids, 1.25. For 2 weeks the child seemed to have pain when the chest was grasped or the legs moved. Orange juice was given for 3 days, and the pain diminished, but as this seemed to produce diarrhea it was stopped. A little later the proteid percentage was raised to 1.50, and then to 1.75. As this caused diarrhea it was again reduced to 1.25. About the end of July pain returned in force. The child was so tender all over that it would move no more than its head, and its cries, when touched, were pitiable. There was never any discoverable swelling of the limbs or affection of the gums. Orange juice was again given, and in less than a week all pain had gone completely.

The laboratory milk mixture in this case had been pasteurized from the beginning, and was still so during and after the attack of scurvy. The heating of the food may therefore probably be dismissed as an etiological factor. As stated, it seems most likely that the cause was a low proteid proportion.

CASE 13.—This next case is very like some of the preceding in its simulation of rheumatism, and like 2 others in that the possibility of the influence of trauma had been entertained.

Towards the end of June, 1900, a medical friend asked me about his baby of nearly a year who, he thought, was suffering with rheumatism. Yet, he said, he was not sure, as he had always understood that rheumatism was unusual in infants. He had thought, too, of neuritis, but had excluded this. I suggested that the affection was probably scurvy, and urged that he give orange juice and change the diet. On June 27, the father sent me a full account of the case, which I abridge:

The child was 11 months old. He had been fed since the second or third month on a scalded mixture of cream, milk, and water, with Eskay's food added. He had always been healthy and fat, but had no teeth. The first symptoms of scurvy were manifested early in June. The child did not move its legs nearly as freely as formerly, seemed to have pain somewhere, and would no longer make an effort to stand when held upon his feet. There was no swelling of the legs. The nursemaid was very careless, and it was feared that at some time the baby had had a fall. It was also thought that the baby might have taken cold from a careless use of damp diapers. Careful examination showed the right ankle tender when the foot was move passively, and, after a few days, the left limb also, at some of the joints. The child did not move its limbs willingly. The upper extremities were never affected. Salicylate of cinchonidin was commenced in small doses, and Eskay's food discontinued. Improvement within a day or two was very great. The salicylate was given only for 1 or 2 days, and then replaced by orange juice. Within 2 or 3 days after orange juice had been started all pain disappeared, and the child moved its limbs as freely as it had ever done.

The salicylate may have had an analgesic action, although certainly not a curative one; but it is very possible that the stopping of the Eskay's food was the chief therapeutic factor. The milk mixture had been scalded previously, and this was not stopped later.

CASE 14.—This case is still another instance of the mistaking of scurvy for rheumatism.

I was asked by Dr. F. B. Gummey, of Germantown, to see with him a little patient of his, who was being treated unsuccessfully for rheumatism in one of the New Jersey seaside resorts. He believed the disease to be scurvy, and had advised antiscorbutic treatment, but the local physician still could not abandon his earlier diagnosis of rheumatism. On July 13 I saw the case with both physicians, and concurred in the diagnosis of scurvy. The history and result of the examination were as follows:

William F., aged 9 months, had never been ill previously. He had always been fed on a sterilized milk-and-water mixture. About 2 weeks before seen he developed a widespread eczematous eruption, fever, pain on movement, and slight redness of the gums. This condition continued, with some irregularity of the bowels and evidence of impaired digestion. Except that grasping the child's chest seemed sometimes to give pain, the suffering soon centered itself in the legs, and was intermittent. Swelling of the lower extremities soon developed. There had been considerable sweating.

Examination showed an exceptionally hearty and well-developed child. The lower extremities were edematous, especially the legs and feet. No subperiosteal thickening could be discovered, nor any distinct involvement of the joints. The child was unwilling to move its legs, and passive movement gave pain. The gums were red, but not swollen or actually purple. There were 7 teeth, the fontanel was of normal size, and there had been but slight beading of the ribs. Orange juice and beef juice were ordered, and sterilization was stopped. Recovery was prompt.

In this case it appears very probable that the sterilization of the food may have been the cause of the disease, yet this is not certain.

The last 2 cases show the existence of hematuria as a prominent symptom of scurvy.

CASE 15.—As in Case 6, I admit that I failed to make an early diagnosis; in fact, was misled entirely as to the real nature of the malady, and even later could not for some time make myself believe that it was really scorbutic. The case was a most perplexing one and the possibility of scurvy being present was by no means forgotten. The history is as follows:

Richard P., born July 22, 1899. The child was fairly well nourished, though decidedly below weight and having a tendency to sour vomiting. He had been fed constantly on Mellin's food and a very fat milk. On November 15, 1899, at the age of 4 months, he was first put upon raw, laboratory percentage milk, to each bottle of which the mother added a teaspoonful of Mellin's food. The child did well and gained weight, the proportions of fat, sugar, and proteid being increased from time to time as indicated, the fat, however, being somewhat low on account of the vomiting. Possibly due to this fact, some symptoms of rickets developed. The symptoms of rickets soon began to improve decidedly under a stronger diet, and early in February the child looked and seemed remarkably well. He was now digesting a milk mixture of the strength of fat 3.25, sugar 6, proteid 1.25.

On February 17, the baby being then 6 months old and in excellent health, I was sent for hurriedly on account of what was supposed to be an injury of the left arm. The mother strongly suspected that the nurse had hurt the child in some way. The arm had suddenly become painful and the child would not move it. Examination showed no discoverable cause for this. The gums were examined and found normal. By the next day the arm was entirely well and the condition was attributed to a slight wrench or similar cause.

On February 27, 10 days later, the baby became fretful and seemed to be in pain. Although he constantly moved his hands to his ears and pressure about them was painful, yet it was observed that passive movements of the legs also gave pain. The gums appeared normal. By March 3, earache had disappeared and the legs were clearly free from pain. The child now appeared to have pain in the abdomen. The left knee and ankle had become decidedly edematous but were not painful on passive movement. The gums were somewhat swollen but not red. The urine contained a small amount of albumin.

Again suspecting that I might possibly be dealing with scurvy, I ordered the Mellin's food to be omitted from the

mixture. On the next day a sharp bronchitis with fever developed. Movements of the legs caused no pain, and the swelling of the left leg was somewhat less. The urine was smoky in appearance and contained abundant albumin and numerous red blood-corpuscles, but no casts. On the day following, March 5, a minute patch of purplish discoloration was visible on the gums of the lower central incisors, the only teeth. Some pain on moving the legs had reappeared. The diagnosis of scurvy was now very probable, yet it seemed possible that with the severe bronchitis there was some nephritis, which accounted for the symptoms. The child was given the benefit of the doubt, however, and orange juice was prescribed.

Up to March 8 the bronchitis had continued severe, with fever and rapid respiration. The urine was much redder than a nephritis ordinarily exhibits, and there had been no casts found. Owing to indigestion, orange juice was stopped on this date, although the diagnosis of scurvy seemed now beyond question. By March 10, the urine showed very little blood. Recovery from this time on was rapid and uneventful.

The history of this case and the diagnosis are of considerable interest. The first very temporary pain in the arm did not give sufficient ground for a diagnosis of scurvy. Later, the whole course of the scurvy was marked by the existence of the symptoms of earache, severe bronchitis, and indigestion, which rendered the discovery of the degree of pain in the legs extremely difficult. The small purplish spot on the gums was trivial and of later development. In reality it was the hematuria which decided the diagnosis in my mind, and to the examination of the urine I was led especially by the presence of the slight edema.

Hematuria is a not infrequent symptom of scurvy, and sometimes, according to Barlow, the only one. In this case it was the most persistent as far as could be discovered. The case illustrates very well the intermittent character of the pain in the legs, as it so often occurs in this disease.

The orange juice was given for a very short time—only 3 days—and then withdrawn, before the symptoms of scurvy had disappeared. I hesitate to regard it as having had any material influence in the cure of the disease. It would appear more likely that in this case the withdrawal of the commercial food was the sole factor in the cure. It is interesting to note that the milk was not cooked in any way at any time.

CASE 16.—This last case was even more puzzling than the preceding one. The diagnosis was based entirely on the occurrence of a hematuria which resisted other treatment, but promptly and permanently ceased after the administration of orange juice was commenced.

Francis V. W., aged 5 months when first seen by me in November, 1899. The child had been fed in various ways, including laboratory modified milk, but had not thrived, and was a thin specimen of about 9 pounds only, always the subject of severe indigestion. Careful modification of his milk with the addition of barley-water, still done at the laboratory, changed this condition, and he began and continued a steady gain. Finally he reached, at about the age of 9 months, a percentage mixture of fat 4, sugar 7, proteid 150; as large a proteid percentage as it had been possible to use safely, and seemingly sufficient for his needs. The food was always uncooked.

At this time, about March, 1900, I found that he was passing urine of a smoky tint, which stained the diaper, and which contained numerous blood-cells; and on inquiry I learned that a number of weeks before he had had similar urine for about a week, and again, 10 days ago, for a few days. The baby seemed perfectly well in every way.

From now on the blood in the urine was constantly present, and generally to such an extent that the color was distinctly red. The general health began to suffer somewhat, the child losing weight, being fretful, and at times seeming to have pain on urination. This last, however, was uncer-

tain. Poultices were used over the bladder with the idea that there might be a cystitis present. Then hydrastis, and later ergot were tried. Sometimes opium was used, as the child was very restless at night and seemed to be suffering. Later, the evidences of pain disappeared, but no treatment had the slightest influence on the hematuria, which continued unabated. There was never any affection of the gums (there were no teeth), nor any swelling or discoverable pain in the limbs.

The hematuria continued for somewhat over a month, when I concluded that it was probably scorbutic in origin. Orange juice was started with astonishing results. In a few days the hematuria stopped completely and permanently, the treatment with orange juice being meanwhile persisted in. The return to good general health was rapid, and increase in weight recommenced.

I have already called attention to the fact stated by Barlow, that hematuria is sometimes the sole symptom of scurvy. This justified the diagnosis of scurvy in the case just reported. It is of course possible that the bleeding may have been due to a calculus or other cause; but the prompt cessation of the hematuria and all other symptoms with the beginning of orange-juice treatment was almost too startling to be a mere coincidence.

For the development of the disease in this case, I see absolutely no cause unless it be the use of a too low percentage of proteid in the mixture,—a thing which could not be avoided, and which was not changed at all until after the scorbutic symptoms had disappeared.

It is not my purpose to enter into a detailed description of the features of scurvy or even to analyze the cases I have recorded. The striking characteristics of each have already been emphasized. There are only two or three points to which I would like to draw special attention.

It is evident that although the cause of scurvy seems clearly to be dietetic, yet there is no one dietetic fault which can be held responsible. This is the common experience with the disease, and the cases here detailed are but additional proof of it. Oftenest we find that scorbutic children have been fed upon commercial foods, and there seems every reason to believe that these constitute a powerful etiologic factor. The collective studies of the American Pediatric Society, in which, as one of the committee, I was greatly interested a few years ago, put this statement beyond question. In at least one of the cases reported here the simple omission of a patented food from the dietary was followed by disappearance of scurvy.

There are cases on record in which the sterilization of milk has seemed to produce the disease. In my own experience this is not a prominent factor, and I am convinced that its power is overrated. I would call attention to the number of cases in my list in which no heating at all was employed. In none of the 16 is there any absolute proof of the harmful action of heat. Yet it is to be suspected in some of them; and that cooking of the food is capable of producing scurvy seems to be beyond question in some reported cases.

In some of my cases it is probable that the fault lay in the lack of a proper proportion in the different elements of the mixture; oftenest a too low percentage of proteid; but in many cases of scurvy we are entirely unable to discover just what the factor is. It may readily be—in fact it must be—that it varies with different children.

With regard to symptoms, it is most important to remember that the affection of the gums is generally not the earliest symptom and that the disease may exist

without it. Indeed, it is usually absent if no teeth have appeared. Pain somewhere, generally in the legs, is oftenest first seen, and it is due to this fact that so many mistakes in diagnosis are made. So many of my cases bear out the common experience that rheumatism, more than any other disease, is erroneously diagnosed when scurvy is really the condition. Yet we may occasionally have scurvy without pain being a prominent feature. Indeed, although the diagnosis is easy in typical and well-developed cases, and when one has the possibility of the presence of the disease in mind, it is by no means so easy in incipient or atypical cases. One should be far from regarding the failure to make a diagnosis as a reproach to any physician.

Treatment of the disease is most simple, as my case histories and the general experience with the disease show. A proper alteration of the diet and, even without this, the administration of fresh fruit juice, is sufficient to work a cure which seems almost miraculous. Only in cases where debility has grown extreme, or where intercurrent maladies exist which possibly interfere with treatment, need we fear a fatal result. I have had one fatal case, not included in this list of histories, in which the inanition from persistent chronic enterocolitis was so great that the child died;—not, however, of scurvy.

That several of the cases of my list recovered promptly on the use of fruit juices without any change of diet is a noteworthy fact, since in the great majority of reported cases, at least in this country, some alteration of the usual diet has also been made. This is a warning against too quickly altering the food which for certain reasons we have deemed best, simply on the ground that scurvy has developed. A curable scurvy is much to be preferred to a possibly fatal diarrhea or gastritis, the result of a diet which may precipitate these. So, too, with regard to the heating of milk. Even if we suspect that such heating is the cause of scurvy in a certain case, we should not hastily abandon it if we see any good reason for continuing it. Where raw milk can be used safely it is to be preferred.

WHEY-CREAM MODIFICATIONS IN INFANT FEEDING.

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THE scientific modification of milk in the substitute feeding of infants, like most advances in medicine, has been in the nature of an evolution. The simple dilution of milk with plain water, lime water, cereal waters, or whey, without reference to the resulting percentages of fat, sugar, and proteids, has been generally acknowledged to fall far short of supplying a proper food for infants of different ages and development, and men everywhere have tried to improve upon the older methods. Frankland, as far back as 1854, and later Monti, Biedert, Jacobi, and others have all contributed to the study of the subject, and to them we owe the inspiration of many of our ideas.

The first step of importance in the advancement of

infant feeding in this country was the work of Dr. J. F. Meigs and his son, Dr. A. V. Meigs, of Philadelphia, many years ago. The elder Meigs had observed in a large clinical experience that certain combinations of milk, cream, lime-water, milk-sugar, and water, seemed to agree with the average infant. The younger Meigs undertook to establish a scientific explanation for the successful results of his father's empirical formula. As a result of his investigations he found that the Meigs mixture corresponded closely to his analysis of human milk, especially in regard to the percentage of proteids. He then improved the original formula in certain details so that the mixtures calculated from it were estimated to yield a milk containing 3.50% of fat, 6.66% of sugar, 1.21% of proteids, 0.25% of ash, and 88.25% of water.

This was a distinct advance over the old methods of simple dilution of milk, as it brought to the attention of the medical profession three very important points in connection with the subject of infant feeding: First, that simple dilutions of milk were irrational in that all the ingredients were reduced alike; second, that a milk should be modified to resemble human milk; and third, that the Meigs formula expressed for the first time, though in a limited way, the idea of a percentage basis in the modification of milk.

The development of Meigs' principle of feeding was worked out by Dr. T. M. Rotch, of Boston, who, in 1890, made the pertinent suggestion that all modifications of milk should be expressed in percentages of fat, sugar, and proteids, and that prescriptions for the same should be written calling for precise proportions of the various ingredients; in other words, he propounded the principle of thinking and writing in percentages. This idea led to the establishment, in 1892, of the Walker-Gordon milk laboratories, under the scientific direction of Dr. Rotch, where, in accordance with his ideas, milk could be obtained in a pure condition, and of staple composition, and where it could be accurately modified and dispensed. This system of percentage modification was developed and perfected by Mr. George E. Gordon and Mr. J. H. Waterhouse, under the direction of Dr. Rotch, until the modification of the various ingredients of milk has been elaborated to a degree not conceived of in the beginning, so that at present almost any combination of fat, sugar, and proteids can be obtained.

The work up to this point has been satisfactory so far as the modification of the percentages of fat, sugar and total proteids are concerned, but cow's milk differs from human milk in the proportions of the two kinds of proteids, and a modification that simply reduces the total proteids as a whole without reference to their relative proportions has not gone as far as our knowledge of the chemistry of milk allows.

Koenig's analysis of the proteids of cow's milk and human milk is as follows. No attempt is made to distinguish between lactalbumin, lactoglobulin and other proteids possibly present in whey, and we in our paper shall include them all under the term "whey-proteids."

	Cow's Milk. Percent.	Human Milk Percent.
Caseinogen	2.88	0.59
Whey-proteids.....	0.53	1.25
Total.....	3.41	1.82

According to these figures cow's milk contains twice as much total proteids as does human milk, and we also see that, of the total proteids in cow's milk, approximately $\frac{2}{3}$ is caseinogen and $\frac{1}{3}$ is whey-proteid. In

human milk, on the other hand, we see that approximately $\frac{2}{3}$ is whey-proteid and $\frac{1}{3}$ is caseinogen.

If, then, we prescribe an ordinary modified milk with a total proteid of 1.50% (the percentage of average human milk), we give 0.25% of whey-proteid and too much caseinogen, namely, 1.25%. If we attempt to reduce the caseinogen to 0.50%, the amount present in human milk, we get too low a total proteid. It seems reasonable to suppose that the disturbance in digestion in infants who are being fed on modified milk is due not so much to the chemical differences of the proteids in cow's milk and human milk, as to the excessive proportion of caseinogen to whey-proteids. Whether this be true or not, it is a generally accepted principle that in substitute-feeding we should imitate the composition of human milk as closely as possible.

Backhaus¹ has attempted to modify the proportion of caseinogen and whey-proteids in cow's milk so as to make it resemble that which occurs in human milk. His method, however, involves the partial predigestion of a certain amount of caseinogen by trypsin in order to raise the percentage of soluble proteids in the whey. This whey contains in addition to ordinary whey-proteids 0.5% of peptones. He gives the prescriptions for three mixtures, in only one of which is there any attempt to make the proportion of caseinogen and whey proteid resemble that of human milk.

The credit of calling the attention of the medical profession in this country to the insufficient method of dealing with the proteids in milk modification belongs to Dr. Thompson S. Westcott, of Philadelphia, who, in a monograph on "The Scientific Modification of Milk," published in the *International Clinics*, Vol. III, Tenth Series, drew attention to the differences in the relative proportions of caseinogen and lactalbumin in human milk and in cow's milk. Dr. Westcott gives in his paper certain general formulæ for the calculation of whey and cream mixtures by which the total proteids may be raised without increasing the percentages of caseinogen, by the addition of whey, in place of water, to creams of varying strength.

Koenig's analysis of whey is as follows:

	Per cent.		Per cent.
Proteids.....	0.86	Salts	0.65
Fat	0.32	Water.....	93.38
Sugar	0.49		

It is obvious that it will be impossible to raise the percentage of whey-proteids in a mixture of cream and whey above the percentage in the whey itself, and if this analysis applies to all specimens of whey the percentage in the whey-cream mixture will be lower than 0.86%, probably not exceeding 0.75%. If caseinogen be now added by means of cream and fat-free milk in such a way as to contribute an additional 0.50% of proteids, we shall have a mixture with a total proteid of 1.25%, consisting approximately of $\frac{2}{3}$ whey-proteids and $\frac{1}{3}$ caseinogen, the proportion which occurs in human milk. Higher total proteids can be obtained by increasing the percentage of caseinogen by the addition of fat-free milk, but each increase necessarily alters the relation of the two proteids, so that it approaches that which occurs in cow's milk.

A mixture containing 0.75% of whey-proteids and 0.50% of caseinogen is eminently suited for an infant in the first two or three months of life and for an older infant with disturbed digestion requiring weak and

easily assimilable proteids. It is, however, too low a percentage of total proteids to carry an infant throughout the nursing period, and as the child grows older the caseinogen can be increased until the total proteids are the same in proportion as in cow's milk. In the latter months of the nursing period the management of the proteids is less troublesome and the ordinary modifications, when intelligently used, rarely fail to give satisfactory results.

Westcott's formulas and calculations are based on the above analysis of Koenig. On referring to Bulletin 28, of the United States Department of Agriculture, we find that the average of a large number of specimens of whey as purchased yielded a whey-proteid of one percent, (1.00%). It is evident therefore that there is some variation in the whey-proteids in milk from different sources. It was important to know whether the percentage of whey-proteids in the whey obtained by us from milk was not higher in percent than that given by Koenig and on which Westcott bases his formulas and tables. It also was important to perfect this method so that physicians might send to the laboratory prescriptions for definite percentages of whey-proteids, caseinogen, fat and sugar. Finally it did not seem sufficient to accept the method on mere theoretical considerations, and we therefore undertook, at the suggestion of Dr. Rotch, to compare the coagulability, digestibility and emulsion of whey-cream modifications with other forms of modified milk. In carrying out these experiments we have utilized the conveniences of the milk laboratory where the whey and various modifications have been prepared under our direction, and we wish to acknowledge our indebtedness to Mr. George H. Walker and Mr. J. H. Waterhouse for the many courtesies and aids accorded us.

A preliminary report of the following experiments was included in a paper on "Emulsions, Cereals and Proteids," which was read by Dr. Rotch before the New York Academy of Medicine in the Section on Pediatrics on October 18, 1900.

Method of Making Whey.—The whey is made by coagulating fat-free milk with liquid rennet; about 1 dram of rennet being added to 10 quarts of milk. The fat-free milk was made by separating the fat of whole milk by the centrifugal separator. It is more convenient and economical to make the whey in this manner than from whole milk. The milk was kept at a temperature of 30° C., till the curd formed and the whey was then strained off through muslin and absorbent cotton. In further preparing the whey for use in milk mixtures, it was necessary to heat it to a temperature which would destroy the rennet which had been added, without precipitating the whey-proteids. The rennet enzyme, according to Hammarsten,² is destroyed by a temperature of 60 to 70° C., more or less quickly according to the duration of heating and the concentration of the solution. Lactalbumin, according to Hammarsten, is precipitated by a temperature of 72° to 84° C., so it seemed possible to destroy the rennet by heat without coagulating the whey-proteids.

After experimenting with different degrees and duration of heat we found that the most convenient method of destroying the rennet in whey was by heating it rapidly to 65° C. We also found that when clear fresh whey was gradually heated, the first slight milkiness in the fluid indicating a precipitation of whey-proteids did not occur until a temperature of 70° C. was reached, and that no considerable coagulation took place till the fluid was heated to over 80° C. The temperature recommended by Westcott, 76.5° C., is too high. The rennet is destroyed at a temperature of 5° C. lower, so that the higher temperature is unnecessary and has the objection of coagulating some of the whey-proteids. This coagulation temperature was not affected by changing

¹ *Allgemeine med. Cent. Zeitung*, 1896, vol. 65, pp. 861-873.

² *Textbook of Physiological Chemistry*, 1900, p. 227.

the reaction of the whey from slightly acid to slightly alkaline by the addition of lime-water.

It is therefore evident that by heating the whey to 65° C. before mixing it with the cream for infant feeding, we accomplish the desired object of destroying the rennet, and preventing the coagulation of the cream, without precipitating the whey-proteids.

Analysis of Whey.—Various analyses were made by Kjeldahl's method to determine the amount of soluble proteid in the original whey. Specimens of whey were also heated to different temperatures, 65°, 68°, 75° and 80° C., filtered, and then analyzed to find out how much proteid had been coagulated at these temperatures.

It was also noted that in unheated whey which stood for 24 hours there usually appeared a very slight flocculent precipitate, but it was shown by analysis that this precipitation did not affect the amount of proteid in the whey appreciably. Analysis of six specimens of whey give the following percent of proteid: 0.99, 1.08, 1.03, 1.01, 1.00, 1.01, the average being 1.02%.

The following figures show the amount of proteid left in a specimen of whey after heating it to the given temperatures and filtering:

Unheated whey	1.08%
Heated to 65° C. and filtered.....	1.04
" " 68° C. " " 	0.98
" " 75° C. " " 	0.97
" " 80° C. " " 	0.95

We see that heating the whey within the limits given, produced only a very slight and gradual coagulation of the proteid. The analyses of our specimens of unheated whey agree with those given by the United States Department of Agriculture in the amount of proteid present, practically 1%, this being somewhat higher than the amount found by Koenig, which is 0.86%.

Westcott has based his formula for cream and whey mixtures on Koenig's analysis of 0.86% proteid in whey; this is probably too low an estimate for American milk, as show by the analysis of the United States Department of Agriculture and by our own, and therefore the amount of total proteid obtained by mixing cream and whey, according to Westcott's formula, is probably actually higher than given in his tables.

Analysis of Whole Milk.—Several analyses by Kjeldahl's method were made to estimate the relative proportion of caseinogen and whey proteid in whole milk, in order to determine this relative proportion in the cream used in the whey-cream mixtures. The average amount of total proteid in whole milk was 3.84%; the average amount of whey-proteids was 0.90%, or approximately $\frac{1}{4}$ of the total proteids; the average amount of caseinogen was 2.94%, or approximately $\frac{3}{4}$ of the total proteids.

COMBINATIONS POSSIBLE IN WHEY-CREAM MODIFICATIONS.

By the use of 32% cream, fat-free milk, and a very concentrated solution of milk-sugar it was found possible on the basis of our analysis of whole milk and whey to obtain whey-cream mixtures with a maximum of 0.90% of whey-proteids in combination with percentages of caseinogen varying from 0.25% to 1.00%, giving total proteids of from 1.15% to 1.90%. A 32% cream must be used in order to obtain the highest percentages of fat with the lowest percentages of caseinogen. A limited number of combinations can be obtained with creams containing less fat, as shown by Westcott.

The precise prescriptions of fat, whey-proteids, caseinogen and sugar which are now possible are given in the following table, the entire credit of which belongs to Mr. J. H. Waterhouse, who made the mathematical calculations for us and has introduced the process into the

Boston milk-laboratory. The extension of the system to the other laboratories of the Walker-Gordon company throughout the country will shortly be accomplished.

Fat.	Whey-proteid.	Caseinogen.	Fat.	Whey-proteid.	Caseinogen.
1.	.50	.25	2.50	.90	.50
1.	.75	.25	2.50	.75	.75
1.	.90	.25	2.50	.90	.75
1.	.50	.50	2.50	.90	.50
1.	.75	.50	2.50	.50	.25
1.	.90	.50	2.50	.75	.25
1.	.50	.60	3.	.90	.25
1.	.75	.60	3.	.75	.50
1.	.90	.60	3.	.90	.50
1.	.75	.75	3.	.90	.75
1.	.90	.75	3.	.50	.90
1.	.50	1.00	3.	.75	.90
1.50	.75	.25	3.	.90	.90
1.50	.75	.25	3.	.75	.75
1.50	.50	.25	3.	.90	.75
1.50	.50	.50	3.	.90	.90
1.50	.75	.50	3.	.75	.90
1.50	.90	.50	3.	.90	.90
1.50	.50	.60	3.50	.90	.90
1.50	.75	.60	3.50	.75	.90
1.50	.90	.60	3.50	.90	.90
1.50	.75	.75	3.50	.90	.90
1.50	.90	.75	3.50	.75	.90
1.50	.50	1.00	3.50	.90	.90
2.	.50	.25	3.50	.90	.90
2.	.75	.25	3.50	.75	.90
2.	.90	.25	3.50	.90	.90
2.	.50	.50	3.50	.90	.90
2.	.75	.50	3.50	.75	.90
2.	.90	.50	3.50	.90	.90
2.	.50	.60	4.	.90	.90
2.	.75	.60	4.	.75	.90
2.	.90	.60	4.	.90	.90
2.	.75	.75	4.	.90	.90
2.	.90	.75	4.	.75	.90
2.	.50	.90	4.	.90	.90
2.	.75	.90	4.	.75	.90
2.	.90	.90	4.	.90	.90
2.50	.50	.25	4.	.90	.90
2.50	.75	.25	4.	.75	.90
2.50	.90	.25	4.	.90	.90
2.50	.50	.50	4.	.90	.90
2.50	.75	.50	4.	.75	.90
2.50	.90	.50	4.	.90	.90

Any per cent. of sugar from 4 to 7 may be obtained with any of the above combinations.

EMULSIONS.

Our experimental studies were first directed to a determination of the emulsion of whey-cream mixtures in comparison with other modifications of milk, in test-tubes and in a dog with an artificial gastric fistula.

We compared the emulsion of whey-cream mixtures with that of plain cow's milk, and with ordinary modified milk made in one case from 16% gravity cream, in another from 16% centrifugal cream. Each mixture contained 3.50% of fat, 6.00% of sugar, and 1.00% of total proteids; the latter in the whey mixture consisted of 0.25% of caseinogen and 0.75% of whey proteids. In one series, 5% of lime-water was added to each mixture and one portion heated to 75° C. and another portion was not heated. In a second series the mixtures were put up without lime-water, and one portion was heated to 75° C. and another was not heated.

The tubes prepared in this manner were delivered to us at once, and after being warmed and gently mixed, were examined with a magnification of 625 diameters. The emulsions in all the specimens were uniform and practically could not be distinguished one from another. A repetition of the experiment confirmed our observations. We therefore concluded that whey mixtures, plain milk, gravity cream mixtures, and centrifugal cream mixtures were essentially the same in their emulsion, and that neither the presence nor absence of lime-water, the application or non application of heat for pasteurization, had any influence upon the emulsion.

We repeated the experiments, using the same mixtures, but subjecting them to the influence of transportation. The milk was carted about the city for eight hours and then examined. No disturbance in the emulsion was

noticed either in the gross appearance or microscopically. The unopened bottles after standing 36 hours in the room-temperature were perfectly sweet.

We had, however, noticed, as many others have done, that under certain conditions large, highly-refracting globules in the form of a scum were sometimes seen floating upon the surface of the milk put up at the laboratory. These we analyzed and found to consist principally of fat, indicating that the emulsion had been disturbed. Townsend³ and others have maintained that the use of centrifugal cream combined with transportation was the cause of this disturbance. It is clear from the above experiment that this explanation cannot be accepted.

The experiment was again repeated and the milk examined with the same result. The bottles were then allowed to stand in a comparatively warm place in a kitchen. Twenty-four hours later only the unheated bottles had soured, the remainder were sweet and none of them showed the scum of the separated fat-globules. We concluded from these facts that transportation alone was not sufficient to disturb the emulsion.

Finally we tried the influence of heat and transportation combined. The same series of milk was used again. The tubes were placed in a box, the central compartment of which was kept filled with hot water, and were carted about the city for eight hours. At the end of that time each specimen showed the scum of fat-globules. A second attempt failed to produce this disturbance, but on investigation we found that the hot-water tank had been filled but once and that owing to the cold weather which prevailed the temperature within the box had not been maintained. A third attempt confirmed our first results, and we therefore concluded that it is the combination of heat and transportation which produces the change in the emulsion irrespective of the character of the modified milk. It is also evident from our failure in the second attempt that considerable and prolonged heat is necessary, a condition which prevails only in the hot days of summer. It is in such weather, moreover, that we have most frequently observed the presence of the fat on the surface of the milk. This disturbance of the emulsion can easily be avoided by keeping the milk cool during transportation in hot weather.

To determine whether any difference could be found in the emulsion of gravity cream mixtures and centrifugal cream mixtures during actual gastric digestion we used two mixtures of 3.50% fat, 6.00% sugar and 1.00% proteids; one of these was made from gravity cream and one from centrifugal cream. Each contained 5% of lime-water and was heated to 69°C. The milks were fed to the dog at different times and withdrawn by means of the fistula at the end of 10 minutes. The gastric contents were examined and no essential difference in emulsion was found.

COAGULABILITY.

1. *Experiments in Test-Tubes.*—The character of the coagulum yielded by whey-mixtures in comparison with various cream-mixtures, and barley-water mixtures, was determined in test-tubes, and the results controlled by animal experiments.

The mixtures contained for the most part, 3.50% of fat, 6.00% of milk sugar, 1.00% of proteid.

In order to determine whether the character of the coagulum was influenced by the kind of cream used in

making the mixture, or by the degree of alkalinity, or by the heat used in pasteurizing, some of the mixtures were made up with centrifugal cream, and others with gravity cream, some with 5% of lime-water, others with no lime-water, some specimens were pasteurized at 75°C. while others remained unheated.

The ordinary 3.50—6.00—1.00 mixtures were made up in the following proportions, for 20 ounces:

16% gravity or centrifugal cream	4½ ounces.
Skimmed milk.....	1 ounce.
Water.....	14½ ounces.
Milk sugar.....	1 ounce.

The 3.50—6.00—1.00 whey-mixtures in which 0.75% of the proteid was whey proteid, and 0.25% was caseinogen were made in the following proportions for 20 ounces:

32% cream.....	2½ ounces.
Lime-water	1 ounce.
Whey	16½ ounces.
Milk sugar (dry)	1 ounce.

The barley-water mixtures were made by replacing 10 ounces of the water in 20 ounces of ordinary 3.50—6.00—1.00 mixtures with barley water, making the amount of starch in the milk-mixture about 0.7%. The experiments of White⁴ have shown that this is the best amount of starch to use, when action upon the casein coagulum is desired.

Whole milk was occasionally used for comparison with the milk mixtures, but the essential point was the comparison of plain, centrifugal and gravity cream mixtures, with whey mixtures and barley-water mixtures, with respect to the casein coagulum.

In the experiments in test-tubes the conditions present in the normal stomach were simulated as far as possible. The milk was kept at body temperature and was gently agitated during coagulation by slowly inverting the tubes several times. As the precipitation of casein by dilute acids is a different process from its coagulation by rennet, we tried the action of (a) HCl alone, (b) rennet alone, (c) HCl and rennet combined. The HCl and rennet combined gave rather uncertain results, and it was thought best to judge of this action by animal experiments. Twenty-five ccm. of milk were precipitated by the addition of 0.5 ccm. of 5% HCl, giving 0.1% free HCl in the mixture, which is the normal amount in the healthy adult stomach; in the second case 25 ccm. of milk was coagulated by the addition of 2 ccm. of a liquid rennet preparation. The coagulation was usually prompt and complete within a minute. The size and consistency of the curds were noted and later the tubes were moderately shaken to see whether the curd was tough and tenacious, or soft and easily broken up into small fragments.

The following series of milk mixtures were coagulated by rennet and by HCl separately on 6 occasions with constant results:

TABLE.

Whole milk.	
no lime water.....	unheated,
lime water, 5%.....	75° C.
3.50—6.00—1.00	Centrifugal 16% cream,
lime water, 5%	75° C.
"	unheated.
No lime water	75° C.
"	unheated.

³ *Boston Med. and Surg. Journal*, 1900, vol. cxliii, p. 363.

⁴ *Journal of the Boston Society of Medical Science*, 12 (vol. v, No. 4).

3.50—6.00—1.00.....	Gravity 16% cream,
lime water 5%	75° C.
"	unheated,
No lime water	75° C.
"	unheated,
3.50—6.00—1.00.....	Whey-mixture (whey-pro-
	teids 0.75%, caseinogen
	0.25%).
Lime water.....	75° C.
"	unheated.
3.50—6.00—1.00.....	50% barley water,
Lime water.....	75° C.
No lime water.....	unheated.

There were certain differences in the coagulation of the milk-mixtures which seemed to us unimportant because they were either very slight in degree, or dependent upon the artificial conditions of the test-tube experiments, but they may be briefly mentioned. The curds produced by HCl alone were always somewhat finer than those yielded by rennet. This observation probably has no practical value, as the coagulation of milk in the stomach ordinarily results from the combined action of HCl and rennet. It was also found that when the reaction of the milk was slightly alkaline, from the presence of lime-water, the coagulation by rennet was somewhat delayed and incomplete. This is due to the fact that the action of rennet is inhibited by even a very slight excess of alkali, and has no practical bearing on the coagulation of such a milk-mixture in the stomach, where the alkali would be promptly neutralized.

With reference to the effect of pasteurizing the milk at 75° C., it was found that in about one-half the specimens there was no difference in the coagulum in the heated and the unheated milk; in the rest the difference, although always in favor of the heated milk, was too slight to have any importance.

A comparison of the milk-mixtures brought out the following important facts: The coagulum in whole milk was coarse and tough. The coagulum in the ordinary 3.50—6.00—1.00 mixtures was finer, softer and more flocculent than in the whole milk, which was to be expected since the proteid was reduced from 3.8% to 1% by dilution.

The coagulum was just alike in the mixtures made with gravity and with centrifugal cream.

The coagulum with rennet in the barley-water mixtures was much finer than in the plain mixtures, showing the effect of barley water as a diluent in mechanically separating the particles of coagulum. The coagulation of the barley water and the whey mixtures with HCl was unsatisfactory, owing to the tendency of the fine curd partly to redissolve in a small excess of the acid.

The coagulum with rennet in the whey-mixtures was finest of all, being finer even than that yielded by the barley-water mixtures.

A few specimens of whey-mixtures containing 2% of fat, 5% of sugar, 0.75% of whey-proteids and 0.25% of caseinogen and others containing 3.50% of fat, 6.00% sugar, 0.75% of whey-proteids and 0.50% of caseinogen were compared with the whey-mixture containing 3.50% of fat, 6.00% of sugar, 0.75% of whey-proteids and 0.25% caseinogen and it was found that these variations in the percent of fat, sugar and caseinogen did not affect the fineness of the curd.

To determine whether the amount of fat present had an influence on the tenacity of the casein coagulum, the

following experiment was tried. Specimens of 16% cream were diluted with 2 parts of water, and specimens of fat-free milk, equally diluted were coagulated with rennet. We found that this variation in the amount of fat was without influence, as there was no appreciable difference in the tenacity of the coagulum.

We also wished to determine whether whey, like barley water used as a diluent for casein, had the power of making the coagulum fine and soft by getting between the particles during coagulation and preventing their uniting together into a tough mass.

The following mixtures were coagulated by rennet and the character of the coagulum noted:

1. 16% cream, 1 part; water 2 parts.
2. " " whey 2 parts.
3. " " barley water 2 parts.

The coagulum was coarse in No. 1; finer in No. 2, and much finer in No. 3. It is therefore evident that whey has distinct value as a diluent in making the casein coagulum finer, but in this respect is inferior to barley water.

2. *Animal Experiments.*—We selected from our experiments in test-tubes those results which seemed to us to have the most practical bearing on the coagulation and digestion of milk, and endeavored next to verify them by experiments in the animal stomach. We compared the size and digestibility of the casein coagulum yielded by the following mixtures, all of which contained 3.50% fat, 6.00% milk sugar, and 1.00% proteid, and which were made as follows:

1. Ordinary modified milk made with gravity cream.
2. Ordinary modified milk made with centrifugal cream.
3. Modified milk made with centrifugal cream, and containing 50% of barley water of a strength which gave 0.7% of starch in the mixture.
4. Whey-cream mixture containing 0.75% whey-proteid and 0.25% caseinogen.

Five percent of lime water was added to all the mixtures, and they were pasteurized at 67° C. We also repeated the experiment to determine the value of whey as a diluent.

A dog with a gastric fistula was chosen for this work. We wish to acknowledge our great indebtedness to Dr. M. Vejux-Tyrode, of Boston, who performed a successful operation for fistula upon the dog which we used. The fistula did not leak, the dog remained in healthy condition and even gained in weight during the course of the experiments.

The dog was fed with the milk mixtures, and after a certain interval the gastric contents were allowed to run out by removing the stopper of the fistula tube and the stomach gently irrigated with warm water. Twenty to thirty minutes were allowed to elapse between consecutive experiments. In each case, we noted the amount of the stomach-contents, the character and size of the coagulum, the amount of free HCl present and the total acidity. The object of the chemical examination was to make sure that the stomach was in the same condition in the various experiments.

In Series I the dog was fed with 200 ccm. of ordinary modified milk made with (a) gravity cream, (b) centrifugal cream, and the gastric contents withdrawn in $\frac{1}{2}$ hour.

In Series II the dog received 150 ccm. of (a) ordinary modified milk, (b) modified milk with barley water, (c) whey-cream mixture. The gastric contents were withdrawn in $\frac{1}{2}$ hour.

Series III was a repetition of Series II, using 100 ccm. of the mixtures and withdrawing the gastric contents after 10 minutes.

In Series IV the dog received 100 ccm. of a mixture of 1 part 16% cream with 2 parts of (a) water, (b) whey, (c) barley water. The gastric contents were withdrawn in 10 minutes.

In each series the amount of gastric contents was practically constant, and the acidity varied less than 0.05%; therefore, the differences found in the curds cannot be explained by variations in the condition of the stomach.

It was found that ordinary modified milk made with gravity cream and with centrifugal cream yielded a flocculent coagulum of the same size and character.

Modified milk with barley water and whey-cream mixtures both yielded a much finer and more digestible coagulum than ordinary modified milk.

Modified milk with barley water yielded a coagulum equally as fine as whey-cream mixtures. In one experiment the coagulum in the whey-cream mixture, though equally fine and soft, was less in bulk than the coagulum in the barley-water mixture. This is naturally explained by the smaller amount of caseinogen in the former.

Series IV gave the same result as the corresponding experiment in test-tubes and showed that whey has a distinct value as a diluent in making the casein coagulum finer, but is inferior in this respect to barley water.

In short, the results obtained in test-tubes were confirmed by the animal experiments with the sole exception that in the animal stomach the modified milk with barley water yielded a coagulum just as fine and digestible as the whey-cream mixtures.

CONCLUSIONS.

We may briefly summarize our results as follows:

1. By the use of whey as a diluent of creams of various strengths, we are able to modify cow's milk so that its proportions of caseinogen and whey-proteids will closely correspond to the proportions present in human milk. We therefore render it much more digestible and suitable for infant feeding.
2. The best temperature for destroying the rennet enzyme in whey is 65.5° C. Whey or whey-mixtures should not be heated above 69.3° C. in order to avoid the coagulation of the whey-proteids. The percentage of whey-proteids in the whey obtained by us was 1%, while in the analysis of the whole milk, approximately $\frac{3}{4}$ of the total proteid was caseinogen and $\frac{1}{4}$ was whey-proteids.
3. On the basis of these analyses we were able to obtain whey cream-mixtures, with a maximum of 0.90% and a minimum of 0.25% of whey-proteids in combination with percentages of caseinogen varying from 0.25% to 1.00%; of fats, from 1.00% to 4.00%; of milk-sugar, from 4.00% to 7.00%.
4. The emulsion of fat in whey, barley-water, gravity cream, and centrifugal cream mixtures, were the same, both in their macroscopic and microscopic appearances. The combination of heat and transportation, such as sometimes occurs in hot weather, partially destroys the emulsion in all forms of modified milk, but this disturbance can be prevented by the simple precaution of keeping the milk cool during delivery.
5. Whey cream-mixtures yield a much finer, less bulky, and more digestible coagulum than plain, modified mixture with the same total proteids; the coagu-

lum is equalled in fineness only by that of barley-water mixtures. The coagulum yielded by gravity cream-mixture and centrifugal cream-mixtures is the same in character.

PROPER METHODS OF HANDLING MILK FOR INFANT FEEDING.

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THE practitioner who has labored long in the field of infant feeding cannot but feel a great sense of satisfaction as he sees the subject tending to logical simplicity both of theory and practice. It is gratifying for him to see the unanimity of opinion in regard to cow's milk for infant feeding; to realize that the minute percentages in milk modification which have been so troublesome in the past, are not absolutely essential; to see the rapid growth of the sentiment against sterilization and pasteurization and to be able to feed with safety a raw milk as the result of the intelligent study of dairymen.

There is hardly a practitioner today who will dispute the preeminent advantages of cow's milk over any other form of substitute feeding; and the opinion has been logically formulated that sterilization, being injurious to the milk, is at best a necessary evil, and an evil which is not necessary if proper dairy methods are carried out. As to minute modification, Jacobi was certainly practical and logical when he called the attention of physicians to the marked variations in the milk of the healthful mother, not only from day to day; but from morning to evening; and remarked that if the slight alterations and changes in the percentages of modified milk were as dangerous as they are made out to be, there would not be one living child in all Creation. He and many other writers have called the attention of pediatricians to the fact that clean milk is far more important than any amount of modification.

That clean milk can be procured in all the large cities is absolutely certain. I do not say that sterile milk can be found, for it is known that the milk is invaded with certain forms of bacteria before leaving the udder of the healthy cow; but milk that is free from the bacterial life deleterious to the infant can certainly be obtained. That such a milk is better than cooked milk is beyond question. It is conceded that cooking makes the food less easily digestible and decreases the nutritive value, and it is further known that even if we sterilize we must have a relatively pure milk, for no amount of sterilization can purify a milk already foul, and impregnated with the products of bacterial growth.

When it is known that sterilized milk is more or less injurious; when it is known that pure milk can be secured by proper attention to the dairy, certainly the basis of infant feeding is established. That basis is raw milk.

It is not my desire, however, to enter into any discussion of sterilization or pasteurization; but merely to speak briefly of the methods that can be and are employed to produce a milk fit for infant feeding in its raw state.

Trinity Diet Kitchen for Infants, a milk charity in the poor district of Chicago, was opened with the idea of supplying a pure, modified cow's milk to be distributed without any attempt at sterilization. During

the summer just past we have carried out this plan, and although the infant mortality in the city has been very high and the weather intensely hot (one month of the hottest weather ever recorded by the Weather Bureau), we have had a mortality of something less than 1%. We have never given out 1 ounce of either sterilized or pasteurized milk, and we have been so gratified with our results that we have had no disposition to do so. It may be further stated that we have had almost no complaints of the milk souring, although our clientele has been the poor and their hygienic surroundings exceedingly bad. We have merely taken the precaution to have everything coming in contact with the milk perfectly sterile and of packing each supply with a liberal quantity of ice before permitting it to go out. The amount of ice given for each child has been ample to keep the food cold and sweet for the greater part of the day and instructions are invariably given that the ice be replenished when it runs low.

Our success in feeding with raw milk in unsanitary surroundings, I believe to be due, first, to the unvarying purity of the milk; second, to the care given the milk in our kitchen. The rigid instructions given the parents in regard to handling the milk, regularity of feeding, and absolute cleanliness has also been a factor; and this instruction is the more effective on account of the repeated calls made by our superintendent and nurses to see that our instructions are being carried out to the letter.

Through the courtesy of Mr. H. B. Gurler, of DeKalb, Illinois, I was able to closely inspect the methods of his farm from which our milk is derived.

The cattle I found to be good, healthy stock, all tuberculin-tested by the authorities of the State. They were originally Holstein, Jersey, Durham, and Guernsey stock; but for several years they have been invariably bred to Holstein bulls, so that at present the herd is almost altogether Holstein. The preference for Holsteins is accounted for by their ruggedness and almost invariably good health, as well as for the evenly balanced milk they give. The tendency on the part of dairymen, however, to force the Holsteins to the very largest amount of milk they could give, has caused a deterioration in the richness of the milk, and this Mr. Gurler has overcome by breeding with a view to increasing the butter fats. The cows now on the farm do not give the quantity of milk they formerly did; but the butter fats have increased so markedly that the milk is almost a rival of the Jersey.

The tuberculin test proved only 3% of this herd to be tuberculous, while the average percentage in the herds of this part of the country is from 12 to 14%. No full grown cow actually born and raised on this farm has responded to the tuberculin test, on account of the ideal hygienic conditions. A sick cow afflicted with any malady whatever is at once isolated and not permitted to come in any way in contact with the herd. The barns used by these sick cattle are never occupied by the healthy stock. The herd is never permitted to drink from ponds or streams, and the only water they get is pumped into perfectly clean troughs from an artesian well. The food is perfectly clean and the cattle are curried and groomed regularly. The udders are kept in good condition by washing, which occurs twice daily, and there is a comparative freedom from infective processes of the udder on account of the fact that the cattle are not overfed or forced to give their greatest possible quantity of milk. Stockmen have found that overfeed-

ing is a common source of disturbances in the udder. Any cow with infected udder is at once isolated.

Another reason for the comparative freedom from tuberculosis is that the calves are fed only upon the milk of perfectly healthy tuberculin-tested cows and not upon the skimmed milk of unknown herds, secured from creameries, as is generally done in this region.

The food most depended upon is chopped cornstalks gathered when the corn is fully developed and when the kernels have dented, but cut and stored in silos before it has been permitted to dry. That this is a satisfactory food is indicated from the fact that when other foods are used in its place the milk decreases in both quantity and quality. In addition to this, silage, bran, shorts, and gluten meal are given, and during summer there is most excellent pasturage. In turning the cows into pasture, however, the greatest care is exercised, for the new grass almost invariably causes diarrhea in the cow. Even if green-grass feeding is not permitted to this extent, Mr. Gurler has raised the question as to whether the green feeding could not cause diarrhea in the child using the milk, even though the cow were not affected. He tells, in support of his theory, that when laxative foods are given to a sow with a fresh litter, the sucking pigs are often badly "scalded" when no tendency to diarrhea is noticed in the dam.

The milking is done at three in the morning and three in the afternoon, in stables with cement floors so slanted as to permit thorough scrubbing, which is done daily. The milkers are clothed in white, clean suits, and use buckets which are covered with a cap holding in place two thicknesses of sterilized gauze between which is placed a thick layer of absorbent cotton. The milk passes through this gauze and cotton before reaching the pail.

The udder washers precede the milkers and thoroughly cleanse the udders. The milker then draws a considerable amount of milk from each quarter and puts it in a pail for disposal. He then milks through the strainer and when his bucket is full, empties the milk into a sterile can, in which process it is again strained. These cans are taken up and reach the dairy within 5 minutes after milking. The milk is poured at once into the receiver of the separator and in about 10 seconds passes through and is run into buckets. The milk and cream are mixed again at once, except that excess of cream or milk which must be taken out to maintain the standard of 4% guaranteed. From the separator the milk is poured at once into the receiver of the cooler, from which it trickles down over coils of pipe filled with ice water and at the bottom falls into other pails, having in the process attained a temperature of about 45° F. This temperature is reached in about 10 or 12 minutes after milking. Within 20 minutes the bottles are filled and sealed, ready for shipping. They are sent into the city in sealed cases packed in shaved ice.

The precautions in regard to cleanliness of this institution would do credit to a hospital. Every article used in the place stands for hours in a large steam sterilizing room before use.

The process of separation as here carried on, not only permits a uniform quality of milk, but removes from the milk the mucus and slime and occasional blood-clots found in all milk. It is stated also that the number of bacteria is considerably decreased.

It is this care and attention to the dairy which places infant-feeding upon a natural and sound basis, and this is the care which makes preservatives and sterilization

equally unnecessary. On the day on which I visited the farm, several cases of this milk were shipped to Paris, with every confidence that it would reach the European city in perfect condition. Certain it is that this milk has been kept on ice in Trinity Diet Kitchen for Infants for almost two weeks with no sign of souring or decomposition.

I am aware that able men advocate sterilization, especially when feeding under circumstances where the environment is not satisfactory; but I am firmly convinced that he who teaches sterilization teaches a bridging over of faults which should not have been committed; advocates an injurious food for an infant when a little care and brain would have made it unnecessary. To teach sterilization is like teaching the medical student the use of antidotes for overdose of drugs without teaching him anything of proper dosage or how the overdose may be avoided.

After trying a raw milk with the infants of the poor during a terribly hot season, and having seen what can be done toward the preparation of a clean, pure milk, I am ready to banish forever sterilization or pasteurization on the same ground that I would banish formaldehyd or any milk preservative—on the ground that they are both injurious and unnecessary.

THE IMPORTANCE OF INSTRUCTION IN MEDICAL SCHOOLS ON THE MODIFICATION OF MILK FOR PRESCRIPTION FEEDING.

By ANDREW H. WHITRIDGE, M.D.,

of Baltimore, Md.

DURING the course of instruction, in any modern medical school, students have opportunity to study more or less practically the relation of bacteriology to pathology. Students, in the second and third years of the course, gain enough laboratory experience of the more important species of bacteria to enable them to make a diagnosis of infected tissue given for examination. As students approach matriculation a very distinct and imperative impression has been created of the role played by bacteria, both in health and disease, and of the methods employed to deal with those that are regarded as pathogenic in their action. Asepsis and antisepsis are familiar both in theory and in practice, not only in relation to surgery, but also in the proper estimation of the etiology and treatment of disease, whether regarded as strictly communicable or not.

The progress of bacteriology has been very rapid, starting indeed in the realm of surgery, where it has seized the operative field as its own; yet scarcely less dominant in the domain of medicine, and perhaps most authoritative in the comparatively unobtrusive region of preventive medicine. All this rapid accumulation of ascertained facts, and the brilliant application of them to practice, deeply impress the mind of the graduating student, and equip him with a zeal according to knowledge, unknown to his professional brethren of an olden time. The young practitioner feels that he starts out with a large measure of wisdom, which is knowledge put to use; especially when he is called upon to combat those diseases in which his academic study of bacteriology and his practical work in the laboratory of the medical school afford him both a correct diagnosis and an adequate treatment. He feels somewhat at home, even in the company of older men,

when he has to deal with the problems to which bacteriology holds the key.

But it is far otherwise when he is called upon to decide many of the common questions and to dictate daily procedures of general practice. The art of preventive medicine, as applied to the life of the family, is often a puzzling and unsatisfactory practice. Yet it ought to be one of the chief sources of satisfaction in medical practice. The intelligent laity is calling for the advice and cooperation of the profession in thousands of ways outside of treatment for actual sickness or injury. The care of the body in health is as paramount a consideration with intelligent patients as is its cure in time of sickness.

Questions of sanitation, the practical hygiene of the kitchen, bed- and bath-rooms, and especially of the nursery, dietaries for the man of active business, or of sedentary habits, for the school children, for the aged, and especially for the mother and her baby, are now questions for solution by the family physician, and may soon be problems for specialists in this department. These great matters should form an important part of the curriculum of the modern medical school, yet they do not. Those physicians who are now eminent for their work in preventive medicine and hygiene are those who have studied these subjects since graduation, and, with some exceptions, for whom their medical school education did very little to equip them to follow a natural bent in these directions. Let this question be illustrated by one example taken from the many that might be cited, viz, the most important and pressing question of infant feeding.

During the past 15 years we have witnessed a great change pass over this question, both in the minds of the laity and in those of the members of our profession. We have seen a few aspects of this question change from hazy uncertainty into a phase of enlightenment. This change has always been as remarkable as it is encouraging to the profession. For example, it is conceded that the feeding of infants should be wholly under the control of the physician. Just as the midwife has been superseded by the obstetrician, the ignorant nurse or untrained mother must be superseded by the trained and qualified physician. This position is held by the intelligent layman quite as firmly as it ought to be held by the educated physician. That it is very frequently more firmly maintained by the patient than by the physician is largely due to those medical schools which have neglected to prepare the physician for this important and remunerative work. A large part of the mortality of infancy is traceable to the lack of importance given to the subject of scientific feeding in the schools.

It is also conceded that in the absence of the proper breast milk some modification of animal milk should be employed as a substitute, and that cow's milk should form the basis of all scientific infant feeding. From this position there is now no deviation. Specialists differ as to the forms of modification, as to percentages and proportions, as to diluents, and other matters of detail. But none differ from the general proposition stated above. But scientific substitute feeding requires an intimate knowledge of milk; of breast milk as the primary example, and of modified cow's milk as the practical copy. It is not the fault of the average physician that this subject is to him very often a *terra incognita*. It is mostly the failure of the medical school to lay the suitable foundation for the experimental knowledge.

It is conceded that the modification of milk for infant feeding is a very simple thing of itself. Yet it is often regarded as a mystery and a scare, in medical practice. The schools might make its complete study one of the simplest as well as one of the surest means of practical education.

In our medical schools of the South there are no means by which the student or the postgraduate physician can obtain the training necessary to enable him to conduct thoroughly scientific infant or invalid feeding. Students in some of our Northern schools of medicine have opportunities to become more or less familiar with this branch of medicine, but in the South they have no such opportunities. These should be supplied; and I here make an earnest appeal that medical schools in the South obtain qualified men, even if they be not all doctors, who will devote their time and energy to the teaching of this great subject.

Since summer diarrhea is such a factor in our mortality, I suggest that, at least during the summer months, such of our schools as maintain a high standard of education should appoint qualified men who shall instruct, by regular weekly lectures, students and postgraduate physicians in the practical knowledge needed to understand this branch of our work. It would be an inestimable gain to earnest men to have such knowledge of the cow, her milk, its care, and the bacteriological relation of such matters to the employment of milk for infant feeding, imparted by a competent instructor. If such a chair were founded, in our school, for example, and a proper man found to fill it, we should realize that advance had been made in pediatrics.

The milk laboratories that have been established in many cities of the United States have done much to further the scientific feeding of infants. Those physicians who employ these laboratories most largely speak most strongly of the results obtained. My own experience in the use of milk, modified according to my prescriptions, at the laboratories, has been so satisfactory that I cannot praise this method too highly, and I should like to see a milk laboratory within the reach of all physicians who have infants to feed artificially. This, however, is impossible, and at best only a percentage of physicians can reach the laboratories with their prescriptions. But all physicians intending to devote themselves either to general medicine or to the special work of pediatrics should be permitted and encouraged to lay a solid foundation for this work while they are in the medical school. Therefore, I hope my appeal for special instruction in feeding will not be made in vain.

INTRACRANIAL HEMORRHAGE IN THE NEWBORN.

By W. REYNOLDS WILSON, M.D.,

of Philadelphia.

INTRACRANIAL hemorrhage in the newborn is usually the result of rhexis affecting the vessels of the meninges. It is a natural consequence of the traumatism of birth. Meningeal apoplexy, according to Cruveilhier, may be considered as the cause of death in one-third of the infants who succumb sub-partu or shortly after birth. In the experience of the writer 15 instances of intracranial hemorrhage were noted in 20 autopsies performed upon the bodies of infants dead within 3 weeks of birth. Cerebral congestion without meningeal

hemorrhage is rarely noted portmortem on account, first, of the frequency of traumatic influence in determining hemorrhage, and second, on account of the frailness of the vessel walls subjected to the pressure of augmented vascular tension.

The character of the labor as well as the presentation and position of the child are to be considered in their bearing upon the etiology of meningeal hemorrhage. Traumatic deliveries, considered in the sense of operative deliveries (instrumental or otherwise), however, are not solely responsible for intracranial hemorrhage. Natural or spontaneous deliveries, where the fetus is subjected to long-continued pressure, contribute a quota of the deaths due to this lesion in the newborn.

The classification of these hemorrhages may be: (1) Anatomical, that is, as to the location of the effusion occupying the meningeal spaces; (2) etiological, as to the occurrence of the hemorrhage primarily from traumatism, or secondarily from mechanical causes, such as pressure acting either upon the vessels within the cranium or interfering with the intracranial circulation from without. Cachectic conditions dependent upon vicious development or nutritional defects are to be included as causes.

The anatomical classification of intracranial hemorrhage serves, perhaps, the better purpose of description. It may be arranged as follows:

(1) Extrameningeal; (2) arachnoid, or subdural; (3) subarachnoid; (4) ventricular; (5) mixed.

Cerebral apoplexy proper is of rare occurrence in the newborn.

EXTRAMENINGEAL.

The dura mater is closely applied by its outer or periosteal lamina to the interior of the skull. This adherence is especially intimate in the newborn. Extrameningeal hemorrhage (cephalhematoma interna) is therefore rare. Traumatism sufficient to cause laceration of the middle meningeal artery or its branches are usually the cause of effusion in this region. Fracture of the flat bones during birth generally involves extensive laceration of the extradural vessels. The longitudinal sinus is rarely the source of bleeding. Extrameningeal hemorrhage is usually accompanied by invasion of the arachnoid cavity. This form of hemorrhage, if extensive, reveals itself directly by marked symptoms. The immediate results may give rise to grave symptoms of impaired motility and sensibility.

It is not impossible for absorption to take place. The fluid portion of the blood may first be absorbed, the remainder of the effusion existing as a blood cyst.

ARACHNOID OR SUBDURAL.

Arachnoid hemorrhage is the result of effusion into the cavity limited by the arachnoid membrane beneath and the inner or supporting lamina of the dura.

The origin of this form of hemorrhage is usually traumatic. The liability to rupture of the arteries and veins traversing the surface of the convolutions is easily comprehended when the character of the membranes supporting these vessels is considered. The pia, for instance, is nothing more than a network of delicate vessels which are held together by the supporting areolar tissue. The subarachnoid tissue also, which bridges over the space between the pia and the dural surface of the arachnoid, consists of fine trabeculae in

no way constituted to withstand the shock of traumatism. In addition to this the cortical veins have extremely thin walls. They are without muscular coat and are unfurnished with valves (Morris, *Text-Book of Anatomy*). The traumatic conditions, therefore, existing during birth are favorable to rupture of these cortical vessels irrespective of traumatism. Pressure due to obstruction of mechanical origin during birth or to pathological conditions in extrauterine life may so increase venous pressure as to cause rupture with extravasation.

The causes, therefore, of subdural hemorrhage, according to Barthez and Sanné, may be summarized as follows:

1. Direct injury to the vessels from compression of the head during its expulsion.
2. Unusual molding of the head.
3. Torsion of the cervical vertebrae during forcible extraction of the head.
4. Constriction and winding of the cord.
5. Compression of the thorax incidental to protracted labor.

Among the causes operative alike sub partu and after birth it is necessary to consider also arrest in the encephalic circulation from intra or extracranial pressure. Obstruction of such character may be due to:

1. Neoplastic growths within the cranium.
2. Compression of the superior vena cava by bronchial nodes.
2. Compression of the abdominal vessels by tumors of the liver, spleen and mesenteric glands.

The cachexiae of the newborn—syphilis, tuberculosis, purpuric conditions, and malnutrition, especially in premature infants—may predispose to intracranial hemorrhage.

The compression hemorrhages are likely to be of gradual occurrence and are sometimes unaccompanied by important symptoms. They may, therefore, be overlooked as a cause of death in the newborn. Serous infiltration of the subarachnoid space together with hydrocephalus is apt to occur coincidentally with hemorrhage. On the other hand, in athrepsia the cerebrospinal fluid is lessened. In this way the natural protection to the encephalic vessels is lessened (Parrot). As to the pathological evidences, the subdural space may be occupied by an effusion representing a more or less extensive hemorrhage. The extravasation may extend over both hemispheres, but it rarely involves the anterior lobes. The blood is not apt to become completely clotted, although small shred-like clots are sometimes found adherent to the arachnoid and dural surfaces. The effused blood may separate into two layers, one consisting of an imperfectly-formed coagulum bearing the imprint of the convolutions which are sometimes swollen and flattened, the other composed of a granular deposit adherent to the dura. In other instances the solid portion of the blood becomes absorbed while the liquid remains, giving rise to external hydrocephalus. According to Parrot it is even possible for the effused blood to become completely absorbed.

The extravasation may vary in extent from a few grams to 100 grams or more.

The points of rhexis are rarely to be found. The ventricles are usually not invaded in meningeal hemorrhage, although the choroid plexuses partake of the engorgement, which is evidenced by the general hyperemia of the meninges. Externally the periosteum also

may be the seat of extensive hyperemia even in cases where there is no evidence of external traumatism. The sinuses of the dura and the plexus of veins held within the substance of the dura mater, and constituting the basilar sinus are usually found distended with blackish partially-formed clots. The fibrinous envelope which surrounds physiological coagula is rarely found in instances of subdural effusion. The membranous pellicle consequent to secondary inflammation following hemorrhage is also absent.

SUBARACHNOID.

The locus of the effusion in subarachnoid hemorrhage is the subarachnoid space proper, that is, between the arachnoid and the pia, or between the pia and the brain.

The causes of subarachnoid hemorrhage are the same as those responsible for subdural extravasation; namely, rupture due to traumata or embarrassment of the encephalic circulation. The dyscrasia of purpura and the conditions present in athrepsia may culminate in subarachnoid effusion. Thrombosis of the sinuses of the dura mater and pressure from intracranial aneurysms may be noted as causes of hemorrhage in this locality.

The effusions may be of varying extent and volume, appearing either as disseminated points of extravasation on the surface of the pia or as a thick layer covering the surface of the brain. In extensive extravasation with edema the convolutions may be flattened as the result of pressure. The blood, when freshly effused, is liquid, syrupy and brown in color. It may form solid blackish coagula that recall the fleshy clots of the heart cavities. The clot is usually firmly applied to the convolutions and forced into the intervening depressions. It is usually detachable, but in some instances may be so adherent as to drag away portions of the brain in its removal. The localized effusion never ultimately becomes encysted. (Barthez and Sanné.)

The effusion commonly occupies the convexities of the cerebral hemispheres and the surface of the cerebellum. It may involve the base of the brain, penetrating to the spinal canal and to the ventricles by means of the foramen of Majendie. The effusion may be limited to one side of the brain-surface. The veins of the pia, on account of their voluminousness, usually exhibit extensive engorgement, being distended with blackish coagula. The sinuses of the dura are also distended with clots. When the blood is abundant and the effusion of long standing the convolutions of the brain may be flattened and pressed out of shape. The brain may be the seat of local atrophy (porencephalus).

VENTRICULAR.

Ventricular hemorrhage may occur by the extension of the effusion in the subarachnoid space. Primary hemorrhage is rare, except from rupture of the choroid plexus.

MIXED.

Mixed hemorrhage is characterized by the presence of blood in the subdural and subarachnoid spaces as well as in the ventricles. Such hemorrhage is commonly due to severe trauma.

SYMPTOMS OF INTRACRANIAL HEMORRHAGE.

Should the infant survive the shock of delivery and the

asphyxia which is apt to accompany hemorrhage—the results of difficult labor—the primary symptoms may be masked. At first nothing abnormal may be noticed about the child. This is especially the case if the lesion be of intrauterine origin. If the hemorrhage occur in extrauterine life, the evidences are more or less acute in character.

The symptom-complex is usually as follows: somnolence, anorexia, digestive disturbances with vomiting (the vomited material sometimes consisting of bloody mucus), piercing, hoarse and fretful cry, contraction or dilation of the pupils, convulsions. The outcome of the case is usually fatal, death being preceded by a condition of coma. The temperature is variable and irregular. A continued rise in temperature is not commonly observed. Ordinarily a moderate rise with irregular depressions and exacerbations continues until a few hours previous to death, when a sudden antemortem rise takes place. Exceptionally a depression in temperature occurs coincidentally with the exhaustion preceding death.

The following description of meningeal hemorrhage is typical of the course of such cases: The infant of Mrs. K. was extracted by forceps, after a delay of $3\frac{1}{2}$ hours with the head fixed in the pelvic cavity. The evidences of intrauterine asphyxia were present in the irregularity of the fetal heart-sounds and the presence of meconium in the amniotic fluid. The child nursed and seemed well unto 4 days after birth, when nystagmus of both eyes was noticed. The temperature on morning of the fourth day was 101.2° . On the following day marked opisthotonos was observed. The infant's cry was shrill and incessant.

On the sixth day internal deviation of both eyes was present. The infant was cyanosed and exhibited venous congestion of the surface in the region of the head and thorax. The tongue and lips were red and glazed. The right corner of the mouth was drawn downward and the under lip depressed. The emaciation was very marked, the child having lost $1\frac{3}{4}$ pounds since birth. The arms were extended and rigid, the fingers being flexed, and the thumbs inverted. The evening temperature was 95° F. The respirations were labored, 72 to the minute. General spasmodic movements were present.

On the seventh day the child was unable to swallow. At that time it had not been known to urinate for 2 days. General convulsions occurred, followed by coma and death.

Secondary to the shock, the result of the lesion, the effects of cerebral compression are shown in paralysis with spasm of all the extremities (diplegia). Hemiplegia or paraplegia may occur as a possible consequence of hemorrhage (Rotch). Hyperesthesia is a marked symptom. In certain instances the course of the case may be marked by a condition of total relaxation. In other cases the phenomena of compression and the consequent paralyzes may appear insiduously and therefore escape detection.

DIAGNOSIS OF INTRACRANIAL HEMORRHAGE.

The evidences of a central paralysis are usually indicative of hemorrhage. The condition of the anterior fontanel should be noted; in hemorrhage the intracranial pressure is greatly increased, causing a bulging of the fontanel, whereas in athrepsia or acute conditions accompanied by defective nutrition there is a depression.

Conditions of cerebral congestion may occur secondary to other acute lesions in the newborn, such as asphyxia, lobular pneumonia, disturbances in the gastroenteric tract, septicemia, and tuberculosis. In cases where the hemorrhage occurs as a manifestation of certain cachexia, the association of icterus and the translucent edema of the extremities is to be observed. Ecchymoses in the pleura, the pericardium, the mucosa of the upper intestinal tract, and hemorrhagic infarcts of the lung are commonly met with postmortem as having been associated with the principal hemorrhagic lesion.

PROGNOSIS OF INTRACRANIAL HEMORRHAGE.

Extensive meningeal hemorrhage is not likely to be absorbed. Hemorrhagic conditions occurring sub partu when associated with the milder degree of asphyxia may permit of recovery. Where recovery occurs in such cases the diagnosis is open to doubt, as cerebral congestion may be accountable for the supposed evidences of compression. The latter effects of hemorrhage, resulting in secondary pachymeningitis, may be observed. Permanent contractures, idiocy and sensorial disturbances may be the final outcome. Encephalitis and leptomeningitis are rarely observed as consequences of hemorrhage. Hemorrhagic foci compatible with life may exist and in some instances may be accountable for the origin of external hydrocephalus.

TREATMENT OF INTRACRANIAL HEMORRHAGE.

According to Jewett, the primary object in treatment in hemorrhagic lesions occurring during birth and associated with asphyxia, is to overcome the atelectasis by forced respiration. Schultz's method for the induction of artificial respiration, warm whisky baths, and inflation of the lungs by forced inspiration, should be resorted to. The infant should be regularly immersed in a warm bath (temperature 105°) at intervals of an hour. While in the bath the surface should be gently rubbed. In the intervals between bathing the infant should be enveloped in a light blanket, and the peripheral circulation stimulated by heaters applied to the lower extremities. An ice-cap should be constantly applied to the head. Small doses of sodium bromid ($\frac{1}{2}$ gr.) combined with tincture of digitalis ($\frac{1}{4}$ gt.) may be given at two-hour intervals. Inhalations of oxygen may be used to counteract the results of inactivity of the respiratory center. In case the infant is unable to suckle, human milk may be administered after being pumped from the breast. If breast milk is not obtainable, peptonized milk, one to seven, or a mixture containing two ounces of milk, two of cream, fifteen of sterilized water, one of lime water, milk sugar $3\frac{1}{2}$ drams (F. 1, S. 5, P. 0.75) may be given by means of a medicine dropper. In the writer's experience the administration of whisky is without benefit.

The Demonstration of Bile Pigment in the Urine in Cardiac Affections.—F. Ott (*M. schweizer med. Wochenschrift*, 1900, No. 27). In order to determine the question whether the yellowish discoloration of the skin in grave cardiac affections is due to a true **bilirubin-icterus** or to other pigments, the urine of a series of cases was examined, both by Gmelin's and the improved Salkowski tests. Positive results were obtained in 12 cases. By Salkowski's method bile-pigment is not detected in the urine when the latter contains much albumin or even hemoglobin; neither when medicaments like salol have been taken. [M.R.D.]

THE CAUSES AND TREATMENT OF URGENT AND SERIOUS CONDITIONS IN THE NEWBORN.*

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of Philadelphia.

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IF WE leave out of consideration malformations and monstrosities, the causes for such conditions may be divided into: (1) Premature birth; (2) plural births; (3) pressure on the umbilical cord; (4) pressure on the head; (5) pressure on the thorax; (6) toxic conditions of the fetal blood incident to emotional and somatic states incited in the mother during parturition; (7) essential conditions of the fetus.

Premature Birth.—Very few children survive when born prior to the beginning of the seventh month of gestation. The number is, however, materially increased by modern incubator methods of treatment. It is not an easy matter to fix on any organ or function the difficulty or inability of the infant to sustain extrauterine life from the time it is considered viable to the time when in due course of development it is intended for this phase of its existence. The immature condition of the bulbar centers, which preside over the more distinctly vital functions, as well as the unripe state of the organs directly concerned in circulation, respiration and nutrition are all concerned. The work which that large and important organ, the placenta, would in a normal relation have continued to perform for a period of some weeks, must now be done by structures that lack the morphologic and histologic perfection, fully adapted to it. Most practically, if not most scientifically, we may speak of feeble vitality, general immaturity, and inadequate adaptation. Life for the time being, is pathologic, rather than physiologic. Nature's plans have been disturbed, powerful influences are prematurely demanding acceptance or resistance.

Plural Births.—Twin pregnancies present, even at full term, quite often somewhat immature products. Vitality in one or both is apt to be low, and death of one or both is more common than under the same circumstances where the birth is single. The same remarks apply with progressively greater force to plural births where the number exceeds two. If to the element of plurality that of premature nativity is added, the chances for survival are still further lessened.

Pressure on the Umbilical Cord.—Any degree of pressure that interferes with the circulation through the cord must be injurious as affecting not only the respiratory function of the child, but as interfering with the whole train of metabolic functions which are served by it. It is probable that incomplete obliteration of the circulation, while transmitting enough oxygen to sustain life, if long continued, results in some of those conditions which we will consider in subsequent sections, and which are more difficult to deal with than the asphyxia that results from a comparatively short, complete compression. It is well to remember that there passes through the cord to the placenta not only CO₂, but all waste products of metabolism, which in extrauterine life go to such emunctories as the kidneys and skin, while from the placenta the blood carries not only oxygen but nutritive proteids. Bearing all this in mind we may see that in partial interference with the placental circulation degrees of inanition and of toxemia

comparable to uremia may be established. While we may admit that asphyxia is the chief result from compression of the cord, we need not and should not ignore the associated effects. Indeed we are forced to the conclusion that in some cases (the ones, too, most serious to deal with), these usually secondary considerations become primary in importance.

A mechanical effect of pressure on the cord is the clamoring back of the blood on to the central organs of circulation, with consequent distention and final stoppage.

Pressure on the Head.—Pressure on the head must be quite prolonged and very severe to do serious injury in the more ordinary presentations and positions. When exerted in certain directions, it may result in apoplexy and paralysis, or in such injuries as lead to the cerebral birth palsies, which develop beyond the period of infantile life which we are now considering, and will therefore in the present paper be left out.

I can, however, see no good reason for doubting that head-pressure is occasionally concerned in the production of those apparently lifeless infants, by serious interference with the functions of the important centers in the medulla oblongata, which prevent the normal establishment of the respiration, circulation and digestion. An atelectatic lung, a feebly innervated heart, or a failure of the infant to suckle or digest, one or all, may be the expression of such a condition of the nervous centers.

Pressure on the Thorax.—Whether pressure on the thorax can of itself beget any very serious danger to the life of the infant, I admit is rather questionable. In certain positions, and especially in breech presentations when prolonged, I am inclined to believe that it can seriously interfere with the action of the heart, and thus be an element of danger, both before delivery and by a continuation of the effect after birth.

Toxic States of the Fetal Blood Incident to Parturition.—The effect of depressing emotions on the mother's milk, as well as the reactions of psychical states on somatic functions generally, are sufficiently well recognized to warrant the belief that the mother's feelings can have an effect on the vitality of her unborn child. Close observation on the part of the accoucheur will, I think, tend to confirm this view. Prolonged suffering, great nervousness and excitement, anxiety and fear relating to herself and child, especially when coupled with the exhaustion due to the physical strain of labor, and which they materially increase, bode no good for the vitality of the child. When joined to more directly acting causes, with which they are often associated, the gravity of the situation is increased. As to its pathology while obscurity may be still sufficient to allow the skeptic to smile at its mention, there is a fairly rational explanation in a hypothetical toxin. This, transferred through the placental circulation and acting on nervous and muscular structure especially, may be assumed to work very decided mischief. Especially impressionable to such a cause we might suppose the medullary centers, whose normal condition is so important.

Essential Conditions of the Fetus.—Under this head, without limiting myself too severely to scientific accuracy, I have thought it practical to classify such conditions of the child as are inherent in the germ, whether derived from the ovule or the spermatazoa or both. Also such as affect the development of its constitutional characteristics, due to influences acting on it throughout

* Read before the meeting of the Montgomery County Medical Society, at Norristown, Pa., October 10, 1900.

gestation. Improper hygiene and sanitation, acute or chronic diseases, mental suffering or physical abuse acting on the mother during any period of her pregnancy are all more or less influential in determining the health, development, and vitality of the child. The discussion of the transmission of syphilis, tuberculosis, neurosis, and other diatheses, would lead into heredity in all directions, and must be here avoided, but its mention under this heading is fully relevant.

The indications for treatment are of course best evolved out of the most complete knowledge and recognition of the numerous acting causes, together with the pathological conditions they produce, and the means which scientific medicine has revealed that can be applied in removing or overcoming them. Still, too refined a scientific method, here as elsewhere, may rather conduce to hesitation and irresolution than to that prompt and bold action which is best suited to successful procedure and results. A cool head, quick decision, good sense, and prompt action are all necessary.

In formulating indications and suggesting methods I shall not be exactly guided by the text of the etiology or the pathology. As a matter of fact, at the moment of birth the accoucheur may find thrust on his immediate care a fully developed, lusty infant, which even before the whole body is extruded, cries heartily and exhibits every sign of strong vitality and good health. He has but little to do, except to congratulate and compliment the mother, to wait a short time before tying and severing the cord, and then to pass the embryo man or woman, who is expected to mould the destinies of nations, to a smiling and bustling nurse. Or he may have one of two other things—a blue, bloated, breathless baby, or a pale, withered, relaxed, nerveless, pitiable, and apparently lifeless creature.

In the first instance, a slap on the buttocks, a sweep of the finger over the fauces, or a touch to the glottis, will often be rewarded by a good loud cry, and soon the normal color is appearing, and in a short time all is well. Occasionally one may be obliged to give the youngster a good dash of cold water on the face, chest, or back, and to roll it for a moment or two on the bed before one gets so satisfactory a result. But generally, when once there has been a good cry, unless the child is otherwise feeble and immature, anxiety is over, and, to tell the truth, with the experienced doctor has hardly at any time been present.

In the second instance, however, from the first the practitioner may have grave doubts of the outcome. With the cord uncut, he proceeds first, as in the former instances, attempting to start respiration by reflex excitement. Failing in this as he often will, he begins the Sylvester method, changing by and by to the Marshall Hall method of artificial respiration. Or he may make traction intermittently on the tongue, or he may thrust his finger through the anus to dilate rapidly the sphincter, or resort to mouth-to-mouth inflation. Failing still, he calls for two vessels, one with cold and the other with hot water. Dips the child for a considerable period into the hot bath, and then for a moment into the cold, repeating again and again. He has refrained from cutting the cord, but now determines on this and allows a small quantity, a few teaspoonfuls of blood to flow from it. He then may again resort to one or another of the methods already enumerated, or possibly adopt the method of Byrd or of Schultze. Somewhere along the line he may have seen a quick spasmodic gasp, or have heard a feeble moan, and he is encouraged to work on,

now and then after many minutes, or even an hour or more of strenuous work, to succeed fairly in establishing a rather feeble respiration. But he is not yet done with his charge, as we shall presently see. We have been traveling fast in the last few minutes, and lest you may charge me with haphazard, reckless and excited procedure, I must make myself a little more clear. I by no means desire to create the impression that we should jump indiscriminately and too rapidly from one method to another. While a long siege may bring a number of them into proper requisition, any one deliberately chosen, should be patiently and fully practised for some time. The advantages of the Marshall Hall and the Sylvester method are that they can be thoroughly carried out without cutting the cord. Even Byrd's system can be adopted with the cord attached. That of Schultze, however, requires separation.

Respiration and circulation now being established, to as full degree as the more active immediate efforts can accomplish, we have probably the task of dealing with a very weak, premature, and immature, or otherwise diseased creature. In such cases especially no bathing or washing of the baby should be done at once. Through my whole practice I have adopted with nearly all infants the following method: Immediately after birth, before ligating the cord, the body is laid on a clean napkin sufficiently removed from the mother's discharges of blood to prevent them from soiling it, but without causing tension on the cord. Clean lard is rapidly rubbed over its whole body in plentiful quantity, especial attention being given to the armpits, groins, scalp, and back, where the smegma is thickest. A soft clean cloth is used to rub off the smegma and lard together, and in five to ten minutes, the cord having been ligated and cut, a perfectly clean child is ready to hand to the nurse. No unguent is as good as lard.

Cleansing in this way having been accomplished while jealous care has been meanwhile observed, not to allow it to become chilled, the question arises whether to wrap the immature child in cotton or to place it in an incubator. The incubator being seldom at hand the former must generally be resorted to as a temporary expedient, and where the infant is near full term, or is not too feeble, it may be a sufficient resource throughout.

The accoucheur should always have in his obstetric bag enough absorbent cotton for this purpose. The best way to apply it is to lay down a good thick layer, long enough to reach from the arm-pits to the buttocks, and wide enough to envelop the body of the child. On this at right angles should be laid four narrower layers, two above and two below. When the baby is put on this bed, the two narrow layers are first brought forward over the scapular regions, so that their front ends rest on the chest, when the large layer is brought round the body and lightly run over with a narrow bandage, or fastened by tapes, care being exercised that there is no tight binding. The legs and feet are then separately wrapped in the lower projecting layers, which are secured by a bandage. Lastly the arms are separately enveloped. By pulling away soiled tufts of cotton, and replacing by others the toilet of the infant can be easily and expeditiously made. Artificial heat must be furnished by hot bottles or hot water-bags.

If an incubator is determined on no expensive apparatus is essential. A little mechanical ingenuity, with the instructions of most textbooks on the subject, will help one out.

The feeding must be very carefully managed. The child may be too feeble to nurse from the breast, even though such food were available. Drawing the milk with a breast pump and feeding with a dropper or spoon, in about half-ounce quantities can then be resorted to, or a mixture of whey and milk may be used in about the same quantity, to begin with. Much patience and skill are often required before the proper article for an artificial food is finally found, and before the limits of the child's digestion are fully learned. This subject is too extensive to elaborate within the limits of this paper, and my hearers are referred to the textbooks for its study.

There remains but one other phase of the treatment in such cases that I wish to discuss. With all due care as to warmth and feeding, and other points in hygienic regulation, the use of drugs may also be required. In spite of all the faithfulness he may have exercised in bringing about resuscitation, on his first visit to his lying-in patient, the doctor occasionally finds instead of normal quiet deep breathing, that every breath of the child is accompanied by a feeble moan, or a slight sigh. The pulse is almost imperceptible, and the skin and lips are ashen-gray or slightly dusky. When the child is handled, it either does not cry at all, or there is only a plaintive and pitiable sound. He determines on some stimulation. Under such circumstances I have found the most gratifying results from the administration of atropia or nitroglycerin. The ordinary hypodermic tablets, which every one carries in his cases can be used for preparing the medicine, in such a way that each teaspoonful of the atropia solution contains from $\frac{1}{30000}$ to $\frac{1}{20000}$ of a grain, while the trinitrin solution should contain a similar fraction of a drop of the 10% solution. A dose of each or of one or the other may be given, and its effects watched. Ordinarily, it is repeated from two to six times in the 24 hours. Improvement in the complexion, the pulse, and the respiration can often be noted within an hour of the first dose, and can be maintained by judicious repetition till the powers of nature rally. It is especially this point that I wish to emphasize, as I am not aware that this medication has been anywhere advocated. I am fully satisfied that it has materially assisted me in a number of instances of this kind in tiding over very critical hours and days. The recognized physiologic action of both these powerful drugs may be invoked, to explain their usefulness in enabling a weak heart to gain power, and lessening the resistance in a collapsed lung, and incompletely expanded systemic capillaries. But theory aside, let me ask at your hands a careful trial with the hope that you may find good results.

OTITIS MEDIA IN CHILDREN AND ITS TREATMENT.*

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At the risk of being deemed dogmatic, I shall endeavor to be as forcible as may be consistent with the deliberations of this association. Perhaps I may lay

myself open to criticism for my positive language, but this paper is a protest against unnecessary and sometimes culpable ignorance, and it is not the vaporing of one narrow mind, but the outcome of well-substantiated facts. "How long, Lord, how long," we that know, may well exclaim, "How long will it be before the average intelligent citizen will recognize the seriousness and importance to life of inflammation within the ear?"

I have been told time and time again by otherwise well-informed people that they "thought nothing of a discharging ear;" and by physicians of the first class that they "could not get people to pay any attention to discharging ears, especially in the case of children;" "paid no attention to the ear;" "let the ear-drum break of itself;" "never made a practice of looking at children's ears when sick with fever, unless their attention was especially directed to it," etc. This is certainly a strange state of affairs, for surely pediatrics is a specialty of the general practitioner, and a very large proportion of children have otitis media. Indeed, otitis is mainly a disease of early life, as is evidenced by the average age of patients with this affection in aural practice. Perhaps this may be explained, as does MacEwan,¹ by the reason that aside from a certain proportion of cases that heal spontaneously or by treatment, the obscure and oftentimes unrecognized complications of the disease kill the patient before maturity. In regard to the danger to life from suppurative otitis media I voice the opinion of all otologists and surgeons when I repeat the remark of MacEwan, who says: "I would sooner have a charge of dynamite in my ear than a drop of pus." It is our duty as members of a benevolent fraternity, tired of it though we may be, to educate the public as well as ourselves in this as in other matters of health.

Most of the diseases of infancy are certainly due to definite bacterial infection arising from the pharyngeal postnasal chamber, distributing the infection to the middle-ear, the brain, the lungs, the stomach, and the intestines. It is, therefore, beyond question that the practitioner of medicine should be fully qualified to treat all ordinary diseases of the upper air-passages, and to take charge of that very common affection of children—acute otitis media—without the necessity of referring to an otologist. If properly treated, and seen early enough, acute inflammation of the middle ear seldom or never results in chronic suppuration, and I state with all the emphasis in my power that chronic suppuration of the middle ear is positively the result of either neglect, improper or insufficient treatment. (The exceptions to this rule are so rare that I can be dogmatic on this point.) In a very large proportion of cases the fault lies with the patients or the parents, and it is only fair here to state that I have many times had the opportunity to observe in consultation the most approved scientific style of treatment by the hands of the family physician.

Even to one whose daily work is among aural patients, recent statistics are astonishing: Barth,² of Leipzig, found that out of 600 infants ill with various affections, 80% were found to have a lesion of the middle-ear.

Von Tröltsch³ found in examining 47 petrous bones taken from unselected children, that the middle ear was normal in only 18; 29 ears showing varying degrees of purulent or mucous catarrh. Schwartze found the tympanum filled with pus in 2 out of every 5 examinations. Wreden found a normal middle ear in only 14 out of 80 cases in children. Perhaps the subject is most

* Read before the Wisconsin State Medical Society, June 21, 1900.

prominently brought before you by quoting the table of Ponfick,⁴ who made 100 consecutive autopsies of infants, finding the ears normal in only 9 cases, there being unilateral otitis media in 13, and bilateral in 78. This table and the importance of the subject was most forcibly called to my attention by an able article by E. H. Pomeroy,⁵ of Calumet, Mich.

PONFICK'S TABLE.

	Normal.	Unilateral.	Bilateral.	Normal.	Unilateral.	Bilateral.
NONINFECTIOUS PROCESSES.						
1. Congenital heart-disease	1		1			
2. Extensive burns			1			
3. Noninfectious dermatitis		1	2	1	1	4
INFECTIOUS PROCESSES.						
A.—Acute.						
1. Infectious dermatitis	1		3	1		3
2. Diphtheria	3	1	2			
3. Scarletina			1	3	1	3
4. Pneumonia	1		10			
5. Meningitis (with or without pneumonia)	1		8	1		18
6. Gastroenteritis, acute	1	2	5			
7. Gastroenteritis, chronic (with or without pneumonia)	1	5	21	2	7	26
8. Otitis media only		2	6			
9. Otitis media with acute bronchitis			2		2	8
B.—Chronic.						
10. Chronic tuberculosis only		1	3			
Chronic tuberculosis with acute generalization (acute miliary tuberculosis)	1	1	10	1	2	13
11. Congenital syphilis			3			3
	10	13	78	9	13	78

Ponfick's attention to the subject was drawn by observation of his own children who had been dangerously ill with gastroenteritis: the symptoms became alarming in spite of the most careful attention of himself and colleagues and increasingly so until the sudden amelioration which was simultaneous with the discharge from the ear. The improvement in the gastroenteric condition continued until there was a cessation of the discharge from the ear, then came a relapse of the gastroenteric symptoms very gradually and apparently in connection with some changes or faulty preparation of the food. The change for the worse was so gradual and so naturally ascribed to the faulty food that the discharge from the ear was well-nigh forgotten, until it recurred and with it again a pronounced amelioration of the gastroenteric symptoms. This happened not only with one child, but with two or three in the same family. It impressed Ponfick so much that he, with his associates, observed carefully the condition in the first subsequent 100 autopsies of children under three years of age. The results of these necropsies are embodied in what will be now designated Ponfick's table, which contains some most astonishing presentations of facts concerning not only gastroenteritis but many other

conditions in infantile mortality. This table and paper are thoroughly discussed in Pomeroy's article.

At our meeting in 1897 I went over some of the same ground in a paper upon the "Indications for Paracentesis of the Membrana Tympani in Otitis Media Acuta," which seemed to excite some interest and discussion and its publication was noticed elsewhere in a number of medical journals. I then said that from the point of view of a modern otologist a discussion of the reasons for early opening of the drumhead in otitis media almost seemed superfluous reiteration. Since that time, however, I have had several hundred cases of otitis media, both acute and chronic, in a very large proportion of which more or less previous treatment had been done by other physicians, and in not one of which had there been a paracentesis made at the proper time. Most of these have come after spontaneous perforation had taken place. Those, however, who were so fortunate as to have applied for treatment early in the course of the disease before infection of the deeper structures had taken place and before the drumhead had burst, recovered in a very short time, the duration of the average case being less than a week. At that time I gave the following indications:

1. Earache is but a warning of perhaps dangerous disease, the pain of which may be masked by opiates to the ultimate risk of the patient's life.

2. If the drumhead is much reddened or bulging, or if fluid is detected, it is advisable to incise the membrane at once before it bursts, as the character, location, and extent of the tissue-destruction is thereby limited.

3. Pain is relieved at once by the paracentesis; the course of the disease is shortened, the symptoms mitigated, and sequelae prevented by this and appropriate after-treatment.

4. If the case is seen after spontaneous perforation, the hole in the drumhead will often be found to be too small or poorly adapted for proper drainage, and it may be advisable to enlarge it by paracentesis.

5. The little operation gives but temporary pain, and if the physician does not make too much of a show, will be tolerated by any patient, who will be thankful for the relief afforded his symptoms.

6. Meddlesome after-treatment should be discouraged, as when the diseased part is protected from further infection, and the discharge not too frequently removed, the case will usually run a mild course.

The canal should be wiped dry and rendered aseptic by sublimate or boric wash, the paracentesis done under sufficient illumination by the head-mirror and speculum, which should be in the hands of every practitioner, who should not hesitate to perform the operation in any case where an otologist is not available. A wick of iodoform gauze should be placed in the canal, to be removed not oftener than twice a day for gentle removal of the discharge by gentle syringing with warm boric-acid solution, after which the canal is wiped dry, another wick of iodoform gauze inserted, and absorbent cotton placed in the canal to exclude the outer atmosphere. Attention to the immediate causes of the middle-ear affection should be given, general symptoms met by phenacetin, atropin and quinin, the bowels moved by calomel and salines, and the nose and throat sprayed by warm alkaline solutions for cleansing purposes and the nasal irritation and intumescence relieved by camphor-menthol or other appropriate spray.

In order to place before you the advantages of early paracentesis and the above described treatment, in my

experience, I cite brief case histories of cases that have been under my care (in private practice) from January 1, 1900, to May 1, 1900. You will note that the cases of acute otitis media which were seen at an early stage and paracentesis done are very much alike in that immediate relief of the pain and other symptoms was obtained; the duration was very brief and in all cases the drumhead healed with complete restoration of hearing. A second group of cases is made of those in which spontaneous perforation of the drumhead had occurred before applying for treatment. These have likewise done well; in a number the perforation was insufficient to allow of ready exit of the discharge from the middle ear and the perforation was enlarged with much benefit, and in most cases a speedy recovery followed under treatment by gauze drainage.

A third group of cases is made of those in which chronic suppuration of the drumhead attended by necrosis of the walls of the tympanum and ossicles, polypoid and granulation formation had taken place. In a number of these, by minor operative procedures and antiseptic means, healing was obtained; others are yet under treatment. These and those which I place under group 4 are a decided contrast to those in the first and second group. I hold them up to you as "horrible examples." All are certainly the result of neglect, of improper or of insufficient treatment and have only come to the hands of the otologist when warned by painful or severe symptoms that their life was in danger. By going back in my case books for ten years, I could multiply such examples by the hundred and furnish you with many more, such in which the patients were not so fortunate, for death ensued before proper treatment could be applied. I quote you but one example of the latter, which I class under group 5, as but one such case has been under my observation during the last 4 months.

GROUP I.—Cases of *Otitis Media Acuta*, applying for treatment before spontaneous perforation of drumhead occurred. (7 cases.)

CASE 1.—I. L., age 23, Wauwatosa; referred by Dr. Cutler; acute otitis media L.; paracentesis, gauze drainage; duration of discharge after beginning treatment, 5 days.

CASE 2.—L. M., age 14, Milwaukee; seen in consultation with Dr. Reinhard; suppurative otitis media R. and L., following grip; treated by paracentesis, and subsequent dressings by Dr. Reinhard; healing of both Mt. in 2 weeks.

CASE 3.—D. T., age 5, Milwaukee; acute suppurative otitis media L.; paracentesis, gauze dressing; duration 3 weeks.

CASE 4.—C. L., age 50, Milwaukee; referred by Dr. H. M. Brown; otitis media acuta; hemorrhage R.; paracentesis, gauze drainage; duration, 1 week.

CASE 5.—Mrs. W. D., age 30, Milwaukee; referred by Dr. Berger; otitis media acuta L.; was suffering great pain and had taken considerable morphin during last 3 days; paracentesis was done with immediate relief, gauze drainage; discharge ceased in 2 weeks.

CASE 6.—Sr. A., age 43, Milwaukee; acute otitis media R.; paracentesis and antiseptic dressing; duration of discharge 4 weeks.

CASE 7.—Miss T. G., age 25, Milwaukee; referred by Dr. Batchelor; acute otitis media L., several days; no discharge; mastoid tender; temperature 100.5°; paracentesis, free discharge, iodoform gauze drainage; extent of treatment, 1 week.

GROUP II.—Cases of *Otitis Media Acuta*, applying for treatment after spontaneous perforation of drumhead occurred. (8 cases.)

CASE 8.—M. W., age 8 months, Milwaukee; otitis media 2 weeks following scarlet fever; large perforation in R., small

in L.; paracentesis, gauze drainage both ears; duration about 6 weeks.

CASE 9.—Miss E. H., age 25, Green Bay; referred by Dr. Brett; acute suppurative otitis media for 2 weeks R., with facial paralysis of 10 days' duration following grip; retention symptoms; small perforation and bulging membrana flaccida; paracentesis released considerable serum; gauze drainage; membrane healed; no discharge; in 3 weeks all symptoms relieved, except the Bell's palsy, which was nearly well 2 weeks later.

CASE 10.—W. W., age 10, Milwaukee; subacute otitis media; perforation L. Mt.; this is a recurring case; patient has been under treatment, more or less, for the last 5 years, having had a number of attacks of otitis media, each of which has been relieved within a few days by paracentesis and gauze drainage; adenoid and other operations have been done with benefit.

CASE 11.—M. B., age 3, Milwaukee; referred by Dr. Mueller; otitis media acuta R. and L. 1 week; ruptured drumhead one side; double paracentesis R. and L., gauze dressing; healing in 3 days.

CASE 12.—B. B., age 1, Milwaukee; referred by Dr. Mueller; otitis media acuta R. and L.; small perforations both sides; double paracentesis R. and L., gauze dressing; healing in 1 week.

CASE 13.—Mrs. A. H., age 25, Crystal Falls, Mich.; referred by Dr. Darling; acute suppurative otitis media 2 weeks before; slight discharge from middle ear, which ceased after paracentesis and 1 dressing.

CASE 14.—Mrs. C. M. F., Mt. Clare, N. J., referred by Dr. Bradfield of La Crosse for simple dressing for an acute otitis media; referred to Dr. Allport, of Chicago, and Dr. Knapp, of New York, as she was on her way home.

CASE 15.—Mrs. T. P., age 45, Milwaukee; acute suppurative otitis media R.; discharge for 4 days; retention symptoms; hyperexia; had been under treatment by a high potency homeopathist; great pain for 5 days; paracentesis and gauze dressing relieved symptoms at once; although patient got immediate relief, she returned but once; subsequent course unknown.

GROUP III.—Cases of *Otitis Media Suppurativa Chronica*. (12 cases.)

CASE 16.—W. G., age 4, Milwaukee; referred by Dr. Jermain; chronic suppurative otitis media; perforation both membrana vibrans R. 6 months; L. 1 month; daily antiseptic dressing; R. healed in 1 dressing; L. within 3 weeks.

CASE 17.—H. O. R., age 35, Milwaukee; chronic suppurative otitis media R. and L. for 7 years; large perforations both membrana vibrans and in both membrana flaccida; very foul discharge; treated antiseptically 3 months; nasal treatment, tonsilotomy; at end of 2 months removed remains of drumhead and ossicle; by antiseptic treatment for 2 weeks discharge ceased; since that time patient has returned for a couple of visits with slight catarrhal otitis media; no odor, hears better than before operation; extent of treatment, 4 months.

CASE 18.—S. H., age 8, Albion, Wis.; referred by Dr. Lord; suppurative otitis media L. 6 months; small perforation membrana vibrans; paracentesis, iodoform gauze dressing; suppuration ceased in 4 days.

CASE 19.—J. P., age 40, Milwaukee; chronic suppurative otitis media R. and L.; large perforations, osseous necrosis; referred to me by Dr. Miles Clark for opinion upon life insurance, this was refused him on account of the unhealthy condition of his ears; no treatment.

CASE 20.—F. F., age 18, Milwaukee; referred by Dr. Wm. Meyer; chronic otitis media with large perforations in the right ear since scarlet fever 10 years before; treatment antiseptic dressing; cured in 1 week; patient was later subjected to considerable operative treatment, straightening of nasal septum and hypertrophic rhinitis; duration of discharge 1 week.

CASE 21.—O. H., age 8, Milwaukee; deaf-mute from suppurative otitis media following scarlatina at 1 year of age R. and L.; jaws locked; sent to Children's Hospital for antiseptic treatment, but was there only 1 day when she was removed by her parents.

CASE 22.—O. H., age 10, Crystal Falls, Mich.; referred by Dr. Darling; chronic suppurative otitis media since infancy,

with perforation both ears; discharge ceased in 2 dressings; this case had considerable adenoids which were removed by operation; duration of treatment 4 days.

CASE 23.—S. B., age 5, Milwaukee; chronic otitis media; perforated Mt both sides. This child had large amount of adenoids; operation was advised, but patient did not return after first examination.

CASE 24.—J. H., age 35, Kaukauna; referred by Dr. Boyd; suppurative otitis media L. for number of years; large perforation; this ear had been "scraped out" by a quack; slight discharge which was relieved by 2 dressings; duration 3 days.

CASE 25.—H. B., age 8, Milwaukee; referred by Dr. Levings; chronic suppurative otitis media R. and L.; large perforations; this condition was due to inflammation following operation for cleft palate 6 years before; duration 3 weeks.

CASE 26.—O. E. P., age 32, Winneconne; had at one time chronic suppurative otitis media with very large perforation membrana vibrans; no discharge for 1 year; no treatment.

CASE 27.—L. P., age 10, Milwaukee; referred by Dr. O'Malley; suppurative otitis media R. and L.; small perforations both membrana vibrans following scarlet fever 8 weeks ago, then when mastoid was swollen and an incision had been made, but no paracentesis had been done, she was referred to me by the attending physician, but was not brought by her parents until 4 weeks later; when she came to me there was hyperexia; both mastoids tender and swollen; foul pus in both canals, but poor drainage; child had considerable adenoids; both mother and child were exceedingly nervous and refused to have the paracentesis done in office, which was advised, and wanted to go to the hospital, but did not report there at appointed time. This case had severe retention symptoms, and should have had paracentesis done at once. I do not know what became of her.

GROUP IV.—Cases of *Acute and Chronic Otitis Media, with Involvement of Mastoid*, necessitating radical operation. (5 cases.)

CASE 28.—H. S., age 48, Milwaukee; acute suppurative otitis media R. 5 weeks; discharge suddenly stopped, due to swelling shut of the external canal; at examination had hyperexia; great vertigo due to severe mastoiditis; side of the head and neck being badly swollen; Stacke-Schwartz operation at hospital; found erosion of bone over mastoid as well as much pus which was passing down the tissue of neck; subsequent drainage; cure of case in 4 weeks.

CASE 29.—J. W., age 54, Dubuque, Ia.; suppurative otitis media L. for many years. I went to Dubuque in consultation with Dr. Gratiot, of that city, finding patient with great vertigo, pain inside of head, hyperexia, and having sudden cessation of discharge from ear; performed Stacke-Schwartz operation on mastoid finding sclerosed temporal bone; cerebral symptoms relieved by operation; wound behind ear closed by first intention; duration of after-treatment 1 month; no discharge from middle ear when I saw him 2 months later.

CASE 30.—Sr. I., age 40, Milwaukee; earache 1 month followed by discharge which suddenly stopped 1 week ago; great pain; much edematous swelling of mastoid, extending into neck; hyperexia; Stacke-Schwartz operation; mastoid as well as antrum found full of pus and granulations; duration 1 month.

CASE 31.—A. W., age 12, Kingston, referred by Dr. Bothwell; grip 4 weeks ago, followed by deafness and pain in ear; no discharge from ear from that time to this date; slight swelling and redness of mastoid; great pain on pressure and hyperexia; child had been steadily running down; Stacke-Schwartz operation showed the mastoid portion of temporal bone to be a mass of granulation tissue, which was readily removed with spoon; rapid amelioration and restoration to health and healing of wound; duration 4 weeks.

CASE 32.—J. L., age 16, Eau Claire; referred by Dr. Lyman; chronic suppurative otitis media sinistra since scarlatina in infancy; large perforation in membrana flaccida, small in membrana vibrans. Despite much treatment by specialists a malodorous discharge persisted, which contained much exfoliated epithelium. Diagnosis of tympanic necrosis was proven by the results of a Stacke operation, which secured drainage, improved hearing, and entirely removed odor from

the secretion, which occurs at times in small quantity and is readily controlled.

GROUP V.—*Otitis Media Suppurative; Mastoiditis; Abscess of Cerebrum; Meningitis; Death.* (1 case.)

CASE 33.—Miss C. L., age 21, Wauwatosa; referred by Dr. Cutler; has been a patient of mine for 10 years, coming for recurring attacks of suppurative otitis media; patient has been extremely neglectful, never submitting to thorough treating, ceasing her visits and presumably each time on account of my advice that she should submit to the small operation of removal of the necrosed ossicles and caries of the middle ear through the canal; this was never followed; at all times there was small perforation of both tympanic membranes. On May 4, 1900, she was brought to me by her mother, having had suppurative otitis media for 2 weeks; both the family physician and another aurist having been in attendance, they having called for me, but for some reason not having obtained me at the time, no paracentesis had been done and treatment had been simple boric acid wash. When I saw her there was hyperexia, bulging of the tympanic membrane, small amount of pus exuded through small perforation on the left side; immediate paracentesis with gauze dressing apparently relieved the retention symptoms, but one week later typical symptoms of cerebral abscess were evident, drowsiness, frontal headache, apyrexia, dyslexia, sensory and motor aphasia, etc.; trephining over the temporal lobe, together with radical mastoid operation, was made; large amount of pus evacuated; patient lived for 1 month after operation, death being due to extension of the necrotic process within the cerebrum; this case might well have been saved by the very simple surgical procedure which had been again and again advised during the previous 10 years. Death 15 years after original otitis media.

The technic of the treatment of suppurative otitis media is so extremely simple and the diagnosis is generally so easy that but little experience renders any practitioner as skilful as the specialist. Every physician should possess and be sufficiently familiar with the reflecting mirror and aural speculum that he can use it for diagnosis at least in his own practice; he should have a paracentesis knife in his pocket-case and use it as freely as he does the hypodermic needle. In a professional experience of nearly 20,000 patients, I have never seen from my own hands or from those of others, any damage done by paracentesis of the drumhead for acute otitis media; whereas its indications are daily met with in the practice of the otologist and in that of the general practitioner so often that he ought to be familiar with this branch of pediatrics and surgery.

The necessity for examination of the ear and care of aural inflammation in all cases of grave disease in children is certainly demonstrated. But my personal experience with other physicians, both as a general practitioner and as an otologist, shows that it is done too seldom. A considerable portion of cases that eventually come to the aurist could have been saved the additional annoyance, detention from business and expense necessitated by the complications following the original earache if they had been originally under scientific treatment by the family physician.

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Against Tuberculosis.—The German Department of the Interior has issued instructions conveying compulsory precautions to be taken against the spread of tuberculosis in the Empire, a copy of which has been sent to the Department of State by United States Consul Monaghan at Chemnitz.

A CRITICAL REVIEW OF THE LITERATURE OF MASTOID DISEASE AND ITS COMPLICATIONS.

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WHILE the year 1899 was not productive of any radical discoveries relating to the better appreciation of mastoid disease, nor were any new operative measures devised for its relief, yet great progress was made in otology and the diagnosis and operative technic were placed upon a firmer foundation by minute and detailed studies. The function of the specialist, his ability to appreciate the slightest details presented by the anatomy and the pathology of the mastoid and its relation to the surrounding structures, the cerebral cavity, the sinuses and larger veins, the temporal bone as a whole and lastly to the individual, is becoming better appreciated and as a result the operative procedures upon this region and its contiguous structures are being performed more by the otologist and less by the general surgeon. During the year many valuable papers have been published bearing upon this subject, and it is my desire to direct your attention to the salient features that seem of import in elucidating some of the obscure points attached to the diseases of this region.

While the diagnosis of acute mastoiditis rarely presents any great difficulties, and in chronic cases consecutive to suppurative processes of the tympanum the well known signs of mastoid involvement are sufficiently evident to indicate operative procedures, yet there are certain cases in which additional aid is often of extreme value. This is shown in a communication by Cozzolino and Barrogo-Ciarella,¹ who call attention to a new and pathognomonic symptom of chronic mastoid empyema; the rapid reappearance of pus after cleansing of the tympanum and also by its always flowing in a single line over the inner wall of the cavity from the posterosuperior to the posteroinferior segment. As no further reports have as yet appeared concerning the practical value of this sign, considerable hesitancy must be expressed before accepting such an equivocal symptom, as it is hardly possible even for the expert to watch the downward flow of pus as indicated by the authors, and further, although we fully appreciate the fact that pus may exist in the antrum for long periods of time without producing general or local symptoms, other than those of a quiescent chronic otitis suppurativa, yet it seems hardly credible that this should be the only sign present to the exclusion of others of better reputation. One would hardly care to open the mastoid upon the evidence of this single symptom.

Bearing on the differential diagnosis of mastoid disease is the valuable paper of Bar² on the similarity of anterior mastoid abscess and furunculosis of the meatus. Although this question of diagnosis is not nearly as frequent as the mere determination of the presence or absence of mastoid empyema, yet I have seen several cases in which the differentiation was most difficult. Where necrosis is confined in greater or less part to the anterior portion of the pneumatic spaces, a fistula sometimes forms and opens into the external canal on the posterior or inferior wall, and but a few millimeters from the meatus. Around the sinus so produced the dermal lining and periosteum become inflamed, and an

elevation is produced resembling, to a most striking extent, a furuncle. The similarity is decidedly more marked when the opening of the sinus becomes obstructed and the local infection is most accurately simulated. The diagnostic features, as given by the author, are of sufficient importance to be quoted in extenso:

1. Early lymphangitis and periauricular adenitis are the rule in furuncular affections of the meatus, and are late and exceptional in purulent inflammation of the limiting cells. This is consequent on the difference between the lymphatic systems of the external and middle ear.

2. Perimastoid edema effaces the retroauricular depression in furunculosis; whereas, in mastoiditis, the depression persists and remains circumscribed.

3. The pharyngeal plexus may become visible through venous stasis, induced by mastoiditis.

4. Spontaneous pains and sensitiveness are more acute in furunculosis; they are less marked in anterior abscess of the mastoid.

5. In inflammation of the anterior cells, facial paresis is sometimes observed, as is also an exaggeration of the sense of taste and a peculiar sensitiveness of the pharynx and the end of the tongue.

6. The bacterial nature of the pus is different in the two diseases.

7. In the absence of any febrile condition, a continuous disproportion between the pulse and the temperature is in favor of mastoiditis.

In addition to these points I would add that the pain is a constant feature of furunculosis, except in a small proportion of diabetic cases in which the tissue breaks down with little or no disturbance of sensation, while in quite a large proportion of purulent affections of the anterior cells there is little pain, and frequently none at all. While in this form of mastoid abscess, a sinus usually exists by the time the patient is first seen and can be readily probed, in my experience this being of the greatest value in the differentiation of the two affections.

The use of percussion in the diagnosis of acute mastoid disease has received considerable attention on the continent, and Eulenstein,³ considering this method of some value, has suggested the following conclusions from a study of 10 cases:

1. By means of percussion (compared with that of the other side) a positive diagnosis of a diseased condition of the mastoid can be made, provided dulness is elicited.

2. Dulness on percussion indicates the presence of a diseased area near the surface of the bone, the degree of dulness depending upon the extent of the area involved.

3. The absence of dulness is no proof that the bone is not diseased.

4. Where other symptoms of mastoid disease are present and there is no dulness on percussion, it indicates that the diseased area is either very small or deep-seated.

5. By percussion we are enabled to recognize mastoid disease earlier, and it is a valuable adjunct to the indications for opening the mastoid.

From a study of 6 cases of acute mastoiditis in which percussion was used as an aid to diagnosis in my hands, it signally was of no service, because light percussion will not elicit any sounds that can be compared with the normal side, and where deep percussion is tried the

pain is too great, so that in the majority of cases the method is impracticable. Further, dulness does not necessarily indicate the presence of pus, as it may be demonstrated in superficial edema of this region without bone involvement. It may also be exaggerated where the bone is sclerosed, or in those cases where the pneumatic cells are few in number or absent near the surface. This was demonstrated in a case recently observed, in which the patient complained of intolerable pain over the mastoid area, swelling of the tip and impairment of general health, with an irregular temperature. Dulness over the entire region in comparison with the normal mastoid was marked, but on opening the process it was found to be normal; the pain being neuralgic in character as proved by its subsequent disappearance, while the swelling resulted from glandular enlargement.

The broadening of the surgical field of the aurist has been but the inevitable outcome of better diagnostic methods, and it can safely be said that many obscure head-lesions are being better appreciated, and their intimate etiological relationship to aural suppuration affords an inviting field for surgical measures presaging relief in a greater proportion of cases than has heretofore been possible. This has been greatly aided by the detailed study of individual cases of mastoid disease and its complications, such an instance being reported by Ler-moyez⁴ of mastoiditis with perforation of the medial plate and consecutive abscess in the neck beneath the insertion of the sternomastoid muscle. This case occurred in an infant following acute otitis media, and while not unique at all, yet the report is valuable as teaching two important lessons, the first being that the serious symptoms of an uncomplicated otitis were the result of excessive treatment, and, secondly, that the presence of a cervical abscess should always suggest a focus of suppuration in some portion of the aural region.

Mastoiditis with perforation of the medial plate, as pointed out a number of years ago by Bezold, is more frequent than generally supposed, and with the deep burrowing of pus, the tissues of the neck become infected, and extensive operative measures are required. Burnett,⁵ in reporting an interesting case of acute mastoiditis with perforation of the medial plate and consecutive abscess of the neck, takes occasion to call attention to the routes by which mastoid and tympanic suppuration are propagated to adjoining regions. Three ways are currently accepted; by the veins, by the lymphatics, and by the direct escape of the pus through a spontaneous opening in the medial plate, this latter being so-called Bezold's mastoiditis. Lewis⁶ and Dunn⁷ report similar cases, showing clearly the possibilities for harm resulting from delayed treatment of simple mastoid inflammation. The former's case was one in which the process was filled with a cholesteatoma, with an eroded area in the floor of the middle cerebral fossa, and another in the wall of the sigmoid fossa. There was an opening along the digastric groove, through which the mastoid was in direct communication with an abscess of the neck. As the patient was 24 years old, and had had a suppurative otitis media from infancy, it clearly becomes evident that the double danger to which she was subjected, both from a suppurative process and a mechanical obstruction to free drainage by the cholesteatoma, should have been removed several years before she was seen by the author. Dunn's case is instructive as showing the extent to which the pus may burrow and extend

in several directions from the mastoid focus. There were pain and swelling over the left ear and a partial facial paralysis, but no middle ear discharge at any time. The mastoid was found infiltrated with pus and granulations, and the patient did well for 10 days, when stiffness of the left side of the neck developed with a swelling over the upper end of the sternomastoid muscle. An abscess was then found lying between the sinus and the inner table of the skull, and following the lateral sinus along its course for about $\frac{1}{2}$ inch and the sigmoid sinus for about the same distance. Following these symptoms, pain on swallowing developed, and finally an abscess in the neck burst into the esophagus. It will be seen, therefore, that following the original perforation of the mastoid, the pus had formed an epidural and subpetrous abscess, and had then burrowed deeply in the lateral cervical tissues, ultimately producing a postesophageal abscess, with the ultimate death of the patient.

Fougeray⁸ calls attention to the frequent occurrence of the spontaneous external discharge of mastoid empyemas, and thinks that such cures by external evacuation of the pus without operative procedure have not been sufficiently reported in the literature. He claims that the most frequent spontaneous openings occur over the antrum, while in other cases the opening is developed lower down in the mastoid surface, and sometimes it occurs in the digastric fossa. A fourth form occurs very rarely, however, and consists of an opening upon the occipital surface, the purulent material traveling by way of the pneumatic cells sometimes found in the occipital bone. He also adds to these varieties a fifth, based upon a case under his care, in which the pus discharged itself forwards into the auditory canal by destroying the wall of the attic and the posterosuperior wall of the osseous auditory canal. While these varieties of spontaneous evacuation of mastoid empyema may be frequent in the clinics of the continent, they are certainly not seen in this country, with the exception of that perforating the medial plate, except when due to some localized expression of a constitutional dyscrasia, as syphilis, tuberculosis and diabetes, and even then one is hardly warranted in claiming it to be the result of mastoid disease, as while this process may be implicated, yet the temporal bone to a greater or less extent is involved in the destructive process.

Of operative procedures upon the mastoid, that of Kuster⁹ has been the only new one of importance, although many modifications of older methods have been published. Kuster calls his method an osteoplastic opening of the mastoid, the method of procedure being as follows: The auricle is drawn forward and an incision made along its posterior border beginning a short distance above the level of the auditory meatus. It then passes around the tip of the mastoid and is carried upwards along the posterior border to the same level where it commenced. The incision is made down to the periosteum and is U-shaped, with the attached portion of the flap above and the periosteum then pushed aside, and following the outline of the flap, a shallow groove is cut in the bone with a chisel. With a broader chisel a thin plate of bone is split off from below upwards, this segment remaining adherent to the soft tissues and the entire flap is turned upwards, leaving the operative field free, the surgeon then proceeding according to the indications present. After all diseased tissue has been removed the flap is replaced,

a small notch being made in its lower part for drainage and the case is dressed in the usual manner. The author reports 9 cases in which he used this method, and he claims it is superior to other methods because there are little resultant deformity, rapid healing and a good opportunity for the tampon in case the sinus or dura are injured during the operation. This last advantage is so trivial as to require no comment, while in other respects the operation is based on lines radically wrong, as it allows of the external closure of the wound with retention of purulent material and there is no opportunity for the parts to heal from within outwards by granulation tissue.

Suggestive of operative procedures upon the mastoid are the following conclusions formulated by Randall¹⁰ upon the study of 100 cases:

1. Wilde's incision is not good surgery.
2. Conservatism and expectancy are in order as long as there is no pus demonstrable outside of the middle chamber.
3. When rational signs of pus are recognized, all temporizing must cease and sound surgical principles must be followed.
4. A clean sweep of all diseased tissue must be made and sinuses must be explored.
5. Have a clean field before you in operating.
6. Good drainage must be established.
7. In chronic cases, it is rarely sufficient to clean out the mastoid alone.

One can hardly add anything to these able conclusions except it be in the choice of instruments and then merely to say that the chisel and spoon should always be used in preference to any method depending upon the trephine, burr and dental engine which have been employed to some extent.

One of the most important questions engaging the otologist today is the determination in advance of any operative procedure of the danger points on the temporal bone, the relation of the sinus to the surface and the nearness of the cerebral fossa to the proposed operative field. While much labor has been spent in seeking external evidences of these points, success has unfortunately not been attained, although general indications such as those mentioned by Okade¹¹ are of value. He concludes from the study of 111 skulls that the anthropological form offers no trustworthy evidence of the presence or absence of the so-called dangerous temporal bone. The relation of the transverse sinus to the field of operation should be looked for, and unusual care taken when operating on the right side; if the mastoid process is unusually small; if the patient has not reached the age of puberty; and more care must be exercised in the case of women than in men. While these indications are but general, yet they present features of value and are necessary in forming part of the foundation for future work in this field.

As the vast majority of cases of mastoiditis are the ultimate result of middle-ear suppuration and the majority of the latter proceed from the infectious diseases of childhood, the paper of Dench,¹² dealing with the mastoid complications of the exanthemata of children, is timely and contains much of value. He considers the treatment under prophylaxis and after the involvement of the mastoid has taken place. Under the former heading the statement is made that in any eruptive fever in which a sudden rise of temperature takes place, which is not explainable by the general condition of the patient, we should examine the ears for evidence

of inflammation. One is inclined to go even further than this and consider that an examination of the membrana tympani should be made in every instance of an exanthematous affection, as by adhering to this rule, many cases of what would undoubtedly result in mastoiditis would be prevented. Should the tympanum be inflamed a free incision should be made from a point just below the tip of the handle of the malleus, upward to the tympanic ring; and if the temperature should be very high, the incision should be extended outward a considerable distance along the roof of the auditory canal, dividing the soft parts to the bone. This will permit the escape of any secretions should they be present and will also relieve the tension which is a prominent factor in the production of pain.

Should the mastoid become sensitive to pressure, the icebag or cold Leiter's coil may be applied, but if not effectual in 48 hours, it should be discontinued. Should there be a discharge from the tympanum, frequent irrigation of the canal with a lukewarm bichlorid solution may be productive of much benefit. Should the case not be seen until a fluctuating tumor has developed behind the auricle, we should immediately operate and even in very young children the mastoid antrum should be opened in every instance. Irrespective of the absence of a sinus leading from the interior of the bone, or of an apparently normal cortex, the bony structures should be entered as we always find in these cases some diseased bone, either in the mastoid antrum or in the aditus. In young children the cranial bones are thin and the infection of the intracranial structures may readily occur through the external surface of these bones, as well as through the tympanic roof, or through the posterior wall of the mastoid antrum; but if the middle ear is thoroughly drained by a posterior opening into the mastoid antrum, subsequent infection of the intracranial structures is impossible. In regard to the radical measures advocated by the author of opening the membrana tympani when inflammation supervenes, it certainly appears that this is too severe, when we have the opportunity to use less radical measures as hot irrigation; and if this and similar means fail after 24 hours, then the delay will in no way compromise the case and if necessary the incision in the membrane can be made. While apparently good results are frequently seen from the simple incision of the soft tissues in mastoiditis, yet these are the cases that return later for a radical operation, when if the primary operation had been thorough, the case would have had no further difficulty. It cannot be too strongly impressed upon every practitioner, that, as Dench well says, even if the mastoid cortex be apparently normal, we must open it and establish free communication with the middle ear.

If one were required to point out any subject in otology in which the greatest progress has been made during the year, he would not hesitate in indicating that of the sinus and brain complications of mastoiditis. While this subject has been receiving more and more attention during the past few years, the study of sinus thrombosis received an added impetus from the classic paper of Whiting.¹³ He divided sinus thrombosis into three stages; the first being characterized by a parietal or complete thrombus, not disintegrated and accompanied by moderate pyrexia and usually the absence of rigors. In the second stage, there is disintegration of the clot, with resultant systematic absorption; frequent rigors and pronounced fluctuations of temperature. During the third stage

disintegration has progressed, with systemic absorption, accompanied by rigors, rapid and great fluctuations of temperature and central or peripheral embolic metastasis, terminating usually in septic pneumonia, enteritis or meningitis. The author further remarks that the diagnosis in the first stage is seldom made preliminary to the operation for mastoiditis, and the only safeguard against the second stage is to operate immediately upon the recognition of the first. The transitional period between the two stages is usually brief and its completion is commonly announced by a sharp rigor.

As described by Whiting in performing the operation for sinus thrombosis, the usual mastoid incision is made extending from 1 inch below the tip of the process, to a point $\frac{1}{2}$ inch above the temporal ridge. A second incision is than made beginning at the center of the first and extending backwards 2 inches or more towards the occipital protuberance. The pneumatic cells and antrum are opened, the sigmoid groove is quickly entered with a curet or rongeur and the thrombus is eviscerated, bleeding being controlled by gauze-packing. At the moment the sinus wall is opened, the foot of the operating table should be elevated, to reduce the chance of admitting air to the sinus and to maintain the equilibrium of the general intracranial fluids, which might be seriously disturbed by suddenly inducing anemia of the brain, from the profuse bleeding from the sinus.

When symptoms of septicemia develop during an attack of mastoiditis, the indications of sinus involvement are, as already mentioned, fairly well established; at all events, however, it should be the invariable rule to operate immediately. An exception to this is found in the report of 2 cases by Stanculeanu and Baup,¹⁴ but this, of course, does not in any way invalidate operative procedures. Both these cases terminated fatally and the necropsy showed no lesion of the sinus nor of any other portion of the venous system, but there were fatty changes in some of the viscera and an extremely virulent streptococcus was found in the blood. While the bacteriology of mastoiditis and its complications has received some attention, yet much remains to be done, it now becoming better known that the pneumococcus presents an almost insuperable barrier to medicinal treatment of middle-ear suppurations in which this organism is intimately concerned, and the tendency to mastoid complications are greater in such instances than is seen with almost all the other organisms.

When a thrombus has once formed in the sinus and becomes infected, pyemic symptoms are inevitable; that pyemia the result of mastoid abscess may occur without sinus infection I believe to be possible, although this is combated by Meier,¹⁶ who opposes the view that there are several varieties of otitic pyemia, such as that with thrombus of the lateral sinus; pyemia without thrombosis of the sinus, where presumably a thrombus of the small veins of the petrous portion exists, and finally where the infection is carried through the lymphatics. In his experience he found on careful examination a thrombus in every instance and believes that it is frequently overlooked and is often situated low down, even in the bulbar portion of the jugular vein, the sinus proper being open above. An exploratory puncture is of no value, for free blood may be obtained even when a thrombus is present.

As shown by Knapp,¹⁸ the prognosis of sinus thrombosis with articular metastasis is better than when the

emboli lodge in the pulmonary area. An interesting case illustrative of the latter is reported by Greene¹⁷ in which the symptoms simulated typhoid-pneumonia. There were pain in the left ear, face and side of head and great swelling of the neck and throat. Chills, fever, emaciation, insomnia and constipation were prominent while the mastoid was edematous and contained a small amount of pus. In addition there existed abscesses of the chest, pharynx and neck, and a brain abscess was also evacuated, the patient dying in a few weeks from cerebritis. A similar case, but presenting the agreeable contrast of recovery, was reported by Payne,¹⁹ in which for acute endomastoiditis a Schwartze operation was performed, but the temperature continued high, cough and rigors developed and suppuration became so abundant that an extensive Stacke operation was done. The temperature varied from 96 to 106° for nearly two weeks, when a large slough, consisting of a portion of the dura mater, presented at the wound. The exact site of the lung abscess was not determined, but its existence was shown by the patient coughing up a large amount of foul pus. After this the case progressed to complete recovery. It was well demonstrated by this case that although the prognosis may be practically hopeless, yet prompt surgical intervention will in many instances save the life of the patient.

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DISEASES OF THE EAR IN RELATION TO GENERAL MEDICINE.¹

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DISEASES OF THE EAR IN RELATION TO GENERAL MEDICINE.

Affections of the ear are still looked upon by the laity and by many otherwise very able physicians as being of but little consequence. The general opinion prevails that the child who frequently suffers with ear-ache will outgrow it; that purulent discharge from the ear is a slight ailment, not to be interfered with for fear that if checked it will affect the general health, and that beginning deafness in the adult is beyond the reach of therapeutic agents.

The anatomical structure of the ear, its proximity to, and communication with, other most important structures plainly indicate the serious consequences that may follow inflammation of that organ.

The mucous membrane lining the tympanum is in-

¹ Read at a meeting of the Associated Physicians and Surgeons of the Charity Hospital, Philadelphia, February 8, 1900.

separable from the periosteum and serves its function in supplying nutrition to the bone beneath, hence any severe or continued disturbance in the nutrition of the soft parts must necessarily lead to loss of nutrition and caries of the adjacent bone. Necrosis of bone in any part of the body is to be much feared. The disease-process is not simply local, but often causes grave systemic complications, as thrombosis, embolism (both of which may be infective), metastatic abscess, general cachexia, and pyemia. Still more momentous is necrosis in the tympanic cavity on account of its proximity to the internal carotid artery, internal jugular vein, lateral and superior petrosal sinuses, the brain, and its meninges, from all of which it is separated by a thin delicate and sometimes even deficient layer of bone.

Inflammation of the ear more frequently complicates those diseases that are associated with catarrhal affections of the upper respiratory passages, but is by no means limited to such.

The importance of recognizing the disease in its early stage is emphasized by reference to some of the mistaken diagnoses as given by Frothingham.²

Disease Present.	Diagnosis.
Acute otitis media followed by meningitis.	Unrecognized.
Acute mastoid disease.	Cellulitis.
Furuncle of auditory canal.	Mastoid disease.
Acute otitis media.	Neuralgia.
Otalgia dentalis.	Gathering in the ear.
Acute otitis media, both ears.	Overlooked in the left.
Polypus from Shrapnell's membrane the unrecognized cause of head symptoms.	Head trouble due to change of life.
Polypus in ear.	Chronic catarrhal disease.
Acute otitis media with bulla of drum.	Malignant growth.
Dried desquamated epithelium in the external canal.	Ossicles coming out.

MUMPS.

The complications or sequelae of mumps is by metastasis—usually orchitis. A similar condition has been reported in the ear. In this, however, there are no acute inflammatory symptoms. There are sudden deafness, unilateral and usually permanent; giddiness and disturbance of equilibrium. Sometimes there is a loss of consciousness. The condition is not fatal, therefore the pathological alterations are not known. It is probable, however, that there is a sudden extravasation of serum into the labyrinthic structures. There is no relation between the severity of the attack of mumps and the ear manifestations. Some of the cases reported were very mild in character.

In *measles* the ears are affected, not always producing suppuration, but causing hyperemia and congestion of the tympanum. The eustachian tube, however, is still more frequently involved and in many cases is affected before the eruption appears on the skin. Blebs have formed beneath the outer layer of the tympanic membrane.

Diphtheria and *scarlet fever* more frequently produce suppuration of the middle ear than other diseases. Sudden deafness may be caused by congestion and exudation in the mucous membrane and collection of fluid in the tympanic cavity, preventing the transmission of sound-waves. Ulceration and necrosis of bone frequently follow even to the extent of entire

destruction of the eustachian canal, both cartilaginous and bony, the ossicles and cochlea. When the process is less severe the tympanic membrane usually ruptures and the acute condition passes into that of a chronic suppuration with continuous or intermittent discharge.

In those cases in which the diphtheric process involves the nose and nasopharynx it is most likely to extend into the middle ear.

Burnett¹⁵ reports such a case. Lommel¹⁷ states that "disease of the organ of hearing and particularly of the middle ear, occurs with uncommon frequency in true diphtheria. We may therefore almost establish the rule that otitis media forms a part of the clinical picture of diphtheritic inflammation of the respiratory tract." In 25 successive autopsies of individuals who had died from diphtheria 24 showed involvement of the middle ear (96%). In many the eustachian tube showed no pathologic changes, and in others the tube was but little changed. The bacillus of diphtheria has been found in the aural discharge after clinical symptoms had disappeared. Sudden deafness has been reported during convalescence, at the time of other palsies and albuminuria. The lesions involve the auditory nerve or center and is of the same nature as that which gives rise to the more frequent diphtheric paralysis. In a case reported by J. C. Wilson¹⁹ the deafness continued in spite of all treatment, while in other cases rapid recovery was reported.

INFLUENZA.

The otalgia of influenza, during the acute manifestations of the disease, may be due to inflammation and swelling of the tissue and glands of the faucial region, the pain being referred to the ear, or there may be serious involvement of the tympanum, varying from simple occlusion of the eustachian tube to a suppurative otitis media with mastoid involvement. Often the perforation in the membrana tympani is very small and needs to be enlarged by incision to afford free drainage.

Dench²¹ reports cases of influenza with involvement of the labyrinth or auditory nerve-trunk. He thinks the disturbance is angioneurotic in character.

A serious involvement, and one usually not recognized during its early progress on account of the absence of symptoms referable to the ear, is that of a slow, progressive inflammatory process with organization of fibrous tissue in the middle ear causing adhesions of the ossicles and thickening of the Mt., producing chronic progressive deafness. Symptoms of this process are not manifest for from six months to a year after the attack of grip.

RESPIRATORY TRACT.

Nose.—On account of the intimate anastomosis between the bloodvessels and lymphatics of the nose, nasopharynx, and ear, any condition that obstructs nasal breathing, as constant hyperemia or congestion of the mucous membrane, polyps, hyperplasia of the turbinates, and foreign bodies, will cause congestion of the eustachian tube and middle ear by interfering with the return blood.

Lederman²² records a case of a girl, 3 years old, who had a running ear for 2 months, which appeared one month after a purulent nasal discharge. A coffee bean was found in the nostril. After its removal all the symptoms disappeared, and in 4 days there was no

trace of pus in the ear, and in a week the nasal secretions were almost normal.

Nasopharynx.—Ear involvement is aided in all diseases in which the patient lies in bed, especially on the back. This position favors retention of secretion in the nasopharynx and impedes drainage from the ear through the eustachian tubes.

Allport²³ reported a case of acute myringitis following nasopharyngitis. Three large bullæ formed beneath the epiderm of the Mt. They did not communicate with each other, nor penetrate to the internal surface. Myles²⁴ has seen cases in which adhesions between the orifices of the eustachian tube and the pharyngeal wall converted the fossa of Rosenmüller into small pockets. The adhesions and thickening caused partial closure of the orifices and produced stuffiness and fulness in the ears, slight buzzing, and a deep, dull pain over the ear with lessened acuity of hearing, all of which were relieved by breaking up the adhesions and removing small masses of lymphoid tissue. Myles thinks the bands were the remains of old adenoid tissue.

LUNGS.

Croupous and catarrhal pneumonia and catarrhal bronchitis, especially when the apex of the lung is involved, makes chronic otitis media worse, and often causes a recurrence in those who have had it before.

Meltzer²⁵ has seen several cases of lobar pneumonia in children in which the earliest symptoms were earache and high fever. The earache ceased gradually after the full development of pneumonia.

Straight²⁶ reported cases of chronic otitis made worse by catarrh of the lung apices. The ear-symptoms improved or entirely disappeared from the internal administration of creosote, and without any local treatment.

ALIMENTARY TRACT.

The pain produced by inflammation in the region of the tonsils and of the lymphatic glands behind the posterior pillars of the palate is often referred to the ear, the patient not complaining of any throat symptoms.

Diseases of the alveolar process or teeth produce various ear manifestations, viz., "an aching fulness which seems something like a gathering, a heaviness or sense of weight, severe earache, and lessened acuity of hearing." (Flagg.) The conditions producing these symptoms are: Eruption of teeth—especially when impacted,—dental caries, pulpitis, pericementitis, and excementosis (or, as it was formerly termed, dental exostosis), and alveolar abscess. The ear may be actively inflamed from these causes. Flagg³⁰ reports a case of a lady who had been completely deaf in the left ear from excementosis. After extraction, improvement began in 2 weeks, and in 10 weeks she could hear ordinary conversation distinctly. Similar troubles have been caused by filling root canals in which the substance used is forced out of the apex at the alveolar process, or where a metallic filling beneath the edge of the gum is left rough with sharp angles to cause continual irritation of the gum.

Gastrointestinal disturbances, especially in children, may be associated with pain and congestion of the tympanum.

E. H. Pomeroy,⁵³ reports 5 cases in which there were no ear manifestations, all symptoms gave evidence

of severe gastrointestinal disturbances. In the first the ear involvement was unsuspected during life and was only revealed at the autopsy. Acting upon the knowledge gained by this case, in the succeeding 4 cases he punctured the Mt. A few drops of fluid escaped in each instance, followed by immediate amelioration of the intestinal symptoms and a speedy recovery.

Toynbe cites cases of total deafness from the exhaustion caused by attacks of diarrhea, cholera, or the administration of violent purgatives.

Typhoid fever may give rise to temporary deafness due to congestion and lowered nervous tone, during the high temperature period, which usually passes away during convalescence. In many cases severe otitis develops, ending in suppuration, perforation of the Mt. and necrosis of the bony structures.

In *tuberculosis* the ear is probably more often primarily affected than is usually supposed. It is frequently involved during the latter stages of pulmonary tuberculosis. In scrofula the enlarged glands interfere with the venous and lymphatic circulation and cause a lowered resistance in the mucous membrane and thus favor throat and ear affections.

Syphilis.—Syphilitic manifestations in the ear, as in other parts of the body, may be deceptive, varying from otalgia, due to ulcerations in the nasopharynx, to congestion and inflammatory exudation in the Mt. and about the head of the malleus even to necrosis involving the whole of the petrous portion of the temporal bone. Sudden deafness may occur during the secondary stages and is probably caused by exudation in the labyrinth.

In hereditary syphilis the symptoms appear near puberty, both ears are usually affected.

Rheumatism.—Acute otitis media has preceded attacks of acute articular rheumatism. Chronic progressive changes leading to deafness may take place, advancing so insidiously as to escape notice until permanent damage has been done. This is as often found in those who suffer from uric-acid diathesis as in the chronic rheumatic.

THE NERVOUS SYSTEM.

Inflammation of the tympanum may be caused by extension from the cranial cavity as in meningitis. In locomotor ataxia the fifth and eighth nerves are often affected. Collet⁵⁶ gives the pathological changes present as atrophy of the nucleus in the floor of the fourth ventricle, and of the nerve-trunk producing nerve-deafness and sclerosis of the inner wall of the tympanum and of the Mt. Asher⁵⁸ reported a case of serous exudative inflammation of the middle ear following intracranial resection of the second and third branches of the fifth nerve, from the foramen ovale and rotundum up to the gasserian ganglion which was not exposed. The ear symptoms appeared in 3 weeks after the operation and in the ear corresponding to the side operated upon.

In those whose acuity of hearing is impaired, mental excitement and worry increase their disability and may cause temporary or permanent deafness.

CIRCULATORY SYSTEM AND BLOOD.

Congestion of the ear in cardiac insufficiency occurs as in other parts of the body. Anemia and congestion produce tinnitus. Hemorrhage in the middle ear and even in the labyrinth producing infarction are sometimes present in leukemia. Atheroma of the blood-

vessels may take place in common with other general senile changes.

KIDNEY.

In all kidney diseases in which there is deficient elimination the ear may become affected. In parenchymatous and interstitial nephritis there may be aural hemorrhage, but more frequently tinnitus and deafness.

Morf⁶² reviews the subject very extensively and concludes there are: "Irritation of the acoustic nerve filaments from retained substances in the blood due to nonelimination by the kidneys; increased arterial tension, and serous exudation in the labyrinth, corresponding to the dropsy in other parts of the body." Morf cites a case reported by Rosenstein in whom the hearing and other ear symptoms varied with the general dropsy—better as the general dropsy disappeared, and vice versa. Morf reports a case in which the loss of hearing and visual disturbances were the only symptoms that led to his examining the urine and the discovery of the kidney disease. If it be proven that inflammation of the kidney produces such marked effect upon the ear it may partly explain the frequency of otitis as a sequel to scarlet fever. Voss⁶² says: "The connection indeed is so intimate that the progress of the nephritis may be followed by the course of the otitis. Deafness and pain in one or both ears may follow, or even precede, a diminution of urine. The discharge varies directly with the intensity of the albuminuria."

GENITAL ORGANS.

Redness of the membrana tympani occurs in some cases during the menses. P. Bourlon⁶³ collected 23 cases of menstruation through the ear. The hearing was never affected by the hemorrhage. In some cases it was bilateral. It does not recur with any regularity and is usually preceded by heaviness, pain in the head, vertigo and tinnitus. In most cases the hemorrhage from the ear ceased as menstruation was reestablished.

Pritchard⁶⁴ reported a case of a woman four months pregnant, who complained of giddiness, vomiting and vertigo. The attacks were followed by transient deafness. The same condition was present during a previous pregnancy, ceasing after delivery.

Toynbe⁶⁵ reported a case, aged 40, of nervous temperament and rather anemic, who consulted him in 1850, on account of complete deafness. She had married 10 years previously in India and had always heard well until her first confinement. She suffered a great deal from exhaustion; this was followed by a great degree of deafness, so that she could scarcely hear even when the voice was much raised. As she recovered and regained her strength the deafness was much relieved, though her former acuity of hearing was not fully regained. During each successive confinement in India, amounting in all to four, the deafness greatly increased, and after each recovery became more permanent until on the last occasion she remained totally deaf and was obliged to have recourse to signs. Indeed, she had never heard the voices of her younger children.

EYE.

Eye-manifestations are not present as long as the ear disease is limited to the middle ear and mastoid cells, but there are eye-symptoms in about 50% of the ear cases complicated by intracranial invasion of the inflammatory process. When present it is not pathognomonic of such a complication, but only confirmatory.

The affections of the eye reported as a result of ear disease are: Swelling and puffiness of the eyelids, conjunctivitis, keratitis, retinitis, neuroretinitis, papillitis, choked disc, and, in rare instances, paralysis of some of the external muscles. Inflammation of the lids, conjunctiva and cornea may be caused by infection conveyed by the hand or handkerchief from the ear to the eye.

As to the frequency of papillitis or retinitis, Milligan⁶⁶ quotes Gradenigo as follows:

Extradural abscess, uncomplicated.....	41 %
Septic thrombosis of sinus, simple or complicated with extradural abscess	59.6 %
Cerebral abscess, simple or complicated with sinus thrombosis	57.9 %
Cerebellar abscess, simple or complicated with sinus thrombosis.....	60 %
Leptomenigitis, simple or complicated with sinus thrombosis	48.9 %

DRUGS.

Overdoses of quinin and the salicylates produce marked tinnitus by causing congestion within the ear. Ramsay⁷⁶ reported a case of syphilis in whom the left ear previously healthy became filled with a serous fluid during acute iodism caused by the administration of KI. As soon as the iodid was withdrawn the deafness and fluid disappeared with the other symptoms of iodism.

Shastid⁷⁶ reported a case of chronic catarrhal deafness in whom each dose of belladonna caused dryness of the throat and nose with increased deafness.

In a case of my own, homatropin hydrobromate was ordered as a mydriatic for refraction. During its action the deafness was much more marked and after its effects had passed off the hearing acuity returned to its former condition.

SYSTEMIC RESULTS FROM DISEASES OF THE EAR.

The more frequent are those from extension by contiguity of tissue, *e. g.*, meningitis, thrombosis in the venous channels, abscess beneath the dura, in the cerebrum, or cerebellum; pyemia, facial paralysis and involvement of the mastoid cells. As a matter of fact the latter is the most frequent, and it is from this source especially the other complications arise. The mastoid cells open into the tympanum posteriorly and are easily involved by extension. This often results from no treatment at all or is hastened by improper treatment, as by forcible and frequent syringing of the ear in chronic discharge. In children the mastoid cells lie more nearly horizontal than in the adult, hence drainage is less perfect. This accounts in part for the more frequent involvement of the mastoid in children. In all severe cases that do not readily yield to treatment it may be safely said there is necrosis of bone. The symptoms of mastoid involvement are: Intense pain in the side of the head, swelling or edema over the mastoid, discoloration, tenderness, or acute pain on pressure behind the external auditory meatus just behind the auricle, bulging of the tympanic membrane or depression of superior or posterior wall of the external canal just in front of the tympanic membrane.

In the child these symptoms may be less manifest on account of his inability to make known the nature and seat of pain. When closely observed the child will be seen to roll the head from side to side, to put the hand to the side of the head affected and to scream

when attempting to nurse on account of the pain caused by swallowing. In any case, with the history of long-continued discharge from the ear which has ceased suddenly, accompanied by rigors and subnormal temperature, brain abscess is almost surely present.

In many cases the severity of the cerebral symptoms are out of all proportion to the pathological changes in the meninges and brain as revealed at the autopsy.

Epilepsy has occurred from ear disease and was relieved by proper treatment to the ear.

In many of the diseases enumerated the ear trouble is not due directly to the systemic malady, but the latter weakens the resistance of the organisms and the patient takes cold, which the more easily extends to the ear and produces much greater damage than is general in ordinary colds. In not a few of these cases the ear manifestations are a recurrence of a former malady, which may have been years ago and at first forgotten until closely questioned, instead of a primary disease of this organ.

In records of autopsies revealing these ear involvements there are no histories depicting the condition of the ear as revealed by careful examination before death. This, of course, is due to the want of symptoms pointing to that organ, but it at the same time suggests possible manifestations that are interpreted as pointing to other organs that would indicate ear involvement if rightly understood.

The line of progress for the future is plain. Let the general practitioner and the specialist work together, observing in detail all manifestations of ear involvement and search diligently for them even when not so plainly marked. In autopsies, dissections of the temporal bone should be more frequently made and the findings compared with symptoms before death. By so doing great advances will be made, and diseases of the ear that are now not recognized will be readily diagnosed and successfully treated.

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INFANTILE COLIC AND COLIC IN INFANTS.*

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For the whole period of his existence upon this mundane sphere, the human being is liable to colic. It may lay hold of him at any time, in youth, in manhood, in hoary old age, bend him double, twist him into knots as if he were a practising contortionist. It is, however, at the earliest period of his life—almost with his entrance upon this nether globe—that it seizes upon him with greatest violence, holds him tenaciously in its grasp and seems to vent, as it were, all its malice upon him. It is the youngest infants that are most subject to this ailment; it disturbs their rest, breaks in upon their angelic slumbers, and causes them to make the welkin ring with their outcries. Truly they suffer, and those about them are made to feel the weight

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of their woe. The good mother, the kindly nurse, are driven to distraction in their efforts to alleviate baby's sufferings and frequently, for long periods, know no rest.

The seizures may be sporadic, that is occurring at long and various intervals and always the result of some well-defined sin of omission or commission in the care or the feeding of the infant.

Or they may manifest themselves from the second or third day after birth, usually the latter, and continue throughout a longer or shorter period of time, recurring with varying frequency throughout the days and nights of that time. It is this latter form which has been designated by the older writers as "infantile colic," and to it only this distinctive designation truly applies. Such infants, in the language of the laity, are "colicky."

The duration of this colicky period varies, depending in a considerable measure upon the factors giving rise thereto. It ranges from 4 weeks to 3 months. The attacks are most frequent in the earlier period and abate gradually, the paroxysms becoming less frequent in the 24 hours, and of briefer duration, and finally ceasing altogether by the end of the fourth or sixth week, or before the end of the third month. Exceptionally, they may continue with unabated severity for full 3 months to disappear very quickly or to abate but gradually after that time.

The attacks come on at various intervals throughout the day until a certain hour of the evening, when the infant will fall asleep and remain tranquil for five to six hours. Later on he will be comparatively free all day until 6 or 7 o'clock in the evening, when he will begin with his cries and know no rest except at intervals of a few brief moments until 10 or 11 o'clock or even midnight.

In the very severest cases the attacks may come on with unwonted frequency throughout the days and nights of this colicky period, and many poor mothers will spend their nights or the greater parts thereof in measuring the length of the apartment, walking to and fro with baby in arm, in their endeavors to quiet it.

It is a common saying among wise old ladies that boys are more subject to colic than girls. There are no statistics upon the subject, but my personal observation is fully in accord with this. Moreover, it has even seemed to me that when girls were colicky the paroxysms were much less frequent, less severe, and of briefer duration than in male infants thus affected.

What is colic? Colic is an irregular peristalsis mainly of the small intestines, a contraction of the various muscular coats of the intestinal tract, accomplished with such violence that the nerve filaments distributed between them are unduly compressed and the sensation of pain aroused.

This peristalsis is not necessarily attended by fecal discharge.

It is said by some writers, and with special reference to "infantile colic," that distention of the intestines by gases may cause the pain. It is true that an extraordinary distention of the bowel may give rise to pain, but it is not the pain of colic. Flatulence can excite colic only when there is no extraordinary distention of the intestinal tract and the gases shift about from one loop to another, from one section to another, from one side of the transverse colon to another, from left to right or right to left, exciting here and there this irregular peristalsis.

Colicky pains are part of the natural history of many very grave diseases of the intestinal tract, of inflam-

matory and ulcerative processes therein, of various congenital malformations thereof, and of various affections of the peritoneum, but colic considered as an entity is merely a functional disturbance with no underlying pathological substratum, and when the paroxysm is over, the normal equilibrium is quickly restored.

This is, no doubt, the explanation for the fact which otherwise would be inexplicable, that despite the great and frequently rather long-continued suffering of the infants afflicted with "infantile colic," they thrive nevertheless, gain in flesh and strength and progress as well as other children more favored in this regard.

The causes of infantile colic and colic in infants are:

1. Flatulence.
2. Sundry influences acting through the mother.
3. Indigestion.
4. Refrigeration.

I.—FLATULENCE.

Of all the etiological factors, this is the most important, giving rise to the most cases and to the most protracted ones. In fact, it is the etiological factor of "infantile colic."

As is well known, in the course of the digestive act, various gases are developed in the stomach and bowels in the process of the splitting up of the food and its transformation into assimilable material. Under ordinary physiological conditions the gases are but small in quantity, move slowly along downward with the chymus, and are finally discharged either alone or with the feces, without having caused the least disturbance.

In these colicky infants, however, the gases are either developed in undue quantity or are retained unduly long, and thus allowed to accumulate and then excite this exaggerated peristalsis as an effort of nature to dislodge them.

The reasons for this flatulent condition of the infant may lie in the infant or they may lie in the mother.

A. They may lie in the infant.

Up to the time of its birth, the infant was nourished through the blood of the mother and its digestive organs lay dormant. Now, suddenly and without any especial preparation, they are called upon to act their part in a very complex chemical operation. It is not far fetched to assume—we not infrequently see it in other organs—that the intestinal tract here has not reached the degree of normal efficiency. Though the colostrum of the first two or three days might be looked upon in the light of such preparation, it has evidently not been sufficient in the cases under consideration. The digestive act is not accomplished with the speed and perfection of a later period, and as a consequence, an undue volume of gas is developed.

Again, it is a well-known fact that the pancreas is a most important factor in the proper preparation of the chymus, as it comes from the stomach, into assimilable material. This organ, however, does not attain its full power till a much later period, in part not until nearly the end of the first year. It is true that Zweifel found that an extract of the pancreas of the first month from strong children was capable of digesting albumen, and the inference would be perfectly proper that the secretion of the organ, as poured out into the duodenum, should possess similar power. Still, even admitting this, it is at a much later period than the setting in of the colic, the second or third day.

This alone, in fact, would tend to prove the correctness of the position here taken.

Or it may be that for some reason the organ does not furnish sufficient secretion or a secretion sufficiently rich in albumen-splitting and oil-emulsifying ferments to complete the digestive process with the rapidity of a later period, and hence an abundance of flatus as a result of slower chemical operation.

It must be admitted that all this is hypothetical, as we very frequently find nothing in the stools, having reference now to the case of infantile colic more particularly, to indicate an imperfect digestion, and even when such indications are found they can, in the majority of instances, be readily accounted for by extraneous incidents.

It is, nevertheless, well to bear this explanation in mind, as it is based on physiological data and the clinical fact that slowness of digestion tends to the development of much flatus, and accounts for the cases, not so very many in number, it is true, where no extraneous factors or supposed factors can be discovered, and which would otherwise, therefore, be inexplicable.

It is of some moment in the consideration of certain cases of hand-fed infants as will be recalled further on.

B. They may lie in the mother.

1. *The Mother is Constipated.*—If the mother be constipated, the infant also is usually constipated or at least costive. This allows of the accumulation of flatus.

Again, all constipated persons are more or less flatulent, and the milk of a constipated mother is also of a more or less flatulent character and the flatulence will develop in the infant.

2. *The Diet of the Mother may be at Fault.*—The consumption by her of such articles of food as are known to be of flatulent character, as cabbage, cauliflower, peas, beans, etc., will make the milk flatulent, and the infant nursed therewith will become flatulent in turn.

II.—SUNDRY INFLUENCES ACTING THROUGH THE MOTHER.

1. *Purgatives.*—Cathartic remedies taken by the nursing mother affect the infant in a greater or lesser measure. This is well established. I have myself noted several instances where a dose of salts taken by the mother produced watery evacuations in the infant, even when the mother was not at all moved thereby. As is the nature of cathartics, they may excite colic. I have seen a number of cases where the administration of some form of senna, in decoction (as in *Infus. laxativ. Vienens*) or in extract (in pill with other ingredients) was followed by a very colicky state of the infant, though the mother was not in the least inconvenienced thereby. I have seen the same thing follow upon aloes and aloin.

The habit of taking purgatives at regular periods by constipated mothers, is frequently attended with much suffering for the infant—colics.

2. The eating of sour pickles or other articles prepared freely with vinegar, of raw fruit, the drinking freely of lemonade by the nursing mother, is usually attended with colics in the infant.

3. *Much Worry, and Anxious State of Mind on the Part of the Mother.*—There is no question now as to the influence of the mind upon the body, its functions and secretions; and the lacteal secretion is no exception thereto. This has been well recognized, and much stress is laid upon this point, the mental temperament, in the matter of the selection of a wet nurse when the necessity therefor arises. Sir Astley Cooper, in his work on the Breast, says, and the statement is repeated by Carpenter in his *Physiology*, that anxiety of mind of the mother may be

the cause of griping or tormina in the infant. I have had occasion to make the same observation. In one particularly striking case, no other possible cause for the severe colic of the infant could be discovered than this great mental worry of the mother, and with its disappearance, which occurred a short time later, the troubles of the infant at once ceased.

Fretfulness on the part of the nursing mother may be the cause of a colicky state of the infant.

Fits of Anger, Sudden Fear.—The milk nursed soon after such will most usually excite an attack of colic in the infant. Even more untoward and graver accidents have been known to follow the first of these two.

4. *Paroxysms of Pain Afflicting the Mother.*—Dewees, one of the great physicians of this country, and a most careful observer, relates a case of colic of 5 months' duration, due to such a cause. The infant was a stout child and in good condition for the first two weeks; then colics set in and occasional vomiting. He attended the child, and despite all he did or could do, it remained colicky; and not alone that, but it wasted away. It was about the end of the fifth month when he noticed accidentally one day at one of his visits, that the mother put her hand to her cheek and pressed it forcibly. On inquiry as to the meaning of the motion, he learned "that she was very much tormented, both by day and night, with the toothache, and had been so for some time before the child was born, and ever since." He declared this to be the cause of the child's sufferings, and directed that a dentist be sent for at once. This was done and the tooth extracted, whereupon the infant was quickly relieved of its colic and began at once to thrive again.

This is certainly well worth remembering, as very many women suffer with their teeth during pregnancy and continue to suffer after delivery for 3 or 4 weeks or even longer, until they are able to go out and consult a dentist. I have myself known in my clientele quite a number of ladies who dated the decay of their teeth from their first pregnancy.

As to the mode of action of these various factors relating to the mother and here mentioned, it suffices to say here, as has already been indicated above, that they act through the milk, and thus affect the infant. As to the details, these can be found in the various works relating to the nursing or feeding of the infant.

III.—INDIGESTION.

Indigestion may be the result of overfeeding or of the administration of improper food.

1. *Overfeeding.* *The infant is nursed too frequently.*—This is one of the most grievous sins of commission on the part of the mother against the well-being of the child. Many, very many, mothers believe that every time the infant utters a cry, it is hungry and must be fed, without any regard to the time that may have elapsed since the previous nursing or feeding. I have, in my long experience, found that the greater number of children were nursed or given the bottle as often as every hour, or even at shorter intervals, and at periods when they were fretful were put to the breast as often as every half hour.

There is no question in my mind, and I have called attention to it elsewhere,¹ that nine-tenths of the troubles of the digestive tract of infants, are due to overfeeding.

¹In various articles, but more particularly in "A Case of Indigestion in an Adult and Child," with Especial Reference to the Treatment of the Most Successful Treatment by the Mechanical Measures. New York, 1897.

and though it is true that but very little is said about this by writers, not at all commensurate with its importance, it is because mothers, and particularly nurses, are given to deception on this point; and unless you cross-examine very closely and sharply, you will not, in most cases, learn the truth. The mother, and most certainly the nurse, will not usually admit that the infant is ill through her fault.

In consequence of this overfeeding, an undue amount of food is introduced into the economy, much more than can be assimilated. It is a wise provision of nature that the great majority of infants regurgitate and spit out the excess of food that may have been taken during nursing, and therein the old saw is right that a spitting child always thrives.² In overfeeding, however, spitting out alone cannot accomplish much, and nature in its endeavors to guard the precious homunculus from harm, seeks to get rid of the superfluous aliment in a more effective way, through the bowels. As a result of this effort, we have exaggerated peristalsis,—*colic*.

There is also, as would be readily supposed, much flatulence present in these cases.

When continued for any length of time a dyspepsia is developed, especially in bottle-fed children, and this will tend to aggravate the paroxysms of colic, make them more severe and more protracted.

The infant is overfed in quantity, that is, too large an amount in proportion to the age, is given at one time, though the proper length of interval between feedings is observed.

This applies only to hand-fed children.

One of the severest and most intractable cases of colic observed by me was in an infant who received a properly prepared milk from an establishment making a specialty of furnishing milk for infants, but to whom at the direction of a medical attendant, the inordinate quantity of three times the amount proper to its age was administered at every feeding, though the intervals between these were perfectly correct.

It is supposed by many physicians that overfeeding always leads to diarrhea. This is not the case. As I have pointed out elsewhere,³ it is most frequently productive of constipation, especially in more vigorous children and in the cooler months.

2. *The Food May Not Be of the Proper Character*.—Occasionally the milk of the mother's breasts may be of an abnormal character; it is too acid; it is too salty, etc. It naturally disagrees with the child and causes it colic, diarrhea, etc.

Mainly, however, this applies to artificial feeding. The milk (and milk is really the best food for the very young infants) may not be of a healthy character. It may be acid; it may be sour; it may contain unhealthy and irritating elements. Again, though the milk itself be perfectly normal, it may not be properly prepared, not in accord with the digestive capacity of the infant.

In isolated instances, milk, no matter whence derived or how carefully prepared, may not be tolerated. Trousseau⁴ records a very striking instance of this. The children of a shipbuilder of Havre could not tolerate milk of any kind for the first seven years of their life. No matter whether it came from the human breast (mother, wet-nurses) or was taken from different animals, cows, goat and even the ass, the same effect was

always produced: diarrhea and vomiting. They were fed upon decoctions of grits and pearl-barley and thrived.

Much the same applies to other infant foods made from grain. For one reason or the other, they may disagree with the infant, and thus give rise to attacks of colics.

In older infants—infants who already eat—improper articles of food are a most frequent cause of colic. This is particularly so among the middle and poorer classes, where the infant of 10 months and over is set to the table at mealtime with the adults and usually given a bit of something to keep it quiet. I have not infrequently seen, among the more ignorant, a father, a mother, take the greatest delight in seeing their infant suck a piece of sausage, a bit of fried steak, and if the infant was old enough to bite off little bits and munch them, so much the better. To them it was a most wonderful performance.

It is well to bear this in mind, as when trouble follows and inquiry is made by the physician all such indiscretion on the part of the mother is denied in toto.

Sometimes, though not very frequently, it may happen that the colicky state is due to *underfeeding*. As can be readily understood, this applies only to nurslings. For one reason or another, usually from dire poverty, very rarely on account of defective conformation, the breast does not supply the infant with sufficient nourishment. The child is always hungry, crying, and making suckling motions. Reflexly the empty suckling at the breast, and away from it, will excite a gastrointestinal peristalsis, and as there is nothing or very little to contract upon, it soon becomes irregular, and griping results.

IV.—REFRIGERATION.

This may result in various ways. The infant is allowed to lay too long in the wetted diaper. Its abdomen is exposed to the cold air. Its food, if it be hand-fed, is given too cold.

In older infants, sitting on a wet floor, walking barefoot over a wet or cold floor, or drinking water that is too cold, may excite an attack of colic.

We find the same factors producing the same effects in adults. I have known of instances in adults where a sudden exposure of the abdomen to the cold air, as when the covers were accidentally thrown off during the night, was at once followed by an attack of colic. Walking barefoot across a cold floor is not an infrequent cause of colic in persons not accustomed thereto.

No further proof for this etiological factor is necessary. Indeed, upon this stimulant action of cold upon the intestines are based the various hydrotherapeutic procedures employed in the treatment of constipation.⁵

Other Factors.—1. Another factor assigned prominence by some authors in the etiology of colic is the swallowing of air. It is supposed to be of great influence in the production of flatulence. I myself lay no stress upon it. I do not believe that any infant sucks in enough atmospheric air to cause colic. I have seen, time and again, infants lie for hours with the short rubber nipple in the mouth, sucking away, at longer or shorter intervals, with great vigor, and this as a steady practice, and I cannot recall an instance where colic or a colicky condition resulted in consequence thereof.

2. Dewees thought that in a few of his cases of infantile colic, a malarial influence was the exciting cause.

² Speikinder—Gedemkinder.

³ See my book "Constipation in Adults, Children, etc."

⁴ Trousseau Clinical Lectures, Philadelphia Edition, vol. 2.

⁵ See my book, "Constipation in Adults and Children," etc.

There was a distinct periodicity about the attacks, and bark effected a cure.

It is worthy of note for those practising in malarial regions.

Symptoms.—1. The infant sleeping quietly in its little bed becomes restless all at once. It twists and moves about, now the arms, now the legs being in motion. The little forehead wrinkles, the angles of the mouth are drawn down, and a few short cries are emitted. These become longer, louder and more forcible, until at the height of the paroxysm the baby veritably screams and continues to do so until a relaxation sets in, which is very frequently, in infantile colic always, coincident with a more or less large discharge of flatus through the anus. It then becomes quiet again, the face resumes its former serenity, and baby is very soon asleep again.

Or it may happen in this wise: The infant has nursed and lies quietly and contentedly in the mother's or nurse's arms with eyes wide open or in a gentle slumber. Suddenly, after a more or less brief period after the feeding, the little one becomes restless. It twists and moves, now the arms, now the legs being in motion. The little forehead wrinkles, the angles of the mouth are drawn down and a grunt or two or a few short cries are emitted. These become longer, louder and more forcible as the pain increases, until at the height of the paroxysm the baby veritably screams and continues to do so until a relaxation sets in, which is coincident with several eructations of gas, which may or may not be followed by a free discharge of flatus. It then becomes quiet again; the face resumes its former placidity; even a smile, if the infant be old enough, may play upon its features and in a very little while it is soundly asleep.

When the attack is but slight, merely a twinge, only the first half of the phenomena will be observed—the restlessness, the movements of the extremities, the wrinkling of the forehead, the drawing down of the angles of the mouth—or even still more, the grunt or short cry. Then just as suddenly a relaxation sets in, a discharge of flatus, an eructation of gas has occurred, and the calm at once returns. The features again become placid, even smiling.

In older infants, the onset may be thus: The baby, soundly asleep, suddenly utters a loud and piercing scream and awakes. Or it may be sitting in its crib or on the floor, playing and cooing, and suddenly it screams out.

If it be but a passing twinge, the cry is rather short and not so loud, and all is past in a moment; the child is again sound asleep, having been hardly awakened, or it is again playing and cooing and smiling as before.

The face of the infant is congested during the crying spell; occasionally, and more particularly in older infants and children, the pain may be so severe that they cannot cry out and then the face is pale and the lips are blue.

This particular play of features, now quiet and serene, placid and smiling, in the next moment wrinkled, drawn and expressive of suffering, crying, and in a very short time again serene, again smiling, has been likened not inaptly, by a—to me—now unknown but evidently rather poetically inclined practitioner, to the phenomena observed in nature in the sweet spring days; the brightly shining sun, all nature smiling; then suddenly a gathering of the clouds, a darkening of the horizon, a brief rain and again the sun shining brightly, and all nature again smiling.

2. The hands and feet become cold with the onset of

the seizure, and continue so the whole duration of the paroxysm, but quickly resume their normal warmth when the attack has passed.

3. Another and very distinctive feature of simple colic is the movement of the legs; it is not, as usually described, a mere kicking, but the leg is flexed upon the thigh and the thigh upon the abdomen—all this with a rapid, upward motion, and then the whole limb is let go again and extended with an equally rapid movement, and then the procedure repeated *de novo*. This movement, made instinctively, is therefore not the mere kicking of a petulant child, but a movement wherewith to obtain relief, to make pressure upon the abdomen—just what we see done in the adult when similarly afflicted. Thus the adult, when seized with colic, will bend double, if he be standing up, or sitting; but if he be lying down, he will draw up his legs, flex them upon the thighs and these upon the abdomen, and thus make pressure upon his bowels and obtain easement. That this view is correct is demonstrated by this, that if the infant can make pressure upon its abdomen otherwise, it will not kick its legs. Thus, if at the onset of a seizure, or during a mild seizure, or while it is having colicky twinges, as shortly after feeding, the infant be held up in arms with its head upon the shoulders of mother or nurse, it will press its little belly firmly against the mother's or nurse's chest, as these will tell you, and thus ease itself; for it will be quiet and apparently comfortable, and as long as it is thus held, there will be no kicking.

4. The belly is usually hard during the paroxysm—a condition due to the contraction of the abdominal muscles. As soon as the attack is over, the belly is again soft, normal to the touch. There may be some fullness about it, particularly if there be much flatus present, or if the infant be constipated.

5. Constipation or costiveness may or may not be present. I have seen cases of infantile colic in infants, who had regular and normal movements.

There is usually no fever, especially so in infantile colic. In the cases due to overfeeding, more particularly in hand-fed infants, or to improper food, there may be occasionally some elevation of temperature, but it is generally only trivial.

In very severe cases the fontanels may be depressed.

Diagnosis.—The symptoms above related are so characteristic and stand forth so prominently, that the diagnosis of an attack of colic is readily and unerringly made.

That it is a simple colic will also be recognized by the very presence of these phenomena. In the attacks of colic supervening in the course of diseases of the intestines or the peritoneum, there is no such play of the features as described above. In these ailments, more or less grave, and always painful, the countenance of the infant bears continuously an expression of suffering that does not leave it until convalescence is fully established. During the colicky seizures, this is intensified, and when it is over, the face is only as before expressive of suffering, not the again calm and serene countenance of the otherwise healthy child.

I attach great importance to this play of the features, so much so that almost upon this alone I made the diagnosis of simple colic in a case to which I was called in consultation with an excellent colleague, who was inclined to regard it as one of intussusception.

The infant, about 17 months old and well nourished, had been taken out by its mother one afternoon on a

visit with her to some relatives, and these in their mistaken kindness had stuffed it with cake, milk, etc. When it again reached home at a late hour that evening, it was restless, and at intervals would cry out loudly as if in pain. Early the next morning a physician was called who, having learned that contrary to its usual habit the child had had no movement since the previous morning, prescribed an enema and some simple remedy. No movement resulted. After a while a little colored fluid passed from the bowels, and there were some drops of blood on the diaper. It continued to cry out at intervals, as before.

I saw the child about 1 P.M. It was in its mother's arms, and was then sleeping quietly with unruffled countenance. I examined the abdomen and found it full, but fairly soft. I could detect nothing abnormal about it on deep palpation. There was some slight elevation of temperature, but it was trivial. As I watched the infant as it thus lay with eyes closed, evidently sleeping, I noticed that all at once its face would become drawn, it would twist about somewhat, make some slight movement with its legs and then in another moment it was all past, and the face was again as placid as before. Occasionally, when the twinge was over, a smile would illumine its countenance. Upon this special feature I made the diagnosis of simple colic, advised the appropriate treatment, and in a short time, as I was subsequently informed, the infant was permanently relieved.

Again, in the colics coming on in the course of the grave pathological conditions referred to, there is no kicking of the legs. Such forcible movements would only aggravate the suffering already endured, and instinctively, therefore, the infant holds its lower extremities motionless, either fully extended or but slightly bent at the knee.

Lastly, there is here always an elevation of temperature of a more or less marked degree.

The contrast between these two forms of colic is thus very marked.

In the youngest infant, 2 to 4 days old, the question must arise as to any congenital malformation of the intestinal tract, as absence of anus, of anus and rectum, etc., etc.⁶ This we can readily decide by the inquiry: Has the infant had the usual fecal movements? If it has had the usual passages then any such etiology is of course at once excluded; if it has not had any movement, or if it has had but one movement, then we must examine and discover for ourselves the reason for their absence.

As to the recognition of the individual etiological factors of simple colic above recited, that is here, as in other maladies, a matter of careful inquiry and examination.

This much only need be said in addition. The presence of an undue volume of flatus can be determined by the rumbling and rolling heard in the infant's bowels as we stand by its crib or as we hold it up in our arms against us; or we may detect its movements in the intestines with the hand laid lightly upon the little abdomen.

Overfeeding, or indigestion, may be indicated to us by the stool. When these are the causes of the trouble, the stool will contain an unusually large amount of cheesy matter readily distinguished, sometimes so much that the stool may be almost nothing else but curds and perfectly white in color.

When foods of the cereal group are used they may be found in the stool in readily recognizable form.

If we suspect that improper food has been given the infant, a macroscopic or microscopic examination of the feces may give us certainty.

Underfeeding.—An almost constant crying, the cry rising at times to a scream, with which, at periods, no kicking of the legs is observed, a rather hungry appearance of the face, and a very insufficient gain in weight or even absolute loss therein, should at once direct our attention to this etiologic factor. An examination of the breast and an inquiry as to its secreting capacity, will soon disclose to us the true state of affairs.

In obstinate constipation we may find the stool in the form of hard, dry scybala, and not infrequently these are partly colored.

If the infant is costive we will learn on inquiry that it does not have a sufficient number of movements, or even when it does have these, that it squeezes until its little face is almost livid, and this even when the dejections are fairly soft.

That it is colic and not hunger that makes the infant cry, we will know by the fact that in hunger there is no *kicking of the legs, no screaming*; moreover, the hungry infant can be pacified for a moment, by a change of position, by taking it up; the infant suffering from an attack of colic cannot and will not be pacified until the spasm is over.

Treatment.—The treatment of infantile colic and of colic in infants divides itself naturally, as shown by the exposition made here, into two parts:

- (a) The immediate relief of the infant.
- (b) The removal of the exciting cause.

I.—THE IMMEDIATE RELIEF OF THE INFANT.

From time immemorial, the aromatics or carminatives have been employed in the treatment of this affection, and whilst at the present day they still suffice for many, others have recourse to more potent drugs, the antispasmodics, and others again to still more powerful agents as the opiates, chloral, hydrocyanic acid, etc., giving them either alone or in combination with some aromatic or antispasmodic. Even laxatives in very minute doses have found favor with some. The alkalies are sometimes prescribed with the view, it is said, of neutralizing a supposed unnatural acidity of the stools, but a scanning of the various formula will suffice to show that the small doses ordered cannot accomplish much, if anything, in that direction. I believe it to be more a traditional practice, which it is sought to place upon a rational basis.

The alcoholic stimulants, which in the very small doses are really aromatics, have long been, and still are, the remedy of the housewives and of the grandmothers.

The favorite prescription of one of the more ancient coryphees of medicine of this country, Dewees, was the following:

R.—Magnesia alba. usta. 1 scruple.
Tinct. foetid.* 60 drops.
Tinct. thebaic.† 20 drops.
Aq. font. 1 ounce.

Of this 20 drops are given, and if the infant is not relieved in half an hour, then 10 more are administered. "This dose is calculated for a child from 2 weeks to a month old. If it be older, a few more drops must be

⁶ See Bodenhamer, "The Congenital Malformations of the Rectum and Anus." Illoway, "Constipation in Adults and Children," etc.

*Tinct. Asafoetid.
†Tinct. Opin.

given; and as the child advances in age or becomes accustomed to its use, the proportions of the ingredients must be a little increased.¹⁷

Starr, the eminent pediatricist of the City of Brotherly Love, makes a prescription as follows:

R.—Sod. bicarbonat 16 grains.
Syrup $\frac{1}{2}$ fluidounce.
Ag. menth. pip., enough to make 2 fluidounces.
M. Sig.—One teaspoonful p.r.n. for a child of one month.

This prescription, he says, can be made more efficient by the addition of 2 drops of aromatic spirits of ammonia to each dose, or in severe cases, 1 drop of spirit of chloroform.

He has found good results follow the administration of 10 drops of gin in a teaspoonful of sweetened warm water.

Bromid of potassium and chloral he thinks most useful for the severe cases. This formula is the following:

R.—Potass. bromid. 16 grains.
Chloral hydrat. 8 grains.
Syrup $\frac{1}{2}$ fluidounce.
Ag. menth. pip., enough to make 2 ounces.
M. Sig.—One teaspoonful for a dose. Can be repeated if necessary 2 to 3 times at intervals of half an hour.

John Thompson, of Edinburgh, believes that the best immediate treatment of an attack of colic consists of irrigating the lower bowel with a large quantity of warm water or administering a copious warm enema. The application of hot fomentations to the abdomen and of warmth to the feet are also serviceable, and 20 drops of whisky or a dose of carminative may help to relieve the child. An aperient is usually indicated to clear away irritating matter, and if the bowels are habitually constipated, this should be attended to. When there is obstinate recurring colic, small doses of codein ($\frac{1}{32}$ to $\frac{1}{16}$ of a grain) are occasionally useful as a temporary palliative while the diet is being gradually regulated.⁸

Vogel teaches that the treatment of an attack of colic consists in the cautious employment of narcotics, particularly the preparations of opium, of hydrocyanic acid and nux vomica, or in ethereal, aromatic remedies, chamomile, peppermint or melissa teas applied per os or per anum.⁹

As already said, the home treatment of the mothers and grandames consists in the administration of some alcoholic liquor, as whisky or brandy or gin, or of a decoction of some aromatic herb, as peppermint, chamomile or catnip, or of seeds as fennel—the tea from the latter being particularly favored by German mothers.

In the earlier days of my practice, when crying infants were a sore trial, I also prescribed the opiates, making use of the various preparations, now of the camphorated tincture, paregoric, then of a certain supposedly denarcotized preparation of opium¹⁰ and again of the simple tincture, usually ordering them in combination with aromatic syrups of rhubarb or syrup of ginger and some aromatic water.

Infants become readily accustomed to opium and soon require larger and larger doses of it, and therefore, in protracted cases, I preferred to avail myself of other medicaments. I now remember very well a most

intractable case of infantile colic, in which all home remedies had been tried without benefit, for which I prescribed 3 drops of laudanum with 5 drops of whisky, to be given in two doses. At first, the one dose sufficed, then after a few days it required both doses to quiet the infant, and still a few days later even the two did not suffice and my juvenile friend kept up his shrieks as before. He would not be laid down on his bed at all, and the only way a moment's peace was gained was by holding him in arms and walking the floor with him.

Being afraid to increase the dose of opium beyond what had been already reached, I resorted to chloral hydrate and gave a prescription which I continued to use subsequently, and which I have always found effective where a soothing or hypnotic effect was desired. It reads thus:

R.—Chloral hydrate 6 to 10 grains.
Mucil. G. acac. 1 dram.
Lac. asafetid. 2 drams.
Essent. anisi $\frac{1}{2}$ dram.
Aq. fenicul. 3 drams.
Sirup rhei. aromat. $1\frac{1}{2}$ dram.

M. ft. mixture. Sig.—One teaspoonful for a dose. To be repeated in 30 minutes, if necessary. For an infant from 2 to 6 weeks old. For older infants, the dose of chloral can be increased (to about $1\frac{1}{2}$ grains).

With larger experience I found that a more systematic treatment was required for a condition produced by dissimilar causes, than the mere routine prescribing the same formula in every case.

I also found that certain simple remedies acted as efficiently and as quickly, yes—even more so than the more powerful narcotics and hypnotics, and that, therefore, these could be dispensed with in most instances, a matter of certainly much moment to the infant, and of great advantage to it, as I consider.

In infantile colic, I have found nothing superior to the milk of asafetida. Made from the fresh gum, as directed in my book on Constipation, it brings relief in a very brief period after its administration. It is given, and in a few minutes thereafter, there begins a cannonading on the part of the infant, a discharge of flatus, that would do credit to a diet of beans; or eructations ensue. The cries cease, the frowns pass, and the child is again quiet, serene, smiles.

I direct that $\frac{1}{2}$ to $\frac{1}{4}$ teaspoonful be given, followed, if necessary (but this very rarely happens), in 15 to 20 minutes by a second dose, to the youngest infant. A little fine sugar is placed upon the tip of the spoon (if preferred a drop or two of the syr. rhei. aromat. can be put there) and the spoon then placed to the infant's lips and the medicine allowed to flow in.

Infants, 95 out of every 100, take it readily, even like it, and there is, therefore, no struggling.

Occasionally, I make use of the following formula:

R.—Lac. asafetid. $\frac{1}{2}$ ounce.
Sirup manna $2\frac{1}{2}$ drams.
Essent. anisi $\frac{1}{2}$ dram.
Sirup rhei. aromat. 1 dram.

M. Sig.—One teaspoonful for a dose.

The remedy is innocuous, and can, therefore, be placed with perfect safety in the hands of the mother or nurse, and its administration fully intrusted to them—a matter certainly of much moment for its future welfare, to the infant thus afflicted, often requiring, especially at the outset, 2 or 3 more doses per day, and that for a long period perhaps, of a medicine that shall be effective.

¹⁷ Dewees; *loc. cit.* at end of Article.

⁸ Clinical Treatment of Children, PHILADELPHIA MEDICAL JOURNAL, October 28, 1899.

⁹ Melissa calamintha smells like wild mint. It is used popularly as a tea in dyspepsia, in flatulent colic.

¹⁰ Which is said to be only about one-third the strength of the simple tincture and from which the convulsant elements, it is claimed, have been removed.

To show more clearly that I have not exaggerated as to the potent influence of asafetida on flatulent and spasmodic states of the intestine, the following case of an adult, in whom its use was attended with brilliant results, is here appended :

K. F., living in a large Western city, clerk, aged 22. An inveterate cigaret smoker, a great drinker of coffee and most liberal consumer of whisky. Since a number of years he had suffered from frequently recurring, violent attacks of pain in his bowels, which in the last year and a half have become so severe that hypodermic injections of morphia were often necessary to allay them. He was treated for dyspepsia, for liver trouble, and finally a condition of chronic inflammation of the intestine or a chronic appendicitis were suspected. He was badly run down, very much emaciated, and not able to do much. As he was in such bad shape and nothing seemed to benefit him at home, he was sent here to me. I examined him carefully, and found absolutely no pathological lesion of the intestinal tract. The other organs also appeared normal. I concluded that his pains were due to attacks of colic. I stopped his cigalets, his coffee, his alcoholic drinks, and put him on a diet. The fourth day after his arrival here, and whilst in my office, he had a most frightful seizure. He became pallid, hands and face cold, features pinched, pulse small; he couldn't speak; it looked like approaching dissolution. I laid him on the sofa and then sought for some remedies. I happened to have a few ounces of milk of asafetida in the office, and this being first at hand, I poured out a full ounce, added 20 drops of Hoffmann's anodyne and made him drink it. In 5 minutes thereafter he was up and declared he was feeling all right again; and in a further 5 minutes he left. He had no further attacks during the whole period of his stay here, and grew fat and stout. Returned home and again among his old companions he resumed his old habits, and after a time the seizures again appeared, but never as violently as before, since he always cut them short and quickly relieved himself with a liberal dose of the asafetida, which he has put up for himself by the quart, and which he is never without.

There can be no possible objection to the remedy, except, perhaps, its odor; but I have never yet had a sensible mother object to its use on that account, when its more than overbalancing advantages were fully set before her.

When the infant is inclined to spit much after its administration, indicating evidently that it does not relish the taste, a few teaspoonfuls of sweetened warm fennel tea will at once wash away all the residue that may have remained in the mouth, both of medicine and odor.

I was informed by some very observant mothers, that a few teaspoonfuls of warm fennel tea increased the rapidity of action of the asafetida, and that with both the infant was relieved in a marvelously brief period.

When the attack comes on shortly after nursing (and this may occur even though we can detect nothing abnormal in the milk) we can frequently prevent it by giving the infant shortly before or very soon after nursing, a dose of the medicine. In older infants, 4 or 5 weeks, we can sometimes obtain the same result by preceding the nursing 15 or 20 minutes with an ounce of warm, sweetened fennel tea, administered by means of the nursing bottle.

In very mild seizures, twinges only as it were, sweetened warm fennel tea, a few teaspoonfuls for the very young infants, an ounce or two, according to age, for the older ones, may quickly arrest the griping and thus give relief.

If the infant be inclined to be costive, an enema of warm water with a little sweet oil added thereto, or a soap suppository, may be directed as occasion may re-

quire, in addition to the medicine to be given internally.

In the colic due to overfeeding, to indigestion, to constipation, to improper food, I have found that the suffering was quickly relieved by a mixture made as follows :

R.—Mist. rhei. et sod $\frac{1}{2}$ ounce.
Hoffmann's anodyne 40 drops.
Syr rhei. aromat. enough to make 1 ounce.

M. Sig.—Dose, $\frac{1}{2}$ teaspoonful repeated in $\frac{1}{2}$ to $\frac{3}{4}$ of an hour for an infant 3 to 4 weeks old. For younger infants the dose is 15 to 20 drops; for older ones from $\frac{1}{2}$ to 1 teaspoonful, according to age.

Usually 2, at most 3, doses are all that are required.

If there be much overloading of the bowels, an enema, as described, or a soap suppository, in addition to the above, will be of much benefit.

If the colic be due to refrigeration, we will direct the application to the abdomen of dry heat, as a couple of layers of flannel, well warmed, or a tin plate heated and sufficiently covered with cloths, so as not to burn; we will have the feet wrapped in a warm cloth and we will order that the child be given a warm sweetened decoction of peppermint or fennel seed (infants generally seem to prefer the latter). By these measures we will quickly chase the furrows from the brow of our little patient and bring back his cherubim smile. He will once more be comfortable.

Sometimes the administration of a little good whisky, brandy, or gin—10, 15, 20 drops (according to age) in a little sweetened warm water—will accomplish the same purpose and will bring quick relief.

Or the milk of asafetida with some aromatic, as in the formula above given, may be directed, and it will be found of great benefit. It is always to be preferred to the alcoholic stimulants with infants inclined to be nervous, or having a tendency to convulsive movements. Occasionally, in infants with a peculiarly sensitive intestinal tract, an opiate may be required, and here the camphorated tincture of opium, the paragoric of the Pharmacopeia answers best, I believe.

R.—Tinct. opii. camphorat 1 fluidounce.
Aq. menth. pip 5 to 5 $\frac{1}{2}$ fluidounces.
Syr. rhei. aromat. 1 to 1 $\frac{1}{2}$ fluidounces.

M. Sig.—Dose, $\frac{1}{2}$ teaspoonful repeated in $\frac{1}{2}$ hour if necessary. A further dose can be given in 2 hours.

It is only when this condition unquestionably exists that the administration of a preparation of opium in a case of simple colic (in an infant) is at all necessary or justified.

II.—THE REMOVAL OF THE CAUSE, *i. e.*, THE PROPHY-LACTIC TREATMENT.

1. Where the cause lies in the infant, as has been already set forth under heading I, A, there is really nothing more to be done than has already been there said, and to bide the time. Starr believes that the routine administration through the whole colicky period of a little wine of pepsin (15 drops three times a day) is beneficial, and I have occasionally prescribed the elixir of lactopeptin, to be taken 3 times daily between meals, as an agreeable aromatic preparation, very readily taken by infants and children, and I believe I have derived benefit therefrom.

Thompson advises Papain. He makes a prescription thus:

R.—Sod. bicarbonat..... 3 gr ins.
Papain (Finkler) 1 grain.
M. ft. pulv. I. Sig.—One after each meal.

Sometimes he directs the following mixture :

R.—Sod. bicarbon. 3 grains.
Spirits ammon. aromat. 1 minim.
Spirits chloroform. 1 minim.
Syrup.....10 minims.
Dill. water sufficient to make..... 1 dram.
M. After each meal.

I do not favor the administration of an alkali, that is as routine treatment, and certainly not at all immediately or shortly after meals; it cannot but help to impair a digestion already innately weak, perhaps even cause an acidity, and thus still further aggravate the evil.

2. When the infant is costive or constipated, we will have to regulate its bowels to the normal standard. Some indications, therefore, have been already given here, but the fuller details as to the rules and methods to be employed for this purpose can be found in my work, "Constipation in Adults and Children," etc.

3. If the mother be constipated, we will seek to effect a regular and normal evacuation. During the puerperium we will keep the bowels soluble by means of laxatives, enemas, glycerin suppositories, or glycerin injections, and by the aid of such articles of diet as are not contraindicated by the special period or by the condition of the infant (syrups, oatmeal, cracked wheat, etc.) All cathartics, especially those that gripe, must be avoided, as they may act too energetically upon the infant. Later on, if a normal soluble condition of the bowels has not been attained by the measures already named, we will resort to the mechanical methods, the details of which can be found in my work just mentioned above.

4. If the troubles of the infant be due to a faulty diet of the mother, we must correct this. We will strike off from her dietary all such foods as are said to be flatulent and which have been already named above, and all such food preparations as are in themselves conducive to colic, as has already been set forth. Where the intestinal tract of the infant seems peculiarly sensitive, she may have to abstain from acid, raw fruits, such as apples, oranges, and sometimes even from some stewed fruits, as stewed apples. Where, however, this is not the case, these fruits in small quantity may be allowed and will be of great service.¹¹

The various other indications in matters that refer to the mother, these may be readily inferred from what has been said in the section on etiology and need no repetition here.

5. If the infant be overfed, either that it be nursed or fed too frequently, or that too much be given it at one time, we will insist on the observance of proper periods for nursing or feeding, or on the proper amount to be given at one time, and fully impress upon the mother the necessity of a strict observance of these rules, both for the future welfare of the infant and for her own comfort. The details can be found in the various treatises on diseases of children, and in my work already here named.

6. If the infant be underfed, we will have to do one of two things—either endeavor to secure, if possible, a more abundant supply from the breast, or make good the deficit by properly regulated hand-feeding in addition.

As to the proper character of the food, a most important matter as regards the welfare of the infant. Whilst many children thrive readily on the various artificial foods that may be given them, others again—the few, it is true—will not do well upon the most careful and scientific preparations. Here, all violation of the well-established rules of artificial feeding being excluded (and this is of the first importance, for, as said elsewhere, in the great majority of instances, where the artificial food disagrees with the infant, causes colic, etc., it is not really the food that is to blame, but the over-feeding), the question arises: Is it the food that is at fault, or is the digestive capacity of the infant insufficient, and would it have the same troubles even if it were nursed from the breast? The further details do not pertain here: they can be found in the various treatises on Diseases of Children, and in that very excellent book, "Routh on Infant Feeding." I would only add this, that when this question of a proper food presents itself, it is well to bear in mind the following points:

a. If the milk mixtures disagree with the infant, cause colic, etc., we may improve them and perhaps remove altogether the tendency to gripe by using as the diluent, an aromatic water, fennel or caraway water, as has been suggested by Starr.

b. If we find that milk disagrees absolutely, we may follow the lead of Trousseau, as indicated in the cases above related.

c. Or, where the various foods seem to disagree, we may adopt the advice of Vogel and accustom the infants as quickly as possible to meat broths, which with slight cereal additions make a very excellent and palatable food.

In all cases where, for one reason or another, the mothers had to give up nursing their infants at a later period, say after 7 months, I had recourse to feeding with meat broths with the juice of some cereal, as barley, rice or oatmeal, added thereto, eschewing milk altogether, especially if it were near the summer months, and always found that the children did well and thrived thereon.

As to other prophylactic measures they are pointed out by the etiological factors themselves.

Complications and Sequela.—It is stated by some writers that convulsions may supervene upon attack of colic.

That convulsions are sometimes caused by irritant substances in the intestinal canal I have not infrequently observed. It is possible, indeed it is more than likely, that these latter provoke such severely painful griping, as to throw the infant into a spasm, but a convulsion following upon a well-marked attack of colic I have never witnessed.

Hiccough is a most frequent sequel of the seizure in infantile colic, especially after seizures coming shortly after meals.

It can be quickly stopped by a few grains of fine sugar put into the infant's mouth by the mother's or nurse's fingers. A little water will sometimes answer the purpose.

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THE DIAGNOSIS AND TREATMENT OF SOME FUNCTIONAL FORMS OF DEFECTIVE SPEECH.¹

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TO THOSE not having given especial attention to the science of speech, the subject is involved in more or less mystery, and this is doubtless due to the fact that the early development of speech is instinctive, automatic, and imitative, rather than analytic. It is safe to say that all speech is defective when measured by strictly accurate and scientific laws; and it is only when some marked abnormality arises that our attention is called to it. We are satisfied generally with any form that may serve to express our thoughts, and have very little regard for its aesthetic character. We even grow accustomed to our faults of speech and learn to accept them in preference to the correct forms. Thus the ear is not always a safe guide in these matters and it becomes necessary to train the sense of hearing as well as the faculty of speech.

Schools have been established for the improvement of speech and much good has been accomplished in this direction; but the progress of the work has been greatly impeded by a lack of uniform and scientific standards. These schools have met the requirements of those having fairly good speech, but owing to their lack of a scientific basis, they have not reached that large class of unfortunates whose speech is partially or wholly unintelligible. It is to supplement, therefore, the work of the schools that I make a plea for the careful study of the physiology and pathology (if I may use that expression) of speech by physicians; and by no class of physicians can this work be so successfully accomplished as by the specialist in diseases of the throat and related organs. Defects of speech belong naturally to our specialty, and their careful study with a view to classification, diagnosis and treatment, should be encouraged in every possible way. I may add without fear of being misunderstood, that not all men engaged in throat work can be equally successful in meeting the difficulties that arise in this particular line of investigation. Just as the pathologist requires years of careful preparation for his work, so must the one engaged in the study of speech have acquired not only a thorough theoretical knowledge of the physiology of speech and voice, but also that practical knowledge of the use of the organs employed in speaking which comes from special training in vocalization and articulation. This practical knowledge is useful not only in making the diagnosis, but also in giving the prognosis and directing the treatment, just as in the treatment of any disease one must know what the trouble is, what the cause is, and to what extent the cause may be removed and the trouble corrected. He must learn to compare the defective speech with the normal speech, not in a general, but in a particular way. Each element of the defective must be compared separately with the corresponding element of the normal speech and a complete record kept of the comparison.

In following this plan a serious difficulty always arises from the fact that our English alphabet, in many instances, gives the names rather than the sounds of the letters used in the language. For instance, the letter b is composed of two elementary sounds,—b and ē; g is composed of three elementary sounds,—d, zh, and ē;

and the letter w is composed of six elementary sounds,—d, ū, b, l, y and ōō. Hence it is clear that we cannot compare the defective sounds in speech with the standard alphabet of the language, and we must therefore, construct an alphabet of sounds. This was done as early as 1827 by the British physicist, Dr. Neil Arnott; and his alphabet was modified during the last decade by Dr. John Wyllie, of Edinburgh, who very properly gives it the name of "The Physiological Alphabet." I have reproduced it here with some slight additions and refinements, and I shall endeavor to show its application in the treatment of the various forms of defects of speech. My revised physiological alphabet contains 44 sounds, which may be designated as follows:

THE PHYSIOLOGICAL ALPHABET.

CONSONANTS.				
	VOICELESS ORAL	VOICED ORAL	VOICED NASAL	
Labials	P Wh	B W	M	Paul Brown made white wax.
Labio-dentals . . .	F	V		Full voice.
Linguo-dentals . . .	Th'	Tb''		Think thou.
Anterior	S Sh	Z Zh		Some zealous sheep
Linguo-palatals . .	T	D L R	N	leisurely took down nine large rails
Posterior Linguo-palatals . .	K H	G Y	Ng	Can girls bring home yeast?

VOWELS.				COALESCENTS.			
ā	ā le	ō	ō ld	ar	f ar e	or	f or e
ā	ā t	ō	ō n	ar	f ar	or	f or (aw)
a	a lus	oo	oo ze	er	h er e	oor	p oor
a	a ll	oo	l oo k	er	h er	ūr	p ū r
ā	ā sk	ī	ī t				
ē	ē ve	ū	ū p				
ē	ē lk						

It is quite probable that not one person in a thousand gives these sounds as here represented, and hence it is that nearly all speech is defective. There is no perfection in speech, and the best of us only approximate the correct forms. With this alphabet, however, as a standard of perfection, we compare the speech of each individual patient and we make a record in which appears an exact account of every deviation from the normal. To those who have learned to read we give sentences containing all the elements in the alphabet, and every departure from the correct sounds of these elements we carefully note and record for future reference.

Having thus determined in what respects the speech of the patient differs from the normal, and having recorded it in the case book, we proceed to investigate the causes of the defect. These causes are as numerous as are the defects themselves, and they are not always easily discoverable. A word with reference to the general development of speech may throw some light upon the subject.

The three mechanisms employed in the early development of speech are the auditory, the vocal, and the oral mechanisms, and each one of these may be again divided into central and peripheral mechanisms. In

¹Read before the Laryngological Section of the New York Academy of Medicine, October 24, 1900.

the later development of volitional speech, the higher psychic centers are also employed. The child first uses the organs of speech in crying, and this generally begins, in the normal child, immediately upon his advent. This is not an expression of pain, but it is the result of a reflex action of the musculature of the peripheral respiratory and vocal mechanisms. It is entirely subcortical and it is the result of various external stimuli attendant upon the child's new environment. (That it is independent of the higher central mechanisms of speech is shown by the fact that a similar action takes place in both the deaf child and the idiot, and to such an extent is this true that it is impossible to diagnosticate deafness in a very young child, and it is very often difficult in the first year or two to distinguish between the child of normal and the child of abnormal brain.) It is quite possible, however, that the child soon begins to experience a pleasurable sensation in the use of these organs, which acts as a stimulus to the development of their volitional exercise; and, as I have shown elsewhere, the mere physical use of the organs of voice, independently of any intellectuality, continues to give pleasure throughout the life of the individual; and this explains physiologically the great delight that people often take in talking, as well as the origin of the development of speech.

After a longer or shorter period of crying, the child begins to utter other apparently meaningless sounds, and to echo short words or syllables which have been used in his presence. Then he gradually begins to associate certain sounds with persons and things. All this takes place before the child does much thinking on his own account. The pleasure that he derives from this crying, babbling, prattling, and almost unconscious mimicry of sounds now becomes a strong incentive to volitional effort,—and it is here that the trouble begins. When the budding intellect begins to assume control of the hitherto automatic speech processes, unless the entire machinery of speech is in perfect condition, there will be more or less friction which may result in either defective articulation or stammering, or, as is often the case, in both of these conditions.

All speech is acquired by imitation; and could normal children have perfect examples, the result would be the development of accurate speech; but all children are not normal and they have no perfect example or model—hence the development of all kinds of speech, from the wholly unintelligible to the proximately correct. The auditory center is closely related to the speech center, and their development is simultaneous. The great importance of the ear in the development of speech is well illustrated by the fact that deaf children do not acquire speech at all, except as the result of special training. In the young child the auditory center first receives the impressions of sound, and the speech center responds almost immediately by trying to reproduce these sounds. If, owing to a faulty condition or action of either the central or peripheral organs of speech or hearing, the reproduction happens to be inaccurate, the auditory center seems not to be able always to detect this inaccuracy, and it registers it as being accurate. The trouble may arise originally from some temporary derangement of the nervous organization or from some abnormal anatomic structure or pathologic condition of the peripheral organs of speech and hearing. As examples of abnormal structures, I would refer to hare-lip, cleft palate, and other forms of arrested development; and as examples of pathologic conditions, to the various catarrhal processes of the throat and middle ear.

Defects of speech may arise, therefore, from either subjective or objective causes. In the former class would be included all those that exist within the child's own organism; such as first, a defective hearing apparatus; second, a defective speech apparatus; and third, a defective psychic apparatus, especially those centers presiding over the intellect and will. In the latter class would be included all those causes which may arise from the child's environment; such as first, bad hygiene, affecting the general health; second, the atmosphere of excitement in which so many children live and by which their nervous organizations become impaired; and third, faulty examples of speech given children by those in attendance upon them, and the encouragement of the continuation of baby talk for the amusement of others.

No discussion of the treatment of defects of speech is satisfactory which does not deal with the question of prophylaxis. What measures may we adopt in the training of children to prevent the development of defective speech? This is an important question because of its great practical value. To direct the formation of good speech habits is often a simple procedure, but when habits of faulty speech are once formed, we have a more difficult task to perform. That this task, however, is not altogether hopeless has been shown by the results already obtained in this work. The proper early training of young children would undoubtedly prevent the development of defective speech in a large percentage of cases. The physical condition of the child has much to do with the development of all his faculties, and there is no faculty which reflects this condition so accurately as does the faculty of speech. Poor health, either inherited or acquired, is a common cause of defective speech; and if it exists during the first few years of the child's life, its effects are specially pronounced. Some of the most serious cases I have ever seen were the result solely of a marked asthenic condition due to anemia during the early formative speech-period. The general health, therefore, should be kept in the best possible condition.

In addition to this, in many children the demonstrative disposition, as evinced in the babbling and prattling of which I have spoken, should be encouraged, not in an excitable, but in a calm manner. These demonstrative tendencies in some healthy children may occasionally require mild repression, lest an overexuberance of spirits result in an incoordinate nerve and muscle action which manifests itself in stammering. It is quite possible that the majority of cases of this latter defect might never have stammered if their early training had been of the right sort. Baby talk, amusing and cute as it may be, should be encouraged only up to a certain point, and not beyond the period of babyhood. Examples of good speech should be given children, and the imitative faculty should be encouraged. It is interesting to note what interest young children often take in mimicry; and this tendency, often manifested early in life, should be taken advantage of in the development of speech.

An early examination of the organs of speech should be made in all cases in which the beginning of an arrested development is suspected. Hypertrophied tonsils, pharyngeal, faucial, and lingual, should receive early attention and all structural irregularities should be corrected, keeping in mind the fact that speech is greatly influenced by these conditions during the first few years of childhood.

The above prophylactic measures are useful in all

forms of defective speech, but they are especially applicable in that form known as stammering. Other forms of defective speech are due to arrested development, but stammering is an acquired defect. It is not congenital, nor is it inherited, although we have ample proofs of the fact that the nervous conditions predisposing children to this affliction are often transmitted through several generations. Those who acquire the habit of stammering as a result of these inherited tendencies are probably the most difficult to cure, for it is necessary, by systematic and persistent training, not only to break up the habit, but to actually work some indescribable changes in the anatomy and physiology of the nervous organization. The patient has inherited a nervous system that is at least functionally defective, and that is probably not altogether free from organic defects. The child, therefore, whose ancestors have stammered, and he who shows the slightest predisposition to this form of defective speech should be very carefully managed in order that the habit may not be established. He should be led unconsciously to think slowly and to speak slowly; he should be shielded from all excitement, and never permitted to try to describe exciting events. Great tact must be used in diverting his attention from the exciting subject to something of less interest, without acquainting him with the reason for it. This reason, however, he should never know because it would arouse the fear of stammering and a mental expectancy which militates very materially against future freedom of speech. The attention of the child should never be called to the defect, and the word stammering should never be used in his presence. This is a most important injunction; many children have been made confirmed stammerers by having had their attention called to the enormity of the offense, and by having thus acquired a nervous dread of the affliction.

I shall now endeavor to describe to you the plan of treatment that we have found to be most effective, taking up first, those cases in which defective articulation, due to arrested development, is most pronounced; and, second, that form of defective speech known as stammering which, as I have said, is an acquired form and which, I may add, generally manifests itself in a faulty coordination of the vocal with the oral mechanism. In the articulatory form of defects of speech, we first get an accurate record of the actual defects as they exist by comparing the faulty sounds given with the correct sounds as indicated in the physiologic alphabet; and each element of speech that is found to be defective is taken up separately and the patient is taught the physiology of that element. He is shown to what degree the mouth should be open, and what position the lips, tongue, and palate should take for its correct enunciation; a hand mirror being used to aid him in acquiring the correct positions. At the same time attention is given to correct breathing and vocalization. It is explained how the articulatory organs may be regarded as moulds into which voice is poured; and how much for each sound, a separate and distinct mould is required; and the size and shape of this mould, and the manner in which it is made are fully described and illustrated. The patient is instructed, while endeavoring to get these positions, to give the closest attention to the resultant sound, in order that he may as speedily as possible hear the correct and distinguish it from the faulty sound. This training of the auditory center of the brain is of the utmost importance. Just as a defective ear is an insuperable barrier to the acquirement of a practical

musical education, so is an ear that fails to distinguish between the faulty and correct sounds of speech a great hindrance to the development of good speech.

Not until the patient begins to distinguish between the faulty and correct sounds does he fully appreciate the importance of attempting to improve upon his own articulation. Hitherto his speech has seemed to him to be the same as that of other people, and he has wondered, perhaps, why he has not been understood. When his ear detects the difference, his whole attitude changes and he begins to manifest great interest in his condition, and to apply himself energetically to the task of improvement; and the rapidity of his progress is often surprising. Frequent repetitions, however, of the correct sounds are necessary to fully establish them in the cerebral centers of speech and to bring the peripheral mechanism of speech under the complete control of these centers.

All that I have said with reference to the treatment of the articulatory forms of defective speech is applicable also to the treatment of stammering. Stammerers may or may not have marked articulatory defects, but like all other people having had no special speech training, they have no voluntary control of the peripheral mechanisms employed in speech. These mechanisms and the muscles that control them are automatic in their action. If I were to ask you to describe the physiology of any one of the elementary sounds of the alphabet as given above, you would have difficulty in doing it because you do not know the action of the numerous muscles that control these mechanisms. The fact is that only a few of these muscles are under the domain of the will, and in the majority of stammerers, they are all involuntary.

Now, why does the stammerer stammer, and what actually takes place in these peripheral mechanisms of speech during the stammering? The patient himself cannot answer these questions. He does not know why he stammers, nor does he know how to avoid it. He only knows that he is never sure of perfect freedom in speech. I can think of no other condition quite analogous to that of the stammerer; he knows what he wishes to do, but he cannot do it. In the functional articulatory form of defective speech, such as I have described, there is merely an arrested or delayed development of the speech faculty. This faulty development would never be recognized by the patient if his attention was not especially called to it by the fact of his not being understood. The stammerer, on the other hand, is fully conscious of his defect, but he has no power to remedy it. His difficulty is not with thought, but with the expression of thought. He thinks in words, but he cannot speak in words. It is almost generally conceded that the primary revival of word memories takes place in the auditory centers of the brain and, simultaneously, but to a lesser degree, in the visual centers; and the molecular activity thus aroused is transmitted with greater or less intensity to other portions of the cerebral cortex. When words are to be written, the impulse is directed chiefly toward the chirokinesthetic center; and when spoken, towards the glossokinesthetic or Broca's center; when neither written nor spoken, this impulse may be directed toward the purely intellectual centers where the words are selected and arranged for purposes of silent thinking.

It is true that some patients stammer in this process of thinking, even when no attempt is made at thought expression. In these cases there is a confusion of ideas

such as we all have experienced to a greater or less degree, and it is probably reasonable to suppose that this confusion of ideas, if sufficiently marked and of repeated recurrence, would lead to a hesitation in speech; and in nervous, impressionable children, to more or less severe forms of stammering. All stammerers experience a greater or less confusion of ideas whenever they attempt to express their thoughts in words, and this confusion generally increases as the necessity for the expression of thought increases. There are few stammerers—for instance, who cannot at all times swear; and I do not recall one of the hundreds whom I have examined that has not been able to talk or read freely when alone or in the presence of dumb animals. In the majority of cases, the greater the desire for speech the greater the difficulty. This is not always true. Occasionally we find one who requires only the stimulus that comes from an important occasion to overcome the barriers of speech. The confusion of ideas of which I have spoken is not always the cause of stammering, but in some cases it is the effect, and the cause must be looked for in the peripheral or conducting mechanisms of speech. When the glosso-kinaesthetic center receives the command transmitted from the other speech centers, it should immediately and automatically execute it. This it oftentimes fails to do, and this failure naturally results in a confusion in the molecular activity of the cortical centers. This automatic and almost instinctive power existing in the conducting apparatus is undoubtedly inherited in greater or less perfection. The ready acquirement of the faculty of speech in children in the second year would never be possible were it not for the operation of this law of inheritance. There are well-authenticated records of development of speech having been delayed for several years in children, and then of whole sentences having been uttered spontaneously and at once, without any previous effort at speech. This would seem to prove that the law of inheritance is especially operative in the transmission of the faculty of speech. Moreover, the clinical records of all these functional disorders of speech furnish additional and stronger proofs of the operation of this law. In almost all cases of defective articulation, and in a large percentage of cases of stammering, the defect may be traced directly to some ancestral origin.

From what I have said we must not conclude that stammering is always of central origin. The cerebral conditions described above are often induced by a derangement in the conducting nervous apparatus of speech. The motor processes of speech are carried on mainly in the bulb and spinal cord, and anything that interferes with these processes will naturally result in disordered speech. This is probably the physiologic explanation of the fact that stammering is often brought on suddenly by a severe shock to the nervous system. To the child who has inherited a predisposition to stammer, a fright or a fall may precipitate the condition; and in like manner the acute diseases of childhood, especially the febrile diseases which affect the nervous system, are fruitful causes of this affliction. These motor processes of speech may also be deranged by obstructions to the normal action of the peripheral mechanisms. Glandular enlargements in the pharynx and all the various conditions occluding the nasal passages, render the use of these mechanisms more difficult, and interfere with their natural automatic action. When this takes place, it reacts upon the conducting motor centers, and this in turn reacts upon the cortical

centers of speech, the whole resulting in a lack of harmony in the action of all the centers (cortical and sub-cortical) employed in the production of language and its expression by articulate speech. Stammering, therefore, is a complex phenomenon. It appears in various forms; no two cases are exactly alike, either in their etiology or external manifestations. This being so, the treatment, like the treatment of any disease, must be adapted to the individual.

In all cases the nose and throat should be carefully examined and all irregularities, either of a structural or a pathologic character, should be corrected. A free action of the tongue should also be made possible by the snipping of a short frenum, and, if necessary, by a division of the anterior fibers of the geniohyoglossus muscle. Of course, the many empiric operations performed upon the tongue for the relief of stammering half a century ago have long since been discarded and no one thinks of employing surgery now except to correct actual deformities of the organs or to remove pathologic obstructions.

Aside from these simple surgical measures which are rather more preventive than curative, and aside from general tonic remedies to support the nervous system, the treatment of stammering must be educational. In the vast majority of cases there is no appreciable organic lesion, and the trouble, at least so far as we can now determine, is purely functional. That there is an inherited organic nervous structure predisposing children to this affliction I am convinced, but it is of so slight a character that we have as yet no means of differentiating it. I repeat that the treatment must be adapted to the individual. We must study carefully his physical condition; and I use the term physical in the broader sense, including the whole being. A study of the mental attitudes of the stammerer throws much light upon his condition. Physical education is the treatment, and physical education in its broadest and most comprehensive form. Mental attitudes and nervous tendencies generally may be entirely changed by suitable physical exercise; and it is a well-recognized fact that the development of muscles is valuable only in so far as it develops nerve-power. We must reach the nervous mechanisms of speech through the training of the muscles supplied by these nerves and employed in the processes of speech. The value of this muscle training is not limited to the motor centers of speech in the bulb and spinal cord, but it extends to the cortical centers of the brain.

As I have said, the motor mechanisms of speech are largely automatic in their action; and when they fail to work automatically, as they do in the case of the stammerer, an effort is made to force them into action. This proves to be an impossibility and results in the various grimaces and other contortions so characteristic of the stammerer.

The proximate cause of stammering, therefore, exists in a functional derangement of the nervous mechanisms of speech, and this condition results in an inharmonious and incoordinate action of the hitherto automatic peripheral mechanisms. The task before us is manifestly to restore the nervous mechanisms of speech to their normal condition; and at the same time to reestablish a normal automatic action in the peripheral mechanisms. There is but one rational and scientific method by which this may be accomplished. The normal functional activity of the cortical centers can only be restored by physiologic exercise, and this exercise can

only come as the result of a conscious effort on the part of the patient to gain voluntary control over the entire muscular system,—giving especial attention to those mechanisms immediately concerned in the processes of speech. The aim, then, in all cases should be toward the volitional control of muscles, keeping in mind that the chief object to be accomplished is the restoration of normal functional activity in the nervous system. Some little ingenuity is necessary to determine just what particular exercises may best suit individual cases; and great patience and perseverance are needed in their application. Of course, the busy doctor cannot do it, and the average teacher will not do it successfully because he fails to appreciate the application of the exercises to the case under consideration; and he lacks, therefore, the incentive to persistent and hopeful effort. Specially trained assistants (not necessarily elocutionists) are required, and they must work in entire harmony with the physician. There must be no differences of opinion with reference even to the details of the work, for this has a bad effect upon the patient. Those having defective speech, and particularly those who stammer, need encouragement and moral support; and attention to little things is of the greatest importance in their treatment.

THE SUMMER COLD: SWIMMING POOLS AS AN ETIOLOGICAL FACTOR.

By LAWRENCE F. FLICK, M.D.,

of Philadelphia.

THERE is a popular saying that a summer cold does not get well until cold weather sets in. I had always looked upon this kind of a cold as a myth until the past summer, when a singular experience strengthened a conclusion which has long been crystallizing in my mind that a popular verdict is always based upon truth.

In the early part of July I took my family to the country, but was driven home within a week by a whooping-cough scare. We remained home for the length of time of the incubation period of whooping-cough, and then decided to remain home for the entire summer. We were informed afterwards that the case at which we took fright was not one of whooping cough. As part compensation for our summer trip away, I took out 5 season tickets in a swimming school, on August 2. Four children and myself used these tickets. The ages of the children were approximately 7, 10, 12, and 14 years. The two older children could swim a little, the two younger and myself practically could not swim any. The swimming school to which we went is one of the best in Philadelphia, and is attended by the better class of people. The water in the pool is filtered and there is a running stream in and out of the pool during swimming hours. I am inclined to think that the inflow and outflow of water is stopped during hours when the pool is not used, as I have, on a number of occasions, gone to the pool in the morning before the inflow had been started. I have been told that the pool is thoroughly cleansed once a week. I have also been told that it takes about 24 hours to completely change the water in the pool. For the correctness of these statements I can not vouch. The rules of the swimming school forbid spitting into the water and also using the water for cleansing purposes.

After we had been going to the school about one week a report was brought home by the children that some of the young swimmers had a croupy cough. This rather prepared my mind for an attack of follicular tonsillitis or possibly a cold in some or in all of us: I did not anticipate anything more serious, however. Some time near the end of our second week of lessons, the youngest child, a boy, was taken with what appeared to be follicular tonsillitis. He had high fever for 48 hours, almost constant vomiting, obstinate constipation, and severe abdominal pains. His tonsils were swollen and the follicles were filled with a whitish substance. After the fever had subsided and the gastric abdominal symptoms had disappeared he was left with a croupy cough and a rather intense inflammation of the nasal mucous membrane. Gradually this condition gave way to a chronic nasal inflammation with free discharge of purulent matter and a gradually increasing cough and expectoration.

I myself nursed the little fellow, and on the second day of his illness I noticed a sore feeling in one nostril far back. The nasal passage on the side affected was completely occluded. The sore feeling gradually extended over a larger surface, and together with the obstruction gave me much discomfort, but apparently set up no other symptoms of disease. I concluded that I had contracted a mild attack of the disease which was afflicting my boy. Aside from the pain and discomfort I suffered no inconvenience. In fact I felt myself to be in unusual good health. Annoyed by the nasal obstruction I made persistent effort to open up the closed passage by douches of antiseptic solution. I used Seiler's antiseptic pastiles for this purpose. I succeeded in clearing the passage, and immediately thereupon I began to notice the soreness rapidly extending into the pharynx, into the trachea, and into the other nostril. Within 24 hours the entire upper respiratory tract was inflamed. Now for the first time constitutional symptoms began to show themselves. These consisted of a slight chilliness and a feeling of lassitude. My appetite continued good. For a week I continued going to the swimming pool irregularly, and I seemed to get some benefit from the water. Gradually, however, the inflammation extended down further in the bronchial tubes, into the antrums of Highmore, into the eustachian tubes, and to some extent into the frontal sinuses. A good deal of frontal neuralgia developed. There were few constitutional symptoms, however. I became rather sensitive to cold, perspired freely upon the slightest exertion and felt an incapacity for occupation of any kind. I now discontinued my visits to the pool. At the end of two weeks my ailment had assumed a chronic form, which changed into a subacute one when I exerted myself much and returned to a chronic one when I rested. Medication seemed to have practically no effect. I used many drugs internally and locally without apparently changing the character or course of the disease. As soon as I noticed that exertion aggravated the condition I remained as quiet as possible without lying up. The discharge from the antrums and frontal sinuses became very profuse, necessitating the use of from 15 to 20 handkerchiefs a day. It was purulent in character. The only remedy which appeared to have any effect upon it was a douche of a solution of tannic acid and chlorate of potash in glycerin and rose-water, which I began to use about the end of the third week.

This materially lessened the amount of the discharge. The disease, however, continued until late in the fall.

About the time that the disease began with me it also started in the other three children, there however being a few days interval between the attacks of each, beginning with the youngest. The youngest, being the second youngest of the four children, had quite a severe attack, having to go to bed with fever for nearly a week. The next older had to go to bed for a few days and had some fever. The oldest had a slight fever for a day, but did not have to go to bed. In all of the children the symptoms were practically the same after the first few days, namely, frontal neuralgia, earache, slight deafness, obstruction of the nasal passages, slight croupy cough, reddening of the eyelids with slight suffusion of the conjunctiva, purulent discharge from the nose, and a feeling of lassitude. There was practically no cough at night, but always severe cough upon arising in the morning and some cough during the day. Some of the children lost their appetites for a few days, but as a rule the appetite remained good. As with myself so with the children, remedies, with the possible exception of the tannic-acid mixture mentioned, were of no avail. The most striking effect of the disease upon the appearance of the children was the production of pallor. Towards the end of the attack the appetite became capricious, but all continued to eat and none lost weight.

At the end of from 6 to 8 weeks we all began to show great nervousness. I myself looked well at this time and had gained in weight, but was on the point of nervous prostration. I was almost totally incapacitated for work. All energy seemed to have left me.

As the cold weather came on we all rapidly improved, but whether this was due to the weather or because the disease had run its course, I am not prepared to say. There remained with some of the children and myself a tendency to congestion of the mucous membrane of the nose which continues with us to this day. One of the children, who was then 10 years old, moreover completely broke down after going to school a month or six weeks without any apparent cause. She became exceedingly nervous, developed complete anorexia, and emaciated rapidly. From this condition she is now slowly recovering. It is but proper to say, however, in this connection that she has been getting a number of second teeth.

An interesting point in the etiology of this disease, which may in part be deciphered from this unique experience, is infection. The disease is evidently infectious rather than contagious, although it may be both. I am convinced that we all contracted the disease directly from the water. My reasons for arriving at this conclusion are as follows: 1. The severity of our attacks was in proportion to our inability to swim and consequently to the extent to which we sucked water into the upper air-passages in trying to breathe under water. I remember distinctly having had an unusually unpleasant experience of this kind a day or two before my attack began. The youngest child, a courageous little fellow, inhaled water quite frequently, and he was the first to develop the disease. The oldest boy, who could swim some and who knew something about breathing while swimming, had the mildest attack. He did not develop his attack until about the time when he began to learn to dive. 2. There were five members of our household, namely, my wife, two younger children, and two maids, who did not take swimming lessons.

My wife and the two children were in intimate contact with the rest of us and the two children on several occasions were at the swimming school as spectators. The maids were in contact with us likewise, although of a less intimate character, and one of them was repeatedly at the school as a spectator. The incubation period of the disease, if our experience may be used to determine it, could not well be over two weeks. At the end of four weeks of intimate association the two children who had not taken swimming lessons, developed a mild attack, and at the end of five weeks my wife developed a mild attack. The two maids did not contract the disease. There was ample opportunity for infection of my wife and the two children through kissing, use of towels, and use of eating and drinking utensils, so that it is quite possible that they contracted the disease by infection. Contagion cannot be excluded, however. The fact that the maids did not contract the disease would seem to indicate that if it is contagious it is very mildly so.

It would be interesting to know how many of the patrons of the swimming school got the disease. One of the attendants told me that a great many people who came there had the same ailment which I had. A friend, who was going to the school with his two daughters at the same time we were, has informed me since that he and his daughters contracted a cold there which lasted them all summer. Two gentlemen, one a physician and the other a clergyman, have since informed me that when they took swimming lessons at this school during another season they contracted colds which lasted all summer. A physician has told me since that he has frequently treated colds which had been contracted at the school, but that he had looked upon them as the result of exposure in wet clothing.

I regret that I am unable to accompany these clinical observations with a bacteriological study. Unfortunately I was unsuccessful in my efforts to find a competent bacteriologist in the city at the time. Cultures from the nasal discharges of myself and children, together with a bacteriological study of the water in the pool, would no doubt have revealed the microorganism which produced the disease. An opportunity for such a study will undoubtedly present itself during another season, when perhaps some of our bacteriologists will be on the lookout for this undiscovered microbe.

Relation between the Occurrence of Appendicitis and the Presence of a Neurasthenic Tendency.

—Schaumann (*Deutsche medizinische Wochenschrift*) refers to this. He has frequently observed appendicitis in general members of neurotic families, and in a number of instances has seen appendicitis appear without any very apparent reason after severe neurasthenia had existed for some time. The fact that appendicitis is not infrequently combined with mucomembranous enterocolitis in his belief shows also some relation between appendicitis and neurosis; likewise neurasthenia is frequently combined with ptosis of one or more of the abdominal organs, and it may readily be believed that alteration in the position of the abdominal organs may lead to appendicitis and that the appendix itself may be out of position and thus be more subject to inflammation; it is well known that in appendicitis the appendix is not infrequently found in peculiar positions. Also, certain authors have expressed their belief that chronic appendicitis is a very frequent result of movable right kidney. Schaumann does not insist that he has proved a direct relationship between neurosis and appendicitis, but he does believe that appendicitis may in some instances be the result of general neurosis, usually indirectly. [D.L.E.]

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Experimental Pancreatitis.—It is no discredit to the fair reputation of our predecessors in medicine that the knowledge they possessed of the pancreas and its morbid conditions should have been vague and inaccurate. Before 1642, at which date Wirsung discovered the pancreatic duct, thus proving the glandular nature of the organ, it had been the habit to attribute to diseases of the pancreas such conditions as melancholia, ague, and hypochondriasis (Fernelius). And indeed, notwithstanding Wirsung's discovery, it has not been until recent years that anything like a proper knowledge of the physiology and pathology of the pancreas has been acquired.

There is no organ of the body that is so uncommonly the seat of idiopathic disease, and it is certain that no other pathological process presents a greater variety of inconstant and contradictory symptoms. Within the past few years, however, experimental work, on the one hand, and careful pathological study on the other, have evolved some order out of the chaos, and a vast deal is now established with much left unsolved.

We have to recall only the situation of the pancreas, its intimate relations with surrounding structures, and the great rarity of uncomplicated pancreatic disease, to understand the nature of the difficulties which beset a student in both the subjective and objective signs of morbid action.

Dr. Simon Flexner has lately conducted a series of experiments upon the pancreas, the report of which will be found in the *University Medical Magazine*, for January, 1901. They amplify this investigator's previous work in the same field (1897), and form a valuable contribution to our knowledge of the subject. With a view of studying the effects of injury, and of chemical substances, as well as of the various bacteria, upon animals, inoculations were made into the duct as well as the gland substance proper. Flexner gives us a résumé of his former work, and the results of other experiments than his own. While a great deal of light has not been thrown upon the causes of pancreatitis, the nature and causes of fat-necrosis have been established definitely. Flexner's conclusions from his earlier paper bear repetition. He states that the pancreatic secretion may enter the peritoneal cavity without setting up diffuse inflammation, but in a certain number of instances sterile pancreas or its secretion causes local

fat-necrosis. The element of infection plays a very insignificant part. In peritoneal fat-necrosis the fat-splitting ferment is demonstrable in certain stages of the pathological process, being present in greatest amount early, and it may disappear as healing advances. Flexner believes that it is highly probable, but not proved conclusively, that steapsin is the direct cause of necrosis. Finally, the escape of the pancreatic secretion into the peri- and para-pancreatic tissues is the origin of the necrosis, and this escape is facilitated, not only by lesions of the pancreas, but by disturbances of its circulation, which include the effects of injuries inflicted upon the gland as well as the results of passive congestion. The valuable work of Oser upon this subject is referred to by Flexner, and Oser's classification of diseases of the pancreas is adopted. He enumerates: (1) Acute hemorrhagic pancreatitis, (2) suppurative pancreatitis, (3) necrotizing pancreatitis, and (4) chronic indurative pancreatitis. Experimental work has thrown much light upon the suppurative and necrotizing varieties, and in those cases in which the pancreatitis does not produce the death of the animal, the chronic indurative form is seen to follow. As a result of Flexner's experiments, he concludes that hemorrhage *per se* is a common condition of all forms of pancreatitis, and that when it is excessive it dominates the process. It is more pronounced usually in inflammatory lesions, and the two conditions may be separate and distinct in the same organ, or parts of the organ. Fat-necrosis is due to the perversion of the pancreatic secretion and is the direct result of the action of the fat-splitting ferment. He calls attention to the fact that owing to the severity of the means employed to provoke pancreatitis in experimental cases, it is not found that hemorrhage occurs commonly independently of the inflammation. The part which infection plays is probably secondary to the action of the pancreatic secretion upon the injured foci.

There are many phases of this subject which we cannot touch upon within the scope of these remarks. It is, however, suggestive to enumerate some open questions, such as the relation between diabetes and diseases of the pancreas, the nature of the leukemia present in animals experimented upon; the relations between the spleen and the pancreas and their functions; and, finally, the relations between the liver and the pancreas. We would call attention in this connection to a

paper by Opie which appeared in the *American Journal of the Medical Sciences*, for January, 1901.

Contempt of Court versus Contempt of Human Life.—Judge Wiltbank, of the Criminal Court, in this city, pronounced an opinion last week which is likely to have an educational effect on the public at large and on physicians in particular. In imposing a fine on a tardy doctor, who had been detained at the bedside of a patient critically ill, the learned judge is reported to have said that it were better that the patient had died than that the Commonwealth should be treated with contempt. He afterwards graciously remitted the fine, but did not reverse his own opinion; and so the record shows that a Philadelphia judge, if correctly reported, values the dignity of his court above a human life. That every doctor will dissent from this preposterous opinion is happily certain, for the physician, we believe, does not practise in this city to-day who would not rather pay this fine many times over than desert a patient *in extremis*. The incident throws a curious light on the exaggerated importance which some of the courts attach to their own prerogatives. The truth is that the courts, more than all our other institutions, inherit the traditions of the dim past. They claim a great antiquity, which lies in remote English history, when the judge upon his bench was little less sacred than the king upon his throne. Thus Blackstone in his Commentaries (Book III, Chapter 3) tells us that the judge represents the sovereignty of the king, and that in the contemplation of the law the king is supposed to be always present in court. From this fiction arises the great atrocity of contempt, for to be in contempt of court was really to be guilty of a form of lèse majesté. In modern times, and in a democratic community, such a prerogative is not accorded to the courts, especially here in America; and when the value of a human life is set opposite to the interests of an assault and battery case, we doubt not that the sympathy of the public, as well as its common sense, will side with the doctor. Still, we suppose Judge Wiltbank is entitled to such vindication as he can obtain from the traditions of the bench.

A Reminiscence of the Queen.—In its memoir of Queen Victoria, the *British Medical Journal* recalls an incident in her life that is full of interest for medical readers. In 1853, at the birth of her son, the late Duke of Albany, she submitted to be placed under the influence of chloroform. This anesthetic was administered by Dr. John Snow, and was given in doses of 15 minims, the Queen being kept under its influence during her accouchement for nearly an hour. This was at a time when chloroform, especially in obstetrical practice, was still regarded with the greatest suspicion, and even abhorrence. Eminent members of the profession denounced its use as not only dangerous, but unjusti-

fiable, and some of them even went to the fanatical extreme of proclaiming that the use of an anesthetic in labor was a defiance of the Almighty, who had pronounced upon all women the primal curse that they should bring forth their children in sorrow and pain. This battle raged here in Philadelphia as fiercely as in England, and reputations were, for the time being, nearly marred by it. Sir James Y. Simpson, who championed the advent of chloroform, used and advocated it especially in obstetrics, but it was made to suffer opprobrium for nearly all the accidents, from whatever cause, that can happen in childbed. It was accused, for instance, of causing puerperal insanity, and several papers or references on the subject were contributed to medical literature. In a case happening near Philadelphia, in or about 1853, legal complications were barely averted, the doctor in the case having administered the new anesthetic, and the patient a few weeks later having gone insane and been taken to Kirkbride's. It is difficult for us to realize in the present day the unreason and prejudice displayed against this beneficent practice, and to fully appreciate the courage of Queen Victoria and her confidence in her physicians, as well as the confidence of her physicians in themselves, in thus resorting to the use of an almost unknown and apparently deadly vapor. It is needless to say that the example of the Queen was of the greatest influence in England, and presumably in the world at large. Chloroform had undoubtedly begun to be used before this date, but its use under such august and auspicious circumstances was the one thing needful to bring it into vogue.

Huxley and Leidy.—These two eminent scientists, who are of special interest to our readers because they were both members of the medical profession, are brought prominently into notice, the former by the biography and memoirs of him that are appearing, and the latter by the presentation of his portrait to the College of Physicians here in his native city. It is much to be regretted that the tribute of a well-written life, such as has just appeared of Huxley, has not yet been paid to the memory of Leidy. Surely there was enough in that fruitful and profound life—even though it were a comparatively uneventful one—to make a deeply interesting book. Leidy, unlike Huxley, remained identified with the medical profession all his life, and spent his invaluable days in the routine work of teaching practical anatomy to medical students. In the light of what we know of him, and of what he did, this life-work, though a sufficiently noble one, must be looked upon as something of a sacrifice. He had the genius of a great morphologist and paleontologist, and his contributions to these sciences are sufficient evidences of the vast work he might have accomplished if he, like Huxley, had devoted more of his life to purely scientific work instead of to the work of medical edu-

cation. However, the long line of students who for forty years sat at his feet, were the gainers, not only in practical knowledge, but in the benefit derived from the example and personality of a great scientist.

Lord Avebury (better known as Sir John Lubbock) in his recent memorial lecture on Huxley, delivered before the Anthropological Institute (*Popular Science Monthly*, February, 1901), has depicted the best and most lovable traits of the great "agnostic." Huxley invented this term to describe himself, but it represented his logic rather than his sympathies. These latter never hesitated to go forth even where his reason could not always follow. He was many-sided, and his versatility, as Lord Avebury shows, expended itself in three main channels—science, education, and metaphysics. In all these spheres he was, when need be, a controversialist of the highest and best type. That these two great men, Huxley and Leidy, knew and thoroughly appreciated each other, is shown by not a few interesting records and relics. Huxley, speaking of himself, says that when he was a medical student he resolved "to make the best of the stuff" that was in him. He succeeded so well that from the beginnings as a medical student he ended by becoming one of the foremost thinkers, investigators, and expounders of his day.

Neuroses of the Stomach.—For many years it was customary to write at length of purely nervous gastric affections. Recently there has been a strong tendency in the opposite direction, and some authors even deny the existence of purely nervous chronic gastric disturbances, insisting that these always have an anatomical basis. The view at present adopted, however, by the most clearheaded of those interested in gastric diseases, is that if a purely nervous chronic disturbance of the stomach occurs it is extremely rare, but that on the other hand gastric disturbances not infrequently have primarily a purely nervous origin, and, secondarily, through the effects of the functional nervous condition, anatomical changes in the stomach occur. The essential point insisted upon is that it is almost always erroneous to consider a protracted gastric disturbance purely nervous, since anatomical changes almost inevitably occur in the stomach as the result of prolonged functional disturbance. There seems indeed to be but one satisfactory case on record in which marked disturbance of gastric function occurred throughout many years without producing distinct anatomical changes in the gastric mucous membrane. The most common results are probably well exemplified in a recent interesting report by Ferrannini (*Centralblatt f. innere Med.*, January 5, 1901), who describes a case in which there has been for 11 years frequent attacks of what at first was evidently, from the symptoms, an intermittent gastrosuccorhea, and which, during the latter course of the disease, had become a continuous gastrosuccorhea. The case ended with a severe attack of tetany which soon proved fatal. The micro-

scopic examination of the stomach demonstrated the apparent course of events. The changes in the stomach were widespread, but distinct stages in these changes could be followed clearly. The earliest alteration was in the parietal cells; these had increased in number, they were enlarged and swollen, and there was some dilatation of the glandular cavities and outlets. In later stages the increase in the number of the parietal cells and in their size became much more marked, and most of the cells contained two nuclei; the principal cells had become shrunken and decreased in number, and their protoplasm was of a homogeneous appearance. In more advanced stages the changes in the purely glandular tissue were even more marked, and there was also some increase in the connective tissue, with moderate round-cell infiltration. The most important part of the observation was in the fact that the changes in the glandular cells were so very widespread and so far advanced, while inflammatory changes had appeared late. That such changes should have been so marked and protracted as the result of actual gastritis, while the connective-tissue remained uninvolved, seemed highly improbable, and the only proper conclusion seemed to be that the condition was at first purely irritative and consisted of swelling and hyperplasia of the HCl secreting cells, and that secondarily to this the interstitial tissue showed changes. That the inflammatory changes were secondary seemed evident from the fact that they began about the free surface of the gastric mucous membrane and not about the glands. They were therefore evidently the results of the irritation of the stomach from its own excessive secretion, and from the stagnation of stomach-contents following the pyloric spasm which this secretion produced. It seemed clear, then, that the disturbance in this case had been at first purely functional and not inflammatory, but that ultimately the prolonged irritation had in an indirect manner produced an actual gastritis. The case is reported chiefly in its relation to the interesting question whether a gastrosuccorhea ever occurs without a gastritis or a pyloric stenosis. Most writers consider now that there is always one of these anatomical changes present. This report seems to show that this is not necessary, for, as stated, the gastritis seemed to have been a late occurrence in the case, and there was even at the time of death no stenosis of the pylorus, so that a Reichmann's disease of purely nervous origin seems to be wholly possible and even probable. Another fact of great interest in the case is that severe lesions were found in the nerve cells of the medulla and cervical cord, the lesions having the characteristics of those found in severe toxic conditions. These changes Ferrannini considers to be important testimony in favor of the view that tetany is a toxic condition and not that the symptoms are purely reflex. This view has already received the sanction of the majority of those interested in the question.

A Crusade Against Illegal Practitioners.—It is the purpose of the Medical Society of the County of New York to begin an active crusade against the unlicensed and therefore illegal and unscrupulous practitioners of that city, and the society asks the cooperation of the profession and the public generally. From a circular issued by the committee, of which Dr. Frank VanFleet is chairman, and Dr. John VanDoran Young is secretary, we learn that the medical laws of New York provide that before one can practise medicine in that State a certificate of proficiency shall be obtained from the regents of the university of the State, which is given only after a satisfactory examination. The purpose of this movement is to protect the people from incompetent practitioners of medicine. There are many irregular practitioners in New York City who practise in open defiance of law apparently without molestation.

It is needless to say that we are in complete sympathy with the object of the society in this matter. Philadelphia has her own troubles of a like nature to contend with, and we trust that the action of the Medical Society of the County of New York will not only be successful but will be an example for the medical authorities of all our large cities to imitate. Practitioners of medicine are properly protected by the law, not however for their exclusive benefit, but first and above all for the benefit of the public. The public itself will not, or does not, always recognize this fact, and it can only be properly kept advised of it by the action of physicians themselves who must of necessity constitute themselves guardians of the law. We shall look with interest for the results of this crusade.

Racial Predisposition to Pulmonary Tuberculosis.—In illustration of the racial susceptibility to pulmonary tuberculosis, it may be pointed out that from 1884 to 1890 it is estimated that among every 100,000 of the population there occurred annually in New York 238.48 deaths from pulmonary tuberculosis in white natives, 483.83 in white foreigners, and 774.21 in colored persons. Jews, on the contrary, appear remarkably exempt from the disease, 36.57 deaths being due to pulmonary tuberculosis in every thousand deaths among them in the United States in 1880, as compared with 108.79 for the general population.

According to a communication in a recent number of the *Revue d'Hygiene et de Police Sanitaire*, by Tostivint and Remlinger, only 34 of the entire number of 2,744 deaths among the Jews of Tunis in the five years from 1895 to 1899 were due to tuberculosis—1.24 per cent. It is further estimated that the average annual mortality from tuberculosis among the Mussulman Arabs between the years 1894 and 1900 was 11.30 per 1000, among Europeans 5.13 per 1000, and among Jews 0.75 per 1000. The lower mortality from tuberculosis among the Jews is not attributed to ethnic differences, nor to peculiarities in food, dress, and the like, but

rather to their abhorrence of the dusting brush, damp cloths being preferred for wiping soiled surfaces, and to their frugality in the use of furniture.

Why there is No Malaria in Buffalo.—The city of Buffalo is apparently to be congratulated on its freedom from malaria, and this freedom, as would naturally be supposed, is entirely due to the fact that there are few anopheles mosquitoes in that city or its environs. Dr. Irving P. Lyon, assisted by Mr. Albert B. Wright, has been making a systematic study of the subject, and has just published a preliminary statement in the Report of the Laboratory of Pathology of the University of Buffalo. The mosquitoes gathered for this study were found in and around the city, and the fact that only 374 of these insects were caught in six months is in itself an evidence of the salubriousness of Buffalo as a place of residence. Of this number all were of the genus *culex*; in other words, not one of the pathogenic or malaria-bearing *anopheles* was found. Moreover, all but 17 of the specimens were females; and as the females are reputed to be the real blood-suckers, the observations were not lacking in appropriate material. The city of Buffalo, it is pointed out, is situated on the shore of Lake Erie, 573 feet above the sea level, in a country that is sparsely wooded and the seat of few swamps, marshes, and low-lying places. Hence, this region is not what would generally be called a malarious country. And, in fact, according to the observations of Dr. Lyon and Mr. Wright, the city is remarkably exempt from malaria. Offers were made to examine without expense the blood of all persons in public or private practice who were suspected of having malaria, and in not one instance was the plasmodium found. The authors, therefore, conclude quite legitimately that autochthonous malaria does not exist in and around Buffalo. What cases have been observed there in the past have apparently been imported from other places. This comfortable assurance, however, is somewhat rudely shaken by a postscript in which Dr. Lyon and Mr. Wright acknowledge that since their own search, Mr. Adams, a local entomologist, had discovered a few anopheles in Buffalo.

This investigation by Lyon and Wright is interesting not only in itself, but also as an evidence of the widespread concern now being felt for the whereabouts of the anopheles mosquitoes and of the thoroughly scientific way in which the problems of malaria are being worked out.

The Venereal Diseases of the Lower Animals.—The advance of science has gradually shorn man of his preeminence to the other animals. Waldeyer has shown that his spinal cord is not so greatly different from that of the gorilla; Romaner, that his mental processes represent merely a higher development of qualities that exist among the vertebrates. Whether the higher insects

possess a different psychology we do not as yet know. But for one thing man has always been supposed to be distinct. No lower animal has ever been inoculated successfully with syphilis, and, in the venereal diseases at least, we supposed that we stood alone. It is true that many experimental physiologists have observed, not infrequently, a drop of pus exuding from the urethra of the common cur that was the victim of their experiment, and we know that the toxin of the gonococcus will kill mice, if bouillon cultures are injected into the peritoneal cavity of the animals, but the one is not certainly known to be a contagious malady, and the other is merely a manifestation of the toxic property common to many bacteria.

It was not so long ago, however, that in an excellent study, published in the *Journal of Pathology*, Smith and Washburn described a form of infectious granuloma that occurred among dogs, attacked the sexual organs as a rule, was contagious by inoculation, and usually transmitted from one individual to another during coitus; and they further expressed the opinion that similar diseases had already been observed and described, although incorrectly interpreted, by Duplay and Cazin, Wehr and Geissler, and, we might add, by Moreau and Human, although the careful histological studies made in these instances point strongly to tumor formation.

More recently, Marek (*Neurologisches Centralblatt*, December 15, 1900) has described a disease of horses, which, unless he was so prejudiced as to be incapable of accurate observation, bears so many ear-marks of syphilis, that it must belong to the same category of ailments. The first manifestations are upon the external genitalia, and consist of small nodules or erosions upon the mucous membrane, appearing from a few days to several weeks after sexual intercourse. Next there is a papular eruption upon the skin, and, finally, a peripheral degenerative neuritis, which ultimately causes the animal's death. The most important feature of the whole matter, and one that Marek appears to have overlooked, is the possibility of making more thorough studies of this condition, with a view to the discovery of the cause, than can be undertaken with reference to syphilis in human beings, and it is scarcely necessary to point out that such a discovery might—we had almost said would—be of incalculable benefit to simple humanity or its inheritors.

Intussusception Caused by a Melanotic Sarcoma of the Small Intestine.—Smole (*Zeitschrift für Heilkunde*, Bd. xxi, Heft 9) reports a case of a woman in whom a melanotic sarcoma of the small intestine almost occluded the whole lumen of the affected portion of the gut. There was a history that a melanotic sarcoma, the size of a fetal head, had been removed from the arm a short time previous. No intestinal symptoms have appeared, one year after the operation. [M.R.D.]

Reviews.

Physical Diagnosis in Obstetrics. A Guide in Antepartum, Partum, and Postpartum Examinations. By EDWARD A. AYERS, M.D., Professor of Obstetrics in the New York Polyclinic; Attending Physician to the Mothers' and Babies' Hospital. Pp. 283. New York: E. B. Treat & Co., 1901.

The foundation or underlying motive of this book is the brief systematic discussion of every point of physical diagnosis bearing upon the parturient condition. It has developed from the writer's teaching experience. He argues that the self-training of the physician demands the same explicit and systematic method as the teaching of the student. An elaborate examination or history chart is presented which carries out this idea by suggesting in print the minute details of possible conditions, thus: Edema in right, left, foreleg, thigh, vulva. Fetal heart heard, right, left, above, below, umbilicus. In using the chart all items not observed are to be crossed out. This makes each examination a factor in observation-training, though the resulting page is not neat and the facts are not easy to group.

With this chart for a skeleton analysis the book is constructed by briefly discussing each minute point in turn. Extended by adding the child's history and the maternal postpartum history, the result is a succinct discussion of physical diagnosis in the entire obstetrical field, viewed from a simple practical standpoint, which avoids as far as possible disputed ground. An indispensable index is supplied. [W.A.N.D.]

Modern Medicine. By JULIUS L. SALINGER, M.D., and FREDERICK J. KALTEYER, M.D. Philadelphia and London: W. B. Saunders & Co. Price in cloth, \$4.00, net.

The task confronting the authors of this book was an heroic one—that of furnishing within the compass of some 800 pages a comprehensive treatise upon modern medicine. That their efforts have resulted in producing a work within these limits which takes its place with the greater textbooks and not with compends or manuals is a sufficient guarantee of the mastery of facts and the industry of the authors. The material has been drawn from all available sources, especially from authoritative works in French, German, and English. The consulting of this broad bibliography has resulted in a very acceptable presentation of facts, without the teaching of any particular clinician having been followed lavishly.

There is a great deal to commend in the work and but little which arouses a spirit of criticism. We might have wished to find "typhoid intoxication" mentioned and some of the facts of etiology marshalled less baldly—a fault unsurmountable when space is at a premium. The first 172 pages have been devoted to a concise comprehensive treatise upon symptomatology, semiology, physical diagnosis, clinical bacteriology, and laboratory methods. The idea of grouping together these divisions seems to us a good one. Much subsequent repetition is avoided in discussing the separate diseases.

In the article upon appendicitis the writers have coined the term "evolutionary tendency" in contradistinction to "hereditary tendency," the latter showing itself from generation to generation, the "evolutionary tendency" only upon change of environment. The use of opium in the treatment of peritonitis has been expressed clearly and briefly: "Opium given in liberal amounts is of great value in the treatment of peritonitis. Early in the disease, when the diagnosis is still in doubt, as peritonitis is often due to causes which necessitate surgical intervention, it is sometimes advisable to withhold the opium for a short time, as it will mask the symptoms; but if the diagnosis has been made, or if the diagnosis seems impossible, it is necessary to administer opium freely."

Treatment throughout has been outlined admirably. There is a commendable conservatism and an avoidance of pernicious polypharmacy. The chapters upon malaria and the blood are in every way satisfactory, and the accompanying plates are unusually accurate.

The idea of drawing the blood-corpuscles to a scale and

showing them stained by two methods should prove of value to the student. In the effect at conciseness no cases have been introduced or controversial points considered. The tables of differential diagnosis are well arranged. Last, but not least, the clinical medicine of the book is extremely well presented. The approved methods and the minutiae will surely make the work appeal to the student, who here finds within the compass of the single volume a work upon the practice of medicine and clinical medicine as well. [T.L.C.]

The Use of the Röntgen-ray by the Medical Department of the United States Army in the War with Spain, 1898. Prepared under the direction of Surgeon-General G. M. STERNBERG by W. C. BORDEN, Captain and Assistant-Surgeon, U. S. Army. Washington: Government Printing Office, 1900.

This work, the most thorough and comprehensive that has yet appeared on the application of the Röntgen-ray apparatus to the diagnosis and treatment of gunshot injuries, is based upon Borden's personal experience with the wounded American soldiers of the Spanish-American War.

He believes that the place for the Röntgen ray apparatus is at general hospitals, permanent hospitals on the line of communication, and on hospital ships; that for equipping base, and general hospitals for war service, coil apparatus connected to primary batteries should be supplied; that in permanently established hospitals where there is no dynamo current available, the static machine will probably give best satisfaction; while, in permanent-base hospitals or in hospital ship, supplied by direct currents of 110-120 volts, the break-wheel apparatus will give the highest efficiency.

Attention is called to the fact in the American Civil War, where a much larger caliber rifle was used, and asepsis and antisepsis were unknown, the mortality was nearly double that of the Spanish-American War. Indeed, it is noteworthy that there is a smaller mortality as compared with the number of the wounded in our late war than is to be found in the records of any war since the middle of the last century. The nearest approach to the admirable showing made by our military surgeons is afforded by a study of the Japanese records of the China-Japan War.

In considering the regional distribution and mortality of gunshot wounds in cases which came under treatment in the American Civil War and the Spanish-American War, it is to be noted that the mortality percentage of head-wounds, face-wounds, and abdominal wounds is about the same. Wounds of the neck and spine were attended by a greater mortality in our recent war than is shown by the records of the Civil War. Chest wounds show for the Spanish-American War less than half the mortality of the Civil War. Wounds of the extremities show less than one-fourteenth of the mortality recorded in the Civil War. The number of deaths in the Spanish War from wounds of the extremities is surprisingly small, being but 10 in 901; of these 10 cases, 3 died very shortly after receiving their injuries, probably from hemorrhage. In the Civil War about 7% of those wounded in the extremities were subject to amputation or excision, with an operative mortality of 21.6%. In the Spanish-American War, but 3.2% of those wounded were subject to major operation, and 18.7% of these cases perished. Under conservative treatment the mortality was 9.1% in the Civil War; in the Spanish-American War, 4%. The high mortality of the operative cases in the Spanish-American War is to be attributed to the fact that only extremely serious cases were operated on.

In the chapter on lodged missiles, Borden points out that the jacketed bullet when undeformed almost invariably travels in a right line after entering the body. The large number of lodged missiles seen in the Santiago campaign was particularly commented upon by the surgeons. In 198 Mauser bullet-wounds seen by Borden, there were 21 lodged bullets. It was quite possible that in some cases the velocity of the bullets had been reduced by passage through the branches of trees or by glancing. The fact that the Röntgen-ray apparatus often showed the bullet to be deformed is considered as fairly conclusive of the fact that the bullet had previously struck some solid substance and had glanced therefrom. A number of instructive and interesting cases

are reported in detail with very admirable reproductions of the original x-ray pictures. One particularly striking plate is that of a private, still living, showing a Mauser bullet lodged in the brain. Practical experience has shown that ricochet, passage through bodies, or low red velocity, does not markedly increase the proneness of the jacketed missile to produce infection, and hence the lodgment of a bullet does not necessitate the treatment that would be given an infected wound. They are best treated by occlusive dressings and noninterference unless manifestly infected or unless some special condition calls for operation. It also appears that large lead bullets of low velocity are not as apt to make infected wounds as was supposed.

The third chapter of this book is devoted to the localization of loaded missiles. The method of localizing by direct observation, by multiple observation, and by photographic apparatus, are taken up in detail.

The fourth chapter is devoted to gunshot wounds of the diaphyses of long bones. Some striking instances are given of the explosive effect of the modern bullet at short range. These are fully illustrated by the plates. The treatment of these wounds should be influenced by the presence or absence of infection rather than by the extent of bone comminution. Extensive bone comminution is not as a rule an indication for operative interference of any kind. Occlusive dressings and immobilization give assurance of the best possible results. Even though shortening of the limb should occur, an excellent usefulness may be expected. Where infection necessitates this, the wound must be thoroughly cleansed and all loose bone fragments must be removed; this treatment should be followed by antiseptic dressings and irrigation. It is noteworthy that the amount of bone comminution is much less and the size of the fragments much smaller in gunshot fractures of the extremities of long bones than in gunshot fractures of the shaft. The involvement of the joints does not necessitate a divergence from the rule of expectant treatment.

The final chapter of this book is devoted to radiographic technic. There is an interesting contribution in this relation upon the subject of Röntgen-ray burns. The factors which influence the production of these burns are the length of exposure, the nearness of the tube to the surface of the body, the physical condition of the patient, and individual idiosyncrasy. The exposure should not exceed 30 minutes and 10 inches should be taken as the minimum distance of the tube from the body. Exposures frequently repeated with but small intervals between them will act in the same way as a single long exposure.

This work is a valuable addition to radiographic bibliography, and well worth a place among the publications of the medical department of the United States Army. The last statement is giving it high praise. It is also of distinct value to the hospital surgeon. The conclusions of Borden, which appear to be based on careful, conscientious, and dispassionate study, are likely to be accepted without dispute. [E.M.]

Perforation of the Intestine in Typhoid Fever: Its Surgical Treatment. — N. Manger (*Thèse de Paris*, G. Steinheil, 1900, 128 S.) emphasizes the following points of surgical interest:

Perforation of a typhoid ulcer may take place in every stage of the disease, also during relapses, but generally occurs from the second to the fourth week. It occurs in ambulatory cases as well as in grave ones, and in children as well as adults. Almost always there is one perforation, rarely two are present. The perforation is situated in most cases within the last 60 cm. of the small intestine, in exceptional cases, also in the other portions of the gut from duodenum to the rectum, and, not so very rarely, also in the appendix; it has been observed in Meckel's diverticulum. The diagnosis is not always easy, because in grave cases the symptoms of typhoid fever may mask the perforation. The most important symptoms are sudden pain, acceleration of the pulse, collapse, and later on manifestations of peritonitis; the temperature generally falls, although it may rise or remain stationary. When symptoms of intestinal perforation suddenly arise in an apparently healthy individual, latent typhoid is always to be suspected. The author believes that the treatment should only be a surgical one. Of 107 cases operated upon, he reports 25 recoveries. [M.R.D.]

Correspondence.

THE PERCENTAGE OF SILVER IN SILVER NITRATE.

By WILLIAM J. ROBINSON, PH.G., M.D.,
of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In the paper entitled, "Method for Rapid Elimination of the Gonococcus," by Dr. Follen Cabot, Jr., there appears an erroneous statement which should not, it seems to me, go uncorrected. The author states that silver nitrate contains 6.35% of silver. The actual percentage is 68.5%. We could excuse the author on the score of a typographical error, but the context of the sentence does not permit us to do so. The author states distinctly that protargol contains 8.2% of silver, argonin 4.2%, and silver nitrate, containing 6.35%, occupies a middle position between the two first named preparations in its proportion of the basic salt." As a matter of fact it contains about 8 times as much silver as protargol and about 15 times as much as argonin.

THE PERCENTAGE OF SILVER IN SILVER NITRATE.

By FOLLEN CABOT, JR., M.D.,
of New York.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In answer to Dr. Robinson's criticism of a statement in the article by me entitled, "Method for the Rapid Elimination of the Gonococcus," I will say that the doctor is right in his correction.

It was a careless error on my part. In looking over some literature on the subject, I read a paper by Dr. Edward S. Peck, of New York, entitled, "Protargol and Argonin in the Treatment of Purulent Ophthalmia of Infants," published in the *Medical News*, January 21, 1899. In discussing the subject and giving the amount of silver in argonin as 4.2% and protargol 8.3%, Dr. Peck continued as follows: "In this connection it should be noted that silver nitrate contains 6.35% of silver, occupying between protargol and argonin a middle position as to the basic salt."

I am surprised that the error was not noticed when I read the paper.

INTRACRANIAL HEMORRHAGE IN THE NEWBORN.

By W. W. KEEN, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I was very much interested in reading the paper by Dr. W. Reynolds Wilson, on "Intracranial Hemorrhage in the Newborn," in your issue of February 2. I wish to call attention especially to the paragraph on treatment, for the reason that Dr. Wilson has omitted, what seems to me to be the most important treatment of all, namely, the surgical. In the preceding paragraph on the "prognosis," Dr. Wilson has very properly called attention to the widespread and varied ill results that may follow such intracranial hemorrhage, and has properly indicated the fact that "extensive meningeal hemorrhage is not likely to be absorbed." In view, therefore, of the dangers that he points out, and the improbability of absorption, it seems to me clear that at the very earliest moment that it is safe to do so, such a patient should be trephined and the clot removed.

I cannot but think that obstetricians have overlooked the good that may result from such surgical interference.

At my clinic at the Orthopedic Hospital, I saw not uncommonly the sad ravages caused by such an intracranial clot, and in the other surgical clinics, and especially the neurological clinics of the same hospital, they were, I believe much more frequent. I do not recall any case which has been operated on.

A considerable time ago Dr. Weir Mitchell called my attention to this condition, and we decided that in any suitable case, especially if we could get hold of it at an early date, such an operation was not only justifiable, but demanded.

I have no doubt that it is omitted from Dr. Wilson's treatment for the reason that up to this time, I believe, it has not been done. That it ought to be done, personally, I have not the slightest doubt.

A CASE OF AORTIC ANEURYSM.

By F. W. LARRABEE, M.D.,
of Searsport, Me.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

X., sea captain, age 38; family history, good; previous history, malaria 12 years ago; gastric and intestinal disturbances for 2 years. One year ago on return trip from Hongkong patient had an internal abscess of some sort with spontaneous rupture into the bowel. Recovery good; had since been treated for rheumatism and atrophic liver.

First seen November 27, 1900. Symptoms: Pain in the left hypochondriac region; also in the back to left of the spinal column from the angle of the eighth rib to the sacrum; a swelling over the angle of the tenth rib on left side, about 2 inches in diameter; soft, pulsating, and expansile; pain on pressure along tenth rib; liver displaced downward and to right; the stomach, downward and to left; spleen, downward; dulness over lower lobe of left lung posteriorly; slight bruit over the swelling; pulsation synchronous with heart-beat; expansion with each pulsation; pulse, 80; fair volume and quality; temperature, normal; loss of weight, moderate. Aseptic aspiration of a little fluid from the tumor showed thick dark blood, which under microscope showed blood-cells and fibrin.

Patient advised to go to Massachusetts General Hospital, which he did. Diagnosis of aortic aneurysm confirmed and rest treatment advised.

Patient returned home December 12. Tumor found enlarged to 4 inches in diameter and more conical in shape; pulsation more marked; bruit less distinct; bowels, constipated. Patient suffered great pain at times in left hypochondriac region and left iliac, partially relieved by passage of flatus on giving an enema. Pain seldom felt in tumor. Patient put to bed, bowels regulated and rest secured as much as possible but seldom perfectly; relief from pain only temporary.

The tumor remained about the same until January 2. At that time patient began to suffer pain in the tumor and two days later the tumor was found enlarged upward and downward so that long diameter was about 6 inches and short diameter 4 inches; tumor more prominent. Three days later tumor was found nearly round and about 6 inches in diameter. Intense pain in left hypochondriac and left iliac regions. Tumor swelled so that the skin was very tense and glossy and edematous in places; blebs appeared over most prominent part. Symptoms of cardiac dilation supervened and patient died from exhaustion January 19.

Postmortem examination showed large aneurysm of abdominal aorta arising just below the diaphragm. Liver atrophic and displaced downward and to the right; stomach displaced downward and to the left; spleen downward; diaphragm and left lung crowded upward; necrosis of parts of ninth and tenth ribs; aneurysmal sac 5 inches in diameter which had not ruptured before death.

A CASE OF ANGINA LUDOVICI.

By ARCH D. JONES, M.D.,

of Wichita, Kas.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

HAVING read the report of Dr. G. G. Ross on Cases of Angina Ludovici, it occurs that a report of a case in my practice may be of interest. Although I had never before seen a case, nor have I seen one since, I did not know that it is such a rare occurrence:

Mrs. W., aged 47, had been having an ulcerated lower molar treated. The first disturbance she noticed additional to her tooth was a swelling and burning sensation under her tongue on the same side as the ulcerated tooth. She rinsed her mouth with a preparation given her by her dentist, thinking it might be irritated by the discharge from her tooth; but that did not suffice. In a few hours the inflammation had spread to the tissues under the other side of the tongue. She came then immediately to her dentist, who sent her to me. By that time, on opening her mouth it gave the appearance of having two tongues, the sublingual tissues pushing out and up, almost protruding between the teeth. Her tongue was so much crowded that she could speak with difficulty. She complained of a burning, throbbing sensation in the tissues under the tongue. I found her temperature 101.3°, pulse 102. I sent her home and to bed, ordering the ice-bag applied, and the painting of the inflamed parts every hour with 4% cocain solution. I went promptly to confer with her dentist, advising immediate removal of the tooth and thorough irrigation and drainage of the cavity. The above was done, but still the inflammation continued to advance, the pharyngeal tissues being considerable involved by evening, 14 hours after the first indications of the inflammation. With morning the dyspnea was considerable, but not alarming. The submaxillary and cervical tissues were swollen and painful. The abscess cavity was again thoroughly cleansed, although there was very little accumulation.

At 6 P.M. the condition seemed about the same. The inflammation had not advanced, the dyspnea was about the same. On the morning of the third day the swelling was markedly diminished. The cavity was again irrigated, no discharge being noticeable. The improvement from this on was steady and rapid. There was suppuration in the inflamed tissues. She called at my office on the sixteenth day after the beginning of the trouble saying she was perfectly well.

Whether the infection was due to the abscess cavity or to the use of contaminated instruments in treating the diseased tooth I cannot say, but rather incline to the theory that it was originated by the abscess. I believe by the prompt removal of the tooth, thorough evacuation of the pus and irrigation of the cavity that a fatal issue was avoided.

In the further treatment of the case the cocain applications were abandoned after 6 or 8 hours, but the ice-bag was continued throughout the attack. The bowels were opened by the free use of salines. A liquid diet was necessarily used and alcoholic stimulants were freely administered.

THERMOL IN THE TREATMENT OF ENTERIC FEVER.

By R. D. RUDOLF, M.D.,

of Toronto, Canada.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN an article in your last issue Dr. A. B. Shimer, of Atlantic City, vaunts the value of the synthetic preparation called thermol in the treatment of typhoid fever.

I have never used the drug, and for aught I know it may be as good or even a better remedy in this disease than Dr. Shimer would have us believe. But where I would take issue

with him is in the fact that his evidence does not prove his case.

In the first place, the charts which he published to show the effect of the drug on the temperature are misleading in that the temperature is only recorded once in each day and no note of the hour is made.

A chart made from single daily records of the temperature will look quite different from one in which the morning and evening temperatures are taken. The latter one only will show the "typical typhoid temperature" which Dr. Shimer notes is absent in the charts given. In these charts the tracing is said in each case to begin in the first day of the disease, but evidently this is not the case, as Dr. Shimer himself states in the text that some of the cases had been ill for ten days before admission; in Case 4 the disease had already lasted for five weeks. The fever had therefore been running in every case given for many days, and I think that any hospital could produce charts of cases *not* treated by thermol in which the same gradual decline of fever occurred. The sudden rise occurring on the 9th (really the 19th) day of the disease in Case 5 and following a definite error in diet is in my experience not unusual, and the "prompt purgation with enemata removed this complication" in the words of Dr. Shimer. Hence is it not unfair for him to state later on that "the specific action of thermol is thus proven in Case 5, where a relapse was noted or, rather where an elevation of the temperature far beyond the normal temperature of that particular case was caused by the irritation of the food, thermol acted specifically in reducing the temperature"?

Dr. Shimer sets out by assuming that as "the most marked feature of typhoid fever is the fever . . . hence, in the treatment of a disease, the fever of which is the most marked symptom, especial attention should be given to the cause. The removal of the cause is not readily realized, and therefore the selection of some suitable antipyretic presents itself." I think that nowadays few physicians will agree with him that, with hydropathy available, typhoid fever should be systematically treated by any antipyretic, but even fewer will follow him when he recommends that "the mode of administration should be .80 grams at intervals of 2, 3, or even 4 hours, and to be given when the fever begins to rise, and to be continued *even after the fever has disappeared* in smaller doses and at longer intervals." (The italics are mine.)

So far, Dr. Shimer has noted no depressing effects from thermol, but if the drug is entirely free from such it must differ from every antipyretic which has so far been introduced.

It is with a sincere appreciation of the value of Dr. Shimer's work, and only in order that we may not be unduly biassed by any insufficiently supported conclusions that I thus venture to take up the pen of criticism.

Ovarian Carcinoma in an Eleven-year-old Girl.

—K. Walker (*Hygiea*, October, 1900) reports a case of carcinoma of the ovary occurring in a girl 11 years of age. The patient had had a brownish discharge from the genitalia for 7 months. For 2 months there had been a progressive enlargement of the abdomen whose circumference at the time of examination was 78 cm. at the umbilicus. Suspicion of pregnancy seemed justifiable, as by vaginal examination (two fingers could be easily introduced into the vagina) a growth was felt which gave the sign of ballottement, and in addition the breasts contained milk. Coitus was admitted. But as the uterus was of normal size and situated posteriorly, the diagnosis of carcinoma of the ovary was made. The existence of the tumor was confirmed by operation. Subsequent condition of the patient was good. [M.B.D.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. Melville D. Hayes, of Philadelphia, has been appointed assistant surgeon in the army, and has left for the Philippines to take up his duties.

The Samuel D. Gross Prize of \$1,000 will be awarded on October 1, 1901, no essay that was deemed worthy of the prize having been received on January 1, 1900.

College of Physicians.—Abstract of the monthly report of the Honorary Librarian, Library of the College of Physicians of Philadelphia, January, 1901. Books, pamphlets, and journals received: General Library, 464 volumes, 1,871 pamphlets, 6,040 journals; Lewis Library, 29 volumes; S. D. Gross Library, 5 volumes. Accessions, 290 volumes. Duplicates, 208 volumes. Donors, General Library, 63. The library received by the will of the late Dr. Alfred Stillé, 207 volumes of medical works and a copy of Sir Joshua Reynolds' portrait of John Hunter by Leslie.

Vital Statistics of Philadelphia for the week ended February 2, 1901:

Total mortality	552
CASES.	DEATHS.
Inflammation of appendix 4, brain 11, bronchi 13, kidneys 28, liver 2, lungs 96, peritoneum 5, pleura 3, stomach and bowels 24, bladder 2, heart 1, larynx 1, pericardium 1, veins 1, spine 1	193
Inanition 10, marasmus 7, debility 7	24
Tuberculosis of lungs	64
Apoplexy 16, paralysis 7	23
Heart—diseases of 36, fatty degeneration of 4, neuralgia 4	44
Uremia 6, diabetes 5, Bright's disease 11	22
Carcinoma of breast 4, face 1, stomach 2, uterus 5, jaw 1, colon 1, bladder 1, lungs 1	16
Convulsions	10
Diphtheria	79
Brain—softening of 4, congestion of 1, abscess of 1, disease of 1	7
Typhoid fever	47
Old age	19
Burns and scalds	2
Suicide	2
Alcoholism	1
Cyanosis	1
Scarlet fever	66
Abscess of liver	1
Influenza 19, abscess of pelvis 1, aneurysm aorta 1, asthma 4, anemia 3, abortion 1, casualties 11, congestion of the lungs 3, cirrhosis of the liver 4, cellulitis 1, tuberculosis of the bowels 1, membranous croup 4, diarrhea 2, disease of the spine 1, dropsy of the heart 1, epilepsy 1, erysipelas 2, catarrhal fever 1, malarial fever 1, puerperal fever 1, hemorrhage from lungs 1, hemorrhage from uterus 1, hernia 1, jaundice 1, locomotor ataxia 1, lymphadenoma 1, measles 1, obstruction of the bowels 3, edema of lungs 2, poisoning, carbolic acid 1, pyemia 1, rheumatism 1, sclerosis, arterial 3, shock, surgical 1, septicemia 7, sarcoma, liver 1, sarcoma, thigh 1, suffocation 1, tetanus 1, tumor, abdominal 1, ulceration of the bowels 1, unknown coroner case 1, whooping-cough 2	98

Academy of Surgery.—At the stated meeting of February 4, Dr. W. L. RODMAN read a paper on **The best incision for the removal of carcinoma of the breast.** The anatomy of the lymphatics of the breast was reviewed, this showing why cancer of the sternal quadrants is more fatal. The location of the growth and the age of the patient are the two most important prognostic elements. The younger the patient the less favorable is the prognosis. Of 3 cases under 30 years of age, 2 died in a short time of recurrence and the other bids fair to do the same. Dr. Rodman has a pathologist examine doubtful tumors by frozen section, as he does not remove the whole breast if the tumor be benign. In operating, the breast is detached from the sternum first, and then worked toward the axilla. The area of skin removed is large, as it is believed that more recurrences are due to the leaving behind of infected skin than to any other one cause.

Both pectoral muscles are removed only in tumors of the third degree—those which are adherent and immobile—but he is inclining more and more toward their removal in all cases, as the axillary glands can be reached more readily. The best incisions used for the operation are to a greater or less extent imitations of Halsted's. The essential features of a good incision are: 1. It is large enough to include all infected skin. 2. It exposes the pectoral muscles from origin to insertion. 3. It uncovers the axillary vessels and nerves. 4. It does not interfere with the future use of the arm. 5. No skin grafting is necessary. 6. The operation can be done in a reasonable length of time. The incision used by Warren is a valuable step in advance. By its use primary union can be secured after the removal of large tumors without skin grafting. Dr. Rodman has used it in 3 cases with good results. In one instance he modified it by making an additional curved incision above and toward the opposite breast, the case being one of recurrent growth and a large amount of tissue necessarily removed. The operation takes less time than by the Halsted method, an important point especially in elderly people. Patients are discharged in 10 to 12 days after the operation. In discussing the paper Dr. W. J. HEARN stated that in these cases he made a very long elliptical incision which extends from the insertion of the pectoral muscle to the costal margin. The boundaries are dissected well back for flaps. The fat beneath the pectoral muscles is then removed, which exposes the small tributary bloodvessels which pass downward. These vessels are ligated before they are cut. The pectoralis major is always removed, the minor not in all cases. The edges of the wound can nearly always be brought together, one straight line of sutures being formed. Dr. JOHN B. ROBERTS always begins above the clavicle, the flap being turned toward the mid line in order to avoid sloughing of the point of the flap, which is apt to occur in the Halsted method. The infra-clavicular glands are then removed. Both muscles should be removed in every case. Dr. RODMAN stated that the belief that cancer was rare in the colored race was passing away. He finds the disease fully as often in colored people as in whites.

Dr. W. J. HEARN exhibited a case of **pneumotomy for gangrene of the lung.** Several operations had been done and the wound drained for 2 years. At the last operation the walls of the abscess cavity were stitched to the skin. A plastic operation later on will close the large external opening which now exists.

Dr. DEFOREST WILLARD reported a case of **traumatic aneurysm of the thoracic aorta** which has been treated by the insertion of wire. Twenty feet of silver wire was introduced and an 80 milliampere galvanic current passed for 60 minutes. The patient is now doing well and the pulsation has decreased at least 25%. Dr. D. D. STEWART spoke of the technic of the operation. He first introduces a cannulated needle to find the thinnest place in the wall. In some instances 4 punctures have thus been made, this being done several days before the wire is introduced. Gold wire is used, as it can be more finely drawn, 28 to 30 gauge being employed. Not more than 15 feet is introduced and this is better done through several needles, thus reaching all parts of the sac. The positive pole is applied to the wire and a current of 80 to 100 milliamperes passed for 30 minutes. One-fourth grain of morphia is given before the operation and if the heart's action is high aconite is given for a few days before. Morphia is also given during the operation if the patient be apprehensive and excited.

NEW YORK.

Dr. F. W. Barrow, professor of histology and biology at Buffalo University Medical College, was elected president of the New York State Association of Science Teachers.

Dr. Seymour Oppenheimer has been appointed consulting otologist and laryngologist to the Hebrew Sheltering Guardian Society of New York.

University of Buffalo.—The Medical Department of the University of Buffalo is in receipt of a gift of \$50,000 for the purpose of erecting a laboratory to be devoted entirely to research work. It will be known as the Gratwick Research Laboratory.

Marine Hospital.—A recommendation has been sent to Congress by Secretary Gage that \$100,000 be immediately made available for the purpose of reclaiming certain plots of land in New York harbor as a site for a Marine Hospital.

Hospital for Dobbs Ferry.—The Dobbs Ferry Hospital Association is to erect a hospital on Ashford Avenue. The plans are to be ready March 1, and the building begun by May 1. The building will be large enough to contain 3 private rooms and 2 wards containing 6 beds each.

New York Academy of Medicine.—The report of the Library Committee of the New York Academy of Medicine shows that they had, November 30, 89,000 volumes, including 36,105 duplicates. The library is growing at the rate of more than 3,500 volumes a year. The number of journals on file is 941.

Manhattan Dermatological Society.—A regular meeting was held at the residence of Dr. E. L. Cocks, No. 156 W. 119 Street, on Friday evening, February 1, with Dr. WM. S. GOTTHEIL as presiding officer.

Dr. B. F. OCHS presented 3 cases of scabies in a father and 2 sons. One boy showed a severe impetigo contagiosa, the other a beginning furunculosis and the father an incipient beginning of the disease. Drs. OBERNDORFER and GOTTHEIL took exception to the use of the term impetigo contagiosa except as a distinct disease. Drs. COCKS and SOBEL spoke very highly of Sherwell's powdered sulphur treatment. Dr. WEISS said that the first case resembled Norwegian scabies or scabies gigantica. Dr. Gottheil presented for opinions as to treatment, extensive keloidal hypertrophic growths of the face and elbow, following a severe burn. Dr. GEYSER recommended covering the false keloids with cloths moistened in a saturated solution of magnesium sulfate and then passing the negative galvanic electrode through this, for from 10 to 20 minutes, 3 times weekly. Dr. SOBEL has had very fair results from the passage of the negative galvanic needle through the outlying dilated capillaries. Dr. OCHS has used oleate of mercury with no result. Dr. ABRAHAM said that injections of 95% alcohol had lately been recommended. The general opinion was that thiosinamine was useless. Dr. Gottheil advocated linear scarification and cross-hatching followed by mercurial plaster.

Dr. GOTTHEIL presented a relapsing vesicular and erythematous eruption of the leg, which he first treated as an eczema, but which he now considers dermatitis herpetiformis. Dr. KINCH excluded eczema on account of the sharp border and marked pigmentation. Dr. WEISS considered it eczema vegetans, Dr. COCKS vesicular eczema, Dr. ABRAHAM pemphigus vulgaris, Dr. OCHS dermatitis herpetiformis, and Dr. OBERNDORFER an eczema modified by a "run down" condition.

Dr. L. G. COCKS presented a case of acne varioliformis cured by curettage and white precipitate ointment—a prominent dermatologist had diagnosed syphilis from the appearance of the scars. Dr. OBERNDORFER remarked that the scars of acne varioliformis were minute and that white precipitate effected a cure in both this condition and syphilis. Dr. SOBEL agreed that the scars of acne varioliformis were as a rule very small, but would hesitate to diagnose a condition from the scars alone. Unguentum hydrargyri ammoniat. was the remedy par excellence and must be used even after apparent cure. Dr. OCHS thought that the scars might have been enlarged by the curet. Dr. WEISS had seen large scars from acne varioliformis and thinks it risky to make a diagnosis from the scars. Dr. GOTTHEIL considers it a syphilide.

Dr. E. L. COCKS presented a case of lupus vulgaris of the forehead and nose, and a case which presented features of both a psoriasis and seborrheal eczema.

Dr. GOTTHEIL presented a patient with a fine desquamation of the face following a scarlatiniform eruption of three weeks ago. The same patient showed a marked keratosis palmaris et plantaris of one week's duration. Drs. WEISS and OBERNDORFER considered the face eruption as due to a coal-tar product. Dr. SOBEL said that the patient admitted having used quinin and he would look upon this as a scarlatiniform erythema due to this drug. Dr. FRANKLIN remarked that the hands were suggestive of acid burns. Dr. GOTTHEIL in closing said that the keratosis was surprisingly acute.

NEW ENGLAND.

Appointments.—Drs. A. G. Nadler, J. J. Cohane, F. A. Kirby, P. D. Littlejohn, and E. P. Pitman have accepted appointments as school inspectors of New Haven.—The National Society for the Study of Epilepsy has appointed Drs. Max Mailhouse, of New Haven; F. K. Hallock, of Cromwell, and E. A. Down, of Hartford, a committee to collect data regarding the malady and to instigate a movement in this State for establishing an asylum for such cases.

CHICAGO AND WESTERN STATES.

Acute contagious conjunctivitis is reported to be epidemic in Chicago.

Ohio State Medical Society.—The Ohio State Medical Society will meet in Cincinnati May 8, 9, and 10.

Dr. Charles Osborne, Coroner of Clinton County, Iowa, and a most promising young physician, died, February 3, at St. Joseph Hospital, Dubuque.

Dr. Charles D. Aaron, of Detroit, Mich., has been elected clinical professor of diseases of the stomach and intestines in the Detroit College of Medicine.

American Medico-Psychological Association.—The next annual meeting of the American Medico-Psychological Association will be held in Milwaukee, Wis., June 11, 12, 13, and 14, 1901.

Smallpox.—Out of 114 counties in the State of Missouri, 96 report smallpox.—During the year 1900 there occurred in the State of Ohio 2,696 cases of smallpox. The disease appeared in 172 communities in 62 counties.

Marriage Laws.—A bill has been introduced in the Minnesota Legislature by Dr. E. V. Chilton, of Howard Lake, which provides that a marriage shall not be allowed between two persons where either one is or has been subject to fits of any kind, insanity, or any loathsome disease. The bill further provides that a certificate of a physician, showing that the applicants are fit to enter the married state, shall accompany all applications for a marriage license. This Act places the age limit for women at 45 years, but no provision is made for men as regards age. The penalty for a violation of the law is a fine of \$1000 or 5 years in the penitentiary, or both, and applies to the persons who marry as well as the clergyman or justice performing the ceremony.

A Medical Protective Association.—There has been organized at Fort Wayne, Ind., an association known as the "Physicians' Guarantee Company." The object of this association is to defend any physician or surgeon sued for malpractice. It is organized with a capital of \$100,000, and has a reserve fund of \$50,000, and its officers are men well and favorably known for many years—men like Drs. A. P. Buchman and Miles F. Porter, for a long time teachers in the Fort Wayne College of Medicine. It was incorporated under a peculiar statute of Indiana, which provides for associations "for the purpose of aiding, indemnifying, and protecting the medical profession in scientific researches, and in the practice of medicine and surgery"—a statute totally different from that found in any other State, and amply covering all requirements of the company to operate in every State.

SOUTHERN STATES.

Dr. Fairfax Schley, of Frederick, has been elected president of the visitors' board of the Maryland School for the Deaf, located in that city.

Successful Cesarean Section.—Dr. George B. Johnston, of Richmond, Va., reports a successful case of cesarean section. Patient had a contracted pelvis.

Society for the Study of Tuberculosis.—A society for the study of tuberculosis, which takes its name from Laennec, the discoverer of auscultation as a means of physical diagnosis, has been organized in connection with Johns Hopkins Hospital, Baltimore.

Appointed by Commissioners.—Dr. Herbert N. Manning has been appointed by the District Commissioners resident interne at the Washington Asylum Hospital, vice Dr. Melville A. Hays, resigned.

Dr. Wm. D. Haggard, Jr., of Nashville, has been elected to fill the chair of gynecology and diseases of children in the medical department of the University of Tennessee, formerly occupied by his father.

Medical Staff for the Home for Friendless Women.—The following medical staff was elected in January by the managers of the Home for Friendless Women, at Louisville, Ky.: Dr. Ewing Marshall, chairman; Dr. Henry E. Tuley, secretary; Dr. W. F. Bogges, Dr. P. F. Barbour; Dr. Lindsey Ireland, vice Dr. F. C. Simpson resigned; Dr. Hugh N. Leavell, vice Dr. Louis Frank resigned.

Dr. Paul Jencke, a prominent physician of Linn, Mo., died January 30, 1901. He was born in Dresden, and was a graduate of the University of Leipzig. He came to the United States about 1876, and attended the Missouri Medical College in St. Louis, where he graduated two years later. The doctor came from a prominent family in Germany. His father, who died some two years since, was Court Councillor.

New Orleans Parish Medical Society.—The following officers were elected: Dr. E. Martin, president; Dr. H. B. Gessner, first vice-president; Dr. L. G. LeBeuf, second vice-president; Dr. Geo. Stumpf, third vice-president; Dr. W. M. Perkins, recording secretary; Dr. M. H. McGuire, treasurer; Dr. S. P. Delaup, librarian and corresponding secretary; additional members to complete board of directors: Drs. John Callan, H. D. Bruns and T. S. Dabney.

MISCELLANY.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended February 2, 1901:

SMALLPOX—UNITED STATES.

DISTRICT OF	CASES.	DEATHS.
COLUMBIA: Washington . . . Jan. 19-26 . . .	2	
FLORIDA: Jacksonville . . . Jan. 12-26 . . .	10	
ILLINOIS: Chicago . . . Jan. 19-26 . . .	25	
INDIANA: Michigan City . . . Jan. 20-27 . . .	1	
KANSAS: Wichita . . . Jan. 19-26 . . .	9	
KENTUCKY: Lexington . . . Jan. 19-26 . . .	2	
LOUISIANA: Shreveport . . . Jan. 19-26 . . .	5	
" New Orleans . . . Jan. 19-26 . . .	11	3
MARYLAND: Baltimore . . . Jan. 19-26 . . .	1	
PENNSYLVANIA: Erie . . . Jan. 19-26 . . .	1	
" Pittsburgh . . . Jan. 19-26 . . .	2	
TENNESSEE: Memphis . . . Jan. 19-26 . . .	8	
" Nashville . . . Jan. 19-26 . . .	4	
TEXAS: Houston . . . Jan. 19-26 . . .	44	1
UTAH: Salt Lake City . . . Jan. 19-26 . . .	31	
WISCONSIN: Milwaukee . . . Jan. 19-26 . . .	1	

SMALLPOX—FOREIGN.

BELGIUM: Antwerp . . . Dec. 29-Jan. 5 . . .	1	
BRAZIL: Pernambuco . . . Nov. 15-30 . . .	30	
CHINA: Hongkong . . . Dec. 8-15 . . .	1	
EGYPT: Alexandria . . . Dec. 24-31 . . .	2	1
ENGLAND: London . . . Jan. 5-12 . . .	1	
" New-Castle-on-Tyne . . . Jan. 5-12 . . .	2	
FRANCE: Paris . . . Jan. 5-12 . . .	11	
INDIA: Bombay . . . Dec. 24-Jan. 1 . . .	4	
MEXICO: Mexico . . . Jan. 13-20 . . .	1	
" Tuxpan . . . Jan. 14-21 . . .	1	
" Vera Cruz . . . Jan. 6-13 . . .	3	
RUSSIA: Moscow . . . Dec. 22-Jan. 5 . . .	9	4
" Odessa . . . Dec. 22-Jan. 12 . . .	137	24
" St. Petersburg . . . Dec. 22-Jan. 5 . . .	6	2
" Warsaw . . . Dec. 22-Jan. 5 . . .	23	
SCOTLAND: Glasgow . . . Jan. 11-18 . . .	121	2

YELLOW FEVER.

CUBA: Havana . . . Jan. 12-19 . . .	2	
MEXICO: Vera Cruz . . . Jan. 6-20 . . .	5	

CHOLERA.

INDIA: Bombay . . . Dec. 21-Jan. 1 . . .	2	
SETRAITS: Singapore . . . Nov. 16-27 . . .	36	36

PLAGUE.

INDIA:	Bombay . . . Dec. 24-Jan. 1 . . .	154
TURKEY:	Constantinople. Jan. 7	1

Quarantining Tuberculosis.—Tuberculosis has been placed among the diseases which are subject to quarantine. The commissioner of immigration has so decided in the case of a Japanese who arrived in San Francisco from Japan, ill with lung trouble. It was decided that the patient could not land, but must return to the port from which he sailed.

The Omega Upsilon Phi Fraternity (medical) has just organized two new chapters, one at the University of Colorado, composed of 15 students and several members of the faculty; the other, a graduate chapter in New York City, to be known as the "Henry C. Coe Chapter," in honor of Professor Coe of the University and Bellevue Hospital Medical College.

Obituary.—DR. HOMER OCTAVIUS JEWETT, at Cortland County, N. Y., on January 30, 1901, aged 82 years.—DR. THEODORE DECLERMONT MILLER, at New York, on January 28, 1901, aged 59 years.—DR. JOSEPH ERNALES MUSE CHAMBERLAINE, of Easton, Pa., on January 30, 1891, aged 75 years.—DR. A. J. NORRIS, of Macon, Mo., on January 28, 1901, aged 56 years.—DR. MICHAEL ROYSTON FIGOTT, at Annapolis, Md., on January 31, 1901, aged 35 years.—DR. WESLEY W. BARKWELL, at Tucson Ari., on January 28, 1901.—DR. HENRY W. TAYLOR, at Sullivan, Ind., on January 30, 1901, aged 59 years.—DR. JOSEPH SEMSCH, at La Crosse, Wis., on January 30, 1901, aged 87 years.—DR. HENRY F. BAXTER, at Philadelphia, Pa., on February 1, 1901, aged 58 years.—DR. ROSIER MIDDLETON, at Washington, D. C., on January 31, 1901.—DR. L. H. JONES, of Yazoo City, Miss., at Jackson, Miss., on January 29, 1901.

Changes in the Medical Corps of the U. S. Army, for the week ended February 2, 1901:

NEWLOVE, GEORGE, acting assistant surgeon, is assigned to duty at Fort Sill until further orders.

BARNEY, CHARLES NORTON, acting assistant surgeon, is granted leave of absence for 1 month.

HESS, First Lieutenant LOUIS T., assistant surgeon, now on duty at the Army General Hospital, Presidio, is relieved from further duty in the division of the Philippines.

STOCKARD, JAMES K., acting assistant surgeon, now in San Francisco, Cal., will report to the commanding general, department of California, for assignment to temporary duty in that department.

LECOMPTÉ, WILLIAM C., acting assistant surgeon, having reported to the Surgeon-General of the Army, will proceed to Fort Du Pont.

WILLIAMS, ADRIAN D., acting assistant surgeon, will proceed from Brooklyn, N. Y., to Fort Adams for temporary duty.

BELL, JOSEPH L., acting assistant surgeon, will proceed from Richmond, Ind., to Omaha, Neb., and report to the commanding general, department of the Missouri, for assignment to duty at Fort Crook.

HICKSON, JOSEPH H., hospital steward (appointed January 25), now at the Army General Hospital, Presidio, will report to the commanding general, department of California, San Francisco, Cal., for assignment to duty.

MULLINS, THOMAS K., acting assistant surgeon, is granted leave of absence for 1 month, without pay, to take effect upon the expiration of the leave granted him January 8.

BISPHAM, First Lieutenant WILLIAM N., assistant surgeon, is relieved from duty at Columbia Barracks, Cuba, and will report at Cabana Barracks, Cuba, for duty as surgeon, relieving Acting Assistant Surgeon H. M. James.

MAZZURI, PAUL, acting assistant surgeon, is relieved from duty at Cabana Barracks, Cuba, and will report at Columbia Barracks, Cuba, for duty.

WARREN, STANLEY S., acting assistant surgeon, now on duty at Fort Clark, will proceed to Fort Sam Houston, and upon arrival report to the commanding officer for duty during the absence of Acting Assistant Surgeon James S. Kennedy.

KENNEDY, JAMES S., acting assistant surgeon, is granted leave of absence for 20 days, to take effect January 21.

POLHEMUS, Captain ADRIAN S., assistant surgeon, now on duty at Fort Leavenworth, will proceed to Fort Riley for temporary duty at that post during the absence of Captain Charles E. Woodruff, assistant surgeon.

DE WITT, Lieutenant-Colonel CALVIN, deputy surgeon-general, is granted leave of absence, on surgeon's certificate, for 3 months from about February 10.

MCCALLUM, F. M., acting assistant surgeon, will proceed from Jefferson Barracks to Fort Reno for temporary duty.

Changes in the Medical Corps of the U. S. Navy,
for the week ended February 2, 1901:

McCLURG, W. A., medical inspector, commissioned medical inspector, November 19, 1900.
SHIFFERT, H. O., assistant surgeon, ordered to the "Franklin."
GROW, E. J., assistant surgeon, detached from the "Culgoa" and ordered to the "Glacier," and also to duty at Olongapo, P. I.
COWEN, J., pharmacist, detached from the "Culgoa" and ordered to the "Glacier," and also to duty at the Naval Hospital, Cavite, P. I.
PIGOTT, M. R., passed assistant surgeon, died at Annapolis, Md., January 31, 1901.

Changes in the U. S. Marine-Hospital Service,
for the week ended January 31, 1901:

McINTOSH, W. P., surgeon, to proceed to Jeffersonville, Ga., for special temporary duty. January 30.
PERRY, T. B., surgeon, granted leave of absence for 30 days from February 11. January 30.
McMULLEN, JOHN, assistant surgeon, upon expiration of leave of absence, to proceed to Wilmington, N. C., and assume temporary command of the service during the absence of Surgeon T. B. Perry. January 30.
CORPUT, G. M., assistant surgeon, to proceed to Cleveland, Ohio, and assume temporary command of the service during the absence of Surgeon W. J. Pettus. January 26.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on Tuesday, February 5, 1901, for the physical examination of Second Assistant Engineer R. F. HALPIN, R. C. S. Detail for the board—Surgeon PRESTON H. BAILHACHE, chairman; Surgeon G. T. VAUGHAN, and Assistant Surgeon B. S. WARREN, recorder.

Foreign News and Notes.

GREAT BRITAIN.

Dr. T. C. Vachell has withdrawn his resignation as physician to the Cardiff Infirmary.

Miss M. M. T. Christie, M.D. Lond., has been appointed to the permanent charge of the Victoria Dufferin Hospital in Calcutta.

Smallpox at Glasgow.—Smallpox is reported to be increasing at Glasgow to an alarming extent. Twenty-nine new cases are reported and hundreds of cases are being treated in the hospitals.

Elections.—**Mr. W. H. Willcox, M.B., B. Sc. Lond., D.P.H., A.T.C.,** has been elected to the post of lecturer on chemistry and physics at St. Mary's Hospital Medical School, London. **Sir James Sawyer, M.D.,** has been elected a Fellow of the Society of Antiquaries.

Investigating Beer-poisoning.—The *Lancet* says: A Royal Commission has been appointed to make investigations respecting the beer poisoning epidemic. The Commissioners are Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (President of the Royal College of Physicians of London), Professor T. E. Thorpe (Government Analyst), Mr. H. Cosmo Bonsor, and Dr. B. A. Whitelegge (H. M. Chief Inspector of Factories). Dr. G. S. Buchanan, one of the medical inspectors of the Local Government Board, is the secretary of the commission. The instructions to the commissioners are to ascertain with regard to England and Wales: 1. The amount of recent exceptional sickness and death attributable to poisoning by arsenic. 2. Whether such exceptional sickness and death have been due to arsenic in beer or in other articles of food or drink, and, if so, (a) to what extent; (b) by what ingredients or in what manner the arsenic was conveyed; and (c) in what way any such ingredients became arsenicated. 3. If it is found that exceptional sickness and death have been due to arsenic in beer or in other articles of food or drink, by what safeguards the introduction of arsenic therein can be prevented.

CONTINENTAL EUROPE.

The Medical Profession of Germany has sanctioned the imperial bill lengthening medical study to at least five years.

Kleines Journal f. Hygiene.—A special supplement to the German magazine, the *Kleines Journal*, is to be published by a medical editor, with the title of the *Kleines Journal f. Hygiene*.

School for Tropical Diseases.—It has been decided by the Faculté de Médecine of Paris to establish a school for the study of tropical diseases, with special chairs of bacteriology and parasitology.

Royal Personages Contract Measles.—The Duke Regent of Mecklenburg-Schwerin and the Duchess, who is a daughter of the late Grand Duke, are down with the measles, as is also the young Grand Duke of Saxe-Weimar.

Appointments.—DORPAT, Russia: Dr. Yewetsky, professor of the medical faculty of Moscow, has been appointed professor of ophthalmology at Dorpat, succeeding Professor Rählmann.—FREIBURG: Dr. Adolf Schüle has been appointed professor of internal medicine.

MISCELLANY.

Obituary.—**DR. DUBRUEIL**, former professor of the surgical clinic at Montpellier, France.—**DR. DUCLOS**, former professor of the Medical Clinic at Tours.—**PROFESSOR PODREZE**, of Charkow, an eminent Russian surgeon.

The St. John's Ambulance Association attended 1,805 persons injured during the funeral crushes in London. The association has 701 doctors and nurses busy at 26 stations. Prior to the arrival of the funeral train, Major Edward Bassindale, a veteran officer, fell dead in the crowd, as the result of excitement. There was a crush in the crowd at the Marble Arch, when the gates were unexpectedly closed after the procession had passed.

A Modification in Ophthalmic Test-Types.—The *Lancet* states that Dr. E. Praun, of Darmstadt, has proposed an ingenious substitute for the types generally in use for the purpose of testing the sight. He observed that some school children and also a railway engine-driver whom he had occasion to examine succeeded in learning the ordinary test-types by heart, so that they could name the letters without being able to see them distinctly, and thereby made their vision appear to be better than it really was. In order to counteract this artifice Dr. Praun suggests that the use of letters of the alphabet as test-types should be discontinued and substitutes for them two thick parallel black lines of unequal length joined together by their ends, some of them at an angle of 45° and others at a right angle forming L. These radiating pairs of lines he regards as the hands of a clock, and his sheet of test-types consists of 47 such pairs of lines of different sizes placed within circles, arranged in two squares of 9 and 36 figures respectively and 2 separate figures. Each of these squares is mounted on cardboard and rotated into different positions, so that the most retentive memory would be unable to remember all the possible combinations and the reality of the test would be assured.

The Teaching of Colonial Medicine.—**Dr. Boinet**, Professor of Tropical Diseases (*Gazette Medicale de Paris*, January 5, 1901), explains in his opening lecture the purpose of the School of Tropical Medicine recently established in Marseilles. He expects to be able to study scientifically numerous tropical diseases which are as yet obscure; he hopes that men who have returned from the Colonies, poor and ill, undermined by fever or dysentery, will receive aid here; he believes that students who expect to practise in tropical countries will learn to diagnose and treat the affections most commonly found there. This refers especially to those intending to enter the Army, the Marine, or Colonial Service. He thinks that all who are destined to fill civil posts in the tropics,—government officials, missionaries, etc., will here be given the chance to learn what to do, should no physician be within call. He relates his own experience in Tonkin, in 1887, when he had 31 grains of quinin hypodermically, and 62 grains by the mouth, believing that these large doses, given him by his colleagues, alone saved his life. Besides, the cases which he expects will be sent to Marseilles, such as dysentery, abscess of the liver, malaria, and leprosy, are, or were, endemic in the south of France. While England already has three Schools of Tropical Medicine, this is the first one opened in France. [M.O.]

The Latest Literature.

British Medical Journal.

January 19, 1901. [No. 2090.]

1. A Clinical Lecture on Malignant Diseases of the Female Genitalia. THOMAS OLIVER.
2. A Clinical Lecture on Diagnosis in Cancer of the Body of the Womb. W. HANDFIELD JONES.
3. Spoon-shaped Indentations in the Skulls of the Newborn. J. M. MUNRO KERR.
4. Impacted and Displaced Gravid Uterus with Fibroid. NEIL MACLEOD.
5. A Second Successful Case of Cesarean Hysterectomy. COLIN CAMPBELL.
6. A Note on the Treatment of Puerperal Eclampsia. R. P. RANKEN LYLE.
7. A Note on the Occurrence of Abortion. J. B. HELLIER.

1.—Oliver includes under the term **malignant diseases of the female genitalia** such affections as cancer, sarcoma, malignant adenoma, and deciduoma malignum. It is characteristic of them all that they tend to pass beyond the organ in which they originate and to invade other organs or tissues. He especially dwells upon malignant diseases of the womb. Carcinomata originate under the flattened epithelium which lines the vaginal face of the cervix or in the columnar epithelial cells of the tubular glands of the cervical canal. When the disease is present in the exposed part of the cervix it has usually originated beneath the flattened epithelium and tends to burrow. When the disease originates in the cells of the cervical mucous membrane, or in those of the tubular glands of the cervix, the ciliated epithelium loses its cilia, and there follows marked proliferation of the cells, whereby the structure comes to resemble exuberant gland-tissue. In cancer of the body of the uterus the disease arises either in the ordinary epithelial cells that line the endometrium, or in those of the tubular glands. It is when the disease originates in the glandular structures that it gives rise to what is known as adenoma malignum. The cause of cancer is still unknown. It is certainly a local disease at first, as is shown by the success which follows early extirpation. The treatment of malignant disease of the uterus varies according as to whether the cases are inoperable or those that are suitable for operation. Oliver has not seen any benefit follow from the internal administration and local application of arsenic, nor has thyroid extract done any good. The cases suitable for operation are those in which the disease is limited to a very small part of the cervix, or, when located in the uterus itself; the womb while involved is freely movable. [W.A.N.D.]

2.—Handfield-Jones from his study of **cancer of the body of the womb** believes that the following conclusions probably represent the sum of our knowledge at the present time: (1) That in cases of corporeal cancer there is a stage of benign adenoma; (2) Uterine scrapings are not perfectly reliable, owing to the tissue being only superficial, and the deep part of the gland not being obtained. Later scrapings, when the disease is more advanced, are more reliable; (3) clinical signs are more reliable than microscopic evidence; (4) The degree of malignancy varies much, and the disease may run a very slow course; (5) rapid increase in the size of the body of the womb is the most valuable sign in determining need for extirpation of the whole organ. [W.A.N.D.]

3.—Kerr remarks that **indentations of the fetal skull** may be either spoon or furrow-shaped. The 2 varieties occur with about equal frequency. They have not, however, the same significance, for although the conditions producing them are in the main the same, the furrow-shaped variety is much the less serious and seldom gives rise to much immediate trouble. The spoon-shaped injury, which is situated usually on one or other parietal or frontal bones in the neighborhood of the anterior fontanel, is by no means uncommon. With few exceptions the accident occurs when there is a deformity of the maternal pelvis, and as rickets is the most common cause for such deformity the injury is generally met with in the offspring of women with flat, rachitic pelvises. Generally speaking the prognosis is not unfavorable. If the children are born alive the indentation, in the majority

of cases, disappears in a week or two, having given rise to no trouble at the time, and producing no ill effects later. In a certain number of cases, however, the depressions are deeper and produce a permanent deformity. Abfield mentions 10 cases with 2 deaths. Kerr has seen 4 cases with 2 deaths. As regards treatment, Kerr remarks that a very little force applied to the depression from the inside is all that is necessary to relieve the indentation. The force must be applied early, otherwise there may occasionally be a little difficulty in raising the bones. This force may be secured by making firm compression of the head anteroposteriorly, thereby causing the depressed bone to spring out. While successful in a few cases this method is not always applicable. [W.A.N.D.]

4.—Macleod reports an interesting case of **impacted and displaced gravid uterus** at term complicated by fibroid tumor, in which cesarean section was performed together with excision of the fibroid tumor and of the entire anterior uterine wall. The patient made an uninterrupted recovery. [W.A.N.D.]

5.—Campbell recalls a successful case of **cesarean hysterectomy** in a dwarf four feet in height. The operation was performed under the most unfavorable conditions, but the patient made a complete recovery. [W.A.N.D.]

6.—Lyle remarks that there are three great principles in the **treatment of puerperal eclampsia**, namely, purification of the blood, the control of convulsions, and the emptying of the uterus. Dietetic infusion is a valuable addition to the usual treatment adopted for purifying the blood, but it has no immediate effect in controlling the convulsions, nor has it any effect on the action of the uterine muscles. He prefers morphin, judiciously given, to control the eclamptic seizures. [W.A.N.D.]

Lancet.

January 19, 1901. [No. 4038]

1. Two Clinical Lectures on Enlargement of the Prostate. P. J. FREYER.
2. A Clinical Lecture on Some Cases of Head Injury, Including one of which there was Lesion of the Occipital Lobe. HERBERT W. PAGE.
3. A Series of Ten Successful Cases of Cesarean Section. W. J. SINCLAIR.
4. An Account of the Epidemic Outbreak of Arsenical Poisoning Occurring in Beer-Drinkers in the North of England and the Midland Counties in 1900. ERNEST SEPTIMUS REYNOLDS.
5. Cases of Arsenical Peripheral Neuritis. ROBERT J. M. BUCHANAN.
6. The Röntgen-Rays and the Diagnosis of Urinary Calculi. C. MANSELL MOULLEN.
7. Urotropine as a Urinary Antiseptic. P. J. CAMMIDGE.
8. Infective Parotitis after Abdominal Section. WM. ELDER.
9. A Case of Gangrene of the Penis. GEORGE A. CLARKSON.
10. Reflections on Therapeutics. HARRY CAMPBELL.

1.—Freyer thinks that in certain selected cases some form of operative treatment may be recommended; in a few cases it is imperative, but that in the large majority of cases clean catheterization and a hygienic life is the best treatment. When no symptoms are present no treatment is required. If symptoms of obstruction are present and the amount of residual urine small, he uses ergot and the weekly introduction of a bougie as far as the bladder. When the residual urine reaches 4 ounces the catheter should be used once a day; 6 ounces, twice a day; 8 to 10 ounces, three or four times a day. When all voluntary power is lost the catheter should be used as often as the desire is markedly felt. Patient should not be limited to a certain hour, but, on the contrary, should use the catheter before pain and marked discomfort are felt. The choice of catheter will depend on the form of obstruction—patient should never be without one. Usually a soft Condé's, No. 7 or 9, is most useful. Patient should not be allowed to use a metal catheter. The aseptic precautions necessary in the use of the catheter are gone into carefully. The hygiene of the patient should be carefully looked after; the diet, the clothing, the bowels, etc. Horseback and bicycle riding are to be avoided, as is also sexual excitement. Under proper care many patients are

able to lead "useful and enjoyable lives for 15 or 20 years,"—"after entering on the habitual use of the catheter." In far advanced cases when urine is turbid or fetid the patient should be examined in his own bed and only a portion of the residual urine withdrawn at the first examination. It is not right to examine such a case and allow him to go out of doors immediately afterward; he should remain in bed. **Urethral fever** from catheterization is apt to follow in these cases. **Cystitis** is a common complication. In the beginning boric acid should be employed, and Freyer has found that several large doses (25 grains) are better than small doses frequently repeated. When pus is present irrigation daily with some warm and mild antiseptic is employed. Silver nitrate begun in solution of 1:4000 and gradually increased to 1:750 is highly recommended. For the great pain and scalding at the neck of the bladder a dram of a 1% to 3% solution of silver nitrate thrown into the membranous urethra is of great advantage. **Complete retention** of urine should be relieved by catheter, aspiration, or drainage as soon as possible lest an atony of the bladder result. The preprostatic pouch is frequently overlooked and mistaken for the bladder cavity itself. It is the dilated prostatic urethra and bladder in front of the enlarged middle lobe. Freyer has frequently seen the pouch emptied by the catheter and the attendant think he had emptied the bladder. He has several times removed stones from this position. **Hemorrhage** is liable to take place in the advanced cases, but is not apt to be serious unless due to a ruptured varicose vessel in the gland. Rest in bed is the most important part of the treatment. Frequent hemorrhage after exercise should suggest stone. Orchitis, urethritis, and balanitis not infrequently occur as complications, the latter two particularly in patients suffering from diabetes. **Operative treatment:** Freyer describes the various operations for the removal of the enlarged portions of the prostate and recommends for enlargement of the middle lobe the suprapubic operation of McGill; for enlargement of the lateral lobes an operation of his own consisting of a preliminary incision through the urethra and then Dittel's incision through the perineum. The wound in the urethra allows the introduction of the finger into the bladder, a thorough examination of the gland and its easy protrusion by the finger into the perineal incision, and a means of thorough drainage afterwards. It also serves the important purpose of protecting the bladder from injury, as the finger can appreciate the approach of the cutting instrument. **Castration** with its very satisfactory results in some cases and its objectionable features to the patient is carefully discussed. The mortality in the far advanced cases, the only ones where the operation is acceptable, is the greatest objection to the operation. Both of these objections are overcome in the operation of **vasectomy**, but the results are hardly as satisfactory. This operation successfully prevents the distressing complications of orchitis and epididymitis which so frequently occur in prostatic patients. In the hard fibroid form of enlargement the operation was little or no good. Although preventing the expulsion of semen vasectomy does not interfere with the sexual power. **Drainage**, as a palliative measure, should be obtained through the perineum when it is required temporarily and when the patient is much enfeebled. For permanent drainage the suprapubic route is the best. [J.H.G.]

2.—Page in a clinical lecture on **head injuries** urges the close observation of all symptoms in such cases. He first speaks of a case sent to the hospital as concussion and as needing operation, in which it was subsequently found that the patient was suffering from embolism. The case first shown is that of a boy admitted to the hospital suffering from an extensive fracture of the upper occipital region. He exhibits perimeter charts showing complete and absolute homonymous hemianopsia soon after the injury, and later charts showing nearly complete restoration of vision. The second case shown was that of a boy 14 years of age admitted in a dazed condition with a large hematoma over the right frontotemporal region. The eyelids were swollen and completely closed. There were no unilateral phenomena. When examined the next day there seemed to be a depression of the bone beneath the hematoma and an exploratory incision was made, which showed that the sense of depression was due to a well marked temporal ridge, and that no fracture of the skull was present. The next case is that of a man, 29

years of age, admitted in profound unconsciousness with relaxation of sphincters and slight bleeding from the right ear, which soon ceased and was not succeeded by the escape of cerebrospinal fluid. There was considerable bruising on the side of the head, but no unilateral symptoms. The patient recovered slowly but complained of great pain in his head. The presence of slight facial palsy seemed to confirm the impression that there had been a fracture of the base, but this was subsequently explained by the patient who said it was of long duration. Page thinks in the majority of cases of severe concussion that there has been more or less laceration of brain tissue and very commonly an extravasation of blood into the arachnoid cavity. He urges that in all injuries to the head adequate rest must be given to the brain and the patient not discharged from the hospital too early. [J.H.G.]

3.—Sinclair reports 10 cases of successful cesarean section performed during the past 10 years. In 3 of the cases the uterus was removed. In these cases no sugar was subsequently found in the urine, and the milk did not appear in the breasts. In 2 of the cases previous craniotomy had been performed. In discussing these cases Sinclair says that previous to and during the operation the fewer manipulations of the uterus, especially per vaginam, the better, and that he sees no advantage in the previous dilation of the cervix. In all of his operations the uterus was brought through the abdominal incision before it was opened and an elastic tube was placed about the cervix for the control of hemorrhage. Rupture of the membranes reduces the size of the uterus and renders the operation easier. He does not think that the elastic ligature produces atony of the uterus. He thinks that an incision $4\frac{1}{2}$ to 5 inches long in the uterus is necessary for safe delivery. The transverse incision across the fundus of the uterus is condemned because of the likelihood of subsequent adhesion of the bowel or the abdominal wall, which seriously complicates future pregnancies. He always makes the median incision in the middle third of the uterus. In his recent cases drainage has been abandoned. [J.H.G.]

4.—Reynolds gives an account of the epidemic outbreak of **arsenical poisoning** occurring in beer-drinkers in the north of England and the Midland counties in 1900. During the year a number of patients presented themselves showing various skin eruptions, such as erythema, keratosis, pigmentation and herpes zoster. These skin lesions occurred in association with alcoholic paralyses. For some time Reynolds was at a loss to explain why neuritis occurred only in beer-drinkers and not in spirit-drinkers. In many of the cases the skin lesions associated were herpes. He concluded therefore, that as arsenic was the only known drug to produce herpes, this was the cause of the epidemic. On November 18, 1900, some of the beer commonly partaken of by one of the sufferers was examined for arsenic with a positive result. The arsenic in the beer was traced to a number of sources, the most important origin was in certain sugars used in brewing. A single firm supplied 200 breweries with sugar which contained arsenic. The poison gained entrance through the sulphuric acid used in converting starch into sugar. The original source of the arsenic was found in the Spanish pyrites used in the manufacture of sulphuric acid. A quantitative estimation showed that there was from .14 of a grain to .3 of a grain of arsenic in a gallon of beer. Another way by which arsenic may gain entrance is through sulphureted hops. He reports a case of poisoning due to the chewing of hops. In the cleansing of the barrels and the "fining" of the beer calcium bisulfate and sulphuric acid were used. He cites still another way in which arsenic may gain entrance, namely, through certain microorganisms which have the power of taking up substances and liberating poisonous arsenical compounds. The epidemic principally involved those districts which were supplied with contaminated sugar. The number of individuals poisoned and the number of deaths could not be accurately ascertained. In Manchester alone 2,000 cases were reported. In discussing the symptoms he lays stress upon the fact that the diagnosis is very easy in typical cases. The patient complains of pain in the extremities, often shooting in character, headache, lachrymation, cough, shortness of breath, and diarrhea. In many instances the patient has a characteristic "double-rap" gait, the heel first touching and then the anterior portion of the foot. Rashes, edema of the face

and extremities, pallor and some cyanosis may be striking signs. The skin lesions are numerous and present in almost every case. They were: Erythromelalgia, keratosis, erythema, often accompanied by great itching; pigmentation, simulating that of Addison's disease, and herpes zoster. Loss of hair occurred in some cases. The nails were thin and brittle, and it appeared that some time after the patient discontinued taking the beer the new-formed portion of the nail could be distinguished from the diseased part by a distinct ridge. In a few cases successive weekly drinking bouts seemed to produce a series of ridges across the nails. Symptoms referable to the nervous system were numerous. Sensory affections were present in every case, varying from slight paresthesia to total loss of sensation, neuralgias and tenderness over the muscles. In one case the sensory portion of the left fifth cranial nerve was partially paralyzed while the motor portion was not involved. Motor symptoms were present in about 70% of the cases. Loss of power was especially prominent in the lower extremities, showing itself in the gait and in some instances there was complete loss of power. The hands and forearms were also involved in many cases. Early in the course of the disease the knee-jerks were often exaggerated. Late in the course of the disease, when paralysis and atrophy became prominent, the knee-jerks were absent. In a few cases confusional insanity developed. Signs of cardiac dilation were present in a majority of the cases. Heart failure was the chief cause of death in the greater number of fatal cases. Edema was often present. The chief symptoms referable to the respiratory tract were bronchitis, hemoptysis and congestion of the fauces, and of the vocal cords. In a few instances of latent phthisis, rapid breaking down of the lung tissue occurred with the arsenical poisoning. In the early stages of the poisoning the appetite was increased, while in the later stages it became impaired. Some patients complained of vomiting and of diarrhea, with the passage of blood in the stools. Reynolds states that he believes that arsenic may set up chronic interstitial hepatitis. He found arsenic in the urine of patients who had recently partaken of arsenicated beer. In some of the cases moderate fever was present during the early course, which, as a rule, soon disappeared. The duration of the disease lasts many months. In the cases terminating fatally, death is as a rule due to the cardiac failure. In some instances it is due to paralysis of the diaphragm and bronchopneumonia, and in one case the cause was phthisis. The cases may be classified into four groups: (1) Those in which all the symptoms are marked; (2) those presenting skin lesions; (3) those showing prominence of the cardiac and hepatic symptoms; and (4) those presenting paralytic symptoms. If a careful history and examination be made, the diagnosis is easy. From the standpoint of treatment he sounds a note of warning as to the use of such depressing drugs as potassium iodid, sodium salicylate, antipyrin, exalgin, phenacetin, etc. After the poison has been stopped the treatment is symptomatic. Reynolds concludes the article with a review of previous epidemics and an analysis of his personal statistics. [F.J.K.]

5.—Buchanan in an article on **arsenical peripheral neuritis** gives the history of a number of cases presenting themselves at the Stanley Hospital, Liverpool. In nearly all of the cases a history of beer-drinking was obtained. Associated with the neuritis in many of the patients there were other symptoms common to arsenical poisoning. Buchanan concludes the article by saying that he felt it his duty to notify the Health Officer of the city, giving the names of the establishments from which the beer was purchased and the names of the patients. [F.J.K.]

6.—Moullin expresses great confidence in the **Röntgen-rays** as a diagnostic measure in cases of **urinary calculus**. If two careful examinations be made and no calculus found it may be taken as certain that none is present. In cases of fixed calculus he thinks this method the only one by which the presence of a calculus can be ascertained. In cases of ureteral calculus the rays are of the utmost importance. Before the picture is made the bowels should be thoroughly cleaned out, all clothing removed and the patient assume a recumbent position when the rays are applied. In renal calculi the movability of the kidney from respiration often renders the taking of a skiagraph difficult. In these cases a firm binder should be placed about the abdomen and the patient be asked to make shallow respiration. [J.H.G.]

7.—Cambridge has made very careful experiments with **urotropin** as a urinary antiseptic. He finds that the drug possesses no diuretic quality nor does it make any appreciable change in the excretion of a chemical constituent of the urine. The drug was found in the urine 10 minutes after a 10 grain dose was taken, and a small quantity was found 26 hours after the administration of the drug was discontinued. After 4 days of administration the patient complained a great deal of a sensation of formication. In experimenting with the germicidal qualities of urotropin he found that the strong solutions kill microorganisms, but the weaker solutions only inhibit their growth. The typhoid bacillus is very quickly destroyed by the drug, but the bacillus coli communis and the staphylococcus pyogenes aureus show considerable resistance. As formaldehyde in weak solutions kills B. coli communis it is not thought that the good effects produced clinically in cystitis by the administration of urotropin are due to the production of free formaldehyde, but rather to urotropin itself. From his experiments Cambridge concludes that urotropin alone may by prolonged heating be made to yield formaldehyde, but that this decomposition does not take place at the body temperature; that an alkaline solution of urotropin may be similarly decomposed, but the body temperature is not sufficient to cause the change; dilute acids quickly decompose urotropin on boiling with the evolution of free formaldehyde and that this change occurs to a less degree at 37° C.; acid salts—e. g. of the urine—liberate formaldehyde from urotropin on boiling, but not at 37° C.; that the acid urine of a person taking 30 grains of urotropin a day does not contain free formaldehyde. If the foregoing be correct an important point in securing the full effect of the drug would be that the urine should be acid when it leaves the kidney. This fact is borne out clinically in cases of typhoid cystitis where the drug is of particular use, since here the urine is usually acid. Cambridge urges that since the typhoid bacillus is demonstrable in the urine long after the disease has passed, that the administration of this drug would be of advantage both to the patient and the community at large. [J.H.G.]

8.—Elder reports a case of **infective parotitis** following abdominal section for appendicitis in a man, 20 years of age. The right parotid gland was involved 3 days after the operation. Thirty-six hours later the left gland was involved, during which time the swelling of the right had subsided. Intense pain and fever accompanied the swelling. Elder states that 49 days before the onset of the symptoms of parotitis, he treated the patient's brother for mumps. The brothers did not live in the same room until 9 days before the infection occurred. He concludes by saying that it is impossible to say whether the case was one of true mumps or parotitis following abdominal section. [F.J.K.]

9.—Clarkson reports a case of **gangrene of the penis** occurring in a man, aged 51 years, dying from arterial sclerosis. The gangrene was complete, was moist, and no local cause in the condition could be demonstrated. The patient's general condition was extremely bad, and he died without anything radical being done for his local condition. Clarkson refers to a case of dry gangrene which occurred at King's College Hospital in the service of Mr. Partridge. [J.H.G.]

New York Medical Journal.

February 2, 1901. [Vol. lxxiii, No. 5.]

1. A Preliminary Communication with Projection-Drawings, Illustrating the Topography of the Paracoelae (Lateral Ventricles) in Their Relation to the Surface of the Cerebrum and the Cranium. EDWARD A. SPITZKA.
2. A Case of Arsenical Dermatitis. A. A. OHMANN-DUMESNIL.
3. On the Sterilization of Milk; Its Advantages and Limitations. A. D. BLACKADER.
4. Gallstones and Empyematous Gallbladders. EDWIN RICKETTS.
5. Appendicitis in the Female. FLOYD WILCOX McRAE.
6. Pharyngeal Adenoids; Their Frequency and Sequelae. PHILIP D. KERRISON.

2.—Ohmann-Dumesnil reports a case of **arsenical poisoning** in a young woman of 26 years, who took a teaspoonful of "rough on rats" with suicidal intent. The case

is reported especially on account of the **arsenical dermatitis** which developed. The lips and nose were swollen and the eruption vesicular, while some pustules appeared on the face and buttocks. The vermilion of the lips presented no lesions, but were hot and dry. The **localization** of the eruption is of interest, together with the fact that the dermatitis followed a single large dose of the drug, while it usually appears in cases where small repeated doses of the drug are taken. The case terminated in recovery. [T.L.C.]

3.—A. D. Blackader discusses the now much mooted question of the advantages and disadvantages of **sterilization of milk**. He concludes that by sterilization the proteids are probably modified and rendered less digestive. There is also a probable combination of the saline ingredients with the proteids, and the salts assume a condition in which they are less readily absorbed. Natural ferments which assist in the gastric digestion are possibly destroyed. Again an alteration takes place in the emulsion, normal to milk, which may also have a distinct effect of lessening the digestibility of cow's milk by the infant. It is important to keep **sterilized milk** at a continuous low temperature and to use milk soon after sterilization. Blackader recommends using fresh milk carefully drawn and in which lactic-acid-producing bacteria in such small numbers as to induce no important alterations. This milk should not be sterilized, but when we are not sure of our supply it is advisable to sterilize at the lowest temperature, namely 60° C. maintained for 15 minutes. [T.L.C.]

5.—McRae first discusses the **comparative frequency of appendicitis in men and women**, and thinks that the disease is much more common in the latter sex than is generally supposed, because of the frequency with which this disease is mistaken for inflammation of the tube and ovary of the right side. Several of his patients had had treatment directed to the pelvic organs for a more or less prolonged period. In making a diagnosis between inflammation of the tube and ovary and of the appendix, it will be found that the pain of appendicitis is more sudden in its onset, and very much more acute than that of pelvic disease; it is frequently accompanied with nausea, and muscular spasm is usually marked; the general disturbance is greater, and the progress of the disease is more rapid. An intact hymen argues very strongly for appendicitis. When there is doubt, and the symptoms are aggressive, it is much safer to operate than to delay. In 2 of his cases, MacRae performed appendectomy and nephrorrhaphy through the same incision. He then reports in detail 8 operations done in the interval between attacks, and 7 operations done during acute attacks. All of these cases were successful. [J.H.G.]

6.—Kerrison discusses the frequency, symptoms, and diagnosis of **pharyngeal adenoids** in detail, and concludes his article as follows: 1. That pharyngeal adenoids in children are very much more common than they are generally supposed to be. 2. That cases of moderate development are often not recognized. 3. That adenoid growths of moderate size, though not necessarily accompanied by marked symptoms at the time of their development, are often responsible for grave conditions felt during adolescence and adult life. 4. That unless removed, pharyngeal adenoids are in nearly all cases accompanied by more or less impairment of hearing. 5. That the presence of adenoids adds greatly to the gravity of intercurrent diseases and increases the patient's susceptibility to the germs of tuberculosis and diphtheria. 6. That the periodical examination of children for the presence of adenoids should therefore become a routine measure of prophylaxis. 7. That cases of moderate development, no less than those in which the growths are of large size, demand prompt surgical treatment. 8. That the treatment should aim at complete ablation or removal of the growth, which in most cases is best accomplished with the patient under the influence of a general anesthetic. [J.H.G.]

Medical Record.

February 2, 1901. [Vol. 59, No. 5.]

1. Radical Cure of Inguinal Hernia. A. M. PHELPS.
2. The Treatment of Puerperal Fever. H. J. BOLDT.
3. An Operation for the Relief of Stoppage of the Tear Passage, Abscess of the Sac, etc. ERASMUS A. POND.

1.—Phelps gives a brief history of the operations for hernia and then thoroughly discusses the modern methods of **treatment of inguinal hernia**, giving especial attention to the operations of Bassini and Halsted. He claims that many relapses follow these operations because so much destruction of the normal muscular tissue has taken place from the long continuance of the condition that it is impossible, by these methods, to sustain the pressure from within. An additional reason why relapse takes place after these operations is that there is no effort made on the part of the surgeon to reproduce the tissue which has been destroyed by pressure, and to prevent the stretching of the connective tissue which always results from wound-healing. McBurney's operation has also been followed by the most lamentable relapses. Phelps proposes a new operation for which he claims the following points of originality: 1. The reproduction of large masses of inflammatory material to restore the abdominal parietes, and the introduction of a fine silver wire filigree throughout the entire inguinal canal, over the transversalis fascia, which adds to the strength of the weakened abdominal parietes and prevents the new material from stretching. 2. Cutting off the hernial sac, and retreating from the operation exactly as from any abdominal operation, stitching up the peritoneum and transversalis fascia with a continued suture of fine silver wire. 3. The use of fine silver wire with a continued suture. To sterilize the wire, after it has been thoroughly boiled or steamed, he throws it into pure carbolic acid a few minutes before the operation, after which he dips it into alcohol, holds it over an alcohol lamp, and burns the alcohol upon the wire. Drainage should be avoided if possible; but if necessary in thick, abdominal walls with much fat, a glass drain is the best. [W.A.N.D.]

2.—Boldt, in speaking of the **treatment of puerperal fever**, classes under this term only those fevers which are caused by the entrance into the system of the puerperal woman of pathogenic microorganisms, or toxins, from some part of the genital tract. In the treatment prophylaxis is the most important. It is, therefore, imperative to observe the rules of antiseptics in obstetrics. It is essential that the patients be kept at perfect rest, and attention must be directed to the seat of primary entrance of the fever-producing agents. When the seat of the infection is in the uterus, this organ is found enlarged and relaxed and the cervical canal generally admits of the introduction of the index finger. All retained products of conception must be removed under antiseptic precaution and an intrauterine douche is always advisable before and after manipulations within the uterus. Continuation of fever and purulent secretions from the uterus indicate repetition of the intrauterine irrigation. Vaporization is more effective on infection-elements in the deeper structures of the uterus. The antiseptic and hemostatic properties of steam are well known, but its dangers must not be lost sight of. When applied to the interior of the uterus it causes deep destruction of the uterine tissue when used sufficiently long to render pathogenic germs situated in the muscular structure of the organ inert. Boldt believes that acute bacteremia is always fatal. Chronic bacteremia must be treated according to the indications in the individual patient. [W.A.N.D.]

3.—Pond describes an operation for the relief of **lachrymal obstruction and suppurative conditions** of the lachrymonasal passages. He believes that it is superior to probing. A long silver probe with an eyelet is threaded with coarse silk and is passed into the canal until it emerges from the nose, whereupon the two ends of the thread are tied. He leaves the slitting of the canaliculus to the judgment of the operator. It is preferable to tie a large knot so that by pulling the string through the canal, which is done two or three times a day, a larger opening is produced. The string is removed in one week. The operation can generally be performed under cocaine anesthesia, although ether may have to be employed. Three cases showing good results are appended. [M.R.D.]

Medical News.

February 2, 1901. [Vol. lxxviii, No. 5.]

1. An Historical Sketch of the Jefferson Medical College of Philadelphia.

2. Fatty Degeneration of the Heart. THOMAS E. SATTERTHWAITE.
3. A Case of Puerperal Sepsis from Retained Lochia (Lochiometra), with Remarks. GEORGE P. SHEARS.
4. Medical and Sociological Aspects of the Galveston Storm. H. A. WEST.

2.—Thomas E. Satterthwaite takes up the subject of **fatty degeneration of the heart** and illustrates his division of the condition into three arbitrary stages by a number of cases. The first stage is that one in which the prognosis is most favorable; that is, if the patient does not yield to the primary disease he will probably recover with a sound heart if properly treated. In the second stage prognosis is not good for total arrest of the fatty process, but much improvement may be brought about. The third stage is marked by profound implication of the internal viscera, the prognosis is unfavorable and the end may be expected within a few months. Fatty degeneration of the heart is a common affection, but it is not to be classed as a disease sui generis but as a process attending nonvalvular as well as valvular affections. It is caused by fevers, toxemias, dyscrasias, disorders of nutrition and mechanical injuries, but it may be a physiologic process, as in senility or after parturition. [T.L.C.]

3.—Shears reports a case of **puerperal sepsis or true lochiometra**, not so much because of its rarity but because, he claims, that the English and American textbooks ignore the subject altogether. He states that the sensation communicated to the palpating finger in these cases is a peculiar one. The uterus has a boggy, semi-elastic feel, which has been compared to that of the pregnant uterus. He confirms the statement of Oulshausen and Veit that without bacteriological examination there is no positive diagnostic sign of this condition except in those cases in which a history of retained placenta establishes the diagnosis of purid (sapremic) endometritis. In most cases the diagnosis can be made with a reasonable degree of safety by a process of exclusion. In sepsis from retained lochia, the enlargement of the uterus disappears with the removal of the cause. The possible, though rare, occurrence of this form of sepsis from retroflexion of the puerperal uterus should not be forgotten. A bacteriologic examination should be restricted to those cases in which it is necessary, for purposes of treatment, that the diagnosis be made with absolute certainty. The streptococcus is present not only in severe cases but in all grades of mild cases, and to wait until the bacteria are found in the blood-current, as has actually been suggested, is to wait too long. [W.A.N.D.]

4.—West discusses the **Galveston storm** from its **medical and sociological aspects**. After the hurricane and due to the overcrowding and high temperature, as well as the lack of sanitary measures, insects, especially flies, became a pest. It was observed that despite the fact that mosquitoes had always been a pest in Galveston, malaria was very uncommon. After the storm, however, the disease became very prevalent. Most of the cases were of the tertian form. A small proportion were estivoautumnal and pernicious. Gastrointestinal catarrh and dysentery became epidemic. Typhoid fever was also very prevalent. Scarlet fever, diphtheria, influenza, and dengue appeared, but not in epidemic form. Many cases of mixed infections, as of malaria and dysentery coexisting in the same patient, are reported. West points out the need of proper sanitary measures, especially the disposal of the city sewage. [T.L.C.]

Boston Medical and Surgical Journal.

January 31, 1901. [Vol. cxliv, No. 5.]

1. The Treatment of the Later Phases of Heart Diseases. JOHN L. HEFFRON.
2. Peritonsillar Abscess. F. C. COBB.
3. Retropharyngeal Abscess in the Adult. J. L. GOODALE.

1.—Heffron contributes a paper on the **treatment of the later phases of heart diseases**. When compensation has failed, the first indication is to relieve the heart of all extra work, which is best accomplished by rest in bed. In the second place, the volume of blood to be propelled by the heart should be diminished as much as possible. For this purpose the hydragogue cathartics are the best, and of

these the most preferable is elaterium, followed in order of preference by calomel and the salines. In the third place, the distressing nervousness of the patient, which increases the irritability of an already overburdened heart, must be controlled. For this purpose ice-bags locally, codein and morphin may be used. The author believes that heroin is a modern fraud. In cases in which the nervousness is not extreme he has had gratifying results from the use of the extract of cannabis indica. The diet must, of course, be controlled. When failure of compensation has resulted in dropsy, it is sometimes necessary to withdraw the fluid by mechanical means before drugs will exert their physiologic action. The author believes in the use of the hot-air cabinet in order to promote the excretion of sweat, and in digitalis, squill or potassium acetate to stimulate the secretion of urine. In order to aid in the complete retrograde metamorphosis of waste matter, the author has found the systematic administration of oxygen to be of very great value. While spartein, cactus, convallaria, strophanthus, and adonis vernalis are useful, digitalis is the drug that can be the most often depended upon. In cases of sudden failure of cardiac power, drugs that act quicker than digitalis, such as nitroglycerin, alcohol, ammonia, and strychnin are used. Oertel's method of hill-climbing, and the Schott method of treatment by carbonated baths are extolled. [J.M.S.]

2.—Cobb believes that **peritonsillar abscess** is the result of infection by the microorganisms of acute tonsillitis. The suppuration may occur in the tissue around the tonsil or in a space described by Chari as the pharyngomaxillary fossa. This space is bounded by the tonsil, the internal pterygoid muscle and the palatine arches. It contains the great vessels and is divided into an anterior and a posterior portion by the stylopharyngeus muscle and its fascia. The conditions that may be confused with peritonsillar abscess are sarcoma and syphilis. Cases that are untreated usually rupture spontaneously between the pillars of the fauces. Cases are on record in which the pus has made its way into the posterior portion of the pharyngomaxillary fossa, and thence into the mediastinum, with fatal results. Thrombosis of the large veins and pyemia have also resulted. The author believes that the knife only can give relief and that drugs, such as the salicylates and aconite, on account of their depressing influence, contribute to the exhaustion that follows the disease. In order to hasten the formation of pus he employs hot-water gargles. [J.M.S.]

3.—Goodale reports the case of a man, aged 18 years, who presented a swelling in the back of his throat which had gradually increased in size for 4 weeks. The growth was not accompanied by fever nor by other disturbance than dysphagia. Examination of the throat showed a fluctuating swelling on the posterior wall of the pharynx which extended from the level of the short palate beyond the range of vision. This **retropharyngeal abscess** was incised and some of the pus inoculated into a guineapig. Seven weeks after the inoculation the animal was killed and the characteristic lesions of tuberculosis were found. The patient experienced immediate relief after the evacuation of the abscess and 5 months after the operation his throat was in good condition and his general health was excellent. This seems to be a case of tuberculous retropharyngeal lymphadenitis ending in suppuration. No point of entrance for the infection was found. [J.M.S.]

Journal of the American Medical Association.

February 2, 1901. [Vol. xxvi, No. 5.]

1. Mental Symptoms of Cerebral Syphilis. JAMES H. McBRIDE.
2. A Report of Seven Operations for Brain Tumors and Cysts. HERM. H. HOPPE.
3. The Skull and Its Contents. W. H. EARLES.
4. Treatment of Typhoid Fever. With Bactericidal in Connection with Other Agents, and Some Consequent Deductions. J. M. PECK.
5. Influenza Accompanied with Four Distinct Pneumonic Attacks. Otitis Media Purulenta and Cerebral Hyperemia, Colitis, Inanition; Recovery. JULIUS ULLMAN.
6. Aural Manifestations of Syphilis. FRANCIS R. PACKARD.

7. Prevention of Intracranial and Intravenous Complications in Suppurative Diseases of the Ear. J. H. WOODWARD.
8. The Cerebral Neurons in Relation to Memory and Electricity. JAMES GRANT.
9. Report of Two Cases of Afebrile Typhoid. CHARLES J. WHALEN.

1.—McBride, in discussing the mental symptoms of **cerebral syphilis**, states that the mental derangement due to either remote or immediate syphilis may simulate every known form of mental disorder. In the majority of cases there is mental apathy and depression, a loss of self-control and general lowering of the mental process. He gives the history of a case exhibiting obscure early symptoms. He also reports another case illustrating mental weakness, incongruous delusions and loss of memory. He states that a common form of syphilitic insanity is characterized by long periods of confusion and dulness of memory, with sudden return of apparent sanity. He emphasizes the fact that insanity may occur soon after secondary syphilitic manifestations, and he cites a case in which it developed 6 months after infection. Recovery from syphilitic insanity hardly ever takes place for the reason that the repairing power of the brain is deficient. McBride holds the view that syphilitic disease corresponds to the following law: That the pathological changes are as a rule variable, irregular and diffuse. He further says that this law holds good in regard to the symptoms of syphilitic brain disease. Another variety of syphilitic insanity is characterized by delusions of personal injury, or persecution. Many individuals suffer from nervous syphilis and inebriety, so that it becomes difficult to give each its proper etiological significance. Another form of insanity is characterized by systematized delusions which continue for years, but later the disease shows confusion and gross brain-failure. He states that some cases of syphilitic insanity and parietic dementia are strikingly alike. Recovery from the former occasionally occurs while never from paresis. Cure (or recovery as implied in many other diseases) probably does not follow syphilis. The resisting powers of the individual are undermined. Brain disease is likely to develop in those who show bad hereditary tendencies. He believes that the intelligent and well educated are not so liable to insanity as the ignorant class. This, however, does not apply to syphilis, for both classes are attacked by the same poison, and as the resisting powers of the man of lower type are greater the poison therefore takes a weaker grasp upon his constitution. A definite diagnosis between syphilis of the membranes, of the cerebral arteries, and of the brain, is regarded by McBride as very difficult and often impossible. He lays great stress upon the fact that the entire natural history of insanity should be carefully investigated so that the whole course of the disease may be studied from the beginning, for the finding of the origin may aid in prevention. In conclusion he says that syphilitic insanity closely resembles the mental changes that occur in the senile. [F.J.K.]

2.—Hoppe says that the ill favor into which **operations for brain tumor** have fallen is due to the fact that so many operations have been performed for suspected brain tumor where sufficient means have not been taken for the purpose of definitely localizing the growth. He urges that operation for brain tumors and cysts should if possible be performed early. The fact that operations for such conditions have a high mortality should not deter us from advising operation when we consider that all cases of brain tumor are sure to be fatal. This is true even of the most benign growths, for they continue to grow and ultimately destroy the mental as well as the physical life of the patient. Improved results must come from the neurologists, not the surgeon, for early diagnosis and localization are points most to be improved. There is a great difference in the mortality rate of the cases operated upon where the tumor was definitely located and those in which its situation was uncertain. Hoppe quotes figures to prove this assertion. He reports seven cases of brain tumor coming under his care and operated upon by several different surgeons. He concludes with the following: (1) Tumors of the cortex or subcortical region which may be reached through the calvarium are operable; (2) if possible the operation should be performed early when the tumor is small; (3) brain surgery is limited to the psychomotor areas; (4) complete recovery seldom follows operation

for tumor. The focal symptoms and pain are relieved, but epilepsy and paralysis are seldom more than slightly diminished. It must be remembered, however, that the life of the patient has been saved; (5) because of the difficulty of localization and the small field for operation cerebellar tumors are inoperable; (6) the cumulative experience of all writers is against the exploratory operation; (7) the profession is divided as to the advisability of palliative operations; (8) he thinks that gummata when accurately located and diagnosed can be operated upon with success. Metastatic carcinomata are inoperable. [J.H.G.]

3.—Earles discusses the **anatomical relations** between the scalp, skull and brain, and urges a careful consideration and treatment of all injuries of the scalp and skull because of the damage which may have been done the brain, or which may result from infection of the wound. He then describes the technic to be followed in the care of such wounds. [J.H.G.]

4.—Peck, in discussing the **treatment of typhoid fever**, advocates the use of small doses of acetanilid in conjunction with the sponge-bath, or in some cases with the cold plunge. He also advises the use of chlorin as an intestinal antiseptic, purging with calomel and thorough washing of the lower bowel with sterilized water. Of 77 cases of typhoid fever treated upon this general plan, all of them recovered. [F.J.K.]

5.—Ullman reports a case of **influenza accompanied by 4 pneumonic attacks** with recovery. The patient's age was 23 months. The first attack was one of bronchopneumonia. On the eleventh day of the disease the temperature fell by crisis, only to rise again in 2 days with the physical signs of a consolidated left upper lobe. On the seventeenth day of the disease the temperature again fell by crisis. About 10 days later the right lower lobe revealed crepitant rales and signs of consolidation. This attack lasted until the thirty-fifth day following the initial attack. For 7 days after this attack the temperature remained normal. On the forty-second day, counting from the initial attack, the temperature rose, the pulse and respiration were frequent, and upon physical examination, bronchovesicular breathing and subcrepitant rales were heard in the left inter-scapular and mammary regions. He concludes the article by saying that the patient made a good recovery, and that one year has elapsed since the date of the illness. [F.J.K.]

6.—Packard found among 2,500 consecutive cases treated in the ear department of the Pennsylvania Hospital 7 in which the trouble was distinctly of **syphilitic origin**. He then gives a brief account of each case. He does not think that syphilis is a very frequent source of ear disease, and yet it is a complication, in a large number of dispensary patients, requiring treatment. Primary syphilis of the external ear is extremely rare. Bulkley, in an analysis of 9,058 extragenital chancres found 27 cases in which the sore was located on the external ear. Secondary and tertiary manifestations are met with much more frequently. Hereditary syphilis of the ear manifests itself most frequently in the middle and inner ear. Syphilitic disease of the middle ear originates usually from infection through the eustachian tube. Lesions of the internal ear occur very late in the course of syphilis. The symptoms of this condition are tinnitus and deafness coming on suddenly in either one or both ears, and not infrequently accompanied by unilateral facial palsy. Packard quotes very extensively from the literature on this subject. [J.H.G.]

7.—Woodward thinks that the **mastoid cells** are more involved in inflammatory conditions of the middle ear than is generally supposed; and because of the great danger of extension to the brain and its membranes, or to venous sinuses, he urges early operation in all cases when the antrum is involved in the inflammatory process. He discusses at length the following seven indications for the mastoid operation and illustrates his remarks with the report of a number of cases: 1. "Bulging of Shrapnel's membranes, with swelling at the inner extremity of the auditory canal." The usual treatment of incision of the drum is often not sufficient, and unless it gives efficient drainage the mastoid antrum should be opened at once. 2. "Persistent tenderness over the mastoid process." This is considered as indicative of the mastoid operation in both acute and chronic cases of otitis media. He thinks it a mistake to wait until suppuration is assured; he thinks the operation should be

done to prevent its formation. 3. "Swelling of the soft parts over the mastoid process." In suppurative otitis media, when this symptom presents itself, the radical should be done. The simple incision may cure a few cases, but is not enough. 4. "Granulations and fistulae in the external auditory canal." These are indicative of caries of the walls of the middle ear, and no treatment short of the mastoid operation will result in a cure of the condition. 5. "Persistent and relapsing fistulae behind the auricle." These conditions mean operation of a radical kind. The cases with relapsing fistulae are more apt to have brain complications than are those with persistent fistulae. 6. "Persistent and especially offensive otorrhea." These cases can only be cured by cleaning out thoroughly all the infective material. 7. "Sudden marked diminution, or absolute cessation is a symptom of great significance." It means the extension of the process. Operation should be done at once and the sigmoid sinus also explored. The operation as described by Macewen is recommended. The operation is done not for drainage but for the removal of diseased tissue. The dangers mentioned in connection with this operation the author thinks are greatly overestimated. He closes with a reference to diseases of the nose and throat as predisposing causes of suppurative diseases of the ear. [J.H.G.]

9.—Two cases of afebrile typhoid are reported by Whalen. He states that Liebermeister has called attention to afebrile typhoid. Whalen believes that enteric fever occurs in many different forms, and he wishes to call attention to 2 cases of afebrile typhoid, which he has observed. The first case he reports occurred in a male, aged 23, and the second case in a lad, aged 17. [F.J.K.]

University Medical Magazine.

January, 1901.

1. Sketch of Dr. Alfred Stillé. CHARLES W. BURR.
2. The Rapid Diagnosis of Rabies. MAZYCH P. RAVENEL and D. J. MCCARTHY.
3. Remarks on the Importance of the So-called Specific Lesions of Rabies. WILLIAM G. SPILLER.
4. Experimental Pancreatitis. SIMON FLEXNER.
5. Investigation on the Influence of Kalagua in Experimental Tuberculosis. D. H. BERGEY.
6. Diagnosis of Leukemia from the Standpoint of the Blood-Changes. C. Y. WHITE.

1.—Charles W. Burr has given us a dignified and just tribute of the late Alfred Stillé, whose long life of 86 years, so full of professional activity and attainment, terminated on September of last year. Stillé was one of those young Americans who returned from his European studies under Louis, and others, whose zealous work did much to place modern medicine upon a basis of fact rather than theory. He was one of those who recognized the distinction between typhus and typhoid fever. The other American whose name is associated with Stillé's in this connection is that of George C. Shattuck, of Boston. Dr. Stillé was one of the founders of the American Medical Association, and its president in 1871. He was also an original member, and for three years, president of the Philadelphia Pathological Society. For many years he filled the chair of Practice of Medicine in the University of Pennsylvania. [T.L.C.]

2.—Ravenel and McCarthy have made a series of studies for the purpose of determining the rapid diagnosis of rabies. Up to the present time the only sure means of diagnosis in a vast majority of the cases has been the inoculation of rabbits from a portion of the nervous system of the animal inflicting the bite. The difficulties of this method are apparent, and the most important is the fact that from 2 to 6 weeks must elapse before the diagnosis can be made. Investigators have long endeavored to discover a shorter method for practical use, but it was Babes, in 1886, who first determined that the essential lesion of rabies consisted in an accumulation of embryonic cells in the neighborhood of the central canal, and especially about the large modified cells of the motor centers of the bulb and cord. Babes, in 1892, reaffirmed these observations and held that it was possible to make a rapid diagnosis of the disease by microscopic examination of the bulb and cord. He proposes the name "rabie tubercle" for the pericellular accumulations of embryonic

cells described by Kolesnikoff. Recently Nelis and Van Gehuchten discovered in the spinal ganglion of two men who had died of rabies and in a number of animals peculiar changes which they considered to be the diagnostic lesions of the disease. They hold that Babes has attached an undue importance to his rabie tubercle, and they believe that the earliest lesions are found in the peripheral cerebral and sympathetic ganglia, and the changes are especially marked in the intervertebral ganglion and in the plexiform ganglion of the pneumogastric nerve. The work of Ravenel and McCarthy leads them to adopt the views of Van Gehuchten and Nelis. They describe minutely the method employed in the 28 cases of rabies which they have examined. They report a case under the care of Dr. Krauss, in which a diagnosis of rabies was made and death resulted. Microscopic examination of the bulb and plexiform ganglia of rabbits inoculated from this patient showed the characteristic lesion. They lay stress upon the point that in dogs the changes in the cerebral, spinal and sympathetic ganglia are only specific of the natural or street rabies. Their conclusions are as follows: (1) When capsular and cellular changes in the intervertebral ganglia with accompanying clinical manifestations are present, they afford a rapid and trustworthy means of diagnosis of rabies. (2) When these changes are not present, however, we are not to conclude that rabies is not present. These lesions afford valuable contributory evidence. (3) In certain cases, when the capsular changes are slight, the changes are more marked in the distal-peripheral end of the ganglia. (4) That the rabie tubercle of Babes is present sufficiently often to prove of great value in those cases where only the central nervous system is obtainable without any of the ganglia, but in cases where these can be obtained they offer a simpler and easier method of diagnosis than do the brain and cord themselves. [T.L.C.]

3.—William G. Spiller advances the opinion from a considerable number of careful observations that lesions similar to, and possibly identical with, those of rabies may occur in other conditions. For instance, in the examination of the Gasserian ganglion in a case of endothelioma of this ganglion he found areas in which a proliferation of the endothelial cells of the capsule in the Gasserian ganglion with complete destruction of the nerve-cell body. While the diagnosis of rabies could not have been made in this case, Spiller became convinced that irritation or intoxication, or some other cause, such as a tumor, could produce a proliferation of the cells of the capsule about the nerve-cell body. In another case, one of Landry's paralysis, he found changes strikingly like those described as typical of rabies. He, therefore, concludes that no lesions are specific to rabies but under certain conditions, the findings may be of considerable importance in the diagnosis of rabies. [T.L.C.]

5.—Bergey has conducted a series of experiments with kalagua, a plant which was placed upon the market in 1898 as a specific remedy in the treatment of tuberculosis. A number of physicians have reported wonderful results from its use. He conducted five sets of experiments, three with guineapigs and two with rabbits. These animals having been inoculated with tuberculosis, were subsequently treated with kalagua. The most careful observation of the animals under treatment failed to reveal the slightest curative effect of the drug. On the contrary, the tuberculous animals which were untreated were the more thrifty. Accompanying the article are a series of tables showing the results of these experiments. [T.L.C.]

6.—C. Y. White discusses the blood picture in leukemia; the distinct types of this disease, the difficulties of diagnosis that may arise from certain known causes, and finally the value of the laboratory method in making the clinical diagnosis. Leukemia, from the microscopic standpoint, is divided into splenomyelogenous leukemia, lymphatic leukemia or lymphemia. The blood pictures in these 2 forms of disease are usually sharply defined, but in some cases one borders upon the other. Splenomyelogenous leukemia is characterized by the presence in the circulating blood of a progressive, pernicious anemia of secondary origin. The anemia being accompanied by all forms of red-cell degeneration, and by a leukocytosis, polymorphous in type and associated with the presence of foreign cells and leukocytic degenerations. On the other hand, lymphatic leukemia is associated with a less marked anemia and less

evidence of red-cell degeneration, by a less pronounced leukocytosis which is formed chiefly by an increase of lymphocytes and the less frequent presence of foreign cells. The difficulty of diagnosis of leukemia is greatly heightened when it is accompanied by an intercurrent disease. Two cases are cited from the literature showing the effects of intercurrent disease on leukemic subjects. In one there was a septic condition engrafted upon a leukemia of 3 years' standing; in the other a malignant tumor developed in the course of the case. From a clinical standpoint alone, cases of leukemia are often indistinguishable from **pseudo-leukemia, splenic anemia, chronic splenic tumors, enlarged glands and tumors of the left hypochondriac region.** It is the blood-changes which are usually characteristic, but not so in all cases; for treatment or the occurrence of intercurrent affections have frequently altered the blood picture. The necessity of carefully weighing all clinical data is important. [T.L.C.]

Edinburgh Medical Journal.

January, 1901. [N. S., Vol. ix, No. 1.]

1. The Borderland. G. W. BALFOUR.
2. Experiences with the Medical Department of the Army in the South African War. JOHN CHIENE.
3. Address Delivered to the Edinburgh Obstetrical Society, at the Opening of its Sixty-second Session. MILNE R. MURRAY.
4. Operative Procedures for Simple Fractures which have been Unscientifically Treated. ARBUTHNOT W. LANE.

2.—Chiene gives a resumé of his **experiences in the South African war.** Many of his points are important and of practical interest. Every one must clearly differentiate between hospital trains and ordinary trains carrying invalids. In the former the soldiers were most comfortable; in the latter it was very often the reverse. The author is fully satisfied that in the future some form of portable cooking stove must be carried in these ordinary trains, by means of which simple food may be cooked for the soldiers. On a smooth road an ambulance cart is very comfortable; but, in the author's opinion, the McCormack-Brook ambulance litters are certainly more comfortable than ambulance carts, and he thinks it will be a question for future decision whether these litters shall not take the place of carts in the conveyance of patients from train to hospital. These litters are of greatest service for the removal of the wounded from the battlefield to the nearest hospital. Soldiers say they would rather travel in an ox wagon than in an ambulance cart. For anesthesia chloroform was the favorite drug. Ether and A. C. E. were in occasional use. Chiene never saw any trouble with any form of anesthetic. A little struggling, but no sickness at the time, and very little afterwards. Can the sickness in civil life be a nervous condition which does not hold good amongst soldiers in time of war? He is fully satisfied that the soldier accepts without demur any decision that is made in regard to his treatment. He is contented and asks no questions. "All right, I am ready," is his answer. The author is satisfied that the efficient use of the x-ray apparatus depends very much on the experience of the man who uses it. Another thing which was very evident in South Africa was the distinct division of patients into two great classes; those who were anxious to go home, and those who wished to go back and fight. The first were all septic cases, the second aseptic ones. Dysentery is the disease that most takes the heart out of a man. He was very anxious that his hearers should fully understand the great value of hospital trains and hospital ships. The wounds made by rifle balls at a range of between 200 and 400 yards were more ragged than those produced at a range of 1,000 to 1,500. The cases of head wounds must be divided into two groups: (1) Those in which the bone and brain are severely injured and torn; (2) those in which, with a comparatively small bone-wound, the brain is much torn. In the first the injury is probably, if no shrapnel is being fired, due to expanding or explosive bullets. In the second the Mauser bullet may be the cause when fired at a short range. The green-coated bullets were examined chemically by Marshall. Probably the cartridges were simply coated with suet or tallow for the purpose of lubricating the rifle barrel. In

course of time, the fatty acids originally present, and which would increase in quantity on keeping, have attacked the underlying metal, forming green-colored copper salts, which have gradually spread through towards the outer surface of the fatty material. From the point of view of those against whom the ammunition is employed, there can be little difference between such coated cartridges and those which have not been so treated; from one cause or another, the coating is fairly certain to be completely removed before the bullet reaches its billet. In Africa the majority of the cases of cerebral hernia that the author saw were on a fair way to recovery, and in some the recovery was complete. The antiseptic treatment can not fully account for it. Possibly it was the larger opening in the bone. Irvine, a civil surgeon, used solutions of formalin varying in strength from 5 to 25%. These solutions acted by drying up the mass and were, at the same time, antiseptic. Several cases of severe brain injury were followed by recovery. In several cases of arteriovenous aneurysm much improvement resulted from proximal ligation of the main artery, when the communication was between the carotid artery and the internal jugular vein. In the thigh, ligation of the femoral artery did good. In the leg, the aneurysm, as a rule, was laid open, and the artery and vein ligatured above and below the opening. The cases were more allied to aneurysmal varix than to varicose aneurysm, but there was not the great dilation of the vein that is commonly described in such cases. The absence of any venous dilation gave rise to the query as to whether the condition could be due to bruising of the artery and the vein, and subsequent matting with constriction. The number of cases of painful neuritis from bruising of nerves, the cases of neuritis due to adhesion of the nerves to bone after fracture, and the cases of neuritis due to splinters of bullets lodged in the nerve would lead one to suppose that possibly the same thing might have occurred to arteries and veins lying side by side, and by matting and constriction, produce symptoms similar to those met with when there is a communication between an artery and a vein. In lung injuries it was rare that the patient said that he spat blood at the time of the accident. On the other hand, it must be noted that in many cases there was hemothorax, probably from the intercostals, and most of the surgeons were agreed that if the blood was slowly absorbed, tapping assisted absorption, and there was also general agreement that a rise in temperature was the first indication that absorption had commenced. Empyema as a result of lung injuries rarely occurred. In all the cavities wounds which, from former experience, would have certainly proved fatal, were followed by recovery. The author saw several cases of penetrating wounds of the abdomen in which complete recovery had taken place without operation. There should be no delay in sending out the best incinerators, and compelling the authorities to burn the dejecta. The civil surgeons have been of much service in Africa. [J.M.S.]

4.—Lane, in discussing the **operative procedures for simple fractures** that have been unscientifically treated, calls attention to 2 classes of cases. In cases of the first class the prominent feature is the condition of mechanical disability which so often results from imperfect restoration of the broken bone to its normal form. The patient may require to be treated either for a more or less complete inability to perform his functions normally, or for pain, or for both conditions. The degree in which the above are present varies considerably with the displacement of the fragments and with the age and habits of the patients. They are generally very marked when they oblige the sufferer to submit to a serious operation which is surrounded with many risks and difficulties. The next class is that of nonunion between the displaced fragments, a so-called false-joint being developed at the seat of fracture. A very large number of these cases have come under the author's care, and have derived a varying amount of benefit from operative procedures, undertaken with the object of restoring the deformed bones as completely as possible to their original form. In the cases of the upper extremity the patient usually suffered from such a limitation of the movements of the bones on one another that he was altogether incapacitated from following his employment. Occasionally the radius and the ulna had united to one another. Sometimes also, in the case of a female patient, the very obvious deformity of the part, rather than the disability, induces her to undergo an

operation. In the lower extremity, pain, associated with a corresponding amount of mechanical disability, forces the sufferer to submit to an operation, however serious. The operative measures necessary to dissociate fragments that have become firmly ankylosed together, and perhaps to adjacent bones as well, and to saw off sufficient bone from each fragment in such planes as will restore the outline of the necessarily shortened bone, is often very difficult, and may be fraught with damage to important adjacent vessels and nerves. It seems little short of ridiculous to read the statements of surgeons that such mechanical disability is a rare sequence of fracture, and that it can usually be obviated by the use of massage and passive movements at an early date. That massage and passive movements serve to diminish the disability and pain that would otherwise ensue if these fractures are left for an indefinite period in rigid casing, is quite familiar, but such measures alone do not constitute sufficient treatment, and are merely adjunct. The second group of cases, namely, those of ununited or imperfectly united fractures, are due also to the same unscientific treatment of fractures. Lane has never come across one instance in which union would not have resulted if efficient operative measures had been adapted, and furthermore, he believes that ununited fracture is of comparatively common occurrence. Twenty case histories and 5 skiagraphs are given. [J.M.S.]

Münchener medicinische Wochenschrift.

November 6, 1900. [47. Jahrg., No. 45.]

1. The Influence of Nutritive Enemata upon the Gastric Secretion. METZGER.
2. The Employment of Untwisted Strings of Reindeer Tendon for Stitches and Ligaments. SCHILLER.
3. Additional Contributions to the Bacteriology of the Chemical Disinfection of the Hands. ZAUFAL and SCHENK.
4. The Occurrence of Demodex Folliculorum in the Eyelid, and its Relation to Diseases of the Lid. HUNSCHKE.
5. The Relations of Oliver's Symptom to Aortic Aneurysm and Intrathoracic Tumor. JESSEN.
6. A Little Known Pupillary Reaction (The Orbicular Reflex of the Pupil) and its Therapeutic Application. KIRCHNER.

1.—Metzger has studied the effect of **nutritious enemata** upon the secretions of the stomach, in dogs and human beings. He found that by the employment of alkarnose he obtained positive results in 8 experiments, with free hydrochloric acid in the stomach-contents of 4. Simple enemata of water did not have this effect. He then undertook to study the effects of different enemata, and found that a mixture of bouillon and red wine was most certain to produce a secretion from the glands of the stomach. Having satisfied himself with these results in dogs, he undertook a series of experiments upon human being. After ordinary enemata it was found that there was sometimes a slight secretion of mucus which failed to give an acid reaction, or gave such a slight acid reaction that it could be disregarded. After, however, an injection of bouillon and red wine, there was a more abundant secretion, and also considerable free HCl. It seems to be difficult to explain these results, for there is no reason to believe that they indicate active resorption in the intestine itself. He gives a record of his cases. [J.S.]

2.—Schiller, although he believes that as a result of modern methods of preparation catgut can be adequately sterilized, and can be prevented from being absorbed too rapidly, nevertheless has made some investigations in order to determine whether it could not be replaced by fibrils from the tendons of various animals. He found that the ligamentum nuchae of the reindeer can be readily broken into fibers after brief maceration in water, and that these fibers are quite strong and long enough. They vary considerably in diameter, however. They can readily be rendered sterile by the ordinary methods employed for catgut, are very slowly absorbed, disappearing between the fifth and seventh week, and apparently have very little capillary action, so that they are not likely to conduct liquids deeply into the tissues. [J.S.]

3.—Schenk and Zaufal performed a series of experiments

upon their hands in order to determine the effect of various methods of rendering them aseptic. Vigorous washing with sand-soap was practically useless; after 30 minutes hard rubbing the enormous number of 122 colonies per square cm. could be counted, in fact the prolonged rubbing seemed to bring the microorganisms to the surface in even greater numbers. Even less satisfactory results were obtained by vigorous rubbing with a sterile brush and sterile soap. A series of experiments were also made with the mercurial ethylenediamine solution of Kroenig. This consists of 4 grams of ethylenediamine, 10 grams of citrate of mercury, and 86 grams of water. For the hands the solution can be diluted from 1 to 30 up to 1 to 200. Fragments of skin which had been previously washed with sand soap and then treated with this solution, were excised just before operation, and these remained perfectly sterile for long periods. The hands were almost invariably perfectly sterilized. Other solutions, however, such as bichlorid of mercury 1:1000, or oxidid of mercury, can also be employed with success. They conclude that the most perfect method of sterilizing the hands or skin is to wash the hands for 5 minutes with sand-soap, then 3 minutes emersion in one of the above mentioned chemical solutions, which should be as hot as can be borne. [J.S.]

4.—Hunsche has made a number of investigations upon the small hard sacs of the eye-lid in order to determine the presence of the demodex. He found that, omitting young children, in whom they are uncommon, they occur in 92½% of all cases. After the age of 40 they are invariably present. They are apparently in greater numbers in those cases which suffer from severe cachectic states. They do not apparently produce any disease at all, either of inflammatory or other nature. [J.S.]

5.—Jessen reports 2 cases in which the differential diagnosis between mediastinal tumor and aortic aneurysm was exceedingly difficult. The first case, a woman of 35, had had severe cough, difficulty in respiration and deglutition for about 2 months. Two days before admission to the hospital she had become hoarse. The pulse was equal on both sides; there was paralysis of the left recurrent nerve, but entire absence of tracheal tugging. The diagnosis of stenosis of the trachea was made, probably aneurysmal in nature, on account of the absence of signs of vascular disturbances. At the autopsy extreme atheroma of the aorta was discovered, with a sac-like dilation pressing upon the larynx. The second case, a woman of 45, had suffered from severe pain, difficulty in micturition, and rapid loss of power and weight. There was also severe pain in the rectum. There was slight fever, due to a cystitis, which was readily cured by appropriate treatment. She had a severe attack of pain followed by edema of the face, more pronounced on the left than on the right side. This was explained by thrombosis of the veins. There was a broad shadow just above the heart when the patient was examined with the fluoroscope, and there was distinct tracheal tugging both up and down, and to the right when the trachea was pulled toward the left. Further thrombosis occurred and the patient died. A diagnosis had been made of tumor in the thorax, producing pressure probably aneurysmal in nature. At the autopsy, however, a small round-cell sarcoma was found invading the right lung, pressing the aorta and forcing it firmly against the trachea and esophagus. Jessen therefore thinks that neither Oliver's symptom nor Cardarelli's sign are pathognomonic for aneurysm; nor do they necessarily occur in all cases of aneurysm of the thoracic aorta. [J.S.]

6.—Kirchner gives a careful analysis of the pupillary phenomena described by Gallassi, Westphal, and especially by Piltz, and mentions a few of the positive results obtained from these studies. It is probable that focal lesions will be definitely localized when, in the presence of paralysis of the facial nerve or of the muscles of the bulb, this reaction fails. He believes that the reflex passes along certain tracts in the posterior longitudinal bundle. It is difficult to say how frequently it occurs, and it is not certain that it is ever purely unilateral. He advises physicians to carry out investigations of reflex systematically. [J.S.]

November 13, 1900. [47. Jahrg., No. 46.]

1. The Principles of the Obstetrician for the First Nourishment of the Child. H. CRAEMER.

2. A Case of Tetany. F. DAMMER.
3. A Case of Formalin Poisoning. L. ZORN.
4. The Treatment of Scoliosis by Plaster Jacket. A. SCHANZ.
5. Intubation in Private Practice. MARX.
6. A Typical Form of Neuralgia of the Larynx. G. AVELLIS.
7. Some of the Subjective Symptoms of Neurasthenics. L. HOEFMAYR.
8. Surgical Communications. G. JOCHNER.
9. A Case of Fatal Spontaneous Omphalorrhagia in a Hemophilic Infant. J. PAULSEN.
10. The Occurrence of Rhodan in the Nasal Secretion. A. KELLER.

1.—Craemer considers one of the first principles of the obstetrician is not only to bring the child living into the world, but also to keep it alive; hence a study of the development and nourishment of the newborn belongs to his specialty. Quetelet, in 1835, first gave the normal curve of development in the newborn child. This characteristic weight curve shows that in the first 3 or 4 days the nourishment taken does not compensate for the loss by sensible and insensible excretion, and there is a loss in weight of 220 to 250 g. which is regained by the tenth day. This loss of weight is not to be considered as a disadvantage to be avoided by abundant artificial nourishment, but as normal. The child really needs but little nourishment during the first 48 hours, and may do without any and suffer no injury. On the other hand, at this time care is needed in the proper nourishment of the mother, beginning with nutritious, easily-digested fluids. We must rest in the position that the healthy woman will furnish milk adapted to the infant. Yet there are numerous examples in which irregularity in rest or care of the child or overabundant feeding has produced bad results. If, however, there is a failure of natural nourishment for the newborn infant, Craemer agrees with the opinion of Biedert that it is important in the artificial feeding of infants that the measure of nourishment should be the smallest possible; that this principle is based upon abundant experience. He thinks, however, that experiments in this direction should be made in carefully conducted hospitals. [W.K.]

2.—Dammer reports a case of **tetany** in a woman, 35 years old, in whose stools segments of *taenia medicanelata* were found. She was given extract of *felix mas* and calomel, followed by the expulsion of the worm entire, with the head attached. She was very weak afterward, and had an attack which began with a "creeping" in the arms and legs, followed by unconsciousness. On regaining consciousness, both upper and lower extremities were stiff. She perspired, had tinnitus aurium, and visual disturbances during the attack. Her hands were blue and cold. The attack lasted about 5 minutes. Other attacks occurred, described by her physician as typical tetany. Both Trousseau's and Chvostek's signs were present. She recovered in three weeks. As no other cause for the attack could be found, Dammer concludes that it was due to the extract of *felix mas*, the calomel, or both. The literature of the subject is given. [M.O.]

3.—Zorn reports a case of a man of 41, who by mistake had swallowed 30 ccm. of **formalin**. He had dyspnea, vertigo, nausea, vomiting, and a feeling of burning in his mouth and stomach. The odor of formalin was still present and his stomach was immediately washed out. There was slight cyanosis. Absolute anuria persisted for 24 hours, the bladder remaining empty. The bowels were loose, with much mucus. The urine passed later contained albumin and casts. His pulse was small and rapid. Examination of the glass which had contained the poison, revealed formaldehyde. He recovered in a week. [M.O.]

4.—After a full review of the literature upon the subject, Schanz states that a **plaster jacket** should only be applied in **scoliosis** after attempts to improve the existing condition have been made by all the other known methods. [M.O.]

5.—Marx believes that **intubation** possesses most of the advantages of tracheotomy and is an easier procedure, needing no assistants is quickly done, and as there is no open wound extension, preparation is unnecessary. Complications are less likely to occur. After the tube has been introduced it requires careful attention, and must be kept clean. A point that has been held against intubation is the liability of the tube to be coughed up, or pulled out by the string that is intended

to keep the child from swallowing it. Should this accident occur the tube can be easily reintroduced with but very little inconvenience. Its use is more general than usually supposed, and it may be used in any constriction of the larynx. [W.S.N.]

6.—Avellis reports a condition common to adults who are otherwise well, yet complain of severe pain upon swallowing or talking loudly. It occasionally disappears for days, only to return again. The pain was unilateral, occasionally bilateral, and never occurred in neurotic individuals. There were no other symptoms. Examination failed to elicit anything abnormal, either inside or outside. These cases are more frequent in spring and summer, and all treatment seems useless. Avellis came to the diagnosis of **neuralgia of the larynx** by finding that the superior laryngeal nerve, at its outlet in the thyrohyoid membrane, was very sensitive to pressure. Another painful point was in the sinus pyriformis, where the nerve lies very superficially. Treatment with the antineuralgics, phenacetin, etc., and with warm applications cured the condition at once. Avellis gives the differential diagnosis between this condition and the ailments which might be confused with it, rheumatism of the cervical muscles, lateral bursitis, and hysteria. He also reviews the meager literature upon the subject. [M.O.]

7.—Hoefmayr details the various **cardiac manifestations of neurasthenia**. The main condition to be relieved immediately in the pseudocardiac attacks is constipation. In all cases the bowels must be kept regular. Another common symptom, the pressure headache, can be best treated by daily cold bathing, which causes the blood to leave the hyperemic cerebrum and to spread through the peripheral vessels. He reports 3 cases in which opium, with attention to the bowels, brought about prompt recovery. [M.O.]

8.—Jochner in an article on surgery tells of 2 cases, the first a cut in the forearm, completely dividing the extensor communis digitorum. Erysipelas followed, and when the wound healed there was considerable separation of the muscle tissue. After all inflammation had subsided the ends of the muscle were brought together with silk sutures and perfect union followed; although the arm was stiff for some time, massage and electricity restored it to its normal condition. The second, a case of obstruction of the bowel with an operation for relief (artificial anus), a carcinoma being found to involve the sigmoid flexure. This was followed by a second operation in which he removed the carcinoma and brought the bowel together with a Murphy button; that night the patient had a large natural action of the bowel. Jochner fully expected some complication to follow, but none arose, and the button was passed about 4 weeks later. When the patient had sufficiently recovered a third operation was performed to close the artificial anus. [W.S.N.]

9.—Paulsen mentions as causes of **umbilical hemorrhage** 3 different conditions: Acute fatty degeneration in the newborn, regarding which there is complete darkness; congenital syphilis; and general sepsis. Finally, there are rare cases of umbilical hemorrhage in children afflicted with hemophilia. Grandider estimates that out of 223 cases under his observation, 14 were due to hemophilia. Paulsen was called to a 9-day-old child suffering from umbilical hemorrhage. Tamponing and compression by bandages having failed to check the bleeding, he thought to try suturing; but the flow of blood from the stitch canal which coagulated with difficulty, convinced him that it was a case of hemophilia and he was compelled to abandon the attempt. The child died soon after, the death being apparently hastened by internal hemorrhage. A large hematoma was visible under the mucous membrane of the rectum. The hemorrhage was undoubtedly spontaneous, since the child was found with the blood flowing while in a restful sleep. From his own experience and also that of other physicians, Paulsen thinks there is nothing to hope for from surgical treatment of such cases. He wished to try gelatin injection, but the rapid approach of death prevented and the experiment remains to be made in the future. [W.K.]

10.—Keller mentions the fact, discovered by him, that **rhodan is present in the nasal secretion**, and not in the saliva, of children 2 and 3 months old. He used paper colored yellow by a hydrochloric acid solution of chlorid of iron, which was turned red by the rhodan. [M.O.]

November 20, 1900. [47. Jahrg., No. 47.]

1. The Variability and Pleomorphism of Bacteria. E. SCHWALBE.
2. Has Hyperemia or Cocainanemia of the Conjunctiva Palpebralis an Influence on the Volume and Pulsation of the Superficial Temporal Artery? O. ROSENBACH.
3. A Contribution to the Knowledge of the Typhoid Psychoses. DIETERS.
4. The Treatment of Chronic Scoliosis. PORT.
5. The Treatment of Diarrhea and Vomiting with Biedert's Cream-mixtures. F. GERNSCHEIM.
6. The Treatment of Pachyderma Laryngis with Salicylic Acid. W. LUBLINSKI.
7. Case of Foreign Body in the Nose. H. BREITUNG.
8. Antisepsis and Asepsis in Antiquity. MARCUSE.

1.—After commenting on the two main theories in Darwin's "Origin of Species," that of "descent" and that of "natural selection," Schwalbe seeks to show evidence of both in bacteriology. He reviews the subject from the beginning, explaining in detail the pleomorphism of bacteria, taking the tubercle bacillus as an example. **Tubercle bacilli in mammals and in birds are but varieties of the same species.** Finally, Neumann's experiments with staphylococci prove that many varieties may exist, each forming colonies of a different color. It seems more than probable, though by no means proved, that the theory of natural selection exists even here. Thus, according to Schwalbe, both of Darwin's main ideas prevail among bacteria, just as they do among the other living species. [M.O.]

2.—Rosenbach calls attention to the variability of the caliber of the temporal artery in various conditions such as migraine, muscular exertion, neurasthenia, etc. He has also observed that after the instillation of a 1% solution of cocaine into the eye the temporal artery on the same side becomes at first slightly larger and pulsates more vigorously, then when the anemia of the conjunctiva is complete, it is about normal in size, and as the subsequent hyperemia appears, gradually decreases. This decrease is quite persistent, being present for at least one hour after the anemia, when the conjunctiva was about normal in appearance. As the vessel became smaller it was observed that its wall became slightly more rigid. In a few cases the artery contracted before anemia appeared in the conjunctiva. This phenomenon, however, was apparently observed only in 2 of a number of cases, although Rosenbach insists that exceptional instances are of the greatest value in the elucidation of obscure pathologic facts. [J.S.]

3.—Dieters reports two cases of typhoid fever in adults, in both of which a stage of initial delirium existed before the fever appeared. They were sister and brother. The father was an imbecile; the mother and a brother had been insane. The man, aged 25, had never shown much intellect. He was maniacal for two days without fever, growing calmer when the fever appeared. The Widal reaction was positive, and he recovered. His sister, aged 17, was maniacal for 3 weeks. Then she developed fever, and albuminuria, and became very weak. She died suddenly. Autopsy showed typical typhoid lesions in the intestines. Dieters calls attention to the fact that, in all such cases, typhoid should be suspected. He does not wholly agree with Audemard, who thinks that such cases may exist without ever showing any signs of typhoid. [M.O.]

4.—Port has carefully studied the vertebrae in chronic scoliosis and has found that the curvature of the vertebral column is due in the large majority of cases to an abnormality in the growth of the vertebra, or rather that on account of the unequal loading of the spine the deformity occurs. As a result he does not believe that there is any possible cure after the epiphyseal cartilages have ceased growing, and that hope for cure only exists during early childhood, and that the prognosis becomes progressively worse with advancing years. He therefore thinks it is desirable not to undertake treatment, because, if the muscles on the concave side are stretched and weakened by apparatus, and the treatment is interrupted before their strength is restored by gymnastics the resulting scoliosis will be worse than before. [M.O.]

5.—On account of the absolute want of good milk, the mortality from diarrhea with vomiting, among infants

under 1 year, in Worms is the highest in all Germany. Gernsheim treated such cases with gastric lavage and enterocolysis. After purging with calomel, he gave a cream mixture (1 part cream and 20 parts water) to infants under 6 months old. To older infants he gave a mixture of oat meal gruel and milk (4 parts gruel and 1 part milk). Of 37 cases only 1 died. His youngest patient was 12 days old and she is now quite well. [M.O.]

6.—Lublinski believes that there is close connection between pachyderma laryngis and leukoplakia oris, both depending upon the abnormal tendency on the part of the epithelium to undergo cornification. He uses in the treatment of both a solution of salicylic acid in alcohol, with moderate success. On account of the difficulty of application and the continual irritation of the vocal cords, cure is uncommon, and recurrence almost the rule in the larynx. [J.S.]

7.—Breitung reports the case of a boy 3 years of age, who placed a horn button in the right nasal cavity. This was pushed further into the nose by the clumsy efforts of a local physician, and finally was only removed by the combined effects of the forceps and the method of Seibert, that is, vigorous reverse blowing with the Politzer bellows. [J.S.]

8.—Marcuse mentions the various methods employed by Moses, Hippocrates and others for the prevention of the spread of contagious diseases, and mentions particularly the directions of Anagnostakis, who advises clean dressings and water so warm that it can barely be borne. [J.S.]

November 27, 1900. [47. Jahrg., No. 48.]

1. Progressive Hereditary Spinal Muscular Atrophy in Children. J. HOFFMANN.
2. The Theory of Self-infection in Obstetrics. H. FEHLING.
3. A Study of Suicide from 300 Autopsies. ARNOLD HELLER.
4. The Artificial Nourishment of Infants. SOXHLET.
5. A Practical Method of Rendering Cow's Milk More Digestible. VON DUNGERN.
6. Personal Prophylaxis and Abortive Treatment of Gonorrhea. C. KOPP.
7. The Effect of Naphthalan in Eczema of the External Ear. H. SAGEBIEL.
8. Atropin Treatment of Ileus. HOLZ.
9. Atropin Treatment of Ileus. CARL DEMME.
10. Atropin Treatment of Ileus. LÜTTGEN.
11. Disinfection with the So-called Carboformal Hot Blocks. ERNE.
12. William Erb. NONNE.

1.—Hoffmann describes a third type of hereditary muscular atrophy, spinal in origin, occurring in early infancy. He distinguishes it from the two main classes, pseudohypertrophic muscular atrophy (Erb and Duchenne), and progressive neurotic muscular atrophy (Charcot Marie). It begins between the fifth and ninth month, in children of healthy parents, hitherto well, born without instruments. In the weeks following, the child moves the legs at the hip joint gradually less and less. Soon, then, a symmetrical weakness is noted in the muscles of the back and abdomen, so that the child can with difficulty sit up. As months pass, the shoulders and neck also become affected, and the legs, further down, first with weakness, then paralysis. Finally, arms and hands are paralyzed, and the reflexes disappear. The organs of the special senses and the cranial nerves (except the twelfth) are not affected. The paralysis is flaccid, atrophic, followed later by kyphoscoliosis, contractures, etc. The prognosis is fatal, death occurring from 1 to 4 years after the disease began. Autopsy shows symmetrical degeneration of the peripheral neurons of all the nerves leaving the brain below the hypoglossal, and widespread severe muscular atrophy. The brain is normal; there are no bulbar symptoms. The literature of the subject follows. [M.O.]

3.—From an examination of 300 bodies brought in as suicides, Heller collects these facts: The majority were between 20 and 60 years old; more men than women; the majority hanged or drowned themselves; comparatively few men took poison (that most used was potassium cyanid), while a number of women took phosphorus. The suicides occurred mostly in the spring months. Twenty-four percent

had acute diseases; 47% were alcoholic; 47% of the women were menstruating or pregnant; in all, 43% were not accountable for their actions. He ends with a discussion of the German laws upon suicide. [M.O.]

5.—von Dungern's method of making cow's milk more digestible is to heat the milk to the temperature of the body, and to cause clot formation by the addition of **lab-ferment**, added, as a rule, with the milk sugar. This is then shaken up, so that only very fine, easily-digestible clots remain. [M.O.]

6.—Kopp has found that protargol-glycerin solution, applied early, will **abort** most cases of **gonorrhea**, and dwells upon personal hygiene as a **prophylactic** measure. [W.S.N.]

7.—Sagebiel has employed **naphthalan**, a peculiar form of raw naphtha, in cases of **eczema**. Five patients suffering from chronic eczema gave excellent results in 4, and distinctly bad results in 1. In 35 other cases with acute eczema the results were satisfactory in 32, and unfavorable in 3. This substance has the consistency of a salve, and is applied directly without previous preparation of the surface, such as the removal of crusts, etc. Then a bandage is applied and changed once in 24 hours, with renewed applications of the drug. In all the favorable cases desquamation occurred quickly, and without reaction, and a complete cure was obtained in an interval of from 2 days to 3 weeks. In the 4 unfavorable cases there was a pronounced inflammatory condition with redness and swelling. [J.S.]

8.—Holz reports the case of a man, 42 years of age, who was suddenly attacked with colic-like pains in the abdomen followed by gradually increasing meteorism, difficulty in breathing, and apparently complete obstruction of the bowels. The patient was treated with opium and enemata, the latter sometimes of enormous size, but utterly without results. Finally, on the fourth day $\frac{1}{16}$ grain of atropin was injected hypodermatically. The following day there was expulsion of considerable flatus, followed by a firm movement, and the patient rapidly recovered. [J.S.]

9.—Demme reports 2 cases of **intestinal obstruction** where he injected 0.005 gram (about $\frac{1}{16}$ grain) of **atropin** into the abdominal wall and in a few hours afterwards the bowels operated freely. [W.S.N.]

10.—Luttgen reports a case of **obstruction** of the bowel occurring in an anemic woman 65 years of age, who for years had suffered from an uncontrollable femoral hernia. Large doses of castor oil and jalap, etc., as well as injections, were given without relief. It then looked as if the hernia was the cause of the trouble, but operation proved the bowel here to be normal. The day after operating a solution containing 0.005 gram (about $\frac{1}{16}$ grain) atropin sulfate was injected into the abdominal wall, this caused severe symptoms of atropin poisoning and also considerable reaction, but in about 12 hours the bowels operated and the case then progressed favorably. [W.S.N.]

11.—Erne reports great success in disinfecting with the **carboformal hot blocks**.

12.—A history of Erb's life and works, in celebration of his sixtieth birthday.

December 4, 1900. [47. Jahrg., No. 49]

1. A Method of Determining the Internal Friction Resistance of the Human Blood. HIRSCH and BECK.
2. The Application of the Diverticulum Bougie in Tumors of the Esophagus. STARCK.
3. The Treatment of Tuberculosis, with Reference to the Cause. KLEBS.
4. The Importance of Alcohol for Disinfection of the Hands. BRAATZ.
5. Observations upon the Effects of Treatment with Amyloform in Chronic Suppuration of the Middle Ear. SAGEBIEL.
6. A Case of Pityriasis Rubra Pilaris. HÜGEL.
7. The Action of Atropin upon the Intestines. OSTERMAIER.
8. The Justification of the Doctrine of Self Infection in Obstetrics. FEHLING.
9. The Artificial Nourishment of Infants. SOXHLET.

1.—It is obvious that the resistance that is exerted to the movement of a fluid in a system of tubes depends upon 2 facts; first, the caliber of the tubes, and second, the internal friction of the liquid, or its viscosity. It is not reasonable to

suppose, therefore, that all cases of increased resistance in the human blood are due to arterial sclerosis, and it seems likely that possibly in nephritis the increased work of the heart may be due to some alteration in the composition of the blood. The object of Hirsch and Beck was to discover some method by which the amount of resistance due to the condition of the blood could be measured. They adopted in general the method of Hurtle, and working with human blood found that in the same individual the variations in the time required for a given quantity of blood to pass through the capillary apparatus was not more than $\frac{1}{4}$ of a second, whereas between different persons suffering from different pathological conditions the variation was between 26 and 82 seconds. The essential feature of the apparatus is that the blood is forced through a capillary tube of known size, by constant pressure; the period required for the blood to pass through this tube indicates its viscosity. The reckoning of the viscosity, however, is accomplished by means of a complicated formula and is compared with the viscosity of water, at the same temperature, that is 38° C. The present communication is preliminary, and the authors merely state that in more than 100 experiments upon unchanged human blood they found that the results agreed with the law of Poiseuille, and corresponded closely with those of Hurtle upon animal blood. [J.S.]

2.—Starck, in the study of **esophageal tumors**, finds that the **diverticulum** sound meets the requirements better than all others. It acts as a pathfinder, in cases of malignant tumors where the surface is very uneven, with many pockets, the exact width of the canal can be determined; the location of the tumor can easily be made out and its lower border reached; and the stomach and contents can be studied. Besides it is of use therapeutically, for by passing it through the constricted portion, food can be placed in the stomach, or the stenosis may be dilated, and if any irregularities in the canal exist they will also be straightened. [W.S.N.]

3.—Klebs details a series of experiments made upon white rats, concluding that the ability to withstand tubercle-toxin bears no relation to the weight of the individual, that tubercle-toxin may act cumulatively; and that tuberculocidin will raise the temperature that the tubercle toxin had lowered. Its action decreases in power when given in repeated doses. Therefore all tubercle-toxin must be well removed before thinking of **treatment with specific extracts from cultures of tubercle-bacilli**. He reports a case to illustrate this. Then follow cases which were treated with tuberculocidin, in all of which the tuberculosis became latent. Success by this treatment can only be expected in those morbid processes which were produced directly by the tubercle bacilli. Tuberculocidin may be given by the mouth, by hypodermic injections, and by applications directly to open wounds. Klebs reports a surgical case in which it was successfully used. [M.O.]

4.—Braatz gives the following reasons why **alcohol** is valuable for **disinfecting** the hands: (1) Alcohol absorbs the air held in the pores of the skin; (2) before a liquid can reach the skin behind this air it must be absorbed; and (3) alcohol dissolves about 10 times more air than water, thereby reaching the germs better than any antiseptic dissolved in the latter. [W.S.N.]

5.—Sagebiel has employed **amyloform** in the **treatment of purulent otitis** of the middle ear, and concludes that it is of little value. It is composed of 96% starch and 4% formaldehyd, and the starch being insoluble, forms in lumps; he therefore prefers some powder easily dissolved, such as boric acid or xeroform. [W.S.N.]

6.—Hügel reports a case of **pityriasis rubra pilaris** in a laborer, 72 years old, who was perfectly well up to 2 years ago. Then he had cancer of the lower lip, which was extirpated. Just a year ago he noticed a slight itching in the extremities, which gradually spread over the entire body. His body was covered with thick, shiny, scaling papules, never confluent, and the extremities showed wrinkles and fissures. About each hair follicle was a raised epidermic mass, looking like "goose-flesh." Under the scales the epidermis was red and hyperemic. Arsenic, given subcutaneously, was stopped on account of diarrhea. Boric ointment was used externally. [M.O.]

7.—Ostermaier reports a case of **biliary colic** due to gallstones, in which the symptoms were relieved by a hypoder-

mic injection of $\frac{1}{2}$ grain of atropin; and of a man, 80 years of age, that had been absolutely constipated for 10 days, and was profoundly collapsed, who was greatly improved by a hypodermic injection of $\frac{1}{2}$ grain of atropin. This was repeated, and finally, on the fifteenth day, there was a copious evacuation of feces. The patient recovered completely. He believes that in such cases the effect of atropin is exceedingly satisfactory. [J.S.]

8.—Fehling, who does not accept Ahlfeld's theory of self-infection, thinks that the name is often incorrectly applied to cases in which the infection arises externally. His reasons are: (1) That absolute disinfection of the hands is today impossible; (2) that there appear in the genital tract of pregnant women saprophytic microbes closely resembling and easily mistaken for pyogenic bacteria, yet not usually the cause of infection; (3) that it is possible, during the puerperium, for bacteria to enter the vagina and even the uterus from the external genitalia, following injuries to the vulva. He then gives the experience and statistics of many obstetricians, by whom his views are confirmed. He says that the great advance in the prophylaxis and treatment of puerperal fever is only since Lister. Bacteriological examinations during the last ten years have shown us how complex the condition is. Further advance and additional light can only be gained when bacteriologic and clinical examinations keep together hand-in-hand. When positive knowledge has been obtained concerning the above-mentioned premises, the question of self infection may be definitely decided. [M.O.]

9.—After reviewing the experiments done to find the cause of scurvy and rickets, Soxhlet shows that cow's milk, though containing about twice as much sodium chlorid as human milk, is yet too poor in salt to satisfy the increased demands made by it upon the hydrochloric acid production of the stomach. The old practice of adding a pinch of salt to cow's milk when preparing an infant's food, is thus proved to be reasonable. Then he details the experiments of Zweifel, which show that sterilized milk is easier digested than uncooked milk. He quotes many passages, where sterilized cow's milk was used to cure rachitis and scurvy, and ends by advising the home modification and sterilization of milk mixtures by the mother. [M.O.]

December 11, 1901. [47. Jahrg., No. 50]

1. Contributions to the Question of the Traumatic Motility of the Kidneys. PAYR.
2. The Action of Certain Poisons upon the Liver Flukes (*Distomum Hypaticum*). TAPPEINER.
3. Is the Appearance of Acute Iodin Intoxication After the Use of Potassium Iodid Dependent upon the Rhodan Contained in the Saliva and the Secretions of the Nose and Conjunctiva? MUCK.
4. The Relations of the Immovable Butyric Acid Bacilli to Glanders. GRASSBERGER.
5. The Epidemic of Smallpox Observed in the Summer of 1900. KAUFMANN.
6. Contributions from the Dermatologic Clinic of Strassburg University: (1) A Case of Lichen Obtusus; (2) A Case of Ptyriasis Rubra Pilaris. HÜGEL.
7. Chloral and Hemorrhage. MODEL.
8. Results of Vaccination in the Kingdom of Bavaria in 1899. STUMPF.

5.—Kaufmann gives a very interesting account of a small epidemic of smallpox that occurred in Frankfort among some strikers and the prisoners in a jail. The course of the infection after some very painstaking inquiries, was finally clearly made out, and it was found that every case practically was the result of direct contact, with one exception, and in this it was necessary to assume that in some cases smallpox runs its course without the typical vesicular eruption. The source from which the disease was imported into the city could not be determined. Altogether there were 26 cases. Although the two attending physicians were not restricted in their actions in any way, they did not communicate the disease to any others. Both visited the patients in linen garments, and immediately after the visit bathed and made a complete change of clothing. The relation of the severity of the cases to vaccination is interesting. In one case vaccination had occurred within a period of 6 years although it had not been successful. This case was exceed-

ingly light. Five other patients had been vaccinated within a period of 20 years, and had exceedingly mild attacks; 13 patients had been vaccinated within a period of 20 to 50 years before the attack; 5 had the disease in a mild form, 5 in a moderately severe form, and 3 in a very severe form; 5 cases had not been vaccinated within a period of 50 years; 2 had the disease in a severe form, and 3 not in a very severe form. It, therefore, seems to be proven by this epidemic, as in many others, that the protective influence of vaccination very gradually decreases. Seven of the cases were vaccinated during the attack, 2 for the first time, and in 4 the vaccination was successful. The preliminary exanthema was sometimes extensive, sometimes restricted to two or three small spots. When it appeared in the mildest cases, the patients felt perfectly well, and one of them refused to believe that he had smallpox. In the more severe cases there was fever and the characteristic pains. The initial fever was not observed. The secondary fever showed three types, that is to say, the moderate and mild type remained afebrile, or there was an irregular fever of mild degree, lasting for several days. Two cases had the typical hectic fever. In 2 cases the exanthema appeared whilst the initial fever was still high. Two cases were observed in which an eruption occurred during the initial fever. In one this was hemorrhagic in type, in the other roseolar. Sequelae were not serious; 4 cases suffered from furunculosis and 4 from seborrheic eczema. Four of the cases died. One was brought to the hospital in a comatose condition, another died during suppuration, a third at the height of the disease, and a fourth was an old man of 77. [J.S.]

6.—Hügel reports a case of lichen obtusus occurring in a woman of 37, having lasted for 3 years. Small papules appeared on the backs of the hands and feet. The patient suffered from severe itching; gradually the papules spread to the legs and forearms. These papules were discrete, about 4 to 6 mm. in diameter, and 2 to 4 mm. elevated above the surface of the skin. There was a slight depression in the center of each. The old ones did not disappear. The central depression corresponded to a sweat pore. Pathologically they consisted of enormous proliferations of the connective tissue of the skin, which actually caused atrophy of the papillae. It produced no general symptoms. He also reports a case of pityriasis rubra pilaris in a laborer 72 years of age. At the age of 71 he noticed some itching in the limbs and moderate desquamation. Gradually the movements of the legs became imperfect, the skin became thicker and shinier, and there was considerable desquamation. Gradually the whole surface was involved. As a result of treatment by arsenic and baths he gradually improved, but finally died as the result of a severe bronchitis. At the autopsy an area of softening was found in the right parietal lobe, and, in the skin, marked hypertrophy of the epidermis, with inflammatory reaction around the papillary bodies. [J.S.]

7.—Model reports his own case. As a result of almost total agrypnia he had recourse to chloral, and noticed whilst using this that after severe exertion he had a profuse hemorrhage from the nose. On several subsequent occasions this same manifestation occurred, and he was finally compelled to believe that the epistaxis was due exclusively to the use of chloral, because it never occurred unless the chloral was used, and always occurred when it was. He reports the case for the purpose of calling the attention of the medical profession to this danger. [J.S.]

8.—Stumpf gives some elaborate statistics of the results of vaccination in the kingdom of Bavaria during 1899. The total population in 1895 was nearly 6,000,000. In 1899 it was found that about 200,000 required inoculation. Altogether about 170,000 were actually inoculated, the greater number with glycerin lymph obtained from calves. About 128,000 required reinoculation and 125,000 were actually inoculated, nearly all with good results. He calls attention to the enormous production of lymph that is required to inoculate this number of people. Nevertheless, 63 calves were sufficient to supply over 400,000 portions in the year 1899. This lymph was of high degree of virulence, and preserved its potency for a long time. The lymph supplied by the Central Vaccine Institute of the kingdom of Bavaria proved to be more effective than that from other sources. In performing the inoculation, sterile instruments were always used; the best sterilizing medium being, apparently, alcohol. A very excellent instrument is a lancet of platin-

iridium; that, of course, can be sterilized by direct heat. [J.S.]

December 18, 1901. [47. Jahrg., No. 51.]

1. Experience with Angiotripsy. WINTERNITZ.
2. Intra-Tendinous Ganglia. MORIAN.
3. The Determination of the Time of Certain Appearances in Corpses. WETZEL.
4. Tropon and Plasmon. MÜLLER.
5. Contributions to the Knowledge of the Traumatic Mobility of the Kidneys. PAYR.

1.—Winternitz, stimulated by the apparently good results of various operators with angiotripsy has collected the statistics from Dölerlein's clinic of the cases in which this method was employed. They amounted to 150, consisting of 96 laparotomies, 52 total extirpations, 1 vaginal ovariectomy, and 1 nephrectomy. Four cases died, 2 from indifferent causes, and 2 from peritonitis as the result of a secondary hemorrhage after total extirpation for myoma. None of the instruments employed, that is, those of Doven, Tuffier, and Thumim, were satisfactory in all cases, and in consequence of the bad results in 2 cases, Winternitz believes that angiotripsy will not replace ligatures or clamps. [J.S.]

2.—Morian reports a case in which swelling took place in the tendons of the hand, accompanied by great pain, and interference of the movements of the fingers. At the operation it was found that both the extensor tendons of the index finger were swollen and contained small cysts, from which a colloid substance was evacuated. [J.S.]

3.—Wetzel calls attention to the errors in the features suggested by Casper for the recognition of the period for which a body has been kept after death, before the examination. These are briefly, that the body becomes cold in from 8 to 12 hours; postmortem discoloration appears in from 3 to 6 hours; rigor mortis in from 2 to 4 hours. The eyeball becomes soft in 2 or 3 days; the muscles become flat; the abdominal wall becomes green, and the peculiar, characteristic odor appears in from 2 to 3 weeks. For longer periods the following characteristics are suggested: The back becomes green, and froth appears in the nose and mouth in from 3 to 5 days; the whole body becomes greenish-red, and intensely distended, and there is collapse of the cornea in from 14 to 20 days; the cellular tissue becomes emphysematous, the entire body is swollen out of shape, and the nails fall off in from 14 to 20 days. Putrid liquefaction, rupture of the normal body cavities, loss of the eyeballs, and even exposure of the bones occurs in from 4 to 6 months. These rules apply only to bodies that have been left in the air. In the winter-time bodies will remain almost unchanged in water for considerable time. Wetzel, as the result of his experience as Judicial Medical Examiner for a large district in Germany, believes that these rules are by no means fixed, and that as a matter of fact it is necessary to individualize each case presented for examination, for, as is well known, temperature and other modifying conditions have the greatest effect upon the state of the body. He mentions a case of a man who drowned himself, whose face, after 3 days in the water, became completely unrecognizable on account of swelling and discoloration. In another case the color of the skin was black or dark green, the hair, epidermis, and the nails had loosened or fallen off; the odor resembled that of a pestilence; the liquid brain burst through the skull upon an attempt to open the cranial cavity, and yet the body, after 2 days in the air, had remained only 2 weeks in the water. Also, an autopsy upon 2 newborn children, in which the one with more advanced changes in the lungs had been buried for 3 weeks, after lying 2 days on its mother's bed. The other had been killed and thrown in the water, where it had remained for 4 weeks. He then calls attention to certain important features that he believes of as much value as those suggested by Casper. These are the effects of various of the lower animals that destroy bodies. For instance, rats have been known to completely remove all the soft parts from a child's legs in 4 hours. Maggots have almost completely eaten the soft parts of a body in 16 days, and in 2 days they have left nothing but the skeleton of a child. On the other hand, cases may be excellently preserved for long periods, particularly if carefully buried in the winter-time, and Wetzel has performed a perfectly satisfactory autopsy 4 months after

death. Decomposition proceeds with varying degrees of rapidity. In an autopsy upon a newborn child, although the soft parts had disappeared, the bones at the end of 4 months were still in parts attached together, and it was possible to determine that the age of the child was between 32 and 36 weeks. In another case it was impossible to determine the time in which the body had been kept after death, only a few bones remaining; but this was due to the fact that it had been exposed to chickens who had probably eaten the maggots from it, and contributed to its disintegration. [J.S.]

4.—Müller has performed a series of experiments with artificial preparations of albumen. He has used dogs, and carefully determined the nitrogenous intake and loss. It was found that in a preliminary period in which meat and dog biscuit were employed there was a slight excess of ingestion over excretion, but that there was considerable variation from day to day. During the tropon period, which lasted 38 days, there was a considerable increase, and the same was true during the terminal period, although the body-weight of the dogs decreased considerably. It appears from a careful analysis of the results, that about 93% of the nitrogen in meat was utilized, and only 83% of that in the tropon. [J.S.]

Berliner klinische Wochenschrift.

December 3, 1901. [37. Jahrg., No. 49.]

1. Diabetes Mellitus. C. v. NOORDEN.
2. Diffuse and Chronic Edema of the Skin with Laryngeal Involvement. W. LUBLINSKI.
3. Results in the Treatment of Sporadic Cretinism with Thyroid Extract. H. NEUMANN.
4. Treatment of Fractures of the Jaw. WARNEKES.
5. The Treatment of Nervous Diseases in the Family. R. GNATKE.

1.—The author's contribution deals with the current investigations of diabetes mellitus. The extensive increase in the number of cases of diabetes mellitus raises the question as to whether this is due to improved methods of examination, or to an increase of the disease. The most recently advanced etiological factors are chronic alcoholism, heredity, and racial predisposition. The author believes that the intermarriage of the Hebrew race with Indogermanic races plays an important part in the dissemination of diabetes. The supporters of the theory that the formation of sugar arises from fat, are increasing. The elimination of substances containing no nitrogen, and derived from the fatty acid series (acetone, B-oxybutyric acid), according to the investigations of Naunyn are derived from the B-oxybutyric acid. The origin of this acid is still disputed. The most recent opinions point to its derivation from the higher fatty acids. It is still a question as to whether the production of this substance during coma bears any causal relation to the latter, or whether both are dependent upon one and the same cause. [M.R.D.]

2.—Lublinki reports a case of diffuse chronic edema of the skin involving the larynx, occurring in an otherwise healthy woman of 52. The edema spread over the breast, neck and head, originally starting from the face. There were respiratory difficulties and the disturbances of phonation were due to swelling of the epiglottis, arytenoid cartilages and of the arytenoepiglottic and interarytenoid folds. The author has frequently seen cases of nephritis in which the edema manifested itself in the epiglottis and around the larynx before edema of the external portions of the body could be seen. But in this case, with absence of headache, polyuria, cardiac symptoms and intraocular changes, he believes himself justified in making the diagnosis given in the title of his paper, at the same time duly considering the previous occurrences of similar affections. The edema involving the mucous membrane gradually subsided under the administration of arsenic and thyroid extract. [M.R.D.]

3.—Neumann calls attention to the increase in bodily length, occurring after the disappearance of myxedema. It shows that under thyroid medication, the bones that have previously been impeded in their growth are now stimulated to

renewed vigor. It is always to be assumed that the body has previously been saturated with the unknown substance contained in the thyroid gland, but the effect of this internal secretion is not always proportionate to the amount thrown into the system. The psychical disturbances in cachexia strumipriva in the adult and larger children, can, as is well known, be alleviated. It is emphasized that treatment must be instituted as soon as possible after the occurrence of the disease, if any beneficial result is to be expected. The drug should be cautiously administered as the tolerance in children varies. [M.R.D.]

4.—Warnekres discusses the various bandages that have been devised for the fixation of fractured jaws, with the report of several cases illustrating some of the author's modifications. [M.R.D.]

5.—The author considers the continued administration of **bromide** of potassium as not only unnecessary, but actually harmful in nervous diseases (epilepsy excepted). He is opposed to the administration of **alcohol** in these cases and believes that as a remedy it can be entirely dispensed with. In cases where a stomachic is indicated, the drug can be replaced. Under no circumstances does he consider the routine administration of alcohol justifiable for the purpose of combating fear, anxiety and precordial pain, or for the purpose of producing a state of well being in the patient. Alcohol should be forbidden from the beginning of the treatment. Excitement should be avoided, but this is sometimes impossible when the patient is allowed to remain at home. **Rest** should be insisted upon and regularity of habits enforced. **Hydrotherapy** instituted at home is of the greatest value. There are times, however, when it can not be employed as there are patients with hypochondriacal tendencies who complain bitterly of headache and itching of the skin after the bath. **Electricity** is of great value at home. The author protests against allowing the patient to apply the electricity himself. The faradic and galvanic currents are sometimes entrusted to the patient, who is certainly unable to objectively determine their strengths or indication. The most popular and also the most abused remedy employed at home is massage. Localized massage over nerve exits, painful areas, etc., should only be performed by the physician. The psychical treatment of patients at home is difficult because they cannot be kept under control. Hypnotism, which has been admitted into the therapeutics of nervous diseases, is of value provided it is employed by him who has constant charge of the routine treatment. [M.R.D.]

December 10, 1900. [37. Jahrg., No. 50.]

1. From the University Ophthalmological Clinic at Breslau: Remarks on Scrofulosis and Tuberculosis with a Contribution to Tuberculosis of the Conjunctiva. W. UTHOFF.
2. The Functional Capacity of the Fatty Degenerated Heart Due to Aortic Insufficiency. A. HASENFELD.
3. An Experiment in the Cure of Hernia of the Lungs. O. VULPIUS.
4. Dietetic Treatment of Hyperacidity. E. v. SOHLERN.
5. Diabetes Mellitus. C. v. NOORDEN.

1.—Uthoff believes it justifiable to still further restrict the term "scrofulous." Especially in diseases of the eye the so-called "scrofulous," but not truly tuberculous affections, occur in tuberculous subjects. Tuberculosis itself frequently prepares the soil for the so-called scrofulous diseases. Although the **phlyctenule** most frequently occurs in scrofulous and tuberculous children it should not be considered as directly characteristic of scrofula. The author has observed in his clinic, in a certain relatively small percentage of cases, that phlyctenules occur without the slightest symptoms or history of scrofula, tuberculosis, or previous disease of the eyes. Bacteriological examination of the phlyctenule has not yet demonstrated the etiologic factor. According to the experiments upon animals, made by Valude and others, the healthy conjunctiva does not present a portal for the entrance of the tubercle-bacilli. The author believes that as a whole the conjunctiva does not easily absorb infectious materials as can be seen per example in diphtheritic conjunctivitis, which frequently exists without any systemic disturbances. In certain experiments that have

been made with the toxin of pest, inoculation into the conjunctiva produced positive results by reason of the fact that the poison was conveyed through the **lachrymonasal passages** into the nasopharyngeal space. The author reports a case of tuberculosis of the conjunctiva occurring in a girl of 15 years, whose brother had died of tuberculosis. There had been a previous prelacrymal abscess on the left side that had undergone spontaneous suppuration, and had left a fistula with impediment of breathing on the affected side. The upper and lower palpebral conjunctivae showed a condition which could easily, and was at first, diagnosed as **trachoma**. There was swelling of the preauricular and cervical glands. Examination of the nose and pharynx showed marked changes in the mucous membrane and the formation of granulation tissue. Microscopical examination of excised portions of the conjunctiva from the **lower lid** established with certainty that the process was of a **tuberculous nature**; but those portions taken from the **upper lid** showed **no signs** of tuberculosis, but simply chronic hyperplasia. Regarding the latter it is still to be determined whether this nonspecific portion of the process is caused by the tuberculous area. Either it is due to the toxic effect of the tubercle-bacilli which causes chronic thickening, by reason of a long continued influence, or the continued irritation due to the presence of these toxins may give rise to secondary changes in the conjunctiva without any specific influence being exerted by the toxins themselves; or finally there may be a mixed infection in such a long exposed tuberculous area, whereby organisms other than the tubercle-bacilli may give rise to the secondary involvement. That non-tuberculous changes may occur in tissues surrounding tuberculous areas is illustrated in other tuberculous inflammations of mucous membranes such as pleurisy, meningitis and arthritis. [M.R.D.]

2.—Hasenfeld coincides with Romberg in believing that sufficient proof has not yet been produced to determine the relation that exists between **valvular lesions of the heart and coexisting fatty degeneration of the heart muscle**. The author produced both of these conditions experimentally upon well-developed guineapigs as follows: The carotid artery was exposed, a fine sound with a small terminal bulb was then passed into the artery until the aortic valves were disturbed; the artery was then ligated and the wound closed with collodion. During the whole procedure rigid asepsis was observed. The subsequent detection of the diastolic murmur and the characteristic pulse showed that the artificial production of the lesion was successful. The absence of infection and fever in every case showed that neither the endocardium nor myocardium were infected. After the aortic insufficiency had existed from two to three months (this time was allowed to elapse in order to facilitate the production of fatty degeneration), the animals were poisoned with phosphorus, a time being selected in each instance at which it could be assumed that hypertrophy had already developed in proportion to the valvular defect. Increased functional activity was experimentally produced by ligating the thoracic aorta. After an exhaustive description of the experiments which embrace detailed observations the author comes to the following conclusion: (1) Animals with aortic insufficiency bear phosphorus poisoning much poorer than normal animals; (2) a heart that is hypertrophied by reason of aortic insufficiency has a particular disposition to undergo fatty degeneration; (3) a moderate amount of acute fatty degeneration has no influence upon the power and functional capacity of the hypertrophied heart-muscle, neither under ordinary nor increased functional activity; (4) a marked amount of acute fatty degeneration gives rise to a decrease in strength in the heart with aortic insufficiency, and even fatal circulatory disturbances. [M.R.D.]

4.—Practical experience has shown the author that the carbohydrates, as a rule, not only agree well in patients with hyperacidity, but also hasten recovery. The influence of various foods upon gastric secretion is extensively discussed, as well as the value of various continental mineral waters. [M.R.D.]

5.—In concluding his retrospect of diabetes mellitus v. Noorden states that **decreased absorption** of fats and nitrogenous materials indicates a disturbance of pancreatic secretion. Pancreatic diabetes is still hypothetical. But little progress has been made in the treatment of the disease.

The influence of opium, antipyrin, etc., is not constant but transitory. While considerable has been attained by dietetic treatment, and although we are today better than ever in the position to influence metabolism in diabetes, we are still far from being masters of the situation. [M.R.D.]

December 17, 1900. [37. Jahrg., No. 51.]

1. Amyloid Degeneration, with Special Regard to the Kidney. M. LITTEN.
2. A Few Remarks Concerning the Fermentation and Digestion Tests of Feces and the Value of the Test Diet in the Examination of Intestinal Diseases. A. SCHMIDT.
3. The Relations Observed in the Oxidation of Urinary Constituents. A. JOLLES.
4. Pressure Irrigations in the Treatment of Acute and Chronic Gonorrhea. R. KUTNER.

1.—Litten believes that **tuberculosis** is the cause of 50% of cases of amyloid degeneration. Other conditions giving rise to amyloid degeneration are scrofulosis, suppuration of the skin, bones and mucous membranes, syphilis, ulceration of the intestines, malaria, pyelitis, carcinoma, long-continued leg ulcers, chronic bronchitis, gout, empyema, spondylitis and abscess of the lung. He believes that **carcinoma** is not as frequently the cause as is supposed, for there is only amyloid degeneration with accompanying suppuration. But when this occurs it generally runs a rapid course, there being hardly sufficient time for the establishment of an amyloid degeneration. The author believes that amyloid degeneration may also arise without any assignable cause, in support of which he quotes E. Wagner who had observed 7 such cases. Among a hundred cases of amyloid degeneration observed by the author, there was amyloid degeneration of the spleen in 98% of the cases, of the kidneys in 97% of the cases, of the liver in 63%, and of the intestinal mucous membrane in 65% of the hundred cases. The author describes 3 forms of amyloid degeneration of the kidney: 1. Pure amyloid degeneration of the vessels with and without fatty degeneration of the cortical epithelium. 2. Amyloid degeneration with chronic parenchymatous nephritis (large white amyloid kidney). 3. Amyloid contracted kidney. In the first form the parenchyma of the kidney may be entirely intact, without any sign of fatty degeneration of the epithelium, while the vessels on the other hand may be the seat of amyloid deposit from the merest trace to an amyloid degeneration involving all the glomeruli as well as other capillary areas. It occurs, however, that certain capillary areas are exclusively affected by the amyloid change, such as the glomeruli, interstitial capillaries of the cortex and the vasa recta of the medullary portion; more frequently, however, the disease is more diffuse, embracing several capillary areas including the vasa afferentia and arteries up to the larger branches. The general symptoms of amyloid degeneration of the kidney are then discussed together with the various tests for the detection of the amyloid material. [M.R.D.]

3.—The article deals with a number of elaborate experiments to determine the composition of precipitates formed by the addition of barium chlorid to urine. The composition of these precipitates as is well known differs in neutral and acid solutions. The author arrives at the following conclusions: In each liter of urine the substances precipitated by barium chlorid require in a healthy individual from 198 to 243 mgr. of oxygen for their oxidation. The author shows various methods by which these tests can be controlled. [M.R.D.]

4.—Kutner recommends a method for **pressure irrigation** in the treatment of acute and chronic gonorrhea. A Nélaton catheter is introduced into the urethra for a distance of 4 cm., and a small quantity of irrigation fluid introduced with energetic pressure from a syringe containing from 3 to 4 ounces. The organ is then compressed, permitting the escape of the fluid from the urethra. This is repeated until the contents of the syringe has been exhausted. A model of the syringe accompanies the article. The author believes that this is an excellent method for distending the canal and permitting thorough access of the irrigation fluid. He believes that the procedure is so uncomplicated that it can be employed with advantage as a matter of routine practice. [M.R.D.]

Wiener klinische Wochenschrift.

November 22, 1900. [13. Jahrg., No. 47.]

1. The Question of the Identity of Pemphigus Neonatorum and Impetigo Contagiosa. RUDOLF MATZENAUER.
2. A Case of Gonorrheal Endocarditis. LUDWIG STEIN.
3. The Action of Iodoform and a Substitute for It. ALEXANDER FRAENKEL.

1.—Matzenauer remarks that clinically the predominant symptom of **impetigo contagiosa** is the formation of a crust or scab which is usually wanting in **pemphigus**; and Fox considers this characteristic a basis of diagnosis. Other authors, however, think that the scab-formation depends much upon the age and condition of the patient. **Impetigo contagiosa** belongs essentially to very young children and the confluent pustules often assume the circular form. While **pemphigus** sometimes occurs in the newborn, yet it is not rare in infants from 2 to 4 years of age, and also occurs in older children, and even adults. Histologically the two are so similar that a description of one will serve for the other also. [W.K.]

2.—Stein reports a severe case of **gonorrhea** in a man, 22 years old, who was treated with copaiba during the first 2 weeks. An eruption appeared, resulting in his entering a hospital where he was treated as a case of typhoid fever, without any local treatment to the gonorrhea for 2 weeks more. Then he was admitted to the surgical ward of the Vienna General Hospital, with a large periurethral abscess, upon which Professor Gussenbauer operated. His heart at that time was normal. Gonococci were found in the pus from the abscess. Two days later pain appeared in the fingers, but no swelling. Small hemorrhages in the skin followed during the next few days, and 7 days after operation he died. The autopsy showed **vegetative endocarditis of the mitral valves**, with parenchymatous degeneration of the heart, liver, and kidney. There were a purulent bronchitis, hemorrhage into the pericardium and pleura, and a purulent prostatitis. Weichselbaum found streptococci in his case, and supposed that the gonococcus simply made the soil favorable for the action of the other bacteria. Stein believes, too, that there is generally mixed infection when endocarditis follows gonorrhea. [M.O.]

3.—Fraenkel divides his study of the action of **iodoform upon wounds** into histological researches and clinical observations. From experiments, he shows that iodoform causes the formation of giant-cells, often acting as a foreign body, yet accompanied by more exudate, more signs of inflammation, and more connective-tissue production than when the other sterile powders were used. It is therefore often harmful in abdominal wounds, as it delays healing on account of these changes. In tuberculosis, on the contrary, it is of **great benefit** just because of these actions. Yet Fraenkel thinks that we should seek something else, which will favor the growth of connective tissue, without any possible harmful or poisonous effect. Taking the known effect of coal upon tuberculosis, as seen in miners, as an example, Fraenkel used sterilized **animal charcoal** in 21 cases of local tuberculosis. In no case was that inflammatory reaction, which is the rule when iodoform is used, seen. The results were excellent, though the scars frequently were greatly discolored by the charcoal. [M.O.]

November 29, 1900. [13. Jahrg., No. 48.]

1. Radical Operation in Cancer of the Uterus. E. WERTHEIM.
2. The "Thread" Serum Reaction. PHILIP EISENBERG.
3. A Case of Tetanus Cured by Tizzoni's Tetanus Antitoxin. EDMUND HOMA.

1.—Because of the dissatisfaction with the results of **vaginal operation for uterine cancer** and the large percentage of recurrence of the disease, Wertheim determined in all such cases to remove, by abdominal section, the organ itself and also the parametrium; and having thus treated 33 cases reports the result. Of these, 11 were carcinoma of the body, the others were cancer of the cervix and portio vaginalis, of which 5 were far advanced and 5 in the very early stage of the disease. The mortality was very great, the deaths being 11, 8 of which, however, were due to the weak-

ened condition of the patient and the bad heart-action in consequence of the long narcosis. After this experience he would not again operate in similar cases. Only 3 deaths, then, were the direct result of the operation, 2 from peritonitis and 1 from invagination of the small intestines. Of the other 22 cases, 3 were only palliative operations, 2 died from some other disease, and 17 made a good recovery; and it is noteworthy that in these there has as yet been no recurrence of the cancer. When the cancerous tumor is large, extending itself in all directions and is immovable, or when there is a widely extended cavity, it is doubtful whether operation should not be refused; but when the tumor is still sensitive and small in size, the decision is not difficult and there should be radical operation. If the parametrium is soft and elastic the cancer is still localized. In 11 cases of the series reported microscopic examination determined carcinoma of the uterus, in only 3 of which did the clinical examination lead to the true diagnosis. Taking all things into consideration, Wertheim believes from his experience that one should not shrink from further advances in the beaten way, since it is an attempt to bring recovery to women otherwise doomed to an early death. [W K.]

2.—Eisenberg reports a case of **colicystopyelitis** in a girl of 18, from whose urine, collected by catheterization, a pure culture of *Bacterium coli* was obtained. The patient's blood-serum gave with this culture an "agglutination," and later a typical "thread" reaction, even when diluted 1 to 600. Not one of the many colon bacilli cultures from her stools agglutinated, or gave the "thread" reaction. This "thread" reaction was present in cases of typhoid fever which gave the Widal reaction, not in those which did not. The serum of immunized horses also gave the typical "thread" reaction. It has also been obtained with human or dog's blood from healthy individuals, with typhoid or colon bacilli. He believes, with Kraus, that the reaction simply accompanies the "agglutination," and, contrary to Pfaundler's opinion, is not to be regarded as specific. He gives the literature of the subject. [M O.]

3.—Homa reports a case of **tetanus** in a boy of 9, whose toes were frozen. Trismus followed, and gangrene set in in both feet, for which a Chopart and a Pirogoff amputation followed. The first tetanic spasm came on 6 hours after operation. Tetanus bacilli were found in the discharge, and the Tizzoni antitoxin given. As many as 47 attacks occurred in 24 hours, yet the child recovered 4 months later. [M O.]

December 6, 1900. [13. Jahrg., No. 49.]

1. The Treatment of Peptic Ulcer of the Stomach. ANTON GLUZINSKI.
2. Blood Pressure and its Relation to the Lymph Circulation. FRIEDRICH FRIEDMANN.
3. Phlegmonous Appendicitis Resulting from Tonsillitis. RICHARD KRETZ.

1.—After reviewing the literature of the subject, Gluzinski states that about 30% of cases of **ulcer of the stomach** recover, the greatest number dying of perforative peritonitis. The majority of the ulcers occur in men; and their most frequent seat is about the pylorus. There is usually stenosis of the pylorus, such cases eventually coming, as a rule, to operation. Prophylactic treatment should be instituted in all cases in which injurious substances are swallowed, in anemia and the infectious diseases, and when local congestion exists. This is accomplished by diet and rest in bed, as Leube advises. Medical treatment should extend over a period of one to two years. When there is hypersecretion of the stomach, peptic ulcer may be suspected. When atony exists, with stenosis of the pylorus (probably but a functional spasm due to the presence of an ulcer near by), Gluzinski treats by diet (to hinder stagnation and fermentation, and to diminish the acidity) and lavage through a double bougie. This he continues for 30 to 40 days, causing the cessation of symptoms if the stenosis be functional; but when it is mechanical he advises operation. All cases destined for operation should be got into good condition before the operation. If there should be any possibility of the ulcer becoming carcinomatous, operation should not be postponed. The presence of cancer is proved by the examination of the stomach-contents. After operation, lavage must frequently be kept up for some time. Should perforation occur, opera-

tion must be immediate. Perforation occurs mostly through the posterior wall of the stomach. Hemorrhage, while frequent, is hardly ever of itself fatal. When the hemorrhage occurs too often, operation must be performed. [M O.]

2.—Friedmann reports a case of **lymphatic leukemia** in which emphysema with chronic bronchitis existed, from cardiac insufficiency. Digitalis caused these signs of cardiac insufficiency to disappear in 4 days, with a marked reduction of the lymph-glands. The swelling that remained was much softer. The relation of the erythrocytes to the leukocytes was 39:1, while that of mononuclear leukocytes to polynuclear leukocytes was 93:7. A week later reds were to whites as 83:1. Digitalis was again given for another week, when reds were to whites as 61:1. Under later trials of the digitalis, the swellings decreased in size and consistency, yet the lymphocytosis increased. He explains this action as the effect of the increased blood-pressure from the digitalis, causing an increased outflow of lymphocytes from the lymph-glands into the blood. [M O.]

3.—Kretz reports the autopsies of 2 patients in whom **phlegmonous appendicitis** occurred with a diffuse purulent peritonitis. There was also a purulent tonsillitis, which had passed unnoticed during life, and in the pus from both places, streptococci were found. In the second case influenza bacilli were also seen. He supposes that the appendicitis was due to the virulent bacilli being swallowed. Kundrat has reported a case of phlegmonous gastritis following tonsillitis. Perhaps other obscure intestinal affections may have been caused thus. [M O.]

December 13, 1900. [13. Jahrg., No. 50.]

1. The Action of the Röntgen Light upon the Skin. KIENBÖCK.
2. Some Experiences with Local Anesthesia by Schleich's Method. V. FRIEDLÄNDER.
3. An Aseptic Bougie for Inducing Abortion. LUDWIG KNAPP.

1.—After describing a number of researches Kienböck concludes that the skin exposed to the Röntgen light undergoes peculiar changes. An acute or chronic dermatitis follows, accompanied by a shedding of the horny epithelium, and sometimes of the nails and hair also. Alopecia may result. Hyperemia and inflammatory swelling may come on, or blisters with serous or purulent secretion, or the skin may be dry and burned, the bloodvessels may be much affected, and there may be much pain. As a rule this does not extend deeply, the underlying muscles not being at all harmed. These effects only become apparent after an incubation, or latency, of 2 to 3 weeks. Only in few cases is the alopecia permanent, the hair usually growing again. **The intensity of the skin affection depends upon the length of the exposure and the number of exposures** to the Röntgen-rays. The smaller the amount of light, the longer is the latency before the symptoms appear. The different parts of the body react differently, and individual idiosyncrasy seems unknown. The younger the patient, the greater is the reaction. [M O.]

2.—The late Professor Albert, during the past year, operated upon 30% of his cases with **local anesthesia** by Schleich's method. In the out-patient department, all kinds of operations were done with it. Friedländer considers the technic, as described by Schleich, as important. He experimented to determine the sensitiveness of the different parts of the body. Yet when made edematous by the injections, there is but slight sensitiveness left. When the tissue is inflamed, its sensitiveness increases. Friedländer advises the use of Schleich's method in all skin operations; in operations upon the extremities; in operations in the abdomen; and in all operations where ether or chloroform are contra-indicated. [M O.]

3.—Knapp describes a **uterine bougie**, easily made aseptic, which he uses to produce abortion. It is similar to an ordinary male catheter. [M O.]

December 20, 1900. [13. Jahrg., No. 51.]

1. The Difference between Natural and Artificial Nourishment of Infants. THEODORE ESCHERICH.
2. Observations upon Workers with Electricity. S. JELLINEK.
3. Hyperchlorhydria in Infants. WILHELM KNOEFELMACHER.

1.—After comparing the results obtained by artificial feeding with breast fed babies, Escherich says that **rachitis occurs no oftener in the one than in the other**, though the more severe cases are seen among the bottle-fed. He has not seen a case of infantile scurvy among thousands of infants fed artificially or upon sterilized milk. He then discusses the assimilation of the food taken by an infant, laying stress upon the relative absence of the diastatic ferment in cow's milk, and upon the failure of the normal changes in digestion and absorption of cow's milk, as compared with mother's milk. Yet some infants evidently thrive upon pure cow's milk. He then elaborates upon the hypothesis that mother's milk contains "some stimulating and tonic material." [M.O.]

2.—Jellinek studied the blood-pressure in 80 men, from 20 to 30 years of age, at work with electricity. He used **Gärtner's tonometer**. The mean blood-pressure varied from 100 to 120 mm. of mercury. He details a number of experiments undertaken, which may lead to later developments. [M.O.]

3.—Knoepfelmacher reports the case of an infant of 10 months, born at 8½ months, and breast fed to 7 months. Then, as symptoms of motor insufficiency of the stomach had appeared, she was slowly changed to cow's milk. Examination of the stomach-contents showed **marked hyperchlorhydria** (0.95%). The history, as reported, suggests **congenital stenosis of the pylorus**, from the vomiting, constipation, loss of weight, and dilation of the stomach. This confirms the theory of Thomson and Pfandler, that the spasm of the pylorus follows hyperchlorhydria. The child thrived on pure cow's milk. [M.O.]

December 27, 1900. [13. Jahrg., No. 52.]

1. Thomsen's Disease. MAHLER and BECK.
2. Splenectomy for a Movable Hypertrophied Spleen. KARL SCHWABZ.
3. A Modification of the Breisky Speculum. LUDWIG KNAPP.

1.—The patient, aged 24, was the son of wedded first cousins, in whose family no nervous diseases had ever existed. As an infant he had rachitis, and later measles and pleurisy. He did not walk until 4 years old, and then had trouble in moving his legs. When at school, he first observed that his movements, especially during exercises, were always somewhat behind those of the others. This improved, then grew worse at puberty, then better again. He passed the physical examination for the army at 20, but was found unfit for service on being reexamined. Since then, he has grown worse. Rising from bed and raising his glass to drink, in the morning, are both very hard. If he hurries, or is bumped, his muscles become stiff and he falls. He feels a tickling on his face and neck, which often causes twitching. His reflexes are normal, except the plantar reflex, which is absent, as is ankle clonus. Voluntary movements, in the extremities especially, show high-grade muscle-weakness. Continued slow effort was needed to move at first, but if repeated, he succeeded in going quicker. If he made an energetic or sudden movement, tonic contraction of the muscles followed. Though the muscles all looked well developed, the muscle-power was very low. The movements of chewing were very difficult. In fact, the patient presented the typical picture of **myotonia congenita**. The condition in the extremities, almost one of paralysis, Mahler and Beck call paramyotonia, after reviewing the literature of the subject. They consider Thomsen's disease purely a spinal affection. In their case there were no disturbances in assimilation. [M.O.]

2.—Schwarz reports a case of **movable spleen** which was first noted 12 years before, in a woman now aged 36. This movable tumor grew in size and caused so much pain that the patient remained in bed, off and on, for weeks. She never had malaria; nor were there any signs of syphilis. Laparotomy was performed and a spleen which weighed 1200 grains removed. It was then discovered that she was 5 months pregnant. Recovery followed. Schwarz concludes that splenectomy is always preferable to splenopexy, except when strong adhesions exist. Especially when the spleen is hypertrophied should splenectomy be done. [M.O.]

3.—Knapp describes a simple contrivance by means of

which the Breisky speculum will support itself, when introduced into the vagina. [M.O.]

Centralblatt für innere Medicin.

January 5, 1901. [25. Jahrg., No. 1]

1. Histological Changes in the Central Nervous System and Stomach in a Case of Gastric Tetany. FERRANNINI.
2. On the Auscultation of the Normal and Pathologic Muscle Sounds and the Characteristics of the Same in Thomsen's Disease. M. HERZ.

1.—Treated editorially.

2.—Herz draws attention to the fact that there has never been sufficient study of the sound given by a muscle during its contraction. He divides this sound into two portions: one a musical part, which he calls the muscle-tone, and the other a mere noise. It has been shown that in tetanic contraction of muscles produced by electricity the pitch of the tone is dependent upon the rapidity of the interruption of the current. The tone can be produced by chemical irritants, and by strychnia poisoning. One can readily hear the muscle-sound when the muscle is in tonic contraction. If the patient stands upon the tips of his toes, leaning with his hands on a piece of furniture or against the wall, the sound can readily be auscultated in the calf-muscles; or by pulling upon something with the hands it can be auscultated over the biceps; by raising the arm the deltoid will give a sound; and so by various other methods other muscles may be auscultated. It is not necessary to expose the skin. Pathologic changes are readily recognized. The intensity of the sound, its character and pitch are variable, and variations may be readily determined. If the sound is loud the tone becomes deeper and the sound is sonorous. Curiously this character of the sound is found most frequently in cases of disturbed innervation. Strong muscles give a sound which he characterizes as soft, high pitched, and hollow. He believes that important conclusions may be reached by farther study of the muscle sound. One of the most important things to be studied is the course of accidental murmurs over the heart. It is important, he believes, to investigate the relation between the changes in the heart tone and coincident changes in the muscle sounds elsewhere. It is also important to make special studies of the sound in anemic conditions, particularly in chlorosis, in cachexia, in fevers, in the gouty diathesis, in diabetes, etc., and of course in various nervous affections, particularly in neurasthenia and neuroses. He has found a marked difference in the sounds on the affected and unaffected sides in cases of hemiplegia. It may also prove important to study the sound before and after various therapeutic procedures. In a case of Thomsen's disease he made a careful study of the muscle sound, and found that in the beginning of the peculiar contractions he heard no sound, and his observation was confirmed by Lampa. Later on, by continued auscultation, the muscle sound gradually appeared and became of normal strength, and at this time the muscular spasm had disappeared. If the disease were due to a central origin and the spasm were similar to that of tetanus the muscle sound should be loud; if the change, however, were in the muscle fibrils, and consisted of a sharp contraction of the fibers with a fixation of the fibers in this position, and no further vibrations, the muscle sound would be absent. The latter was the case. [D.L.E.]

Zeitschrift für Heilkunde.

[Volume xxi (New Series, Volume 1).]

[Jahrg. 1900, No. xi.]

1. The Treatment of Tuberculosis with Intravenous Injections of Cinnamic Acid. (Conclusion). KARL HÖDL-MOSER.
2. Gynaecological Communications. MAHER.
3. The Diagnosis of Retroperitoneal Hernia, with Report of a Case. WILHELM SCHÖLL.
4. The Bremer and Williamson Blood Reactions in Diabetes Mellitus. EMIL ADLER.

1.—These injections were given 18 patients, daily, from 1 to 6 months. Sixteen of them had phthisis, 1 had tubercular peritonitis, and 1, tuberculosis of the lungs and joints. Eleven were seen in the Vienna General Hospital, while 7 came to the dispensary. After an extensive review of the statistics already published, Hödlmoser gives his results, which, in marked contrast to those collected by F.änkel, 90% improved, and those reported by von Weismayr, 74% improved, give **only 22% improved**. Whether such results are really due to the cinnamic acid, further investigations alone can show. With Ewald, Hödlmoser pleads that further experiments be undertaken. The case-histories follow in detail. [M.O.]

2.—These consist of 19 case histories from the Rndolph-Spital in Vienna. Among the more interesting cases are the following: (a) a coachman, 33 years old, entangled in a broken wire which crossed a trolley-wire, was thrown to the ground, badly shocked. The **quadriceps muscle** of both thighs was **thrown into tetanic spasm**, which lasted 24 hours. The stiffness in both legs remained 2 weeks. Had he not worn nonconducting leather trousers, he would most probably have been paralyzed. (b) A case of **acute angio-neurotic edema** in a man of 28 years, occurring several times during 6 months, in different parts of his body, for which no cause could be found. (c) A woman of 40, on whose upper lip a **carbuncle** suddenly formed. **Phlebitis** followed in the facial vein, followed by **thrombophlebitis of the cavernous sinus**. **Metastatic abscesses** occurred in **both lungs with bilateral fibrinopurulent pleurisy**. Death followed 5 days after the carbuncle appeared. (d) A woman of 54, swallowed a spoonful of **ammonia**, 7 hours later she reached the hospital, and was given diluted vinegar in large quantities. She vomited a brown alkaline fluid. While hoarse, she complained only of slight epigastric pain. Her mouth was sore, yet she drank milk and soup easily. She died suddenly, 24 hours after taking the poison. The autopsy showed **intense corrosion of the mouth, trachea, esophagus, and stomach**, in spite of the very few subjective symptoms. Striking, too, was the lack of dyspnea and cough. Mader supposes that the ammonia affected the deep nerve-roots, causing anesthesia and analgesia. (e) A woman of 41, with **chronic phthisis and pyothorax**, had suffered for over 4 years with increasing nervous symptoms, weakness, spasticity of the extremities, paresthesia, twitchings, and finally paralysis and wasting. From the many small swellings along the peripheral nerves, the diagnosis of **polyneuroma** was made. Death followed from phthisis. The autopsy showed **various sized tumors upon almost all the nerves of the body**. Two plates show these well. Their immense number is striking. (f) A locksmith, aged 29, who for 2 years previous had had chills and fever when exposed to cold weather, was admitted after such an attack, with **hemoglobinuria**. His liver was swollen and painful. He had suffered from malaria during childhood. Cold applied locally had no effect. Hemoglobin was 75%, erythrocytes 4,400,000, leukocytes 2,000. With iron, arsenic, and good food, he quickly recovered. A number of cases of hysteria, some cases of brain tumor, and of chronic lead poisoning are also described in full. [M.O.]

3.—The patient, a 22 year-old girl, weak and poorly developed, had always had a **distended abdomen**, with occasional disturbance of digestion. The abdominal distention increased during the last two years, with several attacks of pain, followed by the passage of flatus and sudden improvement. She kept at work until 3 weeks before her death. After a week of constipation, with great pain and distention, she entered the hospital. She was pale and thin. Her heart was pushed upward and to the right. There was very little expansion on the left side of the thorax. On the right side, tympany began at the sixth rib; on the left, at the third rib. The **abdomen was enormously distended**, showing dilated veins. **No tumor was at any time palpable**. The **ascending and descending colon** could be made out, **widely dilated**. There were no ascites, no vomiting, and no hiccup. She had diarrhea generally. Symptoms of peritonitis only appeared during the last 12 hours. As the case was not diagnosed during life, operation was not considered. The autopsy revealed a **retroperitoneal hernia**. The greater part of the jejunum, having passed through and stretched the opening in the peritoneum for the colica

sinistra artery, was found behind the descending colon, extending up to the pancreas, and down to the sigmoid flexure. The diaphragm reached up to the third rib; the **heart lay almost perpendicular** under the right edge of the sternum. The sigmoid flexure was normal. The rest of the colon was dilated, with greatly thickened walls. In the **descending colon** were a number of **oval perforations**. The pressure of the filled jejunum was the evident cause of the stenosis and subsequent perforation. Though over 70 such cases have been reported, the majority were not diagnosed until the autopsy revealed a retroperitoneal hernia. Jonnesco has divided them into 4 groups: (a) The majority, found post-mortem, having caused no symptoms; (b) those having caused but slight digestive disturbance; (c) some few, in which progressive stenosis of the intestine followed; and (d) those with sudden strangulation and death. Of group c, **only 3 other cases** have been reported up to this time. Scholz quotes them in detail. He then calls attention to the **very large abdomen and very small thorax**, and to the **great distention of the large intestine**, both points in the diagnosis of retroperitoneal hernia. Digestive disturbance from early childhood, and a tumor, when present, also aid in forming the diagnosis. [M.O.]

4.—Adler tested the reactions which, it was claimed by Bremer and Williamson, occur in staining diabetic blood. Bremer claims that, with a methylene-green eosin mixture, diabetic blood is stained green, while other blood stains red. Williamson claims that diabetic blood takes a **warm alkaline methylene-blue stain more deeply than other blood**. Out of 25 cases tested for the Bremer reaction, Adler found it in the blood of 5 severe cases of diabetes mellitus, in 2 cases of leukemia, and in 1 perfectly well man. Other investigators have published like results, showing the **Bremer reaction to be of no diagnostic value**. The Williamson reaction was tested in 130 cases. It was **positive in all cases of diabetes mellitus tested (9)**, and in **no other disease, no matter how great the glycosuria**. The cause of this reaction Adler believes to be a diminution in the alkalinity of the blood. He concludes that the **Williamson reaction is peculiar to diabetic blood, and of value in diagnosis**. The details of his method of staining are given. [M.O.]

Zeitschrift für klinische Medicin.

1900. [Band 41, Heft 1 u. 2.]

1. On the Diagnosis of Aneurysm of the Aorta and of the Innominate, and on the Treatment of the Same with Subcutaneous Injections of Gelatin. J. SORGO.
2. The Cause of Illness in Rarefied Air. E. ARON.
3. A Contribution to the Study of the Late Form of Cyanosis of Peripheral Origin. THOMAS.
4. On the Methods of Determining the Fat in the Blood. M. BÖNNIGER.
5. On Interference of Sensations. ADAMKIEWICZ.
6. On Percussory Transsonance. J. W. RÜNEBERG.
7. On Unilateral Atrophy of the Lung, and on Congenital Bronchiectasis. E. NEISSER.
8. On the Influence of Artificial Sweating Upon the Secretion of Gastric Juice. P. EDEL.
9. Some Observations Concerning Lymphatic Leukemia. M. ROSENFELD.
10. Amatus Lusitanus and His Period. A Contribution to the History of Medicine in the Sixteenth Century. M. SALOMON.

1.—To be treated editorially.

2.—Aron describes at length an apparatus which he has used for the study of the question at issue. His tables show that there was a distinct reduction of the amount of oxygen used in rarefied atmosphere and also a marked reduction of the amplitude of respiration. If oxygen were given the amplitude of respiration approached close to that observed before the air was rarefied, but this could not be fully attained. He therefore decides that the cause of the alteration in breathing in rarefied atmosphere is both a chemical and a physical one. He believes that he is justified from his results in recommending that trains passing over high altitudes, such as the proposed Jungfrau road, should have oxygen cyl-

inders in the carriages and at the stations, as he believes that in this way it would be possible to avoid serious attacks of mountain sickness, and in some cases probably to avoid death. [D.L.E.]

3.—The teaching which Thomas follows is that first promulgated by Bard, that the occurrence of **cyanosis** depends upon an increase in the pressure of the left auricle as compared with the pressure of the right. Bard previously taught that this was usually due to some persistence of the foramen ovale, the opening being closed by a membranous valve and the valve driven open if the pressure in the left auricle became very high. Bard afterward reported cases himself in which cyanosis of a severe grade (blue sickness) was seen without any persistence of the foramen ovale, but in which a considerable portion of the lung parenchyma was destroyed by tubercular infiltration or other causes. If the bloodvessels are not destroyed with the parenchyma of the lung, the result will be that a very considerable proportion of the venous blood will pass through areas in which it is impossible that the blood should be aerated. In such cases cyanosis will result. If the bloodvessels were destroyed or obliterated with the lung parenchyma the blood would then pass through the remaining more healthy parts of the lung and cyanosis would probably be slight or absent; hence the preservation of the bloodvessels in areas where the lung is destroyed tends to cause cyanosis. Thomas reports a case of this kind, and refers to others. [D.L.E.]

4.—Bönninger has investigated a number of methods for the determination of the **fat in the blood**, and finally selected that recommended by Hoppe-Seyler as the most satisfactory. The method of carrying this out is to take from 5 to 30 grams of blood, receiving it in 20 times its volume of 96% alcohol, mix thoroughly, allow it to stand for from one to two days, and filter. The deposit collected upon the filter is to be treated again in the same manner; the part then remaining is treated with ether, and the remaining portion digested and then thoroughly shaken with ether. The various alcoholic and ethereal extracts are collected, evaporated slowly to dryness, extracted with absolute ether, thoroughly dried and weighed. A considerable portion of the fat is likely to be held back in the filter paper, hence the filter papers are extracted with ether in the Soxhlet apparatus. This method gave extremely satisfactory results. The amount found in normal blood was fairly constant and between 0.75 and 0.85%. The highest amount of fat was found in a case of carcinoma of the esophagus, where it reached 1.4%. This is probably a further proof of a statement that has been previously made that the fat of the blood increases in hunger; this patient had been able to take practically no food for some time. A similar cause may have been active in a case of pneumonia in which the fat reached nearly 1%. It was also found high in diabetes, in a case of nephritis, and in a case of hysteria. The serum was found to contain neutral fat, lecithin and cholesterol. The cholesterol in human serum is united with fatty acids, particularly oleic acid. The blood-corpuscles contain probably only cholesterol and lecithin, and no neutral fat. [D.L.E.]

5.—Adamkiewicz divides **tabes dorsalis** into two forms—one, a primary disease of the nervous elements, he calls nerve-tabes; the other, in which the bloodvessels are first affected, he calls vessel-tabes. The latter is the interstitial form, and involves the neuroglia. Syphilis he considers practically always the cause of the interstitial form, while he does not think it is nearly so active in producing the other form; and perhaps never produces it. The main clinical differences in the two are, that in the parenchymatous form, ataxia occurs, with persistence of the muscular power; while in the interstitial form there is less marked ataxia, but more marked muscular weakness. In the parenchymatous form the skin-sensation is reduced, while in the interstitial form this is not the case; the interstitial cases, as a rule, show no constant reduction of sensation, but do show various paresthesias. Paresthesias are much less prominent in the so-called nerve-tabes. Adamkiewicz goes into an elaborate explanation of the reasons of this difference in sensation. He thinks the chief cause of the variations in the paresthesias is variation in the space occupied by the neuroglia tissue, and this is produced largely by meteorologic conditions. He calls the disturbances of sensation produced by irritation of the ganglia of the posterior roots "subjective," and denominates as objective disturbances those produced by variations in the

acuity of perception of sensations caused by peripheral irritation. These two forms he considers act antagonistically; he describes them as producing waves of sensation, and when one wave is high the other is low. He believes that if, at a certain time, the wave of the subjective sensation be high any normal irritation of the periphery which would ordinarily produce an objective sensation will have no result unless it is sufficiently strong to overcome the subjective wave. This is what he terms the interference of two sensations. In this way he explains the tendency that patients with disturbance of their subjective sensation have of instinctively grasping objects very tightly. The result of this is that their objective sensation is made so much stronger than usual that the patients are able to appreciate the objective sensation, when if the object were grasped lightly the sensation from the object would be less than the subjective sensation, and only an ill-formed objective sensation would result. [D.L.E.]

6.—Runeberg directs attention to a method of examination which is practically nothing more nor less than **auscultatory percussion**. His chief point is that one should place the stethoscope over the organ to be examined and then percuss gently, or stroke the finger tip gently toward the periphery of the organ. So long as one remains over the organ auscultated, the sound, which he calls the trans-sonance-sound, will be clear, but it vanishes or changes its character immediately upon passing the limits of the organ. [D.L.E.]

7.—Neisser describes the case of a man who had had a cough as long as he could remember, but had no definite history relating to his condition. The chief points in the investigation of the man were that he had signs of marked enlargement of the right lung with atrophy of the left lung but without any deformity of the left chest. Neisser thinks that when deformity of the chest is absent and yet there are signs of atrophy of the lung, the condition is probably one that arose either extremely early in life or was congenital. He considers that it is only in very early life when the lungs are capable of very considerable growth, that one lung could so greatly hypertrophy as to fill the space left vacant by the other, without causing chest deformity. The most common and important cause of deformity of the chest is pleural adhesion, but the chest may become deformed without adhesion, as evidenced by several cases collected from literature in which deformity of the chest occurred and subsequently disappeared. He thinks that if pleural adhesions had caused the deformity, the latter would scarcely have disappeared. The conditions which he considers necessary in order that atrophy of the lung shall produce no deformity of the chest are, that it should occur in early life, when the remaining lung is capable of rapid growth, and that it should be of slow progress, so that time is given for hypertrophy of the other lung. In such cases the thorax also really changes to a certain extent, as compared with the normal, so that while there may be no deformity of the two sides, as compared with each other, there will be some deformity as compared with the normal chest. A further evidence that in the case first reported the condition was congenital is, he believes, shown by the fact that a son of the man afterward came under observation and showed the same condition. He believes that the most satisfactory explanation of the occurrence of this condition is congenital bronchiectasis. [D.L.E.]

8.—Edel first refers to the work of Simon, which seems to show that sweat-baths reduce the secretion of gastric juice, particularly the HCl. These results are contrary to those of several authors, particularly Reigel's results with the use of pilocarpin. Some authors have, however, to a certain extent confirmed Simon's results. Edel has further investigated the question, giving warm baths and then covering the patients with thick woolen blankets, and giving them subsequent test-meals. The results of his investigation stated briefly are, that the baths had little effect upon the secretion of gastric juice; the secretion usually remained normal but sometimes increased. Subsequently the acidity was most frequently found elevated. Edel believes that his results are more trustworthy than Simon's, because he used normal persons. As to Simon's belief that the baths cause a persistent decrease in the chlorides of the body fluids, he considers this mere supposition and very improbable, because Simon in no way controlled the intake of chlorides; if there is a loss of chlorides through baths, or by any other means, it is cus-

tomy for subjects to make this up by subsequently taking in larger amounts of chlorides. [D.L.E.]

9.—One recent view concerning chronic lymphatic leukemia is that it is a disease primarily of the lymph glands, which has a characteristic blood picture; the affection of the liver, spleen, and bone marrow is secondary, and produced by metastasis. Another view is that it is a primary disease of the lymph glands, but produces the characteristic blood picture only when the bone marrow becomes involved in the lymphadenoid change. A third view is that it is a primary disease of the bone marrow, which consists of a lymphadenoid degeneration; it may remain confined to the bone marrow, or may secondarily through metastases involve the lymph glands, spleen, etc. The fourth view is that it is a disease of the whole lymphatic tissue, which tissue is preexistent in all organs. Rosenfeld reports 3 cases, and discusses them in connection with the theories of the disease. The 3 cases showed distinct differences in the clinical course, in the condition of the blood, and in their post-mortem findings. In the first case there was from the beginning of observation a very marked reduction of the red cells, while this was but slight in the second case. The number of lymphocytes varied in the 3 cases. The number of lymphocytes in the peripheral circulation is not indicative of the absolute number produced, but it was striking that in the 3 cases the lymphocyte count was 4 times as great as in the second case, and yet in the second case the sole increase was in the small lymphocytes. It is an interesting fact that in this case after treatment with arsenic and an evident decrease in the size of the lymph glands, there was a marked increase in the number of circulating lymphocytes. Probably the reduction of the glands was associated with a flooding of the blood with lymphocytes. One remarkable fact was that in the first case an examination of the blood while the glands were enlarged, but before the actual symptoms of leukemia had come on, showed no marked blood-changes, and the flooding of the circulation with lymphocytes apparently took place 6 months afterward. This was very probably true, also, in the third case, since the lymph glands had become enlarged 3 or 4 years before the severe general symptoms appeared. In the second case, in which the increase in cells was, as noted, practically entirely of the small lymphocytes, the postmortem showed enormous involvement of the lymph glands with very marked involvement of the bone-marrow. The difficulty in this case was as to whether the case was a true lymphatic leukemia, or lymphemia with general sarcomatosis. The diagnosis of the pathologist was the latter condition. In the first case no postmortem was obtained. In the third case there was diffuse lymphadenoid degeneration of the bone-marrow. The third case, therefore, stands between those instances in which there is only involvement of the lymph glands, and other cases in which there is only involvement of the bone marrow. Rosenfeld accepts chronic lymphemia as being one of general lymphosarcomatosis, and thinks that the varying conditions found clinically are due to the varied tissue involvement in the sarcomatous change. He notes the fact that so far as this condition has been studied, when the lymph-glands are involved to the almost complete exclusion of the bone marrow the increase is chiefly or entirely of the small lymphocytes, while when the bone-marrow was chiefly involved, the large mononuclear lymphocytes were in excess. It is also notable that in several cases, at any rate, when the bone-marrow was uninvolved there was practically no change in the erythrocytes. His conclusions are that one cannot deny the existence of a primary disease of the lymph glands which may produce either an aleukemic preliminary stage, or which produces chiefly an increase in the small lymphocytes if the disease has become very widespread. If the bone marrow becomes involved sufficiently, the blood picture changes, and the large lymphocytes become increased in number, and in such cases there is likely to be an onset of severe clinical symptoms and a rapidly progressing course. As to Pappenheim's theory that lymphatic leukemia is primarily myelogenous in all cases, Rosenfeld's second and third cases speak strongly against this. The name, however, given the condition—lymphatic leukemia—should not indicate that the disease is solely one of the lymph glands. It should indicate rather that it is a disease of the lymphatic tissue in general. [D.L.E.]

[Band 41, Heft 5 u. 6.]

1. Iodipin as an Indicator of the Motor Power of the Stomach. S. HEICHELHEIM.
2. Observations Concerning Glycolysis in Pathological Conditions, Particularly in Diabetes and Functional Neuroses. E. BIERNACKI.
3. A Contribution Concerning Adams-Stokes' Disease. AUGUST HOFFMANN.
4. A Contribution Concerning Metabolism in Obese Subjects. A. JAQUET and N. SVENSON.
5. The Clinical and Bacteriological Methods Now in Use in the Diagnosis of Typhoid Fever. E. SCHOLZ and P. KRAUSE.
6. The Production of Glycogen Elsewhere Than in the Liver after the Use of Levulose. HANS SACHS.
7. Electrical Reaction of the Nerves and Muscles During Curare Poisoning. JULIUS DONATH and HUGO LUKACS.
8. The Prognosis in Aneurysm of the Aorta. N. J. KOTOWT-SCHICOFF.
9. Amaurus Lusitanus and His Period. A Contribution to History of Medicine in the Sixteenth Century. M. SALOMON.
10. On the Question of the Influence of Pilocarpin upon the Secretion of Gastric Juice. Anticritical Remarks. ALEXANDER SIMON.

1.—The practical conclusion which Heichelheim reaches is that in all cases where it is not possible to siphon the stomach in order to determine its motor power one may with advantage use iodipin. The results are not exact, but they give a general idea of the motor power of the stomach, and in connection with other factors in the case one may by this means reach fairly certain conclusions. The method is very easily used. The one condition as yet observed that seems to interfere is icterus, in which the test seems to give the same result as in weakness of the gastric motor power. It was found that in stenosis of the pylorus and gastric ecstasy with motor insufficiency the reaction was practically always delayed beyond 1 hour, though this was not an absolutely constant result. This did not seem to be the case in other gastric affections. The test consists of the administration of about a gram and a half of iodipin in gelatin capsules and testing the saliva every quarter of an hour afterward for the presence of iodine. The test which Heichelheim used was to the reaction with starch paper which had been recently made and kept in the dark after saturating it with 5% persulfate of ammonia. The saliva should be placed in test tubes and a paper put in the tube. It is absolutely important to keep the papers in the dark. [D.L.E.]

2.—Biernacki makes some very interesting observations concerning the method of determining the glycolytic action of the blood. One of the most important points that he discovered is that if different quantities of the blood are mixed with varying quantities of sugar the result is by no means always proportional to the quantities used, and that therefore in order to compare observations one should always use the same quantity of blood with the same quantity of sugar solution, and the latter should always be of the same strength. Also, if the quantity of sugar solution were kept the same, increasing the amount of blood used, it did not seem to have a proportionate influence upon the glycolysis after a certain optimum in the quantity of blood used was once reached. On the contrary, increase in the amount of blood seemed to decrease the glycolysis. The use of alkaline solutions caused much more active glycolysis than did physiological salt-solution. Blood which had not been defibrinated was more active than that which had been defibrinated, and there was a certain direct relation between the glycolytic power of the blood and the amount of water contained therein. He states that in all the cases of diabetes he observed distinctly low values for glycolysis when alkaline serums were used, but concentration of the sugar solution abnormally increased the glycolysis. The absolute values in diabetes, then, were low, but the values obtained by increasing the percentage of sugar were relatively higher than those obtained in health. He does not believe, therefore, that his results indicate that there is any definite loss of the glycolytic power in diabetes; they indicate only that there is disturbance of the glycolytic power, and it is quite possible that these disturb-

ances are not due to changes in the enzyme alone, but to other factors. His observations concerning functional neuroses (chiefly hysteria and neurasthenia) are interesting. The venous blood in both diabetes and functional neuroses is pale. He also found in a number of cases very low values for glycolysis in functional neuroses, though the values varied greatly; a point upon which he lays especial stress is that contrary to the normal conditions defibrinated blood in functional neuroses oxidizes sugar more actively than undefibrinated blood. In other words, the blood in functional neuroses acts as a defibrinated blood. He believes that he is justified in stating that the most characteristic thing about the blood in hysteria and neurasthenia is that in these conditions it resembles defibrinated blood. Whether it is a cause or a result of the disease is questionable. It is, however, in his belief, evident that there is disturbance of the chemistry of the blood in neurasthenia and hysteria, and that there is some relation between neurasthenia and hysteria and diabetes as to their blood conditions. [D.L.E.]

3.—Hoffmann describes a case in a man of 23 which had the following clinical picture. He had always been anemic and weakly and had for a long time had a disturbance of the pulse rhythm which consisted in a pause after two normal beats. Later the intermissions appeared less frequently, afterward attacks of loss of consciousness occurred which lasted for hours, and which were accompanied by extreme infrequency and irregularity of the pulse; strong cardiac contractions occurred after long partial pauses, during which pauses one could hear weak heart tones. By increasing the general nutrition of the patient and by administration of oxygen by inhalation the heart's action became more regular, and the attacks of loss of consciousness disappeared. The chief characteristics of Adams-Stokes' disease are bradycardia, apoplectic attacks, and disturbance of the breathing. This case seems to belong under this head. Hoffmann gives a brief review of the cases of the disease previously reported, and discusses the causation of the peculiar attacks. By observation of the pulse-curve and of the heart with the fluoroscope, Hoffmann determined that the intermissions observed were really an evidence of weak interpolated systoles, as is taught by Engelmann, Wenckebach, and others, and he considers the condition due to lack of contraction in the ventricles while the auricles contract. The cause of the imperfect or slowed action is varied. It may be degeneration of the heart, myocarditis, arteriosclerosis, or central nervous disease, but in the case reported it seemed to be merely imperfect nutrition of the cardiac muscle as a result of anemia. The factor which Hoffmann thinks produces the slowing of the heart is chiefly irritation of the vagus center through anemia of this center, while tachycardia is due to paresis of this center which is often produced through this same cause. His results from the use of oxygen convince him that this treatment may be valuable in these cases. He administered 30 liters daily. [D.L.E.]

4.—The conclusions reached by the authors are, that in concert with other observers they found that the gaseous interchange in obese subjects during a period of abstinence was normal. They, however, make the important statement that they found the increase of gaseous interchange after taking nourishment abnormally low in these persons, and of only short duration. There has been a good deal of discussion whether there is any such thing as adiposity due to an abnormal reduction of the oxidation of fats. If these observations are correct they indicate that in some persons there may be a notable reduction of the fat consumption, which, to a considerable extent at least, explains the abnormal accumulation of fat. The reaction through muscular exercise seemed to vary according to the condition of the organs in general. In one case the reaction was similar to normal. In other instances a relatively slight increase of muscular action caused a very marked increase of the oxygen consumption. They tested the influence of the use of thyroid upon the fat accumulation. In one series of observations they believed that all the loss of weight could be attributed to loss of fluids. In other cases, however, there was certainly a marked increase of tissue consumption. This they could not observe in periods of abstinence, but it was very apparent after taking food, the normal increase in oxygen consumption being much excited under the influence of thyroid. [D.L.E.]

5.—The first question considered is the value of the Widal reaction, and the conclusion reached is that it is of

little value in establishing the diagnosis early. They place it among typhoid symptoms in general, any of which may be absent, and any of which may appear late, and they consider that the diagnosis of typhoid fever from similar conditions must be made through careful clinical observation and the observation of the course of the disease. They report a small series of cases (55); 47 cases gave a positive result, and 8 negative. Of the 8 positive cases 3 gave a reaction only after 5 weeks. One of the negative cases died on the 9th day. In 3 other cases the last test was made on the 9th, 18th, and 25th days respectively, so that these cases can hardly count against the reaction; the 4 others were negative on the 62d, 73d, 86th, and 106th days of the disease. As to the clinical value of the investigation of the spots for typhoid bacilli, they state that they examined 16 cases, and in 14 found bacilli. They insist, however, that the bacilli may disappear from the spots after 3 to 5 days, and that the examination must therefore be undertaken quickly; also it is often necessary to examine several spots before positive results were obtained. Bacilli were always scarce. In examining the spots they always made a number of moderately deep incisions, and then scratched the surface energetically. This method, however, cannot be considered as anything more than an aid in diagnosis, because spots are not present in all cases; because they often appear so late as to be of little value in the diagnosis; because bacilli cannot be obtained from all spots and the bacilli are likely to disappear early; and because it is very easy to confuse a typhoid eruption with other eruptions. Piorkowski's method with the literature concerning it is then discussed. They tested the method with cultures of typhoid bacilli, and various bacilli belonging to the colon group, with satisfactory results, and examined the stools of 19 cases of typhoid fever. In all 123 colonies from the latter were examined, and in three-fourths of the cases they obtained positive results, in one fourth negative. But they insist that while Piorkowski's urine gelatin medium is a valuable addition to bacteriological methods of investigation, a diagnosis can never be satisfactorily made from the appearance of plate-cultures. The bacilli must show the proper chemical and biological characteristics in order that a positive diagnosis may be made. They tried the influence of adding urea and ammonium carbonate, or mixtures of these, to gelatin, instead of using urine. The results were not satisfactory, but they did get satisfactory results from inoculating normal urine with the micrococcus uræ instead of allowing it to become alkaline spontaneously. They note that it is practically impossible to use Piorkowski's method, in summer, however, as the dilute gelatin becomes fluid at a relatively low temperature. [D.L.E.]

6.—Sachs refers to his previous work which had apparently shown that in frogs, after extirpation of the liver, there was a marked reduction of the power of using levulose in the organism, while other forms of sugar seemed to show little change. He has continued his work with the idea of determining whether levulose had any power of increasing the glycogen production elsewhere than in the liver, extirpating the liver and determining the glycogen in the muscles with and without the administration of levulose. He believes that he has shown that there is no distinct increase of the glycogen of the muscles after the use of levulose, and decides that the production of glycogen in the liver is different from the same process in the muscles, since glucose causes an increase in both liver and muscle glycogen. [D.L.E.]

7.—The authors were led to their work chiefly through the suggestion that periodic paralysis is comparable to the action of curare, and may therefore be properly considered to be the result of some similar toxic agent. In the periods of paralysis, during the attacks there is either complete or almost complete loss of the faradic and galvanic reactions of the nerves and muscles. They administered curare to a series of animals, and found that the electric reactions did not disappear, both the faradic and galvanic currents showing an absence of qualitative or quantitative change, even with complete paralysis. Whatever the cause of periodic paralysis may be it cannot be a substance which shows close similarity to curare. [D.L.E.]

8.—To be treated editorially.

10.—Simon believes that his results with pilocarpin have been confirmed by those of Tschurilow and some recent results of Pawlow. He criticises Riegel's results in that in

two cases they showed a distinct decrease of the total acidity; and he thinks that it is quite possible in some of the cases that the increased acidity after pilocarpin may have been due to increased secretion of saliva and the excitation of gastric secretion through the swallowed saliva. He makes some other detailed criticisms which he believes support his view that sweating decreases the acidity of the stomach-contents. [D.L.E.]

Archiv für Verdauungs-Krankheiten.

[Band 6, Heft 4.]

1. A Contribution to the Knowledge of the Protective Influence of the Intestinal Tract. Investigations Concerning the Antidotal Action of the Pancreas. G. v. ZAREMBA.
2. Surgery in Chronic Non-Malignant Gastric Diseases. G. KELLING.
3. A Peculiar Gas Forming Bacillus which was Isolated from the Stomach-contents in a Case Exhibiting Troublesome Borborygmus. L. SANSONI and L. FORNACA.

1.—Zaremba gives a very interesting discussion of the literature concerning the protective influence of the various portions of the gastrointestinal tract and the glands connected therewith, but without drawing any very decided conclusions as to the result of this work. He first discusses the work that has been done on the action of the salivary glands. There is some testimony that these organs have a destructive influence upon toxins, but if this exists its influence is probably variable, and nothing very important is known concerning it. As to the gastric juice, it has apparently been shown that not only is inflammation to some extent controlled by the gastric juice, but that toxins are destroyed by it. It is shown to be much more active against certain toxins, such as the tetanotoxin, than against some others, such as the diphtheria toxin. There is considerable probability that the toxins are markedly altered in some way in their passage of the intestinal wall; they thereby become less active. It is also probable that the normal nonpathogenic intestinal bacteria contribute largely to antidoting the toxins present in the intestinal tract and controlling their production. As to the liver, there has been a tremendous amount of investigation. It has been generally accepted by most authors who have not interested themselves especially in this question, that the liver is more active perhaps than any other organ in destroying poisons of bacteria. It is apparently demonstrated that the liver does reduce the activity of a certain kind of poisons, but recent work has shown that there is apparently little difference in the action of many poisons when injected into the portal vein or when injected into the general circulation; it is possible that the liver shows a very different action upon different poisons, reducing or destroying the activity of some, having practically no influence upon others, and even increasing the activity of certain poisons. The general question of the influence of the liver is certainly not settled at any rate. It is fairly well demonstrated that the liver is active in the destruction of poisonous products of metabolism, but its exact influence in connection with poisons absorbed from the gastrointestinal tract is not well known, and is probably variable. The bile seems certainly to have an antidotal influence upon certain forms of poison, particularly snake poison and tetanotoxin. It varies largely according to the percentage of bile present, the age of the animal providing the bile, and other factors. The secretion of the pancreas has been shown to have an antidotal influence upon a number of toxins, but whether this is an influence that may be exerted throughout the general circulation, or is dependent upon contact of the pancreatic juice with the toxin is doubtful; the latter seems, from many of the experiments, to be more probable. Zaremba's work has been in connection with the influence of the pancreas. He made extracts of the pancreas and mixed these extracts with diphtheria toxin, finding that even in newborn pups the pancreas extract evidently had an antidotal influence upon the toxin. The same influence was observed in relation to the pancreas of young rabbits, guinea-pigs, and calves, and there was no very evident difference between the action of the pancreas of calves a few weeks old and the pancreas of full-grown cattle. He made

several investigations of the human pancreas from adult subjects. The results were negative in every instance. The organ could not be removed from the body for a number of hours after death in any of these instances, and it is quite possible that postmortem changes had destroyed its previous activity. It was found, however, that the pancreas of a boy 4½ years old had a distinctively antidotal influence. The postmortem in this case was carried out about two hours after death, and in several instances it was found that the pancreas of very young children, upon whom postmortems were done almost immediately after death, had a distinctly antidotal effect. In two instances, however, absolutely no influence could be observed. The conclusion which Zaremba reaches is that the pancreas even of extremely young children shows distinctly antidotal influences, but that these may be absent in some conditions, the exact nature and influence of which we do not yet fully understand. [D.L.E.]

2.—Kelling gives a general discussion of the surgery of non-malignant gastric diseases. He ends by directing especial attention to the fact that, in cases of ulcer, and conditions following ulcer, in which proper treatment has been carried out without any satisfactory results, it must be considered that there are certain factors present which prevent the healing of the ulcer or the cure of its sequelæ. He advises careful clinical observation and medical treatment of such cases, but if such practices are of no avail, it is advisable to adopt surgical measures, even though it cannot be determined exactly what the fault is. The danger of hemorrhage, of severe gastritis, of perforation, of carcinomatous change, or of a chronic condition of ill health, is so great that the probability of being able to relieve the condition by surgical means makes such surgical intervention advisable. The dangers of surgery are less than the dangers of the possible complications mentioned, or of protracted under-nourishment. Usually the best operation in such cases is gastroenterostomy. One of the important conditions in which gastroenterostomy should not be postponed too long is in case of ulcers in connection with gastroptosis and atony of the stomach. Internal treatment usually is not very successful in such cases. In some cases it will be found that the ulcer causes no actual stenosis at the pylorus itself, and yet pyloroplasty causes marked improvement. This is probably due to the fact that there is a great deal of swelling or hemorrhage about the ulcer, and that the pyloroplasty in increasing the circumference of the pylorus has decreased the irritation of the ulcer through retention of the food in the pyloric region. Kelling believes that the most important reason that ulcers do not heal readily in women, is that the menstrual losses of blood interfere with a proper nutritive condition. Surgery in such cases is more frequently demanded than in men. As to adhesions, he says that if these interfere with the proper movements of the organ surgery should be undertaken. If they are of acute inflammatory nature they should first be treated medically. Neurosis may be sometimes wisely treated by surgery. In two cases of hysterical vomiting, and in one case of neurasthenic periodic vomiting, Kelling has known gastroenterostomy to be entirely negative in its effects; but in cases of nervous hypersecretion, for instance, surgery may do a great deal of good. As to the treatment of gastroptosis. He states in the first place that the gastroptosis itself is not likely to be satisfactorily and permanently influenced by any operation directly on the stomach or its supports, and unless there is some marked disturbance of motility, or unless the abdominal walls are extremely lax, operation is contraindicated. Of the dangers following operation upon the stomach he first mentions pneumonia, which is an extremely slight danger if the operation is properly carried out. There is always some danger of infection of the peritoneum, but this may be reduced to an extremely low percentage. There is also some danger of the occurrence of a so-called vicious circle of the gastric contents. Proper technic will usually prevent this. The dangers of diarrhea and intestinal ulceration are dependent upon irritation by the extremely acid gastric contents, which are discharged directly into the intestine unneutralized. This may be overcome only if one makes the junction between the stomach and the first portion of the jejunum, whereby a portion of the stomach-contents flows back into the duodenum; in such case a lateral gastroenterostomy should be undertaken, while in cases where the chief object to be accomplished is complete emptying of the stomach, Roux's circular gastroenterostomy should be chosen. [D.L.E.]

3.—The case described is that of a woman who complained of loud borborygmi with a feeling of tension in the gastric region, these symptoms coming on some time after each meal. There was some mental depression and a little reduction of the general health, otherwise there were no distinct changes in the physical condition. Examination of the stomach-contents showed the presence of a peculiar bacillus which had, in brief, the following characteristics: It stained by Gram's; it was facultatively anaerobic and aerobic; it grew rapidly in ordinary media, particularly when the medium contained glucose and milk sugar; it produced much gas, the major portion of the gas consisting of hydrogen and CO_2 ; it produced acid, and grew well in a medium to which acid stomach-contents had been added; it was pathogenic when injected into the peritoneal cavity, but not when introduced into the stomach; it differed from the *Bacillus lactis aerogenes*, from the *Bacillus coli*, and from other organisms which have been described as producing gaseous distention of the stomach and intestines. The symptoms complained of came on about 2 hours after eating, a time when ordinary fermentation could not have occurred; there was no lactic acid present, and no other evidence of ordinary fermentation in the stomach-contents, and the common fermentation bacteria were absent; therefore, the authors conclude that the enormous gas-production which occurred in this patient was due to this microorganism, particularly since the gases produced in the stomach were found to be chiefly hydrogen and CO_2 . [D.L.E.]

Deutsches Archiv für klinische Medicin.

November 1, 1900. [Vol. vi.]

24. A Contribution to the Pathology of Multiple Nonsuppurating Myositis. STRUPPLER.
25. Formalin as a Preservative Medium for Urinary Sediment and Diformaldehyde Urea. MAY.
26. The Use of Orcein for the Recognition of Elastic Fibers in the Sputum. MAY.
27. The So-called Early Fermentation of the Feces, and its Diagnostic Significance for the Determination of the Functional Capacity of the Intestines. KERSBERGEN.
28. Clinical Investigations upon the Circulatory Organs in the Early Stages of Syphilis. GRASSMANN.
29. Clinical and Experimental Contributions to the Knowledge of the Paralysis of the Facial Nerves, with a Contribution to the Physiology of Taste, and the Secretion of Sweat, Saliva and Tears. KÖSTER.
30. Contributions to the Casuistry and Treatment of Mykosis Fungoides. SCHIFFMACHER.
31. The Pathology of Gastric Carcinoma. JÜRGENSEN.

24.—Struppler, after a brief discussion of the various forms of the disease, reports 2 cases of myositis. The first, a man of 39, 2 days before admission to the hospital, had a sudden pain in the left knee, which became severely swollen. Later, other large joints were involved, and large reddish or reddish-brown spots appeared on the legs. There was difficulty in swallowing and some dyspnea. The condition grew rapidly worse, the purpuric eruption extended to other areas, the respiration became more and more affected as a result of edema of the larynx, and finally death occurred before an operation could be performed. At the autopsy the lungs contained pneumonic areas, and there was hemorrhagic myositis in the muscles of the arms and legs. The patient also had acute glossitis. Microscopically the muscles showed acute parenchymatous changes. The heart muscle, however, was not involved; and the spleen was only slightly enlarged. Nevertheless the author believes that the diagnosis must stand as given. It is greatly to be regretted that no mention is made of any bacteriological studies. The second patient, a man of 24, had severe attacks of acute articular rheumatism and scrofula. He was suddenly attacked with severe pain in the left half of the head, which became swollen and soft, there was also swelling in some of the larger joints, pain in the muscles of the calves, but no reddening of the skin. Subsequently another attack occurred on the left side of the head, and there was some erythema of the skin with purpuric eruptions upon the extremities. The diagnosis was made of polymyositis acuta with erythema multiforme. [J.S.]

25.—May, having had occasion to preserve urinary sedi-

ment, employed the method of Gumprecht, that is the addition of a formalin solution to the sediment after the supernatant fluid had been decanted. He found that it was an excellent preservative medium; but that when any considerable quantity of urine was allowed to remain with the sediment, there was a precipitate of round bodies, slightly yellowish, insoluble in almost everything, that occasionally had a somewhat concentric arrangement with lines radiating from the center. A considerable quantity of these gave proportions of nitrogen, hydrogen, and oxygen, corresponding with those of diformaldehyde urea. Further experiments showed that formalin, added to urine combined with a small proportion of the urea present, does form this combination. It is not soluble in water, alcohol, ether, acetic acid, hydrochloric acid, or ammonia, but is soluble in a 25% solution of sulphuric acid (25%) under the influence of heat. It is particularly important, because its presence in the urinary sediment might give rise to errors in diagnosis, and it is, therefore, important when an attempt is made to preserve the urine by Gumprecht's method, to wash the sediment thoroughly with water. [J.S.]

26.—May describes the following method for the demonstration of elastic fibers in the sputum: Equal portions of sputum and 10% of potassium hydrate are mixed and dissolved over a water bath, then centrifugated and the supernatant fluid poured off. About 2 ccm. of Unna's Tánzer orcein solution are added to the sediment, and enough hydrochloric acid to restore the cherry-red color; the tube is then plunged in boiling water, the sediment decolorized with hydrochloric acid and alcohol and again centrifugated. Finally the sediment is examined under the microscope, and the elastic fibers readily recognized on account of the brownish-red violet color. Other fibrous elements are either decolorized, or only faintly tinged. The entire operation requires about half an hour. [J.S.]

27.—Kersbergen has undertaken a careful series of experiments for the purpose of proving the value of the work of Schmidt and his followers. Specimens of the feces were tested for sugar, starch and its derivatives, and for various ferments, particularly invertin. Maltose was very frequently present, even after the specimen had remained six hours in the incubator. It was only persistently absent in one case of carcinoma of the rectum. No effort was made to separate the bacteria and the ferments, although this is possible by means of filtration, or even by the addition of antiseptics. [J.S.]

28.—Grassmann has studied 288 patients suffering from the early stages of syphilis with reference to cardiac and vascular disturbances. Of these 61 were men, and 227 were women. The reason for the excess of women was that these were kept in a hospital under police supervision, whereas the men came and went as they pleased. Sixty-six of these patients, 18 men and 48 women, presented various circulatory anomalies in the course of treatment. Among these changes were bradycardia in one woman, arrhythmia in 6 cases without other changes, and in 3 cases with alteration in the heart-sounds. These symptoms occurred both in recent cases and in those with relapses. In 10 cases there was arrhythmia and increased frequency of the pulse. In a few cases there was simply increased frequency without other disturbance. In one of these cases the increased frequency lasted for more than 10 weeks; many of them, however were purely temporary conditions. In many of the cases there was increase in the force of the second pulmonic sound, but in one only of the second aortic sound. In 14 cases there were distinct murmurs, or impurities of the heart's sounds; in 6 of these cases the murmurs disappeared completely with recovery from the disease. These murmurs were probably chiefly functional because they were heard either at the base of the heart, or over the tricuspid area, and were systolic in time. Of the subjective disturbances, the most important was palpitation. In discussing these cases, Grassmann states that he does not believe that accentuation of the second pulmonic sound is always associated with hypertrophy of the right ventricle. He also discusses 32 cases in which systolic murmurs were heard at the beginning of treatment, that were possibly the result of nervous or muscular disturbances of the heart itself. In 9 of these cases no impairment ensued in the heart symptoms. In 17 the symptoms grew worse during the employment of mercury, but in the majority the murmurs were distinctly functional in type.

The second pulmonic tone, however, was often increased without distinct enlargement of the right ventricle. In 3 of the cases apparently, a mitral insufficiency was in the course of development. [J.S.]

29.—Köster in continuation of his valuable article upon facial paralysis, as the result of the study of his cases, and their comparison with others recorded in the literature, reaches the following conclusions which we give in full: First, if the lesion is peripheral, and situated below the stylomastoid foramen, or as far up as the point of branching of the chorda, it can be recognized by the fact that all other nervous symptoms are absent, with the exception of the unavoidable disturbance of perspiration and the pure motor paralysis. Second, if the lesion is situated above the branching of the chorda there will be, in addition to the disturbance of motion and perspiration, also some disturbance of taste, and frequently alterations in the quantity of saliva secreted. Third, if the lesion is situated in the geniculate ganglion, there will be, in addition to the above symptoms, disturbance of the secretion of tears, which is permanent, and some disturbance of hearing, indicating a simultaneous lesion of the acusticus, which is not always constant. Fourth, if the lesion is situated above the geniculate ganglion, and before the entrance of the nerve into the brain, all the symptoms above enumerated are present with the exception of loss of taste. Fifth, if the lesion has destroyed the facial nucleus and the immediate neighboring tissue the same disturbances, as above described, will be present, and the diagnosis can only be made on account of the presence of other lesions indicating medullary involvement (homo- or contralateral paralysis of the extremities, imperative laughing or weeping). Lesions restricted to the facial nucleus, especially if congenital, produce only motor paralysis with a slight disturbance of the secretion of perspiration. Köster, however, having seen only 2 such cases, both of which were bilateral, is not quite positive regarding their localization. In a second part of the paper he reports a number of experiments made upon dogs, cats, and monkeys which cannot be fully described here. A few of the interesting results are, that in dogs, cats, and monkeys the subcutaneous malar nerve has no anatomical connection with the lachrymal nerve, stimulation of which does not alter the secretion of tears. In cats the chorda tympani contains sensory fibers. The secretory fibers of the submaxillary and sublingual glands in apes certainly pass downward and through the facial nerve, thus confirming the supposition that the same is true of human beings. After division of the facial nerve, degenerated fibers are never observed in the lachrymal nerve, indicating that these fibers do not pass through the facial. As this contradicts the partial observations made upon men, Köster believes that there must be some difference in the innervation of this gland. [J.S.]

30.—Schiffmacher reports the case of a man of 42, who for some years had had an itching eruption on the abdomen. This consisted of large blotches of a bluish brown-red color, with elevated hard, infiltrated plaques, that almost had the appearance of tumors. These were scattered, quite irregular, and upon their surface showed slight desquamation. There were also a few patches of eczema and erythema. The inguinal glands were swollen, but otherwise the patient was normal. Microscopically, an excised portion of the skin showed cellular infiltration in the papillary bodies, considerable hyperplasia of the rete Malpighii, which sent projections into the surrounding tissues; otherwise, there was nothing characteristic. Although bacteriological studies were negative, Schiffmacher has no doubt that this was a case of mykosis fungoides. The patient was treated with ascending doses of arsenic, given hypodermatically, which in the course of several weeks apparently produced almost complete cure. [J.S.]

31.—Jürgensen reports a case of carcinoma of the stomach that had undergone degenerative changes, and in which free hydrochloric acid was present for a long time. There was considerable obstruction at the pylorus and, as a result, the gradual inspissation of the tissues, with diminution in the quantity of urine. There were also some curious disturbances of the nerves, apparently depending upon the quantity of urine excreted, such as myosis, loss of reflexes, and some intellectual dulness. Towards the end there was moderate elevation of temperature. At the autopsy there was found a gangrenous ulcerating carcinoma of the pyloric region,

with moderate dilatation of the stomach. There was no satisfactory explanation of the persistence of free hydrochloric acid. [J.S.]

Annales de Médecine et Chirurgie Infantiles.

January 1, 1901.

1. Alcoholism in Childhood. DR. DELOBEL.
2. A Case of Appendicitis with Abscess Formation and Rupture into the Bladder; Recovery. PEREZ ALLAN.
3. Adenoid Growths. A Statistical Study of the Cases Treated in La Clinique des Enfants Malades, 1899-1900. Clinical and Therapeutic Considerations. HENRI CUVILLIER.
4. Treatment of Acute Mucous and Dysenteriform Colitis by the Sulfate of Soda. M. AVIRAGNET.

1.—Delobel contributes 7 cases to the literature of **alcoholism in infancy and childhood**. He calls attention to the fact that the condition is much more common than is credited. In the first period of life the intoxication is brought about through the milk of the nurse or mother, who are generally in total ignorance of their deed. The child too, is an unconscious agent. Later, the taste having been developed, the child becomes eager to get liquor by every possible means. Here parents are frequently criminally responsible in letting the child take sips of liquor "from father's glass" and telling their children that it is manly to drink and will make them big and strong. Alcohol has not been found chemically in the milk of intemperate lactating women, but the effects upon the child prove the toxic property of such milk. The susceptible child shows in a brief space of time the profound systemic changes of chronic alcoholism which in the adult takes vastly longer to produce. A number of French authorities are quoted upon the effect of alcohol in children. In general, it may be said that alcohol produces convulsions in breast-fed infants. This is not always the case. Sometimes the symptoms developed are a fretful, highly nervous state, the child constantly crying and sleeping but little. This will in some cases be followed by digestive disturbances and marked cachexia. The body weight may be in excess and the child show signs of over-nutrition, but this is generally followed by progressive debility and wasting. In this type convulsions do not occur; on the other hand the child is in a constant state of agitation, and suffers from insomnia. The pulse is frequent and feeble and the eyes brilliant, the cheek prominences are red, there is some pyrexia and the child has an air of hebetude; there is excessive thirst, while at the breast he sucks vigorously and keeps up the motions of suction in the brief intervals between the constant crying for food. Death follows unless the cause be removed. In the first two of Delobel's cases, the children had recurring **convulsions** easily controlled by **tepid** baths. In each case the wet-nurse was found to be intemperate and recovery followed her dismissal. In the third case there was no convulsions, but the type was one of excess in body-weight with the accompanying symptoms detailed above, and was succeeded by a grave cachexia in which recovery seemed doubtful. Removal of the cause—another intemperate wet-nurse—marked the beginning of convalescence. In another case seen by the author the child was in a pitifully nervous state due to its having been given **coffee** with **brandy**, because the child seemed so weak and sickly. His advice was not heeded and the case is not reported further. The **fifth report** is that of a child of 5 years who suffered from **alcoholic cirrhosis** with accompanying **ascites** (which was several times tapped) and in which death resulted. The child had been in the habit of becoming frequently intoxicated upon a mixture of coffee and alcohol. He presented all the appearances of a confirmed dipsomaniac. His sixth case was one of an **acute state of alcoholic coma** in a child of 4 years who lived aboard a vessel with intemperate parents. The child had secured and partly emptied a bottle of rum. His last case was one of **acute alcoholism** in a girl of 7 years. She was a confirmed inebriate—and grew up to be a prostitute who served her term in prison. In conclusion Delobel urges that the criminal ignorance of such children's parents be punished and that proper penal laws and an effective system of medical inspection be instituted. He believes that education is the surest method of gradually

eradicating the evil. The physician must be on the alert to discover possible alcoholism in the mother or nurse, and to remember how much secret and totally unsuspected drinking is done. [T.L.C.]

2.—Perez Allen presents the report of a case of **appendicitis with rupture of abscess into the bladder**. There being no doubt as to the diagnosis of appendicitis, opium and bismuth were administered freely. After a few days a palpable tumor was present in the right inguinal region. Operation does not seem to have been considered. The abscess finally ruptured into the bladder, and symptoms of pyuria appeared. The viscus was frequently flushed. After a few days the urine became normal. One of the sequelae of the case was a **double orchitis**, from which the patient made prompt recovery. [T.L.C.]

3.—Cuvillier has reported that of 2019 cases of **adenoid growths** treated in his clinic, La Clinique des Enfants Malades, 1214 were of the respiratory type; 75 of the auricular type and 730 of mixed form. He details the symptoms to which these growths give rise by their mechanical obstruction, and as the cause of bacterial infection, etc. He points out the necessity of thorough examination of all cases, and particularly urges that the condition be treated properly and not left to run its course to the child's detriment. He divides his treatment conveniently into prophylactic, medical and surgical. Prophylactic treatment should be instituted in those cases which present predisposition to lymphatic enlargements. It should consist of general tonics and local antiseptics. He mentions among the latter instillations of oil and insufflations of medicated powders. He prefers mentholated oil (1:50) on account of its astringent and valuable antiseptic properties. In cases where this is not well tolerated, he recommends a combination of sterilized olive oil with resorcin (1 part to 25 of the oil). The instillation should be made two or three times a day. As another application, borated vaseline or mentholated vaseline is recommended. An excellent powder may be employed consisting of menthol 10 c. g., boric acid and talcum, of each 5 grams. The nasal irrigation may be prescribed with the above treatment, but the author points out very wisely the possibility of damage by this method and shows the necessity of having the canal freely open and using but slight force in the douching. Explicit directions are given as to the manner of using the douche. The quantity should not be more than 20 ccm. the fluid, preferably a boric acid solution. When the **adenoids** are actually present, the author directs that medical treatment should consist of an application of iodine with glycerin, 1:50. This will greatly reduce the size of the growths and act favorably upon the catarrhal condition. This treatment is merely palliative and surgical measures are our only means to effect a cure. The operation which is described must be conducted with careful antiseptic measures, both preparatory to and succeeding the operation. An anesthetic—ether or bromid of ethyl—may be employed. Adenoids carefully removed do not recur and radical operation is insisted upon. [T.L.C.]

4.—**Acute colitis** constitutes a clinical type which is distinct from gastroenteritis. Acute colitis may be primary or secondary. In the latter case it succeeds a gastroenteritis or appears in the course of one of the infectious diseases. The pathology of colitis is identical with that of gastroenteritis. Colitis may be divided into the gangrenous form with glairy or mucous secretions; and a second variety, the dysenteriform. These may appear as a mild type with fever, or a severe type with the advent of the algid state. The symptoms of the second variety are akin to true dysentery. The pathologic changes occurring in dysentery, however, are more destructive. Regarding, as Aviragnet does, that the two dysenteric conditions are similarly caused, he treats them identically. His method is to place the patient at rest in bed; to relieve the abdominal pain by cataplasms or hot or cold applications. He disbelieves in the use of lavage of the large intestine, arguing that distention of the inflamed bowel augments the pains, and possibly the inflammatory process. He diminishes the rectal tenesmus with small injections of weak solutions of laudanum, and advises this treatment rather than suppositories. To combat the inflammatory process, he discusses the use of injections of ipecac, borax, hyposulfite of soda, and various suppositories. He believes these means should be rejected in the acute form of colitis, because they are insufficient, save in very benign

cases, and because they add to the irritability of the bowel, and may increase the inflammation and pain. He discusses the administration of calomel and ipecac by the mouth and then takes up the treatment with sulfate of soda, from the use of which he claims remarkable curative results. He prescribes 10 to 15 grams the first day (administered in a glass of sweetened water). This dose is slightly aperient, and especially useful when stomach irritability is pronounced. Small doses are given the day following. For example, to a child of from 12 to 14 months, 5 grams. The dose may be varied, and the administration continued for several days. The blood rapidly disappears from the stools, the rectal tenesmus disappears, and diarrhea soon ceases. The warm bath may be used as a valuable adjuvant to this treatment. He does not claim the method of treatment a new one, but wants to emphasize its utility. [T.L.C.]

Annales de la Société Belge de Chirurgie.

December, 1900. [8me Année, No. 10.]

1. Intestinal Obstruction, Due to Lateral Pinching of the Intestine. SNEYERS.
2. Invagination of the Small Intestine in the Rectum, with Strangulation. LAUWERS.
3. A Suppurating Cyst of the Ovary. LEBESGUE.
4. Luxation of the Median Nerve. DEPAGE.
5. Huge Double Inguinal Hernia. DELETREZ.
6. Frontal Autoplasty. DEPAGE.
7. Pyemia of Otic Origin. VINCE.
8. Elephantiasis of the Vulva. DELETREZ.

1.—Sneyers reports two cases of **lateral pinching of the intestine**, both occurring in women, under Gimbernat's ligament. In both cases the condition was correctly diagnosed, and both recovered after operation. The constriction occurs generally at the internal ring, and very quickly causes strangulation. Pain and swelling at the internal ring, with frequent stools, or flatulence, should suggest it. Operation is indicated at once, the bowel sinking into place; or if it is gangrenous, resection will be necessary, as in hernia operations. Warm compresses applied to the affected bowel will soon show whether circulation has been reestablished or not. [M.O.]

2.—A woman of 74 years had shown signs of internal strangulation for some days. For 3 years she had had prolapse of the rectum, which had previously been easily reduced. Four days before there was relapse, with great pain, the pain persisting even after reduction. Fecal vomiting followed, and rectal examination discovered a **tumor in the rectum**. Laparotomy was performed, and 60 cm. of the small intestine found invaginated in the rectum, gangrenous but not perforated. The whole mass bulged into the peritoneum, which made the sac for the hernia. The gangrenous intestine was removed and the ends sutured. Drainage was left in. Eleven days later two fecal fistulae were discovered and sutured, after which the patient recovered, in spite of her age. [M.O.]

3.—A woman, aged 41, had had pain deep in her pelvis, off and on during a pregnancy. After her child was born a tumor was discovered on the right side of the abdomen. The pain returned for a month and then disappeared. Five months later, as the mass was very large, laparotomy was performed and a multilocular cyst of the right ovary found, which when punctured emitted a thick, purulent fluid, containing several pyogenic micrococci. There were many adhesions between the intestines and the cyst. The patient died suddenly 3 days later. Lebesgue thinks that the cyst became purulent, in the absence of colon bacilli, from the influence of the pregnancy. [M.O.]

4.—Depage presented a child of 14, who had dislocated his right elbow 3 months before. This was at once reduced, and kept immobilized a week, after which the arm was moved under chloroform, but **paralysis of the muscles** supplied by the median nerve, and loss of feeling in the forearm persisted. Depage operated at the elbow, but could not find the median nerve. A month later he operated again and found the nerve behind the olecranon. This was then dissected out and replaced on the other side of the process. Since then movement of the forearm has improved with electricity, but the loss of sensibility remains about the same. [M.O.]

5.—Deletrez reports a case of huge **double inguinal hernia**, which had existed 5 years in a man of 60, cured by Bassini's operation. Photographs before and after operation are given. [M.O.]

6.—Depage presented a patient, aged 74 years, who had had a **rodent ulcer** upon the center of his forehead. Depage had made flaps from the forehead, cutting on either side of the central ulcer, leaving them attached below. These he sutured together over the ulcer, and in the two denuded spots above, on each side, he planted skin by Thiersch's method. Now there are but three scars, the tiny median one where the flaps joined, and the two outer ones. It is needless to mention that the patient was bald. [M.O.]

7.—A boy of 8 years, with **double suppurative otitis**, complained of severe headache with fever and delirium. Mastoid operation was done, but nothing was found. During the next week signs of peritonitis developed and **laparotomy** was performed. There were no signs of peritonitis, yet the temperature continued hectic. A few days later tenderness was noted in the dorsolumbar spine, and the bowels and bladder were emptied involuntarily. Then an abscess appeared over the right external malleolus, and was opened. Next an abscess appeared about the trochanter of the right femur, which was also incised and drained. A week later another abscess appeared in the left hip, which was at once opened. During the succeeding month all the abscesses improved, and a month later the boy was well. Recovery after such severe pyemic infection seems remarkable. [M.O.]

8.—Deletrez presented a case of **elephantiasis** of the vulva, in a woman of 50 years, who had convulsions as an infant, epilepsy later, was of but slight intelligence, had strabismus, and ankylosis of both hips. The growth began 12 years ago. It is now 35 cm. in its anteroposterior diameter; laterally, 24 cm. Its weight is 5½ kilograms. The surface of the tumor is covered with nodes and hair. There seem to be no changes in the skin. He expects to operate. Others present disagreed with the diagnosis, believing it to be a fibrolipoma. A photograph of the tumor is given. [M.O.]

Journal des Praticiens.

January 5, 1901. [15me Année, No. 1.]

1. A Case of Mucous Colitis with Hemorrhage. TRIBOULET.
2. The Preparations of Copper for Internal Use. LIÉGEOIS.

1.—Triboulet gives the minute details of a case of enteritis, at first diagnosed dysentery. The acute attack over, but little blood or mucus appeared in the bowel-movements for a month. Then occurred daily attacks of colic, followed by mucous stools, with a great deal of blood, both bright and dark-red, mixed. During 50 or 60 days, the patient, a young girl of 20, lost 40 to 80 grams of blood daily. Under high injections of nitrate of silver the condition disappeared. [M.O.]

2.—Liégeois enumerates 7 preparations of copper which can be given internally, giving their doses and indications, and quoting authors who have used them successfully. [M.O.]

January 12, 1901. [15me Année, No. 2.]

1. Ano-rectal Fistula as a Premonitory Sign of Phthisis. ERNEST BARIÉ.
2. Abortion from a Medico-Legal Standpoint. PROFESSOR BROUARDEL.
3. The Heavy Metals in the Treatment of Anemia. PROFESSOR CERVELLO.

1.—Recent researches show that about 5% of all phthisical patients have fistula in ano. Tubercle bacilli are generally found in the pus, alone, or with staphylococci and streptococci. Though they occur, as a rule, with or after the pulmonary lesion, **they may even precede the phthisis**, by from 4 to 18 years. Barié reports 5 such cases, 2 of which had their exciting cause a traumatism. [M.O.]

2.—In performing an autopsy upon a woman who is supposed to have attempted abortion, search must be made for the embryo, or pieces of it; or for the placenta; or if the uterus is empty, the thickness of its walls must be measured, and the insertion of the placenta sought, as this can be recognized up to the tenth day after the expulsion of the embryo.

This is possible even later, if the uterus is kept in 90% alcohol. The examination of the ovaries is of only relative importance, as no positive signs exist there. Stains of meconium, if found, will prove the abortion. If an instrument has been used to cause abortion, traces of the damage done by it will be seen. This is especially true when the uterus has been perforated. Brouardel advises his students, should any one of them be called upon to do an autopsy upon a suspicious case, in which a physician is accused of having performed abortion, to ask that the accused physician be present at the autopsy to explain what he had done, and why he had done it; and then from the result of the autopsy it can soon be decided whether the accused is guilty or not. [M.O.]

3.—Cervello reviews the work done on this subject and reports some experiments upon dogs and chickens, in which **copper, zinc, manganese, and mercury acted like iron** in cases of **anemia** and chlorosis. He believes that under their use the hemoglobin in human blood will readily increase. [M.O.]

January 19, 1901. [15me Année, No. 3.]

1. Alopecia or Pseudoalopecia in Syphilis. ALFRED FOURNIER.
2. The Effect of Gout and Rheumatism upon the Eye. A. TROUSSEAU.
3. Headache Treated by Acetate of Ammonium. LIÉGEOIS.

1.—It is not rare that circumscribed areas of **absolute alopecia** occur in the scalp or beard in **syphilis**. They are small and few, well circumscribed, lasting a short time, but recurring often. This appears later on in syphilis, and is very different from that general thinning of the hair seen early in the disease, which never returns. Fournier concludes that it may be a manifestation of the syphilis, or a parasymphilitic result of the syphilis. Time may prove which. [M.O.]

2.—Trousseau notes that symptoms of **iritis** and **corneal sclerosis** may be the **first signs of gout or rheumatism** to appear in the descendants of gouty or rheumatic families. He reports a number of cases to illustrate this occurrence. He suggests treating these cases for gout or rheumatism at once. [M.O.]

3.—Headache after meals with flushes of heat, in neurasthenics, is unaffected by ammonium acetate. Nor has it any effect upon emotional headache with palpitation of the temporal arteries. But in the early morning headache of **neurasthenia** or **chlorosis**, **liquid acetate of ammonium** works very well in one dose of 6 grams. Liégeois has also used this successfully in pseudoangina pectoris, in ophthalmic migraine, and in dysmenorrhea, in nervous subjects. [M.O.]

Relations Between Malaria and General Paralysis.—From a study of 8 cases Marandon de Montyel (*Revue de Médecine*, November 10, 1900) concludes that acute **malaria** may produce progressive **general paralysis** or general pseudoparalysis in those who are predisposed. Chronic malaria, also, may produce progressive general paralysis in those who are predisposed, and probably may induce it in those who are not predisposed. Acute malaria may cause precocious progressive general paralysis in those who are predisposed. Malarial manifestations supervene, in the course of progressive general paralysis they are often complicated by cerebral congestions which aggravate the brain disease and hasten its evolution. The progressive general paralysis that develops under the influence of acute or chronic malaria nearly always has a rapid evolution. The relations of the two diseases are incontestable, although the one does not often manifest itself as a cause of the other. The symptomatology and the pathologic anatomy of general paralysis of malarial origin presents no special characteristics. The histories of the 8 cases are given. Of the patients, in addition to malarial infection 4 presented a history of syphilis combined with family history of neuroses; 1 gave a history of cerebral trauma; 1 presented a family history of nervous disease; and 1 had convulsions in infancy and suffered from nocturnal enuresis during childhood. One patient only gave a history free from hereditary taint of nervous disease, from syphilis, and from trauma. [J.M.S.]

Practical Therapeutics.

For Constipation with Flatulence.—Illoway (*New Orleans Medical and Surgical Journal*) recommends:

R.—Extract colocynth. co..... $\frac{1}{2}$ grain.
Terebinth. Veneta..... 1 grain.
Pulv. aloes, socot..... $1\frac{1}{2}$ grain.
Ext. nucis vomic..... $\frac{1}{2}$ grain.
Ext. hyoscyami (English)..... 1 grain.

M. ft. mass. et ft. pillul. No. 1. Sig.—One pill 2 or 3 times a day.

Treatment of Freckles.—Jamison (*British Medical Journal*) states: "Certain skins exhibit an exaggerated sensitiveness to light, but to only one of the methods in which such react will reference be made at present. Some individuals, particularly those with reddish hair, freckle readily during the brighter part of the year. This impressibility may be congenital, the result of changes due to age, or acquired as the consequence of excessive exposure to intense radiation. There can be little doubt that these freckles are an effort on the part of nature to protect areas which are from some cause more than usually delicate, to impart rapidly to limited spots the same safeguard which the progress of the ages has given to the darker races of humanity. The researches of Bowles have proved that it is the chemical rays which are thus active, and though their effects are most pronounced on uncovered parts, they are not restricted to these. They in this respect correspond to the x-rays, since freckles are met with on portions of the body on which the sunlight never impinges directly for any length of time, if at all. The most remarkable example of this susceptibility occurs in xeroderma pigmentosum. Not only have we intense freckling, but dryness and hyperkeratosis, at first diffuse, after a time taking on a warty and then a carcinomatous degeneration. Unna has suggested that by due protection from the chemical rays the freckling might be modified in this disease, the further malignant changes postponed or arrested, and amelioration, if not cure, obtained. A case of this kind has been under my care for two years and a half, and in it we have been able to check the advance almost perfectly. An ointment stained brown by the addition of raw umber has been pretty constantly applied to the face, a dark brown veil worn whenever the child (now six) has gone out, and the warts on their earliest appearance treated with salicylic collodion. In this way fairly perfect rest has been obtained for the abnormally tender skin."

Prevention of Gastric Fermentation.—Ewald (*New Orleans Medical and Surgical Journal*) recommends:

R.—Resorcin resubl..... 50 (75 grains.)
Bismuth salicyl. }
Pulv. rad. rhei. } of each100 (150 grains.)
Natr. sulph. }
Sacchar. lact.....150 (250 grains.)

M. Sig.—Make a powder; $\frac{1}{2}$ teaspoonful twice daily.

Contribution to the Study of Iodoform Poisoning.—Anschütz (*Beiträge zur klin. Chir.*, Bd. xxviii, H. 1, p. 233) reports a case of iodoform poisoning in a man 30 years of age after a third injection of 100 ccm. of a 10% iodoform glycerin emulsion into a psoas abscess. The symptoms in this case were as follows: Slight vomiting during the first day after the injection, a progressive somnolence beginning on the ninth day, a widely disseminated acne eruption, desquamation of the buccal mucous membrane, crust formation in the nose, agglutination of the eyelids, followed by increase in the reflexes of the lower extremities, and stertorous respiration. Large quantities of iodoform were found in the urine. In spite of the evacuation of the iodoform emulsion by means of saline irrigation, death followed after 2 days. The whole clinical picture presented a grave case of iodoform intoxication which heretofore had only been observed experimentally upon animals. The author considered the cause of this rare symptom-complex as due to the caseation of both suprarenal capsules, which was substantiated postmortem upon micro-

scopic examination. There were no symptoms of Addison's disease.

Therapy of Fibrinous Rhinitis.—F. Peltesohn (*Therapeutische Monatshefte*, September, 1900) recommends a solution of cyanide of mercury 0, 02: 50, for dissolving the membrane. The solution is applied with cotton on a probe and applied alternately to each nostril for one hour at a time. He reports astonishing results.

Amenorrhœa.—Bloom (*Gazette hebdomadaire de Méd. et de Chir.*, April 1, 1900) recommends the following for amenorrhœa:

R.—Strychnin, sulf.....0.002.
Acid oxal0.01.
Ferr. peptonat. } of each0.1.
Mangan. lact. }
Extract colocynth. comp0.03.

M. Sig.—One powder, three times daily, after meals.

The Therapy of Hemoptysis in Tuberculosis.—A. Hecht (*Therapeutische Monatshefte*, 1900, No. 10) has employed Huchard's pills (ergotin, quin sulphate, pulv. fol. digitalis, extr. hyoscyam., of each 0.1) in a number of cases of hemoptysis in tuberculosis. In all cases, upon systematic application of the remedy the hemoptysis was checked. Two cases that had withstood the customary remedies were checked after employment of these pills. The author believes that the hemostasis is not to be attributed to the ergotin, but to the quinin reinforced by the digitalis.

For Bronchial Asthma.—Goldmann (*Wiener med. Wochenschrift*, 1899, No. 43) reports 43 favorable results with Neumeier's asthma powder which consists of stramonium, lobelia, potassium nitrate, potassium iodid and sodium nitrite. There are no injurious manifestations. A teaspoonful of the powder is placed in a saucer, ignited, and the fumes slowly inhaled. The influence of the remedy is a local one, and it has an analgesic effect upon the mucous membrane.

Gargles in Acute Tonsillitis:—

R.—Tinct. belladonnæ..... $\frac{1}{2}$ dram.
Glycerini.....2 $\frac{1}{2}$ drams.
Decoct. althææ. enough to make6 ounces.

M. Sig.—Use as a gargle two or three times daily.—Schnitzler.

R.—Tinct. aconiti.....8 minims.
Syrupi aurantii.....3 drams.
Aquæ destil. enough to make.....2 ounces.

M. Sig.—One teaspoonful every two hours for a child of 4.
—J. A. M. A.

FOR LOCAL APPLICATION.

As a local application the following may be found of service in such cases:

R.—Iodin.....3 grains.
Potassii iodidi1 dram.
Glycerini enough to make1 ounce.

M. Sig.—Apply locally to the tonsils three times a day by means of a brush or cotton swab.—*Medical Fortnightly*.

AT COMMENCEMENT OF ATTACK.

R.—Tinct. ferri perchloridi.....1 dram.
Glycerini2 ounces.

M. Sig.—One teaspoonful every two hours.

Iron given as in the above form without the addition of water is by some authors regarded as a specific in treatment of tonsillitis, believing that it relieves the pain, shortens the duration and lessens the congestion, as it has a local as well as a systemic effect.—*Medical Fortnightly*.

Transitory Glycosuria in a Case of Acute Morphin Poisoning.—E. Adler (*Prager med. Wochenschrift*, 1900, No. 28) reports a case of transitory glycosuria in a woman, 20 years of age, who had taken about 10 cm. of a 5% morphin-solution. Examination of the urine showed on the day following the poisoning 0.7% of grape sugar, of which hardly an appreciable trace was left on the second day. The patient recovered on the third day. Pentoses were not found in the urine.

Original Articles.

CASE OF BLINDNESS FROM SYMPATHETIC OPHTHALMITIS, COMPLICATED WITH SECONDARY GLAUCOMA. RESTORATION OF VISION BY TWO IRIDECTOMIES, ONE WITH EXTRACTION OF LENS, AN IRIDOCYSTECTOMY, AND TYRRELL'S OPERATION OF DRILLING.*

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Sixty years ago Frederick Tyrrell, at that time Senior Surgeon to the Royal London Ophthalmic Hospital and Surgeon to St. Thomas' Hospital, London, England, wrote these words:¹

"Of the Operation of Drilling. There are many cases in which capsular or capsulo-lenticular cataract is produced by the extension of inflammation from the iris to the capsule. . . .

"In such cases the operation of extraction ought not to be attempted; because the adhesions between the iris and anterior part of the capsule of the lens, make it extremely difficult to get out the lens, after the section of the cornea is made; it cannot be accomplished without much violence; and, when effected, is most likely to excite deep-seated inflammation, which would be fatal to the organ; such has been the unfortunate result of the operation of extraction in nearly all cases of this kind in which I have known it to be performed.

"Some years since, the practice at the Ophthalmic Hospital, in the treatment of these cases, was to divide the iris and lens at the same time, by Maunoir's scissors, so as to form an artificial pupil, and expose the lens to the influence of the aqueous fluid. . . . The result of this practice was, however, so very unsuccessful, that I dreaded to undertake it; and, by careful observation, I had good reason to suspect that a great deal of the mischief which followed the operation, and proved fatal to the eye, resulted from the pressure and irritation produced by the divided portions of the crystalline lens, which were usually displaced by the operation.

"After much careful consideration of the subject, I felt satisfied that a much better result might be obtained by a modification of Mr. Saunders's operation for solution, by which the lens might be got rid of; and that, subsequently, Maunoir's operation might be performed with much less risk.

"The plan I adopted, and have since continued, is as follows:

"The patient being placed as if to undergo the anterior operation for solution, I have passed a very fine straight needle through the cornea at the outer part; and, then, directing the point to the anterior capsule of the lens close to the inner margin of the pupil (taking care not to injure the iris) and causing the instrument to penetrate the capsule, and enter the substance of the lens to the extent of about one-sixteenth of an inch, I have rotated the handle of the needle between the forefinger and thumb, so as to make the point act as a drill; and having secured an opening more free than could be effected by a simple puncture, then I have withdrawn the needle.

"By using a very fine straight needle, of uniform thickness, and by introducing it a little obliquely through the cornea I have frequently performed this operation, without the loss of a single drop of aqueous humor; and I have rarely found it produce any inflammation.

"According to the degree of absorption or solution, I have usually repeated this operation, every 3, 4, or 5 weeks; and have been careful to puncture the opaque capsule in a fresh place, at each operation; and this has generally enabled me so far to weaken or detach the portion of the capsule, occu-

pying the site of the pupil, that it has been easily displaced when the lens has become dissolved.

"The extent of the loss of lens may be ascertained by two means: first, the increase in size in the anterior chamber; secondly, by the resistance offered to the point of the needle; for as long as much of the lens remains, the operator may feel resistance to the point of the instrument; whereas, the capsule alone can hardly be felt.

"I think, upon the average, that I have had to repeat the operation seven or eight times before I have been satisfied that the lens has been removed; consequently the cure has been extremely tedious; but as the plan incurs very little risk, and does not confine the patient for more than two or three days after each operation, there can be no further objection to it than the slowness of its effects, which is more than counterbalanced by the success of the treatment.

"I have operated upon a considerable number of these cases by drilling; and have good reason to be satisfied with the result of the operation; in no instance has it produced inflammation of importance; and, out of the few cases in which it has failed to restore vision, I believe that the sensibility of the retina had been previously and permanently injured; for I succeeded in getting rid of the cataract, and in clearing the pupil to a sufficient extent to afford good vision, provided that the retina had retained sufficient power. It is impossible to decide upon the condition of the retina before operation; excepting so far as regards perception of light, without which the treatment should not be adopted.

"The operation is adapted to all cases of this class, both in young and old persons; for I believe generally that the lens is not opaque, but retains the ordinary consistence; and even when it is opaque in elderly persons in connection with and in consequence of the disease in the capsule, that it has not the hard character of the ordinary cataract.

"In most of these cases which I have operated upon by drilling I have been able to effect all I could desire by the fine needle only; but in a few instances I have been obliged, eventually, to make an artificial pupil by Maunoir's plan of operation; being unable to clear a sufficient space in the natural pupil to afford useful vision; and these operations for artificial pupil have been generally successful; proving that I had formed a correct opinion of the principal cause of failure in the cases submitted to Maunoir's operation whilst the lens remained."

This most graphic description is followed by the clinical histories of several cases occurring during the years 1836 to 1840. In all, there were the sequelae of gross inflammation in the anterior segment of one or both eyes.² In each one the procedure was tried with successful results.

Having had a favorable individual experience with the more recently devised operation of Critchett and Story³ for the laceration of the lens capsule and the evacuation of the lenticular contents in two cases of sympathetic ophthalmitis, which had been considered as irremediably blind, and being aware of Tyrrell's much earlier plan of drilling in cases of capsular or capsulolenticular cataract, induced me to try the latter operation upon a case of blindness from a complicated type of sympathetic disease which seemed to be peculiarly appropriate for the procedure.

As in Tyrrell's method, and unlike the Critchett-Story plan in sympathetic cases of two needles, I limited my instruments to but one, obtaining the capsular incision and producing the evacuation of the remaining lenticular contents by means of a fine, straight needle of the pattern described by Tyrrell.⁴

The result of a permanent $\frac{1}{3}$ of normal vision ($\frac{5}{18}$)

* From the description, it is probable that 1 or 2 of these cases were sympathetic in character.

¹ Critchett, Royal London Ophthalmic Hospital Reports, x, 2. Story: Transactions of the Royal Academy of Medicine, Ireland, 1880-1891.

² On Plate IX, in Tyrrell's work, the author figures the shapes and the sizes of the two forms of Saunders's needle he used; the one cutting only at the point, and the other cutting on each edge to the shaft. The latter pattern of instrument was the one I employed.

* Read by title before the Section on Ophthalmology of the Third Pan-American Medical Congress, held at Havana, Cuba, in February, 1901.

¹ A Practical Work on the Diseases of the Eye, and their Treatment, Medically, Topically, and by Operation. Vol. II, 1849, pp. 464-480.

in quite a large and well-shaped field, in a quiet and comfortable eye, was much more than I dared to expect in a case of this type of ocular disease.

Briefly, the history of the patient is as follows: On March 16, 1899, I received the accompanying note from Dr. Walter Lathrop, superintendent and surgeon of the State Hospital for Injured Persons of the Middle Coal Field of Pennsylvania, at Hazleton, Pa. "I have a young man here who lost his left eye. He had a piece of steel imbedded in the lens; I enucleated the eye, but the right one was already affected sympathetically. It was 15 weeks from the time of injury till I first saw him. . . . I feel as though he would lose the sight of the right eye. He has posterior adhesion of iris now, and some haziness of vision. . . . Will you take him at Wills' Eye Hospital for a few weeks and do what you can for him? . . ."

One week later, the patient, a 27-year old laborer, reported to my clinical service at the hospital. He stated that his left eye had been struck with a piece of steel some 6 months previously, and that in spite of treatment the eye became blind in 3 months' time. Dr. Lathrop, who brought him to me, told me that when he saw the patient for the first time on the 28th of January, 1899, he had found the injured eyeball so sore and the fellow-eye so irritable that he immediately enucleated the offending organ. Examination of the removed eye by him revealed the presence of a piece of steel imbedded in the ciliary body. Within a week's time after the operation, the right eye became violently inflamed. Since then, in spite of several exacerbations, the gross signs of inflammation in the eye had been kept in abeyance, though unfortunately with an ever-decreasing vision. The treatment employed consisted in the free use of boric-acid flushing and atropin instillations locally, combined with the internal administration of quinin.

When I first saw him, there were all the signs of a pronounced sympathetic iridocyclitis and iridocapsulitis. Marked ciliary injection existed. The iris, which had been originally light blue in color, had become greenish and metallic in tint. Its tissues were thickened, indrawn, and degenerate in many places. The pupil, which was undilated, was almost completely surrounded with rather dense and firm posterior synechia. Dense capsular spots and areas of newly formed connective tissue were plainly distinguishable in the remaining pupillary space. Intraocular tension was somewhat diminished, and slight tenderness in the ciliary region could be obtained by pronounced palpation. Vision was lessened to $\frac{1}{8}$ of normal. The fields of vision for green, red, and white were concentrically reduced to about $\frac{1}{2}$ of their relative areas. No scotomata or peripheral indentations could be found.

I at once admitted him into the wards of the hospital, and, in addition to his former treatment, ordered the employment of hot stupes with tri-weekly injections of solutions of chlorid of sodium deeply into the subconjunctival tissues.

As a result of 3 weeks' trial of this treatment, the eye became much more quiet. Free communication between the anterior and posterior chambers established itself through the irregularly, though but slightly enlarged pupillary area. The iris became healthier in tint and returned to its proper plane. The ciliary congestion lessened, and vision doubled in acuity.

At 10 A.M., on the eighteenth day after admission to the hospital, the patient complained of a severe attack

of pain in the eye. This, which the resident surgeon of the hospital relieved by the use of the artificial leech to the corresponding temple, became so excruciating, that I was sent for 5 hours later. Finding the gross signs of an acute attack of glaucoma with intraocular tension increased to plus 3, I immediately made a broad clean iridectomy down and in, in the position at which the iris tissue seemed to be the best adapted and most healthy. There was no accident, and no complications except the appearance of a slight hemorrhage from the iris into the anterior and posterior chambers. The tension of the eyeball at once fell to normal. On the following day the wound healed.

In a week's time, the blood in the chamber had disappeared, the eye was quiet and painless; and intraocular tension remained normal; but the colobomatous area was much smaller and fast becoming annihilated. New connective-tissue strands had appeared, and denser capsular thickenings had taken place, so reducing vision that the patient was unable to see more than light, though fortunately in a large, well-formed and uninterrupted field.

Fearing the occurrence of another attack of secondary glaucoma as soon as the communication between the two chambers had closed, I, 2 days later, made a broad iridectomy to the temporal side of the previous one. This done, I immediately, without the loss of any vitreous humor, extracted nearly the entire lens in a wire loop, removing all of the visible portions of the remaining lenticular matter with repeated flushings of warm sterile solutions of boric acid. After cleansing the field of operation, I, not fearing any glaucomatous exacerbation, instilled several drops of atropin, and carefully bandaged the organ. Iced compresses, directly applied on the dressings, were at once begun, and the patient was kept in bed.

The immediate results were more than I had expected. Both central and peripheral vision remained as before. The eye was quiet, intraocular tension was normal, and the new pupillary opening was fairly well preserved.

Feeling sure that with care no gross inflammatory reaction would arise, and that there was but a remote danger of another glaucomatous attack, I allowed the patient to return to his home for the summer months, enjoining him to continue the use of the atropin, not to attempt to employ the eye, and to return immediately to the hospital, should anything untowards occur.

In October, the patient, in accordance with promise, returned. The pupillary area having been lost from the low-grade irido-capsulitis, induced me first to endeavor to make a new one by the performance of Knapp's operation for irido-cystectomy.

This I did most successfully, obtaining a new pupil through both the iris and the underlying false membranes and thickened capsule. The opening, although irregularly shaped, was 3 by 4 mm. in size and was centrally placed.

The case was dressed and cared for in the same manner as before.

As a result, vision in a larger clear field again arose to what it had after the first iridectomy ($\frac{1}{3}$ of normal).

Again the patient was ordered atropin and permitted to return home.

On March 21, 1900, he reported once more. At this visit it was noticed that although the effects of the iridocystectomy had remained intact, yet a bulging capsular mass, apparently containing some dense material, was situated immediately behind the entire

pupillary area;—thus practically again reducing vision to light-perception.

The eye being unirritated and visual projection good, and not wishing to disturb the good results of the iridocystectomy, I had recourse to Tyrrell's method of drilling. Furnished with a good needle similar to that of Saunders, I followed the plan practised by Tyrrell with identical results; a few drops of translucent lens matter escaping into the anterior chamber through the broad opening made into the anterior capsule.

As an immediate result at the time of the operation, the patient was able with the aid of a convex spherical lens of ten diopters' power to see every motion given to a small lighted taper held some 10 meters' distance away. This rough test was most promising.

No reaction ensuing in one month's time and the patient having a corrected vision of one-third of normal ($\frac{5}{15}$), he was told to continue the use of the atropin and was allowed to wear a properly-chosen cataract lens.

At present writing, nearly one year since the completion of the series of radical procedures instituted for the restoration of the patient's vision, the conditions remain unchanged, the eye is quiet, the sight is still one third of normal, and the patient is daily employed in making his living as a laborer in the coal mines.

Remarks.—For a number of reasons the clinical history of the case is both interesting and important: The retention of the foreign body in the injured eye for 15 weeks' time—with the production of sympathetic disease before the enucleation of the offending organ; the marked increase of the gross symptoms of sympathetic iridocyclitis and iridocapsulitis one week after the removal of the primarily inflamed eye; the abeyance of the coarse signs of the inflammation by the employment of appropriate treatment; the continuance of the low grade inflammatory changes in the anterior segment of the organ; the occurrence of the attack of acute glaucoma, with its relief by a promptly performed uncomplicated iridectomy; the making of the second iridectomy and the successful removal of the bulk of the crystalline lens by means of a wire loop without the loss of any vitreous humor in order to prevent the recurrence of the glaucomatous condition; the persistence of the painless iridocyclitic and iridocapsulitic processes until, when seen for the second time, 6 months later, the pupillary area was lost; the restitution of the pupil by the performance of a Knapp's iridocystectomy; the preservation of the new pupillary area with the appearance of the underlying capsular and lenticular mass extending over the entire pupil space again reducing vision to the perception of light; and at last, the obtainance of a large permanent opening through the capsulolenticular mass by the drilling operation of Tyrrell giving the patient an acuity of vision of one third of normal:—all may be mentioned as worthy of citation.

The use of diphtheria serum in Italy, and other countries as well, is likely to receive a severe check, says the (London) Chemist and Druggist. The Serotherapeutic Institute of Milan made a batch of serum on November 24, into which the tetanus bacillus was accidentally introduced. The result has been that eight persons on whom the serum was used have met with horrible deaths from tetanus. The institute was instantly closed, the serum was destroyed, and an effort made to recall all supplies in the hands of dealers. The accident naturally caused a great scare in Italy.

A CASE OF UNILATERAL, PROGRESSIVE, ASCENDING PARALYSIS.¹

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IN the April (1900) number of the *Journal of Nervous and Mental Disease*, Dr. C. K. Mills reported a case of unilateral, progressive, ascending paralysis, probably representing a new form of degenerative disease. His patient was a man, 52 years old, who, about 2 years before coming under observation, had been noticed to occasionally stub his right toes and scrape his right heel, and to give other evidences of slight weakness or awkwardness of the right lower extremity. The man was sure that the weakness in the right lower limb came on slowly. It was not until the implication of the right lower limb had been apparent 18 months that he noticed any weakness of the right upper limb. This weakness gradually became more perceptible, and a tendency to carry the limb against the body and flexed at the elbow was present. The weakness in the upper limb was much less than that in the lower, and some paresis of the face was detected. The right lower limb became wasted. A distinct Babinski reflex was not obtained, and no changes in the fundus were observed. I had an opportunity to examine this very interesting case. As the man was an intelligent physician his statements were reliable.

Unilateral, progressive, ascending paralysis is not a common symptom-complex, and yet a case very similar to the one reported by Dr. Mills has come under my care at the Polyclinic Hospital during the past year:

A peddler of Jewish parentage, from Austria, 41 years of age, who denies all venereal disease, began 4 years ago to feel weak in the left lower limb while walking. This weakness gradually became more intense, and in about a year his left upper limb began to get gradually weak. He is positive that about a year elapsed after the implication of the lower limb before he felt any weakness in the left upper limb. He was not unconscious at any time, and has never had vertigo, headache, vomiting, nausea, or convulsions. Diplopia has never been observed. At the present time the movements of the left lower limb are very spastic but not in the least ataxic, the toes of the left foot are scraped along the ground in walking and the left foot is turned inward. The movements of the right lower limb are not spastic. The patient states that he is obliged to have a new sole put on the inner side of the left shoe every 4 weeks, as he wears away the shoe by constantly scraping it along the ground. The right kneejerk is prompt, but the left kneejerk is much more so. Ankle-clonus has been obtained on the left side, but not on the right. Babinski's reflex is very distinct on the left side, but is uncertain on the right side. The resistance to passive movement in the left lower limb is below normal, but the spasticity seems to be even greater than the weakness. Sensation for pain, touch and temperature is normal everywhere over the body. The lower limbs are fairly well developed, the left thigh in about its central portion measures in circumference 39.5 cm., the right 40 cm. The reactions to the galvanic current are normal when the electrode is applied over the left external popliteal nerve or the muscles on the outer side of the left leg below the knee. Some rigidity on passive movement is felt in the left lower limb. The man stands well alone on either limb.

The resistance to passive movement and the grasp of the hand are distinctly less in the left upper limb than in the right. The tendon reflexes in the left upper limb are exaggerated. Von Bechterew's scapulohumeral reflex on the left side is also exaggerated, and at one time a clonus of the upper arm was obtained. The left upper limb is held slightly flexed at the elbow and against the body, but no

¹ Read before the Philadelphia Neurological Society, October 22, 1900.

contractures exist in any of the muscles of the body. The weakness of the left upper limb is much less than that of the left lower limb. No atrophy is found in any of the muscles. The man uses the right hand almost alone in undressing himself.

Speech is normal. The mouth cannot be drawn up as well on the left side as on the right, and slight flattening of the left side of the face is noticed. The tongue goes slightly to the left when protruded.

The man has never had any rectal or vesical disturbance except that he occasionally finds some difficulty in retaining the feces.

An examination of the patient's eyes was made by Dr. H. F. Hansell, May 19, 1900. His report is:

"We find in the right eye the media clear, fundus normal, myopia 3 D. In the left eye the media are clear, arteries small, veins normal, edges of disc distinct. The nerve head is white, the atrophy probably being spinal in origin, as there is no indication of a previous neuritis. Myopia 6 D. Reaction of pupil is normal."

This case, therefore, is very similar to the one reported by Dr. Mills, but the duration of the symptom-complex has been longer. The optic atrophy in the left eye, in association with the left-sided weakness and spasticity of the limbs, is a singular observation, the significance of which cannot be determined. A *slowly developing* paresis with marked spasticity of one lower limb, *extending after a year* to the upper limb of the same side, though in less intensity, and implicating very slightly the left side of the face; associated with exaggeration of all the tendon reflexes on the left side of the body and with a very distinct Babinski reflex, is a most striking symptom-complex. While the patient at present presents much the condition of one with ordinary hemiplegia, the history of the affection distinguishes it fully. He has never had anything resembling an apoplectic stroke. The heart is normal. The right side of the body is not implicated, except that the kneejerk on this side is very prompt. The greater implication of the lower limb is not common in hemiplegia resulting from a focal cerebral lesion.

The case can hardly be considered one of neuritis. The exaggeration of the reflexes, the unilaterality of the symptoms, the absence of sensory disturbances, etc., exclude neuritis.

An atypical form of disseminated sclerosis might be thought of, but this disease seems hardly probable. The usual symptoms of disseminated sclerosis are absent, and it would be an extraordinary grouping of the sclerotic foci which would leave the right side of the body intact and cause a gradually ascending and spastic paresis of the left side, very pronounced in the lower limb, less so in the upper, and still less so in the face.

Within a period of 4 years some more distinct symptoms of disseminating sclerosis would be expected.

Hysteria hardly seems probable on account of the absence of hysterical stigmata, the presence of the Babinski reflex, the left optic atrophy, etc.

The case might be thought to be one of unilateral amyotrophic lateral sclerosis. Probst, in his paper in which he has collected a large number of cases of this disease, states that in 9 amyotrophic lateral sclerosis began in a hemiplegic form. I have examined these abstracts as given by Probst, and when the cases seemed to have any relation to mine I have studied the original papers. None of these cases correspond with those of gradually ascending unilateral paralysis reported by Dr. Mills and myself. The one that has the greatest resemblance is reported by Vierordt. A man, 48 years old, began in August, 1878, to have weakness of the right lower limb, and in the early part of 1879 weakness

of the right upper limb; then atrophy of the thenar and interosseous muscles of the right hand developed. In 1880 weakness and atrophy were observed in the left upper and lower limbs. The disease therefore extended within a few months from the lower limb to the upper on the right side, and within two years the left extremities were implicated. Amyotrophic lateral sclerosis, even when in rare cases it begins in a hemiplegic form, has a much more rapid course than the progressive ascending unilateral paralysis as seen in Dr. Mills' case and mine, and atrophy, which was absent in my case after four years' duration of the disease, begins early. Optic atrophy, however, has been observed in amyotrophic lateral sclerosis (Lannois and Lépine).

The possibility of a cerebral lesion implicating first the center or the nerve fibers for the lower limb, and later those for the upper limb and face must be considered. A hemorrhage could hardly produce the symptom-complex, although thrombosis might. We should expect more symptoms after a period of four years if the cause were tumor or abscess, and in my case all distinct symptoms of intracranial disease were absent. The man never had nausea, vomiting, headache, vertigo, convulsions, optic neuritis, or mental disturbance, and optic atrophy which he did have on one side is not necessarily a sign of cerebral disease. We cannot, however, exclude the possibility of some intracranial lesion as the cause of the symptoms.

Dr. Mills believed that a gradual degeneration of one pyramidal tract would best explain the symptoms in his case. The symptom-complex caused by primary degeneration of the central motor tracts consists of gradually developing paresis and rigidity, especially in the muscles of the lower limbs, spastic paretic gait, exaggeration of the tendon reflexes, integrity of sensation, absence of marked muscular atrophy, absence of disturbance of rectum or bladder, absence of vasomotor or trophic signs and of mental symptoms. The course of the disease is chronic and the affection is often stationary for years. Death is usually from an intercurrent disease.

The cases of lateral sclerosis with necropsy are exceedingly rare. I can refer to those of Dreschfeld, Dejerine and Sottas, Friedmann, Ida Democh, and Meyer, and yet not one of these five cases was entirely uncomplicated. In Dreschfeld's case some of the cells of the anterior horns were diseased; in Dejerine and Sottas' case the columns of Goll were not perfectly intact in the cervical region; in Democh's case symptoms of neuritis were present, and in Friedmann's case and Meyer's the direct cerebellar tract was not normal. These cases seem to show, however, that isolated primary degeneration of the pyramidal tracts is possible, but that a sharp distinction between such a form of degeneration and combined systemic disease is difficult or impossible.

The case reported by Dr. Mills and the one by me have the symptoms one should expect from unilateral lateral sclerosis, but we can hardly dare to hope that the pathology of the affection will speedily be determined, inasmuch as it has taken about 25 years to establish the possibility of primary bilateral degeneration of the pyramidal tract. The symptoms in our cases could best be explained as the result of unilateral degeneration of the pyramidal tract, but we are cautious in saying that this is the condition present.

Dreschfeld at first reported that the nerve cell-bodies of the anterior horns were normal, but he is said to have modified this statement later.

The recognition of a disease or a symptom-complex is usually first made from its clinical features, and the pathology of the affection is determined later. The reports of clinical cases of ascending progressive unilateral paralysis are, therefore, desirable. We have yet to learn the pathology of many well-recognized diseases. Obersteiner said at the recent Congress in Paris that when he began his medical studies few organic nervous diseases were known. Little was known of the pathology of tabes or disseminated sclerosis, and still less of syringomyelia.

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CAVITE FEVER.

By B. L. WRIGHT, M.D.,

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AMONG the unclassified and unnamed fevers which were found to exist in the Philippines, upon the American occupation of these islands, was one with which the medical officers of the navy, attached to the Cavite Naval Station, came in immediate, constant, and close relationship.

The disease is constantly in evidence, usually in epidemic form.

Almost invariably every fresh arrival at the station contracts the disease within the first 2 or 3 weeks after taking up quarters on the peninsula.

At different times during the last year and a half 4 battalions of marines, consisting of from 300 to 400 men and officers each, in addition to numerous naval officers and bluejackets, have been quartered at the naval station, or within the limits of the Cavite peninsula.

Fully 70% of them have had the disease one or more times.

Those who leave the station, and, after a short absence return, are just as prone to become victims of the disease as are fresh arrivals from the United States or other parts of the Philippine group.

As far as I have been able to ascertain this fever is endemic, and principally confined to the immediate vicinity of the peninsula of Cavite; a strip of land not more than $4\frac{1}{2}$ miles long by $1\frac{1}{2}$ miles wide.

Sporadic cases of the disease are seen in other parts of the islands, but not often. Early in July, 1900, the U. S. S. *Manila*, then on her way to Sandakan, British North Borneo, had an epidemic of what I believe to have been this disease, break out, which temporarily incapacitated fully three-quarters of her crew, and all but one or two of her officers.

The disease is unknown in Borneo, and it was evidently contracted in Cavite, the *Manila* having left the navy yard at that place some 7 or 8 days prior to the outbreak.

Naturally the disease has been carefully studied by those officers of the medical corps of the navy who have been on duty at the station, and they have gradually separated it from other existing fevers, and by common usage it has become known as "Cavite fever,"* under

which title I have the honor of presenting it in this paper.

Cavite fever is an acute infectious disease, characterized by an abrupt onset, high temperature, severe muscular pain, and extremely tender and painful eyeballs. The predisposing causes are high temperatures, low, damp localities, overcrowding, and possibly the close proximity of salt water. The exciting cause is supposed to be, and undoubtedly is, microorganismal, although as yet nothing is known of its nature. Of the pathology we know nothing, as deaths from this disease have not been observed. The period of incubation is from 2 days to 2 weeks. The disease is of sudden onset, usually commencing with a slight chill; in a few hours the temperature rises to a 104° or 105° and may even reach 107° .

The face is flushed, the eyes injected, extremely painful and tender; the skin burning hot; the pulse full, strong and rapid; the respiration accelerated, and the mind frequently delirious; the patient extremely prostrated.

Nausea and vomiting are usually present, the bowels constipated, and the urine scanty and high colored. Headache and muscular pain are severe; the latter usually located in the muscles of the back and legs, but occasionally in those of the arms and shoulders. The temperature usually continues high, for from 3 to 5 days, when it falls by crisis; the muscular pain may or may not cease with the fall of temperature.

Relapses are not common, but second, third, and even more attacks are not unusual.

This disease is most apt to be confounded with dengue, but the absence of an afebrile period, and the rash, followed by a second febrile attack of definite duration, enables one to distinguish it from that disease. The absence of catarrhal symptoms separates it from catarrhus epidemicus.

The treatment should be as follows: Rest in bed, with a liquid diet. The bowels should be freely opened by a brisk saline purge, and kept regular by small and frequently repeated doses of calomel. Such drugs as antipyrin, phenacetin, or acetanilid, and small doses of quinin should be administered.

A good combination, which also includes the proper amount of calomel, is as follows:

R.—Antipyrin 3.8 grams.
 Quinini sulph. 1.2 grams.
 Hydrarg. chlor. mit. 0.1 grams.

M. ft. Cap. No. XII. Sig.—One capsule every 2 or 3 hours.

The high temperature should be controlled by sponge baths, or by "tubbing," and an ice-cap should be applied to the head. For a week or 10 days after recovery, tonics, such as iron, quinin and strychnia, should be given.

I am strongly of the belief that the muscular pain is due to a toxic peripheral neuritis.

Several cases of this condition, with foot-drop and muscular atrophy, occurred on the station, which at the time were ascribed to other causes, but which I am now inclined to believe were the toxic effects of a former attack of Cavite fever.

A case of complete atrophy of the right supraspinatus, infraspinatus, teres major and minor, and the trapezius, associated with dislocation of the right scapula, and drooping of the shoulder, occurred in the case of one of the officers of the U. S. S. *Manila*, and when seen last, just before he left for the United States, the left shoulder and arm were becoming affected.

* So named by Surgeon George Pickereil, U. S. Navy, Surgeon of the Yard and Station. He was one of the first to study the disease and to classify its symptoms.

EXOPHTHALMIC GOITER OF SYPHILITIC ORIGIN.¹

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IN presenting this communication, I am not unaware of its inadequacy. The clinical data therein contained are not sufficient to engage the attention of my fellow practitioners. But the truth remains, now as ever, that the bedside is mightier than the laboratory; and that one carefully observed *clinical* fact is more useful to the patient and his medical attendant than a thousand slides and sections.

The three cases, to be presently described, carry with them a strong hint at the etiology and treatment of a very obscure and obstinate disease. And as he who runs may read, so he who doubts may try.

CASE 1.—Mrs. C. H., 35 years old, mother of three children. Her family history is good. Her personal history was good until the spring of 1894. At that time she contracted syphilis from her husband. The initial lesion was a large ulcer situated on the right labium majus. In due time the secondary symptoms appeared in the form of small and large papules. The eruption was severe and universal. At this stage she came under treatment. I may add that the mouth, tonsils and pharynx contained many mucous patches.

This woman was put on daily mercurial inunctions, 5 grams per dose. After receiving 50 rubbings of the ointment all the luetic manifestations disappeared, and the patient, though not the doctor, believed herself cured, perfectly and forever.

Five months later, the same victim visited the office with new patches in her mouth. On this occasion she also presented an enlarged thyroid gland and protruding eyes. Her story was that "the swelling of the neck and the bulging of the eyes came on simultaneously two months ago." Coincidentally with this she grew short of breath and experienced a distressing palpitation of the heart, which, according to her statement and language, "made her very nervous."

Mere inspection of the patient was enough to establish the diagnosis of exophthalmic goiter. The three cardinal symptoms of the disease were present to an extent to enable a tyro to interpret their meaning. The staring, bulging eyes; the enlarged, soft and pulsating thyroid, and the rapid heart action (from 110 to 120 per minute) were in evidence to a convincing degree. Anemia and tremor of the hands were quite marked; Grafe's and other minor signs were absent.

While the mucous patches were treated locally with silver, her other trouble was combated with the regulation medicines, namely: strophanthus, digitalis, ergotin, arsenic, and iron, producing absolutely no effect on the morbid condition of Basedow's. At the lapse of 8 weeks of trial and trouble, the woman began to complain of excruciating headaches, occurring especially in the night. This additional misery necessitated the administration of an iodid. The saturated solution of iodid of sodium was chosen, to be taken in gradually increasing doses. Beginning with 15 drops the patient reached the dose of 2 drams within 12 days. The relief from her headaches was established in a few days. Hand in hand with this, signs of improvement in her other morbid phenomena were appreciably noticeable. The pulse slowed; the goiter diminished and the eyes visibly receded. The drug was continued, after the headaches had gone, with short intermissions, for a period of 2 months when the exophthalmic goiter with its retinue of symptoms vanished. The woman had no return of the ailment ever since.

This case made a deep impression on me and naturally set speculation agog. Here is a woman in whom the syphilitic process is still smouldering, as evidenced by the appearance of patches in the mouth and head-

aches in the night. Now this woman develops a typical form of Grave's disease. Then, upon the energetic exhibition of one of the old therapeutic stand-bys of lues, the disease melts away as if it were a gumma or a specific periostitis. The conviction forced itself on me, as it would, I have no doubt on many another, that the exophthalmic goiter in this patient was caused by syphilis and cured by remedies antagonistic to syphilis.

Still, as one swallow makes no summer, so one case makes no conclusive evidence. And so the written notes and the mental comments lay smouldering until the generous "law of multiplicity" threw another case into the crucible of experience, namely:

CASE 2.—Mrs. Y. K., 36 years old, married, mother of 5 healthy children. Family history good. Personal history: In 1894, shortly after the birth of her last child, she had a sore on her vulva, followed by enlarged inguinal glands. A few weeks later, she says, "blotches" appeared on her body and forehead. Her throat troubled her and the hair of the head was rapidly falling out. These symptoms and conditions she distinctly remembered. Instead of consulting a physician she chose to be treated by a friend, a man who served as orderly in a "European Hospital." The treatment apparently satisfied the patient as she made no effort to see or be treated by a medical man. In 1896, two years after her initial trouble, her history and status were briefly as follows: Three unprovoked abortions, a flattened nose due to destruction of the septum and a large perforation of the hard palate. There was a goiter of considerable size; mildly protruding eyes, and a heart action of 90 to 100 to the minute. These latter slowly came on during 1895. In every other respect the patient was well. The woman's main desire was to get rid of the "swelling of the neck which disfigured her."

Treatment.—Daily inunctions for 6 weeks; result: complete disappearance of the exophthalmic goiter and no recurrence of it since then.

Now, in analyzing this case, the following facts and conclusions are preeminent: The patient's own story, though not couched in learned words, is strongly suggestive of an attack of syphilis of no remote period. The sore on the genitalia; the enlarged inguinal glands; the "blotches" which might correspond to a roseola or papular syphilide; a sore throat which might have been mucous patches; and, lastly, a falling of the hair, which needs no comment or explanation. This strong suspicion of syphilis becomes incontrovertible evidence of it, when the patient appears for treatment 2 years later—the three spontaneous abortions, the deformity of the nose and the destruction of the hard palate, all of which developed since the occurrence of the genital sore and the cutaneous "blotches." With this history and this anatomical evidence before me, there was no escape from the lurking suspicion that the patient's syphilis might be the parent of her exophthalmic goiter. The proof afforded by the result of the treatment supplies overwhelming evidence in favor of the belief that this case of Basedow's disease was unquestionably of syphilitic origin.

In anticipation of a natural question which may be asked regarding the different specific remedies which were employed in the two cases, to wit., iodid of sodium in the first and mercury in the second. The answer is this: The first woman having been under my care almost from the very inception of her affliction has received a proper and methodical mercurial treatment. And when she returned a few months later complaining of syphilitic headaches the iodid was given, and with marked benefit all around, including the exophthalmic goiter. In the second woman, however, the assumption

¹ Read before the New York State Medical Association (New York County), January 21, 1901.

was that her medical attendant, the orderly, did not and could not put her on mercury, enough, at least, to do her good, and so she was given the benefit of inunctions with the stated satisfactory result.

CASE 3—Sadie K., a woman 27 years old, single. She does not know much about her family. Father and mother died from causes unknown to her. Her history is as follows: At the age of 20 she adopted an immoral life. In a short time gonorrhea knocked at her door, and she had scarcely finished entertaining this visitor when a hard chancre availed itself of her hospitality. In 1897, when she considered herself cured and in good health, she began to have palpitation of the heart. This kept up for about 3 months, when the thyroid gland began to enlarge. Her eyes were always well and showed nothing abnormal at this examination. For a year she was treated by private and dispensary physicians with no result. In 1898 she came under my treatment. She then presented a typical goiter, and a pulse ranging from 110 to 130, very nervous and very despondent. The story of her syphilis was so plain and perfect that it could not have been told better by an amateur specialist. The only physical sign that could be found to corroborate her history of infection, however, was a very slight leucoderma on one side of her neck.

As this case appeared to be in line with the two preceding ones, the patient was accordingly put on iodid of sodium, saturated solution, until she took 3 drams a day. The good effects of the immense doses of the drug began to show in less than a month. The heart-action was wonderfully improved and the diminution in the size of the goiter was appreciable from week to week. In 10 weeks, during which time the treatment was suspended for a few days, the whole pathological condition was obliterated. Tonics and improved nourishment restored the woman to perfect health.

An attempt was made to administer mercury by injection and inunction, but the patient had an unconquerable repugnance to mercury in any shape, form or manner, even when it was ordered as hydrargirum.

This is the sum total of my successful experience with exophthalmic goiter. The line of treatment in each and all of the three cases proceeded from a clear and definite conception of the etiological factor, which was presumptively, if not positively, responsible for producing the disease.

In reviewing the clinical memoranda which are presented in this paper, a few running comments and conclusions are, perhaps, justifiable:

1. The occurrence of exophthalmic goiter in three undoubted syphilitics cannot be regarded as either an accident or coincident.
2. The old dictum which relegates the origin of exophthalmic goiter to a perturbation or disturbance in the cervical sympathetic system should receive attention only after the existence of syphilis, present or past, be absolutely excluded.
3. Those cases which yield to mercury or iodids should be favorably looked upon as being of syphilitic origin.
4. Cases in which all the orthodox remedies fail should be put to the test of specific treatment.
5. Cases which are characterized by gangrene of the extremities, various pigmentation of the skin, nocturnal headaches, or other suspicious luetic symptoms, should receive the benefit of specific remedies.

In conclusion, I must plead ignorance of any literature bearing on the relation of Grave's disease to syphilis. Should such exist, I shall then find consolation in the wise man's saying that "there is nothing new

under the sun." On the other hand, should I be treading on virgin soil, I leave it to you to cultivate it, so that in the near or distant future a better and larger harvest can be gathered and reported by the tillers and toilers of our exalted science.

THE SURGICAL IMPORTANCE OF APPARENTLY SIMPLE CARBUNCLES AND FURUNCLES OF THE UPPER LIP.

By CHARLES A. POWERS, M.D.,

of Denver, Col.

IN 1886 or 1887, a young physician, attached to the out-patient department of the Chambers Street Hospital, complained one day of a small boil on his upper lip. This was moderately tender and painful. He said that he felt generally indisposed and thought that he would stop work for a day or two. Two days later we were greatly surprised and grieved to learn that he was dead with all of the symptoms of acute pyemia and septic meningitis.

During the winter of 1890-1, Dr. B. E. Vaughan brought to me a young gentleman, a student in the College of Physicians and Surgeons, who was suffering with a moderate-sized carbuncle on the left side of the upper lip, just below and without the ala of the nose. The swelling was hard, brawny, indurated, and tender, the entire right side of the lip was considerably swollen, the swelling extending well up on the cheek alongside of the nose to the margin of the orbit. This cheek swelling was also brawny and indurated. The young man felt quite ill; his pulse was 110, his temperature 102°. He had severe headache. He was at once sent to the New York Cancer Hospital, now known as the General Memorial Hospital, where I speedily operated under ether. Incision into the carbuncle revealed no free pus, but the ordinary necrotic area which we see in carbuncles, occurring, let us say, at the back of the neck. This necrotic area was fairly wide, extending over an area $\frac{1}{2}$ of an inch in diameter, its depth going to the mucous membrane of the lip. It was found to be continuous with another necrotic area at the seat of a brawny cheek induration, and the incision was carried outward and upward into this. The entire necrotic area was thoroughly excised, the incision extending necessarily well up toward the margin of the orbit. The wound was packed and an ordinary dressing applied. The temperature and pulse promptly fell, and in 3 or 4 days the young man felt entirely well. The wound healed from the bottom, leaving a rather ugly scar.

On the morning of August 11 of this year Dr. S. G. Bonney kindly asked me to see a young gentleman of 17 years who had a furuncle of the upper lip of about 24 hours' standing. This furuncle was of moderate size, perhaps half as large as half a cherry, brawny, indurated, tender, and painful. The entire lip, more especially its left side, was greatly swollen, and this swelling extended to the left cheek. The cheek was not indurated. The young man felt rather ill; his temperature was 101, his pulse about 100°. The nature of the swelling was explained to his parents. They were told of the danger of septic thrombosis of the facial veins, this extending to the cerebral sinuses and causing a rapid and fatal pyemia. They readily assented to operation, and 2 hours later the young man was etherized at St. Joseph's Hospital, and the necrotic area of the furuncle thoroughly excised through the smallest possible incision. The wound was packed and left to heal from the bottom. The symptoms promptly subsided. At the end of 24 hours the young gentleman was removed to his home, and 2 days later he was out and about. The resulting scar is small, and so placed that it will in due time be concealed by a moustache.

Dr. Bonney, who first saw this patient, said: "I remember that many years ago, while a student at the Harvard Medical School, I was impressed by a statement made by Professor Cheever in his lectures on sur-

gery. He said: 'One of these days it may happen to some of you to see a rapidly forming, brawny carbuncle of the upper lip. Remember that these are fraught with extreme danger. The septic process rapidly occasions a thrombosis of the facial veins, this leading to a speedy pyemia and death.'

On August 30 of this year a young man of 22 entered my office suffering with a furuncle of the upper lip, much like that just described, except that the brawny area was located somewhat near the angle of the nose and was beginning to extend upward on the cheek. It was of about 48 hours' duration. It had been exceedingly painful, the young man felt quite ill. His temperature was 100°, his pulse 104. The patient was at once removed to St. Luke's Hospital, where the necrotic area was excised under ether. The main area in the lip proper was about $\frac{5}{8}$ of an inch in diameter, extending well down to the mucous membrane. This was continuous with a necrotic area on the cheek just outside and above the ala nasi, this last area being about half the size of that in the lip. Through the smallest possible incision the entire mass of necrosed tissue was removed. Dr. W. C. Mitchell, professor of bacteriology in the University of Denver, was present and took cultures. The growth showed a pure culture of the *Staphylococcus pyogenes aureus*. The outer and upper angle of the skin-incision was sutured, the rest of the wound packed with iodoform gauze and the usual dressing put on. Twenty four hours later the pulse and temperature were normal; prompt recovery followed.

The foregoing cases are typical of a condition which is fraught with great danger and the importance of which is perhaps insufficiently appreciated by many practitioners of medicine. Unless these carbuncles or furuncles are promptly and thoroughly excised, rapid thrombosis of the facial veins, extending to the cerebral sinuses, is apt to ensue and a speedy and fatal pyemia supervenes. Excision had best be done under general anesthesia, and the earlier it is performed the smaller will be the necessary incision with its resulting scar. It is seen from the foregoing cases that even a moderate delay may necessitate the excision of a large necrotic area from the cheek. In certain cases it may be possible to do the operation through the mucous surface of the lip. This incision is especially useful in women. The danger in all these cases is not from the bacteriological form of the infection but from its location.

A CASE OF COCAIN HABIT OF TEN MONTHS' DURATION TREATED BY COMPLETE AND IMMEDIATE WITHDRAWAL OF THE DRUG.

By GEORGE WILLIAM NORRIS, A.B., M.D.,

of Philadelphia.

R. C. B., a dentist by profession, aged 30, presented himself at the Pennsylvania Hospital as a voluntary patient in December last, and came under the care of Dr. A. V. Meigs with the following history:

Ten months previous to his admission he had suffered severely from hemorrhoids, for the relief of which he had used cocain locally by rectal injection. On cessation of pain he still continued to use the drug in daily increasing doses [now per hypodermic injection] on account of its stimulating and exhilarating effect; and when first seen at the hospital had been taking on an average 16 grains per diem.

He stated that until within a week he had daily attended to his practice; doing, he thought, as good work as at any time, but accomplishing less in the course of 24 hours, and feeling a constant tendency to procrastinate. Time to him passed very rapidly; minutes seemed like seconds, and he experienced a continual, voracious, insatiable appetite. When taking alcohol, to which he had at one time been addicted, he found that it counteracted the effects of the cocain; larger doses of this drug being required to produce

the usual effect. Insomnia was constant unless he took cocain; upon the injection of which in small doses he slept well for one or two hours, when its repetition was necessitated. Single large doses kept him awake. For several months he had been troubled with hallucinations of hearing, and while semiconscious of his true condition, had avoided street cars and public gatherings where he imagined voices accused him of being a "cocain fiend," etc. At night he would wander from room to room in his efforts to escape the voices which he heard talking about him, calling out, "Look, he's going to take another;" and while reasoning with himself on the subjective character of his troubles, yet was impelled by their vividness to flee from them as from real existences.

During the week previous to his admission he had had syncopal attacks, whenever injections were omitted for more than two hours, and, as he said, he had been very "excitable," having broken several hypodermic needles in his muscles. About this time he became alarmed at his symptoms and sought aid at the hospital.

Physical Examination.—A prematurely gray, lean, pale individual, with marked mydriasis, a slight tremor of the hands and tongue, restless, furtive glances, excited speech and indistinct articulation. Temperature, 97; respiration, 20; pulse, 88. The skin of his arms and legs shows innumerable hypodermic punctures. The first sound at the apex—sharp, short and high pitched. No murmurs. The other organs, as well as the urine, negative.

Treatment.—Complete withdrawal of cocain. Strychnin sulfate, $\frac{1}{16}$ gr., every fourth hour. Sulfonal, 20 gr., repeated in two hours.

On the first night the patient slept fairly well; on the second he required no hypnotic whatever; and except for the relief of an obstinate constipation needed no more active medication than the strychnin. He volunteered the information that he felt like his former self for the first time for many months, and that time once more seemed real to him. He complained of no craving for the drug and was allowed to leave the hospital a week after his admission [having pleaded financial obligations] on promising to place himself under medical surveillance.

The interesting features of the case are: 1. That sudden and entire withdrawal of the cocain after long-continued use in large doses required no more active therapeutic substitution without producing physical effects. 2. That the patient after the first 12 hours seemed to experience so little craving for the stimulant but remained contentedly in bed, reading the newspapers, and suffering none of the agonies usually experienced on the discontinuance of a long-established drug habit.

On looking over a considerable number of reported cases of acute and chronic cocain intoxication, the following facts have been gleaned which it may be of interest to tabulate:

1. Cocainism is the most insidious of all drug habits. The use of the drug being unaccompanied by disagreeable after-effects—headache, nausea, vomiting, etc., which are met with after the ingestion of opium or alcohol—the vice is readily and rapidly established.

2. Cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol.

3. Cocain is eventually tolerated by the system in huge doses. (One case is recorded where 60 grains were daily consumed.)

4. A relatively large number of habitues are found in the medical and dental professions. (It is said 30%.)

5. The continued indulgence in cocain invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration.

6. The smallest fatal dose on record is $\frac{1}{2}$ grain hypodermically.⁵

7. While many cases of acute intoxication are being continually reported, there are relatively few fatal cases. The majority of such are the result of large doses injected into the urethra and bladder, *e. g.* :

5 fluidrams of a 5% solution into urethra.¹

6 fluidrams of a 5% solution into urethra.²

8. The amount of cocain sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes becoming proportionately more frequent.

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REPORT OF A CASE OF ENORMOUS VENTRAL HERNIA; OF A CASE OF DERMOID CYST OF THE OVARY; AND OF A CASE OF PROFOUND SHOCK FOLLOWING A CRUSH OF THE ARM.¹

By FRANCIS T. STEWART, M.D.,

Out-Patient Surgeon to Pennsylvania Hospital; Associate in Surgery, Philadelphia Polyclinic.

I AM indebted to Dr. Martin for the privilege of operating upon and reporting the following cases:

CASE 1.—A. C., aged 40 years, was subjected to abdominal section four years ago for pelvic trouble, the nature of which is unascertainable. She remained in the hospital one year and was kept supine several months. A small hernia was noticed two months after operation; this rapidly increased in size as she began to walk about. The patient is thin but apparently strong. The bowels are always sluggish and often obstinately constipated, but there are no evidences of interference with the other abdominal organs. The heart, lungs, and urine are normal. When the patient is standing, a large, soft, tympanitic tumor projects from the abdomen and hangs down below the pubes. When she is lying down, the protuberance disappears, and after persistent efforts at reduction a mass the size of two fists still remains. The ring formed by the separation of the recti extends vertically for 7 inches and laterally 4 inches. Two surgeons had seen the case and refused to operate.

She entered the Pennsylvania Hospital December 19, 1899, was put in bed and given mild aperients for 10 days without any material diminution of the hernia. Under ether an incision was made from just below the ensiform process down nearly to the pubes; the thickened sac was immediately encountered and opened; it contained the lower half of the stomach, all of the transverse colon, and most of the small intestines including omentum and mesentery. Adhesions were numerous and dense. Owing to the diminished space within the peritoneal cavity almost all the omentum was excised with the sac. The intestines, "having sacrificed their right of domicile in the abdomen," were most difficult to replace; they were attacked, with the patient in the Trendelenburg posture, with a great deal of force, a large amount of coaxing, and were finally induced to return to the abdominal cavity. The peritoneum was closed with a continuous catgut suture; each rectus was loosened from its sheath, slid inwards, and united to its fellow by heavy chromicized catgut (I should use silver wire in a future case), and the skin was sutured with silkworm-gut. Broad adhesive strips were applied to support and strengthen the belly wall. The operation consumed 1½ hours. There were considerable shock and much vomiting. The respirations registered 60 to the minute, remained rapid for one week, and were out of all proportion to the pulse-rate. The patient was kept in bed one month. After two months there was no recurrence.

In most cases of very large hernia, operation is said to be unjustifiable because of the difficulty and often

impossibility of accomplishing reduction, on account of the increased danger to life, and for the reason that it is usually fruitless, the rupture reappearing and rapidly attaining a large size. We attempted operation in the case under consideration because of the increasing intestinal interference and unmanageableness of the tumor, believing that we at least could make the opening small enough to be covered by a truss, and in order to gratify the patient, who appreciated the peril and the uncertainty of cure, but who was willing to hazard any procedure essayed to mitigate her distressing condition.

CASE 2.—A. B., aged 33 years, was admitted to the Pennsylvania Hospital January 29, 1900. She had had one child, 1½ years before. The menses had been absent 6 weeks, during which time she complained of pelvic pain and leukorrhea. Bimanually an adherent mass could be felt behind the uterus on the right side. A diagnosis of ectopic gestation was made. At the operation the mass proved to be an inflamed dermoid cyst of the ovary, containing fatty detritus, cholesterine, compound granular cells, pus cells, and two perfectly formed but atypical teeth. The recovery was uneventful.

Formerly cases of this character were regarded as imperfect ovarian pregnancies with or without sexual intercourse; the ovary was thought to be autogenetic; and the absence of menstruation, which sometimes precedes the discovery of the cyst, lends credence to this view, which still has its advocates. The fact that the ovary alone is selected as the seat of dermoids in preference to all the other abdominal organs, makes the inclusion theory equally difficult to comprehend.

CASE 3.—N. T., male, aged 23 years, was brought to the Pennsylvania Hospital October 14, 1900, by the patrol wagon. He had been found lying under a freight train with a badly mutilated left arm. He was cold, unconscious, wet with rain, and covered with dirt and cinders. The pulse could scarcely be felt, the respirations were shallow, the pupils dilated, and the axillary temperature approximately 88° F. The thermometer would not register, its lowest marking being 90°. With heat and stimulants the temperature reached 100° during the course of 10 hours. The arm was then amputated just below the shoulder joint. It was remarked that the axillary vein contained a thrombus extending far above the point of ligation. The patient reacted from operation and seemed to be doing very well, when he suddenly and unexpectedly expired, 5 hours after operation, from, as we believe, a large embolus blocking the pulmonary artery. There was no autopsy.

THE TREATMENT OF POSTOPERATIVE HERNIA.*

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of New York.

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THE cure of postoperative hernias is only by operation. These herniae are formed at the site of some previous abdominal operation. They are developed in the scar which gradually yields to the intra-abdominal pressure. The sac is formed of thinned skin and peritoneum united by attenuated scar-tissue. The omentum is usually united to the cicatrix and behaves often as in a typical umbilical hernia. The hernial ring is formed by the edges of the muscular and fascial layers of the abdominal wall welded into a compact whole by

¹ Read at a meeting of the Philadelphia County Medical Society, December 26, 1900.

* Read, February 7, 1900, before the Society of the Alumni of Bellevue Hospital.

scar-tissue. Strangulation does not appear often and if present is usually caused by a constricting band.

These ruptures are usually easily and completely reducible as regards the intestines, but, as just stated, in the majority of cases the omentum will be found adherent to the bottom of the sac. The following cases will illustrate the various conditions found in this class of hernia and the steps of the operation for their cure.

CASE 1.—Charles C., age 20, admitted to the Harlem Hospital October 16, 1895. Patient had been operated upon about one year previously for an inguinal hernia by O'Hara's method. A truss was worn after the operation. Seven weeks previous to admission to the hospital he left off the truss and the hernia reappeared while lifting. Examination shows a left inguinal hernia, reducible, but causing him great pain and interfering with his health. October 20 a Bassini operation was performed, after excising all the surrounding scar tissue. The internal inguinal ring was large, a large piece of omentum lay in the sac which reached to the scrotum. There were many old adhesions present. The omentum and sac were removed. Silk was used as a ligature for the sac and to close up the various muscular layers. The skin was united with the same material. The wound was slow to heal. Two or three sutures had to be removed to give vent to a bloody discharge. It finally closed, with the exception of a small sinus that discharged a few drops of pus daily. At his own request he was discharged December 16, 1895. Later he entered the Post-Graduate Hospital in the service of my friend, Dr. De Garmo. The doctor wrote me that nothing operative was done, that after a while two or three silk sutures were discharged and the sinus closed quickly. He was discharged with a firm scar and no return of the hernia.

CASE 2.—Alvin E., age 25, admitted to the Harlem Hospital January 4, 1896. November 8, 1895, was operated upon in Buffalo for septic peritonitis due to a perforated appendix. The wound was drained for nine days and then allowed to heal by granulation. Examination shows a scar 5 inches long, parallel with and just above Poupart's ligament; the center of the scar is over the middle and outer thirds of the ligament. The gut comes out through an opening just to the outside of the normal internal inguinal ring, and runs down under the skin along the front of Poupart's ligament into the scrotum, presenting many appearances similar to an indirect inguinal hernia. The hernia is easily and completely reducible. Operation, January 7. Incisions were made in normal tissues alongside the scar, exposing in turn all the muscular layers, a well formed hernial sac was present which was treated as in an inguinal hernia, being dissected free, ligated as high up as possible, and removed. The wound was closed as in a Bassini operation for radical cure of an inguinal hernia. The cord was placed in the outer angle of the incision, the transversalis and internal oblique muscles sutured firmly behind it to the inguinal ligament and the external oblique closed over the cord down to the external ring. Silk was the suture material, applied interruptedly in the two inner muscles, and continuously in the external one. The skin was closed with silkworm-gut and the wound sealed with aristo-collodion. Result: primary union. Patient discharged January 22, 15 days after operation. Union firm. He was seen February 23, when he was at work in a printing office lifting plates that weighed 60 pounds each. During the day he lifted and carried 240 of these plates, or 14,400 pounds. May 1, result remains absolutely perfect.

CASE 3.—Julia R. was operated upon at the Harlem Hospital by the writer September 21, 1896, for a general septic peritonitis due to a gangrenous and ruptured appendix. The peritoneal cavity required free drainage. The peritoneum, muscles, and skin were sutured with silkworm gut in a single layer, as haste was imperative. The child recovered and was discharged in a month, with a sinus present, which closed in December. The scar was a weak one and a hernia developed as large as a hen's egg. The covering of the hernia was very thin. The margins of the muscles could be plainly felt as a thick ring about the hernia. She was readmitted to the hospital and operated upon January 6, 1897. Incisions were made on each side of the scar and the cicatrix removed. The cicatrix included the skin and

peritoneum. The muscular margins were welded together by the cicatricial tissue. The cecum was adherent to the peritoneum along the inner margin of the scar. The peritoneum was dissected free about the margins of the wound and sutured. The adhesions of the cecum were not disturbed. The muscles were then separated and sutured separately by chromic gut applied continuously. Silkworm-gut was used for the skin and the wound sealed with collodion. Result: primary union. The child was discharged January 20, 16 days, with a firm line of union. Examined 6 months later the scar was solid. Both sides of the abdomen appeared just alike.

CASE 4.—Emma L., age 28, admitted to the Harlem Hospital January 12, 1897. Three months previous a median laparotomy had been performed in one of the city hospitals. A hernia in the scar soon developed. Operated on January 18, 1897. The ventral scar, 5 inches long, with the omentum adherent to the peritoneum was excised. The hernial sac was composed of omentum, peritoneum, superficial fascia and skin all blended by scar tissue. The peritoneum, recti muscles and the rectal sheath were sutured separately with silk, and the skin with silkworm-gut. Result: primary union. Discharged February 1 with solid scar and no hernia.

CASE 5.—Nellie Mc., age 28, admitted to Harlem Hospital December 21, 1897. April 1, 1897, an ovariectomy had been done. About the middle of November she noticed a slight bulging in the scar; this increased in size, and on admission, a rupture 3 inches in diameter was present. December 22, operation. The usual incisions were made on either side of the scar in sound skin. These incisions exposed the margins of the recti muscles. The peritoneum was opened alongside of the cicatrix, which, with some adherent omentum, was removed. The abdomen was closed with silk. The peritoneum, the recti, the sheath of these muscles, and the skin were sutured separately and continuously. Result: Primary union throughout. The patient was discharged January 11, 1898, with a firm scar.

CASE 6.—Kate S., age 40, domestic, admitted January 30, 1898, to Harlem Hospital. October, 1896, she had been admitted to a city hospital with diagnosis of rheumatism of the right hip. In a week's time an abscess appeared and ruptured. An incision was made for free drainage, and a quantity of pus was discharged. The scar from this incision ran along the crest of the ilium and down into the thigh across Poupart's ligament. September, 1897, a hernia appeared in the scar and gradually increased in size, but was not painful until January, 1898, then the swelling became tender, red, and warm. On being admitted there was found a well-marked hernia at the site of the former operation, together with a fluctuating swelling adjoining it on the outer posterior side, evidently containing pus. January 31, operation. An incision, parallel with the first one, was made into the abscess and a large quantity of pus evacuated. This pus-cavity was behind the peritoneum, and filled the iliac fossa, and extended upward into the flank. The abscess was undoubtedly due to a previous appendicitis. What appeared to be the stump of the appendix was found; although lying behind, it was not connected to the cecum, and was so much changed by surrounding granulation tissue that its origin could only be surmised. The abscess was thoroughly cureted and treated with H_2O_2 . Free drainage was secured by a large tube passed through the back external to the quadratus lumborum and above the iliac crest. The repair of the hernia was now undertaken. This was particularly difficult because the original incision had been made so close to the iliac crest that the abdominal muscles had been severed at their very origin, and being carried down into the thigh, Poupart's ligament had been cut away from the iliac spine. The abdominal muscles were freed near the marginal scar and sutured separately to the crest of the ilium. The transversalis and internal oblique more to the iliac fascia, the external oblique carried over the outer margin of the ilium and sutured firmly to the fascia lata. Poupart's ligament was reformed by this means, and by suturing the three muscles firmly to the fascia lata internal to the iliac spine. Silk was used for the muscles and silkworm-gut for the skin. The wound healed nicely. The abscess cavity was drained from the back until it closed. Three months after the operation the wound was solid, there was no sagging along Poupart's ligament, and no indications of a return of the hernia.

To make the consideration of this subject complete the conditions which predispose to the development of postoperative hernia must be mentioned, as well as the measures which should be used to minimize these factors at the time of the operation. The position and manner of the incision is of some consequence. Post-operative hernias are rare above the level of the umbilicus, and if present usually do not require operation; hence, incisions above this level will be ignored.

Regarding the placement and manner of making incisions in the lower abdominal zone I will state my own preferences. If the condition is to be reached by traversing the muscular layers and an aseptic operation can be probably performed, the gridiron incision is best. On the other hand, if pus is probably present a clean cut through the muscles without separation of their fibers is used. If the trouble is more centrally located the incision should be made in the median line. Division along the semilunar line or through the rectus muscle possesses no advantage over a median incision, but many disadvantages, as division of nerves, vessels, more trouble with hemorrhage, difficulty of readily and quickly enlarging the incisions, attending tearing and laceration of muscular tissue, and no guarantee that hernia will not result.

Make the incision sufficiently long to do quick work. The length of the incision does not seem to determine the rapidity of healing, nor does it determine the absence or presence of a hernia in the future. The chief factor in prevention depends upon the closure of the abdominal wound by the accurate and separate coaptation of the various layers, with some slowly absorbable material. There are two conditions which interfere with this important procedure. One is the necessity of maintaining drainage through the wound; the other, the state of the patient demanding such haste that the abdominal wall has to be closed quickly en masse.

Failure to properly close the peritoneum allows the viscera, usually the omentum and intestine, to become adherent to the wound. This arrests the free mobility of the intestines, and later on favors the development of a rupture. Abdominal drainage is less used now than formerly, because it has been demonstrated that in many instances the peritoneal cavity may be thoroughly cleansed by hydrogen peroxid and copious flushing with salt-solution, and complete closure of the wound made possible.

If drainage is necessary it can often be secured through some place even better than through the abdominal wound, as through the vagina in pelvic cases. However, some cases must be drained through the wound.

If gauze is used it should be wrapped around with rubber tissue, as suggested by Dr. Morris. This prevents troublesome adhesions to the muscular layers and abdominal viscera. With this drainage, or with tube drainage, the wound should be closed by separate sutures of the various layers close to the drain, in order to obtain primary union throughout the greater part of the incision.

A danger attending wound treatment in cases that must be drained is, that the raw surface of the wound may become infected, suppurate, primary union be prevented and a long cicatrix formed. Scar tissue is weak tissue, and if present in any considerable amount favors the development of a hernia. The treatment where hernia has resulted may be palliative or radical.

Palliative treatment by belts, bands, strapping, or trusses must be used in such individuals as will not submit to operation, and in those where an operation is contraindicated on account of the danger of using an anesthetic.

The radical or operative treatment depends for its success upon just two factors. First, isolation of the various layers forming the abdominal wall; and second, the accurate and separate union of the several layers for a sufficiently long time to obtain solid union.

Although the means for cure can be thus briefly and simply stated, like many other conditions, the execution is at times very difficult. A few practical directions may not come amiss:

1. Make the incisions on each side of the old scar in healthy skin, even though a large segment must be excised.

2. Look for and recognize the various muscular or fascial planes at a distance from their involvement in the scar, then incise the layer near the scar, but in normal tissue.

3. Divide the peritoneum far enough from the cicatrix so that its normal features are easily recognized.

4. Severe adhesions of the hernial sac to viscera or omentum, between ligatures when necessary.

5. An omental stump is to be covered up by rolling it into the omentum and keeping it there by a running suture of free catgut. Bare surfaces of intestine should be covered by bringing the peritoneal coats together. Subsequent adhesions are thus prevented.

6. Close the wound with chromic catgut.

It is taken for granted that all oozing has been arrested.

The peritoneum is united by a continuous strand of No. 0 chromic gut. The muscular layers by No. 1 if they are thin and weak, or No. 2 if thick and strong. These sutures are interrupted. They may be the ordinary through and through, mattress or Lembert, according to the individual requirements. The aim is to secure perfect coaptation of the divided muscular fibers. When there is tension, long relaxation sutures must be applied to remove the strain from the marginal ones.

The fascial layer is closed by continuous or interrupted stitches of No. 1 chromic, and the skin by a single strand of No. 0 applied subcutaneously.

The wound is protected by a light dressing and supported by rubber adhesive bands. Although in most of the cases reported silk was the suture-material, its use was necessary in the absence of suitable chromic gut, and my preference is for the latter, if perfectly fresh and sterile. The reasons for using a slowly absorbable material in all hernial and abdominal operations have been thoroughly established and need not be repeated here.

Rest in bed for at least 3 weeks should be observed when possible, because the line of union between the various layers cannot acquire the strength of the united tissues themselves in less time.

Use no truss afterwards. An abdominal belt without pads may be worn for comfort, but is not necessary.

Bristol Dispensary.—The annual report of the Bristol Dispensary for 1900, which has just been issued, states that 10,060 patients were treated during the year and that medical assistance was also given in 24 difficult midwifery cases. The committee add that the branch of the dispensary at Bedminster is much appreciated and that the number of patients attended is larger than in the preceding year.

ON THE DIETETIC MANAGEMENT OF TYPHOID FEVER.*

BY DAVID INGLIS, M.D.,

of Detroit, Mich.

AWAY back in the time when typhoid fever was first differentiated from the other continued fevers, some one originated the milk diet for this disease; and the medical profession, being subject to human frailties, has gone on accepting the milk diet as the proper treatment for typhoid fever, with a singular disregard of the facts, which pass under their observation, year after year. Theoretically, it would seem that physicians, in active practice, would reason out for themselves whether the milk diet were, really, what it is claimed to be or not; but it is a remarkable fact in all human history that men have accepted, for generations, not what they know to be true, but what they have assumed to be true, and so it has been with the medical profession and the milk diet in typhoid. It has been assumed that milk is a liquid and that it is readily assimilated and leaves little or nothing to pass through the bowels; and, upon this assumption, it has been further assumed that the nutritious qualities of the milk have served to keep up the patient's strength to the greatest possible degree, and that thus the two main indications in typhoid fever have been fulfilled; first, the avoidance of irritation of the ulcerated Peyer's patches, and therefore the prevention of hemorrhage, and, second, the maintenance of the general bodily nutrition. These assumptions have been quietly accepted by countless thousands of physicians, notwithstanding the fact that, at the termination of the fever, the patient has been found to be emaciated to an extreme degree, demonstrating visibly that the bodily nutrition has not been maintained to any high degree, but quite the contrary.

Let us take the first assumption, that milk is a liquid which is readily absorbed and leaves little or no detritus to pass through the intestines. The fact is that the serous portion of the milk is absorbed through the gastric mucous membrane, but this constitutes but a small part of the bulk of the milk. The casein of the milk is rapidly turned into a solid, which is not digested in the stomach but is passed on into the intestines. When a patient has a pretty steady diarrhea he usually succeeds in passing out the casein in small flocculent curds, and, as long as he succeeds in doing so, he remains tolerably safe from one of the dangers of this deceptive fluid. If, however, he does not have a sufficiently active diarrhea the casein is liable to form masses of scyballae, not only in the large intestine but high up in the small intestine. Wilson, writing in the *Columbus Medical Journal*, says that, in a number of postmortems on typhoid-fever cases, he had always found curds of undigested milk in the stomach and portions of these curds in the small bowel, where they were forming ideal foci for fermentation and breeding-grounds for various microbes. Every physician who has had an extensive experience in typhoid fever is familiar with that exceedingly unpleasant complication which occurs, by no means unfrequently, toward the end of the fever, in cases in which the early diarrhea had stopped, or which occurs, even during the progress of the fever, in cases uncomplicated by milk diarrhea, the condition in which the rectum and colon become filled with impacted feces. The physician who has once scooped out

from the rectum the dense, hard masses, so hard, in many instances, that, before attempting to break them up and remove them, it is necessary to soften them by injections of oil or soapsuds, every physician who has had this experience knows that this dense mass consists of nothing, practically, but milk. It is an entire mistake to regard milk as a liquid in diet. It is a liquid in the tumbler, but we ought always to think of it as solid food. It becomes a solid in the stomach, it enters the small intestine a solid, and it passes through a solid. If the original assumption be true, that it is wise to feed the patient so that there shall be as little as possible of irritating detritus passing down over the ulcerated glands, then certainly milk does not fill the requirements.

Not only is the milk diet, in typhoid fever, logically unsound because of the large amount of solid substance which it sends down through the small intestine, where it is liable to act as an irritant, but it is a dangerous diet because it forms an admirable culture-medium for various bacteria. That it is an admirable medium for the spread of the specific bacillus of typhoid fever is undoubted. Whenever an epidemic breaks out and we attempt to trace the source of the intoxication, we search, first, for a defective water-supply, and, if we do not find the source of contamination there, we immediately begin to follow the routes of the milk men. A large number of epidemics have been traced, accurately following a single milkman's route. If the milk can carry the poison into the patient in the first place, the large amount of undigested residue of solid milk, in the small intestines, would seem to form an admirable breeding-place for the further development of the specific germ of typhoid, but the question is a much wider one than simply the spreading of typhoid bacilli. At a recent meeting of the Detroit Academy of Medicine Dr. Dock read a paper on the treatment of typhoid fever. In the discussion I brought up the point just alluded to, and Dr. Dock's reply was to the effect that, after the first intoxication, in typhoid fever, the bacillus of Eberth was found, not so much in the intestinal canal or on the mucous membrane, but in the deeper structures of the intestinal wall, in the intestinal and mesenteric glands, as well as in more distant glandular structures. It was argued that, therefore, the attempt to produce intestinal asepsis was useless, as the specific bacilli were out of reach. Such an argument, while it may be technically correct, loses sight of a very essential series of facts. I suppose that no one would, for a moment, assert that all of the bacilli of Eberth left the intestine and were taken up in the glandular structures, for, were this so, there would not be the slightest danger of conveying the disease to others, by means of the dejecta of a typhoid-fever patient. Now the fact is that, throughout the disease, the stools of the patient contain the specific germs in such quantities that we all thoroughly understand that it is from this source—practically from this source only—that the disease is propagated to others; it therefore is demonstrable that the specific bacilli of the disease remain in the intestinal canal, and there is every reason to believe that masses of undigested milk may very easily form a breeding ground for the bacilli, and so furnish a constant intoxication of the patient; but, even were there no typhoid bacilli left in the intestinal canal, there are other bacilli which will thrive with equal rapidity in milk, and there is every reason to believe that not only in typhoid fever but in many other diseases the real

* Read before the Detroit Academy of Medicine.

danger to the patient proceeds from the secondary intoxication. Stop, for a moment, to consider the phenomena of an ordinary case of consumption. The patient is infected with the tubercle bacillus. Under ordinary circumstances, as long as the infection is purely tuberculous, the patient's progress, from bad to worse, is but slow. He has, indeed, fever, cough, emaciation, and a small amount of expectoration, often almost none; so he may continue for a considerable time, slowly getting worse. Once let some portion of the lung-substance become necrosed and a secondary streptococcus infection take place, notice what a rapid change occurs. He now develops hectic fever, night-sweats, profuse expectoration, diarrhea. It might almost be said that the great danger of the tuberculous patient was that of a streptococcus infection. It is the secondary infection that starts him on the rapid downward course. Take, again, the phenomena of diphtheria. The primary infection is by the Löffler bacillus. The exudate in the throat is the result of the primary infection. While it is true that our efforts ought to be directed to overcoming the primary infection with all possible speed, does any physician feel justified in neglecting attention to the exudate? Not at all. Indeed, he recognizes that the exudate forms a focus for a constant reinfection of the patient. Not only does the exudate form a focus of reinfection by the Löffler bacillus, but by the streptococcus as well. And again there is reason to believe that no small part of the danger of the diphtheric patient arises from the secondary infection. We ought to keep precisely the same reasoning in mind in the management of typhoid fever. It does not seem a question of the primary infection of Eberth's bacillus alone, but anything which facilitates a constant reinfection by the Eberth bacillus or a secondary infection by streptococci or the colon bacilli, adds enormously to the patient's dangers.

On these grounds, then, it seems to me that we have made a radical mistake in feeding milk to typhoid-fever patients. Osborne, in an article in *THE PHILADELPHIA MEDICAL JOURNAL*, in December, 1899, has this to say:

"In typhoid fever, constipation keeps the partially digested milk or other nutriment long in the intestines, the mucus and ulcerative sloughs remain in situ, and thus beautiful culture grounds for all sorts of bacilli and cocci are formed, while in addition, the colon bacillus adds its toxins to the rest. Next, fermentation increases and gas is formed, and tympanites occurs with its discomfort and dangers of perforation and of hemorrhage from distention; meanwhile the action of the heart will be impaired as a consequence of abdominal distention. All of this increases the fever and the cerebral toxemia. If one has a doubt of what such bowel stoppage causes, he has but to recall instances in which a case of irregular chills, heavily coated tongue, profound headache, high and continued fever, concentrated urine, constipation, and tympanites has been proved, by absence of the malarial plasmodium from the blood and the negative Widal serum reaction, to be neither malarial nor typhoid, but a pure case of bowel infection."

Let us return now to the other assumption of the advantages of milk diet, to wit: that milk keeps up the nutrition of the patient to the highest possible degree. Does it? Let any man who has carried his typhoid-fever patient through, giving abundance of milk, and who sees his patient reduced to a skeleton, ask himself the question, "does it?" The fact is it does not. The patient comes out at the end of the fever emaciated until he could hardly become emaciated any further. His pulse is weak; it could not become much weaker and the patient live. It would certainly seem that no

other food could have brought the patient to a condition any worse, as far as his nutrition is concerned. I think the physician, looking at the emaciated typhoid skeleton, might even ask himself, "How much thinner would my patient have been if he had had no food whatever?" It would seem, therefore, that the primary assumptions so commonly accepted on close examination are proven to be wrong one and all. Now there is another side. Before the patient calls the doctor, in typhoid fever, he usually has a period of from a week to ten days of general malaise during which he has a moderate degree of fever, a good deal of headache, and a moderate diarrhea, if any; he is sick, but he is not very sick. Finally the doctor is called. The patient is put to bed and measures are taken, one way or another, to moderate the fever. Theoretically he ought at once to begin to be somewhat better, or, at the very least, he ought not to grow rapidly worse, for now, lying in bed, he ought to save his strength and abate his fever, even if nothing were done for him. What happens? The officious doctor, eager to keep up his patient's strength, begins to insist on his taking considerable quantities of milk. The patient, led by nature's own indication, has been eating practically nothing. Now the fever begins to climb, step by step, day by day, until within three or four days it reaches its high point, and now the physician enters upon a long fight in which he endeavors to keep the fever within moderate bounds. It may be that the patient is put into the bath and the temperature is forced down, only to run rapidly up in the next two or three hours, when another bath is given. So the temperature see-saws, inevitably rising as soon as the effect of the bath has passed off, and meantime the patient is being fed casein, although the doctor knows very well that the patient's digestive powers, as far as his stomach is concerned, have practically ceased, and the digestive power of his small intestine is even more precarious. Nevertheless down goes the casein.

It has been my amusement to visit Mt. Clemens, the "Mecca" of rheumatic patients from all parts of the United States. I have seen patients who had scraped together, with great difficulty, enough money to come to Mt. Clemens, take a bath every morning, be rubbed, scrubbed, sweated, in a vigorous attempt to eliminate the rheumatic poison, and then, three times a day, sit down in the dining-room, study over the bill of fare, in which the hotel-keeper had provided an admirable menu consisting for the most part of meat and eggs, and then I have seen the patient eat more nitrogenous food at one meal than he could wash out of him by the bath the next morning. It seemed a most astonishing thing to see a man, three times a day, putting into himself the very substances out of which is formed the poison which he is laboriously trying to get out of himself. Precisely analogous is the process of forcing food on our typhoid patients. The primary infection of the typhoid bacillus takes place by way of the sound mucous membrane. When the bacilli have begun to fill up the glandular structures connected with the intestine, the disease is established and must take its course, but without a fresh and continued infection it would seem reasonable to believe that the period of activity of the bacilli would come to an end within a reasonable time. If the intestines were emptied, as far as possible of all substances, which could form a culture ground for bacilli of any kind, the process of reinfection would, thereby, be reduced to a minimum. While the primary infection was pursuing its course, a certain waste of

the tissues of the body would undoubtedly take place, but the probability is, that the febrile process would very soon become limited, by the absence of pabulum. In so far as the serous part of the milk is absorbed and, in so far as a portion of the casein is digested and absorbed, it is a question deserving of careful investigation, whether these foodstuffs do not simply serve to feed the fever. That the feeding of fevers in the so-called supporting treatment, is devoid of the striking advantages claimed for it, is shown by the statistics of the Massachusetts General Hospital. In these the mortality is shown to have been practically the same in the days when purging, bleeding, and low diet were employed, as it is when the feeding and supporting treatment are used. Now the old treatment of low diet included bleeding and purging. Our medical ancestors were as dangerous to their patients as we are to ours, only in a different way. If they had been content to let their patients have a low diet and lots of pure air and pure water they would, I think we will all agree, have had better results had they omitted the bleeding and used only so much purging as would keep the intestines fairly free from putrefying contents. They had a pretty good idea at the bottom of their purging process, but they overdid it. When the reaction came we went too far the other way, and, in a desperate attempt to support our patients, we also have sinned by overdoing.

A curious series of experiments on animals has been made, which has shown that feeding does not increase the vital resistance in fevers. Inoculated animals were found to survive any given infection, with little or no food better than those fed liberally. I know that it takes nerve to see a typhoid-fever patient gradually wasting both strength and flesh as the fever goes on, and refrain from putting, what to a well man is nourishing food, into the patient. We do not see the dark red stomach, containing far more mucus than gastric juice; we cannot compel our imaginations to make real to us the swollen, cyanosed, almost or quite necrotic mucous membrane of the small intestine. If we could imagine these internal conditions so vividly that it was all as clear to us as the dusky face, the shrunken arms and legs, the hollow eyes, it would be easier for us to resist the impulse to put a lot of stuff down out of sight and hope for the best.

It has been my fortune to advocate the principles I now contend for, in consultation at the bedside. The doctor says: "Yes, doctor, I believe you are right in theory; I can see that the stomach is practically unable to digest food, that the intestinal mucous membrane not only has long since lost its normal function but is apt to be damaged by irritant substances and putrefying ones; you may be right that the fire of the fever would be less intense and would burn down sooner if we didn't keep piling on fuel, but just look at the patient! See how thin he is! How weak his pulse! Some time I'd like to discuss your theory with you, but I guess this time I will go on feeding."

It takes nerve to take an infant suffering from cholera infantum, take it away from the mother's breast, cut off cow's milk, or food of any kind, and keep the baby on sterilized water and Epsom salts until the nearest approach possible to intestinal asepsis is secured, but, fortunately, the profession has learned that degree of courage.

I am well aware of the limitations of my own personal experience in typhoid fever, but at least I have

seen this. I have seen patients whose fever kept springing up after the bath like a steel spring, patients whose brains were so poisoned that delirium was deepening into coma, come out into moderate fever and a clear head within 48 hours after the forced feeding was stopped and a water diet instituted.

We are oppressed by this fear of starvation. Starvation is a slow process. Dr. Tanner demonstrated that 40 days' starvation is endurable provided the patient drinks plenty of pure water.

The ideal diet for typhoid fever is pure water in abundance. This will keep the excretions by skin, lungs, kidneys, and liver up to their best, and our typhoid patients need to keep all means of elimination of poison in fullest activity, providing it be not a prostrating activity. The action of kidneys, liver, and skin induced by superabundant water is never prostrating. This cannot be said of action induced by drugs. It is not enough to give the patient as much water as he may happen to crave, we must use our scientific imagination to picture the very large quantity of water which goes out by the lungs; notice how quickly the moistened tongue becomes parched; we must realize the evaporation from the skin; consider the diarrhea and the urinary needs; then put in water enough to keep all these in full activity.

People have imbibed enough of current medical opinion to make it difficult to stop our present dangerous overfeeding. Even were the attending physician convinced of the safety of the pure water diet, the friends will insist that the patient's strength must be kept up. In such cases any of the best advertised meat-juice foods (so-called) can be utilized. They contain little real food value, and are, fortunately, mostly absorbed in the stomach, and so leave little or no detritus to go through the bowels. There comes a time in the course of the fever when the patient's appetite returns. This is always a difficult period. Pressure by both the patient and the patient's friends is very great. It is hard to resist the cry for all kinds of food and lots of it, yet there is probably no man who reads this who has not had the bitter experience of seeing his patient quickly relapse after some newly-tried indulgence in food. It seems to me that the best rule to follow is this: Give such foods as are most completely digested and absorbed in the stomach; keep steadily in mind that while the stomach may be acting but poorly, the intestinal condition is far worse. Still we should send down from the stomach as little detritus as possible. A tender lamb chop or a poached egg is safer than a tumbler of milk; safer now, safer all the way through.

One thing I wish to add in the matter of stimulation. Time has been when a convalescing typhoid patient drank alcohol in great quantities. The practice seems now largely gone by, and fortunately so, yet throughout these cases the physician knows the need and the value of an occasional stimulant. For a long time I have used, instead of alcohol, a small drink of good coffee. Those of us who know how a cup of coffee at—say from two to four in the afternoon, will keep us awake till two o'clock in the morning, know that the stimulant effect of coffee is not transient like that of alcohol, but lasts hour after hour—six, eight, ten hours. Now, what a typhoid convalescent needs is not a fillip which picks him up and drops him down again, he needs a good, steady, lasting lift, and coffee will give it to him. Don't have the friends give him watery coffee; a delicate after-dinner coffeecup full of good coffee with

cream and sugar will taste good and do good, and keep on doing good.

One more practical point. I have urged that such foods as are given should be readily absorbed by the gastric mucous membrane; there is one food of which we are apt to think too little—sugar—we are apt to think of it as simply a means of sweetening foods; in reality it is highly nutritious—no other hydrocarbon is more promptly and easily absorbed—it leaves no detritus whatever. A man with muscles, tired from labor, can recuperate rapidly on sugar. A typhoid patient can take it up rapidly. I have ventured to present these thoughts on the dietetic treatment of typhoid fever in the hope that they may stimulate discussion and induce men whose daily practice gives them large opportunity to observe, to put these ideas to a thorough test.

SUDDEN DEATH IN PLEURISY.

With Report of a Case.

By CHARLES LEWIS ALLEN, M.D.,

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SUDDEN death in pleurisy, at any rate apart from operative procedure, is certainly quite exceptional. Trousseau stated that in a hospital and civil practice of 19 years, he saw only 3 cases. Few, if any other observers have encountered a greater number, hence it seems proper to put on record the following case, which presents some interesting and unusual features:

F. S., 44 years of age, a powerfully built and well-nourished man, insane for about 12 years, and at the time of his last illness, a terminal dement, never speaking, so unable to give any account of himself, on October 1, 1900, was noticed to have lost his appetite, and appeared ill. His temperature was found to be 99° F., his tongue slightly furred, but a physical examination was negative, and no other symptoms could be elicited. He was given a calomel purge. On October 2, his condition appeared unchanged. Temperature A.M., 99°, P.M., 100°. On October 3 he seemed better. Morning temperature 98.5°; afternoon temperature, 99°. Nothing wrong was noticed during the night, but on the morning of October 4 the attendant found that he had soiled his bed, something quite unusual for him, and when he was gotten up to be cleansed, he appeared quite weak. At about 8 40 A.M., he was noticed to be blue and collapsed; he vomited, his bowels moved involuntarily, and he had a convulsion. Responding at once to a summons, I found him cyanotic and pulseless, his skin cold and covered with sweat, his respiration rapid and labored. A few coarse rales could be heard over the left lung, none over the right. The heart-sounds were inaudible. Strychnin was at once administered hypodermically, but he was dead before some hot bottles which were being prepared could be applied.

An autopsy, made 6 hours after death, showed the following conditions: The brain, apart from some adhesions of the dura along the superior longitudinal sinus, and slight milkiness in places of the pia arachnoid, presented macroscopically nothing abnormal. The left pleural cavity contained about 180 cc. of slightly blood-stained serum. The left lung showed old and very firm adhesions over its lower portion. The left pulmonary artery was completely filled by very firm dark clot, which extended into its larger divisions. The right lung was so firmly adherent over its whole area that it could not be removed without tearing it. The greater part of the adhesions were old, but there was some recent pleurisy with fresh adhesions over its anterior surface. No fluid. Toward the lower portion of the inner border of the right upper lobe, there were two hemorrhagic infarcts, each about the size of a pigeon's egg. The lumen of the right pulmonary artery was free, but its medium-sized branches were filled with firm, dark clots. Both lungs were deeply congested and somewhat edematous. At both apices there

were several areas of fibrous induration containing in their centers a calcareous deposit, apparently healed tuberculosis. The bronchial glands were enlarged and deeply pigmented. The pericardium appeared healthy. Its cavity contained about 30 cc. of blood-stained serum. The heart was flabby, but its muscle appeared normal. Each ventricle contained a few soft clots, some dark and some pale. The valves were normal. The peritoneal cavity contained a small amount of clear serum. The liver was congested. The stomach showed chronic gastritis. The other organs were normal. The microscopical examination gave no further information, except to show that the kidneys were not diseased.

It would seem as if the pleurisy should have been diagnosed before death, but it is to be remembered that the patient was demented, made no complaint, and it was entirely impossible to get his cooperation. With insane individuals we have often to be content with a very imperfect physical examination. Again, his symptoms pointed rather to a mild gastrointestinal catarrh, than to any disease of the lungs, and as he seemed to be improving, his chest was not examined again after the first day.

Gee,¹ in speaking of sudden death in pleurisy, gives three causes for this accident: (1) Suffocation from rupture of an empyema into the lung; (2) sudden development of pulmonary edema; (3) thrombosis or embolism of the pulmonary artery, or thrombosis of the right heart, the immense majority of all cases being due to this last cause. By some authors, a kinking of the aorta or vena cava through displacement of the heart by the effusion, has been held accountable for the occurrence of thrombosis or embolism. This view has been combated by Leichtenstern,² who, from experiments upon the cadaver, has concluded that it is impossible for enough "kinking" of the vessels to cause an obstruction to be produced through the filling of the pleural cavity with fluid. It is, however, pointed out by Rosenbach,³ who rather favors the vessel-kinking theory, that it is hardly fair to assume from experiments upon cadavers that the production of kinking is impossible in the living subject, in whom the condition of the vessels, etc., is entirely different.

The occurrence of sudden death during or after washing out the pleural cavity was not unknown when this practice was commoner than it is today. Perhaps in this case it is to be explained by the entrance into the circulation of a flake of fibrin loosened by the washing.

Of 10 cases of which Leichtenstern² gives a summary, 9 were due to thrombosis, and 1 to embolism. As favoring these conditions, this author gives the following:

1. Slowing of the circulation on account of obstruction due to compression of the lungs and weakening of the heart by the continued fever.

2. The pressure on the heart and vessels exceeding the atmospheric pressure, the aspiration in diastole is much diminished.

3. The aspiratory power of the compressed lung is diminished or lost.

In his experience, in the majority of cases of sudden death, the pleurisy was right-sided. In another class of cases death has been due to cerebral embolism. In still others to causes not directly connected with the pleurisy, while there yet remain cases in which the autopsy furnished no information as to the cause of death. Weill⁴ calls attention to the fact that in some cases death may be due to myocardial disease, and reports an instance of this which he himself has observed. In none of the cases of which I have been

able to find a report has effusion been absent, though in some it was of moderate extent. In the case here mentioned the effusion was very small indeed, in fact, it seems to me probable that the fluid found in the left pleural, the pericardial and the peritoneal cavities was only exuded during the death agony. There was no evidence of recent pleurisy on the left side. The most prominent condition was the great extent and firmness of the pleural adhesions. That complete adherence of one lung, however, need not necessarily cause much embarrassment of respiration or circulation is shown by a case reported by Warner.⁵

It seems to me that in the above case of F. S. the following sequence of events is probable. During the night, or early morning, a flake of fibrin was absorbed from the area of fresh pleurisy in the right lung. This being carried to the pulmonary vein, lodged there, and produced a gradual thrombosis which caused a fatal termination several hours later. This case certainly lends no support to the theory of vascular kinking, since, though the adhesions were very extensive, there was no contraction of the chest and the heart was not displaced.

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- ⁴ Weil: "La mort subite dans la pleurésie," *Revue de Médecine*, 1887, vii, p. 33.
- ⁵ Warner: "Extensive pleural adhesions," *Medical Record*, 1897, xiv, p. 265.

Subphrenic Abscess.—Krohne (*Deutsche Med. Woch.*) reports a case occurring in a child 7 years of age, which, on account of its difficult diagnosis and etiological factors, is very interesting. About 2 years previous to the present illness the child suffered from a purulent otitis of the middle ear, this caused mastoid disease, requiring operation, with removal of some necrosed bone; after recovering from this the child enjoyed fairly good health until June, when it developed a perityphlitis, with some localized peritonitis which yielded easily. About the end of July the child developed a hectic condition with concomitant symptoms and a tumor above the liver on the right side; a week later a **purulent bronchitis** with the expectoration of a foul pus developed, and it looked as if collapse would soon follow. The diagnosis was then clear and Krohne decided to operate. An incision 6 cm. long was made on a line with the ribs about the level of the xiphoid, and about a cup of pus escaped, the adhesions (between pleura and lung) gave way and **air and pus entered the pleural cavity**. The abscess was packed with iodoform gauze and washed with $\frac{1}{2}\%$ creolin solution until healed. The cause of this abscess does not seem clear; was the infection from the ear or the perityphlitis? [W.S.N.]

Inguinal Hernia.—In a paper read by B. Merrill Ricketts, Ph.B., M.D., of Cincinnati, Ohio, before the Medical Society of the State of New York, Albany, January 29, 1901, Dr. Ricketts gives the most complete and comprehensive description of the anatomy of the parts involved in inguinal hernia to be found in any work. In fact, it embodies the researches of all the best anatomists and specialists. He criticises the use of the word canal in this connection. He claims that, etymologically and anatomically, the use of the word canal is wrong. Ring is the proper word. A circular letter was sent to over 100 prominent surgeons. Many interesting facts can be deduced from the replies received. Thirty-four surgeons gave an approximate percentage of recurrence in their practice; this percentage varies from 1 to 15%. This last percent agrees with the figures of Prof. Girard, of Berne, who claims that the percentage of recurrence in Europe will amount to 15%. The percentage will average 5.58%, based on 6,027 operations by 34 surgeons. From statements contained in letters received in answer to the circular, it is fair to infer that only one-half of the total number of operations were reported. This would bring the percentage up to near

15%. These letters show that infection is less frequent and that there is no recurrence when wire or silkworm-gut is used in the Phelps, Halsted, or Abbe method of operation. The doctor bears unequivocal testimony to the success of the Phelps operation; he employs it in his practice, and considers it to be the ideal one. It is the only one that insures a successful and a permanent cure. The doctor agrees with Abbe that silver wire or silkworm-gut is to be employed in preference to absorbable sutures. He does not believe that suppurative has anything to do with causing recurrence; the real cause, or rather causes, of relapse of recurrence are deficient origin (attachment) of the internal oblique muscle, pressure of truss (where one has been worn), length of time that hernia has existed, lack of nerve and blood supply, and intraabdominal pressure rupturing the cicatrix; the latter factor can be disregarded if the Phelps method is employed, because if the wire mattress is once placed properly there is no possibility of relapse by a rupture from the intraabdominal pressure. The doctor doubts the doctrine advanced by some writers, that varicocele is a causative factor in inguinal hernia. He properly holds that all herniotomies should be regarded as modified laparotomies. The paper closes with several pertinent questions: Is there anything in the habits engendered by our rapidly-advancing civilization that is conducive to the production of hernia? Is man progressing toward perfection morphologically, or degenerating? The doctor refers to an edict of the Emperor Constantine, forbidding operations which involve the loss of the cord and testicle, for fear that the population of the country would suffer.

Abscess of the Liver Following Typhoid Fever.

—Emile Cassuto (*Gaz. Heb. de Méd. et de Chirur.*, January 6, 1901, 48me Année, No. 12). (Paris Thesis, 1899-1900, No. 626.) Abscess of the liver supervenes very rarely in the course of **typhoid fever**, particularly in Europe, but occasionally in tropical or intertropical countries. Cassuto, who has made a very complete study of these cases, shows that hepatic suppurations of typhoid origin from the anatomopathologic point of view present 2 principal varieties. The first is characterized by the small size and the multiplicity of the foci, by the multiple metastatic foci secondary to suppuration in some other part of the body, by a diffuse form of periangiocolitis of typhoid origin following ulceration of the bile paths, by a diffuse form of peripylephlebitis of typhoid origin consecutive to a juxta-intestinal suppuration, or to an ulcerogangrenous lesion of the intestine, particularly of the appendix. The second form is exactly like the circumscribed, suppurative hepatitis of dysenteric origin and consists of single purulent collections. In such cases there are no ulcerogangrenous lesions of the intestine, no purulent foci near the intestines, and nothing in the appendix. The intestinal typhoid ulcerations are, in these cases, well on the way toward being cleared and in the gangrenous process can be demonstrated in their neighborhood. The infecting germs coming from the typhoid ulcers in the intestine may reach the liver in three ways: (1) By the biliary paths; (2) by the arteries, and (3) by the portal vein. In all cases of multiple abscess due to pylephlebitis or to ulcerogangrenous lesions of the intestines, the pus in the liver presents the characters of fetid gangrenous pus. Also, in cases of multiple abscess of the liver of typhoid origin following a pylephlebitis, a juxta-intestinal suppuration, or an ulcerogangrenous lesion of the intestine, the pus probably contains microorganisms that are strictly anaerobic associated with the typhoid bacillus. In 2 cases of single abscess, bacteriologic examination, as well as direct microscopic examination of the pus, showed the presence of a pure culture of the bacillus of Eberth in one case; and the bacillus of Eberth associated with very rare colonies of staphylococci in the other case. The bacillus of Eberth alone is capable of producing pus in the hepatic tissue. But it is to be noted that this bacillus seems to lose much of its virulence in that organ. The symptoms of suppurative hepatitis of typhoid origin are about the same as those of suppurative hepatitis in general. The diagnosis of this complication of typhoid fever is often impossible. Nevertheless, if the practitioner remembers the possibility of its occurrence and makes daily examinations of the liver of the patient suffering from typhoid fever, he will probably be able to diagnose the condition occasionally. The existence of an empyema containing the bacillus of Eberth ought to draw the attention to the liver immediately. [J.M.S.]

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Sanitation and Progress.—In his address before the Pan-American Medical Congress, just held in Cuba, Surgeon-General Wyman gives expression to some mature thoughts which are evidently the results of his wide experience. He emphasizes especially the need of better correlation between municipal, national and international authorities in the great undertaking of the elimination of contagious diseases. He is impressed with the fact that we are seriously lacking in the proper efforts to suppress many suppressible diseases. Among the diseases which he mentions as well under control are smallpox especially, and diphtheria, while he thinks that we are certainly on the verge of the discovery of specific remedies for both tuberculosis and typhoid fever. Why then do these and so many diseases persist? It is that sanitary advance has not kept pace with scientific knowledge. It is also evident that this scientific knowledge is not so widely diffused as it should be, even among those in whom we have a right to expect it.

With regard to cities, a stronger public sentiment should be created in favor of municipal cleanliness, which should rank as one of the foremost objects of municipal government. Dr. Wyman calls attention to the fact, which we sometimes deplore as a necessity of our form of government, that this field of municipal cleanliness is not a field for the national Government, but distinctly for the States and cities, and that the degree of sanitary excellence in our cities is a fair exponent of their civilization and culture. Our cities in this respect are striking illustrations of the fact that their governments are the governments of the people. It is therefore necessary to cultivate among the people a knowledge of sanitary science and a demand for such knowledge in municipal authorities.

Dr. Wyman sees no reason why slums should be allowed in any city. Too much attention is paid to public parks and handsome municipal buildings, whereas the most-needed improvements are in the alleys, around the docks, and in the tenement districts. Another strong plea for sanitation lies in the promise which it would give of getting rid of quarantine. The time is at hand when we must consider the necessity of ridding ourselves of these restrictions upon commerce. It must be evident to all intelligent observers that many quarantine methods, especially those still used in the more rural districts, are antiquated, oppressive, and even absurd, and Dr. Wyman does well to call

attention to their defects. When a large number of cabin passengers, all of them in good health, are held on board a steamer in the upper cabin because of one case of infectious disease in the steerage, they may reflect that their detention is due primarily to the faulty sanitation of some miserable portion of some foreign city, and they may receive thereby a demonstration of their personal interest in sanitary science. Another urgent need is to decry, and punish if possible, municipal deception either in the concealment of contagious disease or by reports giving a sense of false security to other communities. Municipal morality in such cases is evidently on as low a grade as municipal sanitary science.

Finally, Dr. Wyman calls attention to the urgent necessity of having our legislators more thoroughly trained in the knowledge of sanitary science. We need a class of men who are at one and the same time versed in the law, who are skilled in framing the laws, and who are also familiar with the requirements of sanitary science. It is to be hoped that Dr. Wyman's views, as expressed in his address, will be given wide publicity. They need to be disseminated among people at large even more than among the medical profession. Public intelligence alone can make effective the methods of true sanitation. This seems a hopeless task sometimes, when we consider the credulity of the people with reference to the fundamental questions of health and disease, and it is only by the dissemination of such knowledge as Dr. Wyman has presented in his address that we can hope for widespread and enduring results.

Unsolved Problems of Chemistry.—According to Professor Remsen, of Johns Hopkins University, who appears in a popular article in one of the magazines, we have little positive knowledge of starch, cellulose, proteids, and protoplasm, and the outlook is not very brilliant for the improvement of this knowledge in the near future. As so much of the hope of improvement in practical medical science depends upon advances made in bio-chemistry, we greet this declaration of Professor Remsen with considerable regret. Of all the substances that go to make up animal tissue the chemist is most familiar with the fats. He can take carbon, hydrogen, and oxygen in the laboratory and can construct fats as they occur in animals—not that the chemist often does this in fact, but that he could do it if he took the

time and trouble. Sugar is not entirely an unsolved problem, especially since the labors of Fischer, of Berlin, for in its simpler form it, too, can be made in the laboratory. But with starch and cellulose the case is different. This latter substance, cellulose, is the basis of plants. It contains only the three elements, carbon, hydrogen, and oxygen, and yet the chemist is still ignorant of how these substances are combined to make cellulose. The proteids are, if anything, a still greater mystery. As they are the chief constituents of muscle, nerve, and blood, it is most essential that they should be understood. But Professor Remsen seems to think that they will be unsolved problems for generations to come.

Of all the problems of synthetic chemistry the most important relates to the construction of protoplasm. This is the living tissue. It is derived from a fat, a proteid, and a hydrocarbon, and its exact construction (that which renders it the seat of life) is unknown. This problem must be solved before we can have a real scientific knowledge of what constitutes life. Professor Remsen is rather pessimistic, and thinks that for a long while we shall have to be content with small returns from our labors in these fields.

The Courage of One's Opinion.—One of our daily contemporaries in this city wants to have the Christian Scientists inoculated with the infectious diseases. This is not for the purpose of getting rid of the Christian Scientists (which would be a consummation devoutly to be wished, if some less radical method were employed) but merely for the purpose of converting these fanatics and convincing them of the reality of disease. With a cynicism which we should not like to imitate, this worldly-minded contemporary suggests that one Christian Scientist take into his system the "seeds" of tuberculosis; another, the bacillus of Asiatic cholera; another, the microbe of tetanus; and another still, the parasite of malaria. If there is no truth in the discoveries of bacteriology then, says our neighbor, every one of these supreme tests would fail and the luminous truths of Christian Science would shine before the world.

With these shocking suggestions we are not in accord, and we quote them with reprobation, but we cannot refrain from reminding our readers that the scheme is not altogether new. The late Professor Gross adopted the same method of criticism on one occasion when he suggested that a proper test for a non-belief in the existence of hydrophobia would be for the doubter to allow himself to be bitten by a mad dog. Such suggestions are never taken seriously, and it is needless to say that they are never adopted. We should like to know, however, of what use it would be to convert a Christian Scientist by giving him tetanus or Asiatic cholera? He would probably not live long enough to profit by his experience. But the chief logical defect

in the plan, so far as it relates to the Christian Scientists, is that it ignores one of the very elements of ignorance, superstition and delusional insanity. These mental states are essentially illogical; they do not yield to the ordinary processes of reasoning, because the faculty of reason is undeveloped or impotent. The more proof there is presented, the more obstinacy there is displayed. If it were not for the injuries done to innocent victims, it would probably be just as well to let this cult go unopposed in the belief that it would some day die a natural death. But these injuries cry aloud for the suppression of the whole mischievous sect.

The Pneumonias of Influenza.—According to Leichtenstern (Nothnagel's *Special Pathology and Therapy*, Vol. IV, Part 1), "Pneumonia is the most frequent and most important complication of influenza."

A thorough investigation of the history of influenza epidemics proves that the complication, pneumonia (in some variety) has never been absent. This was noted as early as 1580 by Bockelius (quoted by Ruhemann) and particularly emphasized by Sydenham in 1675. It was for the most part taken for granted that bronchopneumonia arose, as a result of the severe bronchitis (the inflammatory process spreading by continuity of structure), or that it was a form of mixed or simultaneous infection by the specific causes of influenza and pneumonia.

Both views are undoubtedly correct, and were this the only variety of pneumonia complicating influenza, the diagnosis in the majority of cases would be an exceedingly simple one. There is, however, another variety first hinted at by Gray in 1782, and particularly described by Leichtenstern in December, 1889, of "a primary influenza pneumonia," a form of inflammation of the lungs due to the bacillus of Pfeiffer and its toxins, which occasionally even makes its appearance simultaneously with the other phenomena of influenza, but more frequently arises at the acme of the disease. Leichtenstern calls this "the pneumonic form of influenza."

The accuracy of this assertion was proven two years later by Pfeiffer and others, who found in the pneumonic exudates (in the alveolar lumen and alveolar septum, especially enclosed in the round cells) the specific bacilli of influenza in "extraordinary amounts." Pfeiffer says: "In smear cultures prepared from secretions of the trachea and larynx a mixture of various microorganisms was found, especially streptococci and diplococci, etc., but even here the bacillus of influenza was found to outnumber the other bacteria. In the large bronchi, all other bacteria (except the bacillus of influenza) gradually disappear, and as the finer bronchi are reached, especially when a purulent secretion is present, and in the pulmonary tissue, the bacillus of influenza is alone found to be present."

According to Pfeiffer, Beck, and Wassermann, the

anatomical form of this true influenza pneumonia is an exclusively catarrhal one. It is no doubt true that the majority of the pneumonias are of the broncho-pneumonic form, nevertheless there can be no question that numerous broncho-pneumonias of "grippal" origin are of a mixed form due to the presence of streptococci, and perhaps diplococci also, which may even in some cases outnumber the Pfeiffer bacillus. Only in this manner can we explain the numerous cases of pneumonia occurring in the pandemic of 1889-90, during which this condition was frequently observed. Albu even regards this mixed infection as pathognomonic of pneumonia due to influenza (*Deutsche med. Wochenschr.*, 1894, No. 7). Besides this purely catarrhal (broncho-pneumonic) form, the croupous form is also frequently observed, and a third variety of mixed pneumonia, that is, a catarrhal-croupous form, or, as Leichtenstern proposes to call it, a "cellular-fibrous" variety.

He bases his opinion upon postmortem findings in which mixed and transitional forms are found, lobar and lobular infiltrates, whose correct pathological classification, whether catarrhal or croupous, is both macroscopically and microscopically exceedingly difficult. In these mixed varieties (cellular-fibrinous) catarrhal pneumonic areas and fibrinous areas are found side by side in the same lung and even in the same lobe of the lung; in some infiltrated areas catarrhal and fibrinous masses are so intermingled that the composite picture shows neither the one nor the other form of pneumonia. Even microscopically the differentiation is difficult. In the sections prepared according to the method of Weigert, separate alveoli showed catarrhal inflammation (cellular exudate without or only with slight amount of fibrin) while other alveoli, near or even among these, were found to show the true character of croupous pneumonia. This then establishes a so-called "lobar-lobular" form of pneumonia, or, as Leichtenstern proposes to call it, a "cellular-fibrinous pneumonia," which he regards as characteristic of influenza.

Tetanus Due to Anti-Diphtheritic Serum.—The recent horrible deaths from tetanus, occurring in several persons who had been inoculated in Italy with anti-diphtheritic serum, seem to have been more exempt from condemnation than many other less important mistakes. Had only one patient been infected, it probably could have been attributed to a subsequent secondary infection, or to an accidental occurrence. But it is alleged that eight persons on whom the serum was used, died of tetanus, and that the serum was directly traceable to the Serotherapeutic Institute of Milan. There is as little excuse for such an outrageous sacrifice of human life as there is for permitting a rabid dog to run amuck. An institution that assumes the responsibility of manufacturing a substance which for curative or prophylactic purposes is to be injected into a living human body, ought to be possessed of sufficient skill

and common sense to test the serum before distributing it. The consequences are not only the shameful sacrifice of several human beings who might have been rescued from the ravages of diphtheria, but also the loss of confidence in the employment of serumtherapy. It is but a minor procedure to test serum before it is placed upon the market, and this is equally, if not more, important than testing the physiological action of well-known drugs. Italy has contributed much to medical science, and it is therefore more the pity that she has in this instance contributed such a medical martyrdom.

The Dangers of Specialism.—In certain obscure conditions it very largely depends upon the point of view from which the symptoms are studied as to what the ultimate decision and diagnosis will be. Thus, to the surgeon a persistent headache will suggest the possibility of specific new formations or growths of other origin, to the gynecologist some pelvic disturbance, and to the ophthalmologist a long-continuing eye-strain. Each is very prone to be biased by the line of work in which he happens to be engaged, and to look upon the given case only from the narrow beaten path of his daily routine. Just here lies one of the dangers, and possibly one of the greatest of the era of specialism into which we have been hurried by the rapid strides that have been made of recent years in the art of Medicine. The specialist must, to a certain extent, become a narrow man in a general sense in order to become at the same time an expert in a limited sense. Such is the paradox that confronts the medical man of the day. The passing of the general physician, as he was known a half century ago, and as was predicted 25 years ago, is now realized, or nearly so. It is rare indeed to find at the present time an all-around man with good judicial powers in all classes of cases, medical and surgical. The pathologist, lured by the winning mysteries of the autopsy-table, and fascinated by the revelations of the laboratory and microscope, finds no time to spend in the clinic or by the bedside, and neglects therapeutics proportionately as he cultivates the post-mortem. The busy physician, hastening from house to house and returning to find his anteroom filled with suffering humanity, is drawn irresistibly into the whirling vortex of symptomatology to the evident abandonment of the pathological table, save as the labors of his equally busy colleague in that department indicate to him a new and better line of therapeutics. The surgeon sees a surgical cause where the physician can advance an equally plausible explanation on medical grounds, and the physician too often presses his pathology beyond the borderline of surgical intervention.

Limited thus by his specialism and threatened at times to be carried beyond the line of sound reasoning by his enthusiasm, the practitioner of the twentieth century should pause to consider the adage of the

lamented Agnew: "A good physician," said he, "may make a good surgeon, but a good surgeon must be a good physician."

Here is the solution of the whole question. Specialism should be the result of a sound and natural growth, the result of an evolution brought about by a combination of circumstances and natural inclination. Beginning on the common ground of general practice, the young man should then drift, or better steer, in the direction which he finds most suited to his tastes and opportunities, thereby developing into a specialist with a good foundation of general medical knowledge, able to recognize causes foreign to his chosen territory and thereby opening to his patient the best prospect for early and proper treatment. Evil, indeed, must the consequences in most cases be of a deliberate choice of a specialty from the graduating day, with a corresponding neglect of everything else, and concentration of the faculties upon the chosen narrow line of work. Such a course is detrimental to the community at large and to the specialist himself, who thereby robs himself of additional ability and starves certain areas of brain-cells in order to overfeed others.

To a certain extent, it must be admitted, this rapid growth of specialism has been inevitable. The marked development of medicine and surgery along all lines, has made it impossible for the medical man to take a comprehensive view of every subject. It is not the specialism of necessity, however, that is objectionable, but that of deliberate choice without a preparatory course of general medicine that will afford a safe basis upon which the ultimate specialism should be erected.

Compulsory Vaccination in the Public Schools.—As the outgrowth of a case in which a child was excluded from the public schools of Philadelphia on account of failure to present a certificate or other evidence of successful vaccination—the position of the school authorities having been sustained by the Courts—a bill has been introduced into the Pennsylvania State Legislature for the repeal of the act making such evidence a prerequisite of the reception of school-children. We have so often in these columns dwelt upon the utility of vaccination in the prevention of smallpox, and the fact is so universally accepted by open minds, that we wish to refer to the circumstance only to suggest to our readers to use their influence with their representatives in the Legislature to prevent the possible repeal. A similar measure was defeated solely on its merits a year or two ago, and it is the duty of the medical profession to see that this new attack on preventive medicine suffers a like fate.

The Influence of Heredity.—This influence has, of course, always been appreciated, but probably never to the same degree or with the same critical intelligence as at present. The subject is of especial interest to the

physician by reason of its bearings upon disease and degeneration. It is true that disease itself is not transmitted by heredity, but rather a peculiar type of tissue, which renders the individual peculiarly susceptible to the influence of morbid agents. Disease in the fetus transmitted from the mother cannot be looked upon as inherited, but it is acquired in much the same way as disease is acquired in postuterine existence. In illustration of the influence of heredity in the development of the traits and qualities in the individual, Thomas Oliver (*Lancet*, November 10, 1900, p. 1335) points out that the Derby has never been won by a horse that was not a thoroughbred, and the same statement is practically true of the other great English races, the St. Leger and the Oaks. It appears, further, that the Derby has never been won by a gelding. Mares, also, have won races far less frequently than stallions. With the object of maintaining the high standard of the English race-horse, close breeding in and in is practised, and as a result of this practice, it is thought by many, the animal is degenerating. To overcome such a result infusion of fresh blood becomes necessary from time to time.

Anonymous Correspondents.—The man who writes anonymous letters is usually a libeller, and, as a rule, he is not worthy of notice. We feel constrained, however, to announce that we have received from such a correspondent a clipping, which he had cut from another journal, attributing to us the publication of a witless and indecent anecdote. It is, we trust, needless for us to say that this anecdote was never printed in this JOURNAL, but as it seems to be going the rounds among some of our contemporaries (who are entirely responsible for their own taste in the matter), we take this occasion to say that the anecdote not only never appeared in this JOURNAL, but that it would have been impossible for it to appear under either the former or the present editor. As our anonymous correspondent calls himself a "former constant reader" he could easily have verified this fact for himself, and is without excuse for not having done so.

Plague in India.—The plague in India seems to have attained unusual severity except in the central provinces. It is particularly severe in Bengal, where a weekly mortality of 2,500 is reported. The doctors being chiefly occupied in the famine district, there seems to be a lack of an adequate medical staff in the plague-infected portion of the country.

Appendicular Form of Pneumonia.—*La Semaine Médicale*, February 9, 1901, says that there is a form of croupous pneumonia which in its onset closely resembles appendicitis. Some 10 cases of this kind have been reported. The early symptoms are fever, repeated chills, pain in the right iliac fossa (over Mc Burney's point), sometimes bilious vomiting. After 2 or 3 days the pulmonary symptoms become manifest and then a typical case of croupous pneumonia follows. Operation has been indicated in some of these cases and a perfectly normal appendix found. It is remarked that the localization of the pain over Mc-Burney's point is not pathognomonic of appendicitis and that in all cases the lungs should be thoroughly and repeatedly examined. [T.L.C.]

Reviews.

The American Year-Book of Medicine and Surgery. Under the general editorial charge of GEORGE M. GOULD, M.D. Philadelphia and London: W. B. Saunders & Company, 1901. Price, \$3.75 per vol., net.

Dr. Gould's Year-Book has come to be a familiar publication to many busy doctors, and we doubt not that to all who take it the work is as useful as it is familiar. The editor and publishers announce that the issue for 1890, in two volumes, met with such general favor from the profession that they have decided to follow the same plan this year. Therefore, the work appears in two handsome, large volumes. Several advantages are gained by this plan of publication. The volumes are more easily handled, and, what is of the first importance, they are sold separately, as we understand it, so that the surgeon or the physician, as the case may be, need only buy the volume for which he has especial use.

We cannot attempt here to give a detailed review of a work which is itself essentially a review of all current medical literature. We are familiar, however, with the past volumes and have had frequent occasion to consult them, and have seldom, if ever, been disappointed in finding in them something that we needed. The present volumes have every appearance of sustaining the high repute of their predecessors. Such a work in its preparation must entail a vast amount of labor upon the editor and his collaborators, and they are to be congratulated and thanked also for having placed the profession under obligations for such a useful reference-book.

We notice that the volumes for this year are quite profusely illustrated, many of the illustrations being full-page half-tones. We doubt not that the work will continue to merit its popularity. [J.H.L.]

A Textbook of Histology, including Microscopic Technic. By A. A. BÖHM, M.D., and M. VON DAVIDOFF, M.D., of the Anatomical Institute in Munich. Edited, with extensive additions to both text and illustrations, by G. CARL HUBER, M.D., Junior Professor of Anatomy and Director of the Histological Laboratory, University of Michigan. Authorized translation from the second revised German edition, by HERBERT H. CUSHING, M.D., Demonstrator of Histology and Embryology, Jefferson Medical College, Philadelphia. With 351 illustrations. Philadelphia and London: W. B. Saunders & Co., 1900.

The announcement of an English version of a German work intuitively awakens expectation of something interesting and thorough.

In his preface the editor says that while in the main the original text has been retained, some changes in arrangement have been made. Further, that "additions to the German text have been freely made," the more important of these occurring in the chapters on Motor and Sensory Nerve-endings, on Spinal and Sympathetic Ganglia, on the Innervation of Glands and other organs, and in the chapters treating of organs with internal secretions. With this new text, that unquestionably is of great advantage to the book, many original and instructive illustrations have been incorporated. The author's preface is missing.

A considerable portion of the volume is devoted to microscopic technic; that of general application being treated in the first 50 pages, that of special application following each chapter of the general and "special" histology—not a novel plan but an excellent one, in which the authors follow other German works of this class. There is an eighteen page index, but this will not compensate the lack of cross-references. How, for example, is the practical person, who takes the work seriously, to find T. 85 referred to in the technic number 255, (page 273), or T. 144 in technic number 322, (page 434)? The pages on which T. 85 and T. 144 occur are not given; a serious omission in a book intended for use in the laboratory equally as in the study.

The usefulness to the student of this as of so many text-

books will in some measure depend on the teacher's selective faculty. It is brimful of interesting matter, descriptive and technical. [E.L.B.]

The American Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D. Philadelphia & London: W. B. Saunders & Co., 1900. Price, \$5.00. Indexed.

Medical dictionaries grow old almost in the printer's hands, so great is the general advance along the lines of scientific medicine and so manifold are the terms employed. This work of Dr. Dorland is a highly commendable one, displaying painstaking industry and wide reading. The definitions are concise, and, as far as we have been able to determine, their brevity has not markedly injured their accuracy. The work is intended to stand between an exhaustive work, almost too verbose for every-day employment and the unsatisfactory pocket lexicon. In no medical work is typography so important as in a medical dictionary, and the publishers have every reason for congratulation in this respect. The plates are accurate and beautifully executed. In every case they enlighten the text, which is a desideratum not always found.

In a field so vast, it is scarcely comprehensible that error should not have crept in, or that certain definitions should not meet with criticism. For instance, the ophthalmologist will take exception to *exenteration* and *evisceration* being regarded as synonyms. And the hematologist will rise in his wrath to find under the definition of a *leukocyte*, "any colorless, amœboid cell-mass, etc.," whereas, it is known definitely that all leukocytes do not show amœboid movements.

The student will be particularly interested in the very exhaustive tables which are found. They include new anatomical, bacteriological, and eponymic tables of diseases, operations, signs and symptoms, stains, tests, etc. This feature of the work represents immense labor and judicious tabulation.

We cannot refrain from expressing ourselves most favorably upon the decidedly practical character of this work and its uniform excellence. [T.L.C.]

Flesh Foods, with Methods for Their Chemical, Microscopical, and Bacteriological Examination. A Practical Handbook for Medical Men, Analysts, Inspectors, and others. By C. AINSWORTH MITCHELL, B.A. (Oxon.), F.I.C., F.C.S. Small 8vo. Pages xvi, 322, and Index. London: Chas. Griffin & Co., Lim.; Philadelphia: J. B. Lippincott Co.

The author of this work has been for many years an active worker in food analysis. His editorial connection with *The Analyst* has given him a wide acquaintance with the current literature in this field. The work presents the results of these labors. The descriptions of analytic and bacteriologic methods are given in a practical form, a knowledge of general principles and technic in these lines being assumed.

The first 70 pages are devoted to descriptions of the structure and general nature of flesh, and the essential differences between the flesh of different classes of food-animals. A summary of the methods of testing follows, special attention being given to the processes for examining animal fats. It is interesting to note, in connection with one of these methods, that a marked improvement in detail, which saves several hours' work and which has been adopted by many chemists, is not noticed. This improvement was devised in the United States, and the omission of it by Mr. Mitchell is merely one of the many instances of the failure of English chemists to appreciate the work done in this country.

One chapter of 23 pages is devoted to the examination of sausages, which includes detailed methods for detecting horseflesh. Much space is occupied with the descriptions of the nature of proteids and proteid digestion. The last hundred pages cover the question of poisonous and infected food, all the important entozoa being described and figured.

The work is a useful contribution to an important department of practical hygiene and interesting evidence of the specializing tendencies of modern times. It is well written, well printed, and well illustrated. [H.L.]

Correspondence.

BILATERAL PAROTITIS AS A COMPLICATION OF
PNEUMONIA.

By AUGUSTUS A. ESHNER, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

OWING to the rarity of the association I desire to make brief record of a case of pneumonia complicated by bilateral parotitis. The patient was a woman, 71 years old, who was seized with pain at the base of the right chest, in which situation physical signs of pneumonia developed. Breathing was not greatly embarrassed, the temperature reached only a moderate elevation, and the pulse was not unduly accelerated. A crisis failed to occur at the expected time, but the patient appeared to be progressing satisfactorily. On or about the eighth day both parotid glands were markedly swollen and painful, and the temperature, which had been declining, had now risen again. Some relief was afforded by the application of ice, but the patient became gradually weaker and death took place 4 days later.

I am without a bacteriologic examination in this case, and cannot, therefore, say whether the pneumonia was due to the pneumonia-coccus or not, and whether the parotitis was a metastatic complication or merely an intercurrent affection. Bilateral parotitis, as mumps, is observed apparently as an independent affection, and parotitis, commonly unilateral, is occasionally observed as a complication of typhus and typhoid fever, as well as other infective processes. The question thus naturally arises whether there is a specific variety of parotitis (bilateral mumps) dependent upon an as yet undiscovered microorganism, or whether unilateral or bilateral parotitis may be due to any one of a number of microorganisms—the typhoid bacillus, the pneumonia coccus, etc.

A CASE OF ILLUMINATING GAS-POISONING.

By WM. A. STEEL, M.D.,

of Philadelphia.

Resident Physician, Hospital of the P. E. Church.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

At the request of my "Chief," Dr. Henry M. Fisher, I report the following case of illuminating gas-poisoning:

At 11.45 P.M., January 13, Cecelia B—, 8 years old, was carried into the Episcopal Hospital in an asphyxiated condition from inhalation of illuminating gas. There was a white froth at the mouth, the skin was clammy and livid, the muscles were in general tonic spasm, the patient lying in a position of opisthotonos; eyes rolled up with slight external squint, respirations jerky and intermittent, radial pulse, not countable. Atropin was given hypodermatically and oxygen administered for two hours, at the end of which time respirations were freer, the pulse could be counted at 180; hands, feet and face still cyanosed. Patient was then put in hot packs, free sweating resulted, muscular spasm relaxed, radial pulse fell to 160, rectal temperature 102.3°. She became quiet and seemed to fall into a natural sleep, although consciousness was not regained.

At 3.00 A.M. the rectal temperature was 106.3°; at 5.00 A.M., 107.2°; at 7.00 A.M., the mercury filled the entire thermometer tube at 110°. The respirations were again jerky, radial pulse uncountable, heart-beats 215 per minute. Patient was given a cold plunge and free stimulation hypo-

dermatically, followed by hypodermoclysis (1 pint of normal salt-solution) in the buttocks. Oxygen was administered for one hour, and for 15 minutes during each following hour, temperature dropped, after plunge to 103.4°. Free enuresis and sweating followed hypodermoclysis and bath.

Patient became conscious 6 hours later, and in fair physical condition, with exception of tonic contraction of all the muscles of the right arm. The arm could be extended, giving some pain to the child, and at once flew back to its flexed condition when the extending force was removed. There was no pain on pressure over the nerve-trunks. The muscles gradually relaxed, the arm assuming its natural condition and function within 48 hours.

The urine voided 8 to 10 hours after the accident threw down a heavy sediment of large uric acid crystals, otherwise it was negative.

Child was discharged well the fifth day after the accident.

A CORRECTION.

By G. E. DE SCHWEINITZ, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In the report of the meeting of the Neurological Society on January 28, published on page 196 of the PHILADELPHIA MEDICAL JOURNAL for February 2, 1901, referring to the ophthalmoscopic appearances associated with brain tumor, occurs the following sentence attributed to me: "The star-shaped figure seen in the macula is of importance in that it also occurs in Bright's disease and in syphilitic retinitis, hence it is not pathognomonic of brain tumor." This sentence should read: "The star-shaped figure seen in the macula in albuminuric retinitis and usually supposed to be pathognomonic of Bright's disease, especially of the interstitial variety, occurs also in choked disc, recurring hemorrhages in the retina and vitreous in young individuals, and sometimes in cases of syphilitic neuro-retinitis."

Essay on Thirst: Its Causes and Mechanism.—

André Mayer (*Gaz. Heb. de Méd. et de Chirur.*, December 30, 1900, 47me Année, No. 104; Paris Thesis, 1899-1900, No. 565) has first studied the role of water in the organism, and shows that although it serves mechanically for the construction of the cells, its principal role is as a universal dissolving agent. He has demonstrated, both within and without the cells, the existence of solutions of organic matters and of salts. These solutions ought to obey the physical laws of solutions in general. The author goes on to show that within the body there are variations of the osmotic tension of the humors, and that the causes that produce them are precisely those that produce thirst. In other words, thirst is due to the increase of the osmotic tension of the internal media. This increase of tension brings a mechanism of vascular regulation to bear on all the organs that have as their function the restoration of the normal osmotic tension when that tension is disordered. This automatic mechanism produces as a last manifestation the appearance of a physiologic phenomenon that is the organic basis of the sensation of thirst. The nervous center that controls this sensation is situated in the medulla. Whether or not a cerebral center exists, the author is not able at present to locate it. Studying thirst in man, Mayer divides the concomitant phenomena into 2 successive periods: The first, a tonic period, during which there is a sensory erethism; the second, a period of depression, corresponding to the period in which the osmotic tension is augmented in the entire circulatory system, and during which there is a sensory depression. The author then studies the psychologic aspect of his subject, and shows us that in individuals attacked with morbid thirst there is psychologic trouble of conscience, during which pathologic impulses frequently present themselves. [J.M.S.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA.

Milk Inspection.—W. J. Byrnes, Chief Milk Inspector, reported that during January 4272 inspections of samples of milk were made, and a total of 83,855 quarts examined. Of this number 1486 quarts were condemned.

Dr. Henry S. Mellinger, one of the best known physicians in Lancaster County, died at his home on February 7 at Creswell, aged 79 years, from apoplexy. He graduated from Jefferson Medical College, Philadelphia, in 1845.

Physicians Meet at Newtown.—For the first time in 50 years, a meeting of the Bucks County Medical Society was held at Newtown on February 7. The society decided to hold its winter meeting at this place yearly hereafter. Prof. James Tyson, of the University of Pennsylvania, was the speaker.

Philadelphia Neurological Society.—The following officers were elected for the ensuing year: President, Dr. James Tyson; vice-presidents, Drs. C. S. Potts and F. X. Dercum; secretary, Dr. A. A. Eshner; treasurer, Dr. G. Hinsdale; councillors, Drs. D. J. McCarthy, J. Sailer, and W. G. Spiller.

Druggist Censured.—The coroner's jury of Philadelphia recently rebuked a Philadelphia druggist for selling poison to a minor without any prescription and recommends that an act of Assembly be passed by the Legislature restricting the sale of poisons and medicine containing poisons. Such legislation would undoubtedly be of great advantage to the community.

Dr. Benjamin Franklin, a native of New York, died February 6, of the grip at his home in Newark, N. J., where he had practised medicine for 25 years. Dr. Franklin was a veteran of the Civil War, and was a prisoner for 7 months at Andersonville. He also served with the Cuban patriot army in the 10 years' war in Cuba. Dr. Franklin was 54 years of age, and a graduate of the University of New York.

Children's Hospital.—After a lively meeting of the Board of Managers, a new staff consisting of homeopaths is expected to be in full charge of the medical portion of the institution. There having been no regular medical staff for some months, a number of influential physicians in Germantown and other portions of the city were invited to act on the staff. The president decided with the consent of a majority of the board to change the institution from allopathy to homeopathy, whereupon some of the members of the board resigned.

College of Physicians.—At the stated meeting held February 6, Dr. J. CHALMERS DAcOSTA read a memorial of the late Sir James Paget, who was an honorary member of the college. The address was a fitting and eloquent tribute to the memory of one who was great not only as a surgeon but as an unassuming and conscientious man.

DRS. JAY SCHAMBERG and J. FRANK WALLIS exhibited wax models illustrating various cutaneous diseases and gave a detailed description of their construction.

DR. B. ALEXANDER RANDALL read Notes on fifty cases of otitic extradural abscess. The histories of several cases were detailed. The point emphasized was that in acute as well as chronic otitis collections of intracranial pus may be present with but few symptoms referred to that location. In only one or two instances has he found involvement of the eyeground. In these cases the antrum should be freely opened to give access to the pus cavity. As a rule these abscesses are harmless when they are properly evacuated.

DR. J. B. ROBERTS exhibited a cast and skiagraphs of a case of so-called Smith's fracture of the radius and a skiagraph of a case of so-called Bennett's fracture of the metacarpal bone of the thumb or stove of the thumb. The cast and skiagraphs came from Dublin and have been donated by Dr. Roberts to the Mütter Museum.

DR. H. R. WHARTON reported for Dr. J. H. MUSSER and him-

self a case of perforated gastric ulcer; operation; recovery. The patient was a man of 48 who had had gastric disturbance and pain for 3 or 4 months but had not vomited blood. Six hours after the onset of sudden epigastric pain which caused the man to faint the abdomen was opened. A perforating ulcer was found on the posterior surface of the pyloric end of the stomach about one-half inch from the duodenum. The edges of the opening were very friable, the opening being finally closed by infolding it by means of six silk sutures inserted at some distance from the edge. The abdomen was flushed with 6 gallons of hot saline solution and two glass drainage tubes inserted. Recovery was uneventful. Dr. Wharton believes thorough irrigation is the best procedure in these cases. Pelvic drainage should be obtained by means of a long drainage tube or by a counter-opening.

Vital Statistics of Philadelphia for the week ended February 9, 1901:

Total mortality	549
CASES.	DEATHS.
Inflammation of appendix 1, bladder 3, brain 11, bronchi 13, heart 1, kidneys 21, larynx 3, lungs 115, pericardium 2, peritoneum 10, stomach and bowels 15, spine 1	196
Inanition 12, marasmus 10, debility 6	28
Tuberculosis of lungs	77
Apoplexy 18, paralysis 5	23
Heart—diseases of 24, fatty degeneration of 4, neuralgia 3	31
Uremia 9, diabetes 4, Bright's disease 9	22
Carcinoma of breast 3, stomach 6, uterus 2, tongue 1	12
Convulsions	15
Diphtheria	95
Brain—softening of 1, disease of 1	2
Typhoid fever	36
Old age	17
Burns and scalds	2
Suicide	2
Cirrhosis of liver	4
Alcoholism	1
Cyanosis	4
Gangrene of foot	1
Scarlet fever	83
Abscess of arm 1, of ovaries 1, abortion 1, asthma 1, aneurysm of aorta 1, casualties 6, congestion of lungs 10, childbirth 1, membranous croup 2, epilepsy 1, erysipelas 3, gallstones 1, hemorrhage from stomach 2, from uterus 2, umbilical hemorrhage 1, influenza 28, intussusception of bowels 1, jaundice 1, locomotor ataxia 1, necrosis of bone 1, obstruction of the bowels 1, edema of glottis 1, purpura hemorrhagica 1, pyemia 3, rheumatism 2, arterial sclerosis 1, spine 1, surgical shock 1, sore mouth 1, stricture of esophagus 1, suffocation 2, tetanus 1, brain tumor 1, whooping-cough 3	86

Physicians Elect Officers.—The Atlantic City Medical Society held its annual meeting at Atlantic City February 6, and elected Dr. Theodore Boysen, of Egg Harbor City, president. The other officers are residents of Atlantic City, and are as follows: Dr. W. K. Darnall, vice-president; Dr. Theodore Senseman, secretary and treasurer; Dr. A. B. Shimer, reporter.

Pediatric Society.—At the meeting of February 12, Dr. J. D. TARGET exhibited a case of Jacksonian epilepsy in a girl of 7 years. Convulsive movements began in the left leg, which is now partially paralyzed, and have now extended to the arm. The parents refuse operation.

DR. J. P. CROZER GRIFFITH exhibited: 1. A case of splenomegaly, with enlarged liver. The child is 10 months of age, the spleen and liver being greatly enlarged. An important point is that there is no decided evidence of rickets in the case. Dr. Griffith has seen several cases of enlarged spleen without evidence of rickets and knows of no reason why such cases should not be classed as splenic anemia. 2. A case of probable peritonitis in a colored girl of 8 years. 3. A case of congenital cyanosis. The infant becomes much more blue when crying. No distinct heart-murmurs are to be heard, but there is accentuation of the pulmonary second sound. For these reasons there is believed to be an abnormal origin or a transposition of some of the bloodvessels.

DR. JOFSON exhibited a case of nodding spasm in which there is also slight nystagmus and some contraction

of the left sternomastoid muscle. There are no well-marked symptoms of rickets.

DR. D. L. EDSELL reported a case of **gumma of the liver** in a child of 14 years. The child was deaf in both ears, had ozena, and an old keratitis, the liver was enlarged and nodular and there were effusions into the serous cavities. Inunctions of mercury and the use of the iodids soon caused an improvement and finally a cure, so far as can be determined, the liver becoming normal in size and the effusions disappearing. Kidney involvement, as evidenced by albuminuria, also cleared up. The great frequency of mistakes in diagnosis was noted, the condition very often being diagnosed as malignant, even by prominent clinicians.

DR. J. P. CROZER GRIFFITH detailed a convenient plan for **bedside case-history taking in private practice**. After trying several plans, one which has given satisfaction for nearly 2 years, is that of a pocket-case with 2 large pockets for cards. Card histories from the office can thus be taken to houses when office patients are visited. Slips on which to write directions for diet, medicine, etc., as well as printed slips giving directions for making barley water, beef juice, etc., and preparing baths, are also carried in the case.

DR. EMERY MARVEL reported a case of **suppurating mastitis in the newborn**. The infant was 27 days old. The abscess, which was incised and evacuated, is believed to have been due to irritation from within by a hypersecretion of colostrum. In such cases prophylaxis may be of use if the condition is recognized early.

DR. T. S. WESTCOTT read **A note on the differential modification of the proteids of milk**. Formulae were given based upon a ratio of 4 to 1 between caseinogen and whey proteids. This ratio is believed to be more correct than the former used—5 to 1. The change is based on recent reports, especially that of Drs. White and Ladd in the PHILADELPHIA MEDICAL JOURNAL of February 2.

Obstetrical Society.—At the meeting of February 7, DR. WILMER KRUSEN read a paper on **Organotherapy in gynecology**. The literature of the subject was carefully reviewed, including the use of uterine, mammary, parotid, thyroid, and ovarian extracts. Of these the thyroid is the most efficient and has been most thoroughly tried. Dr. Krusen has been prescribing ovarian extract for 3 years for 2 classes of cases: 1. In amenorrhea and dysmenorrhea. 2. For symptoms following the removal of the uterine appendages. 3. For disturbances due to the natural menopause. Most cases are disappointing, but an occasional success incites to renewed use. The best results are noticed in the second class of cases, the congestive and nervous symptoms being ameliorated in some instances. No definite and exact reliance can be placed on the drug. In discussing the paper, DR. SHOBER said that the chief indication for the use of mammary gland was in uncomplicated cases of bleeding fibroids. It would not cure the condition but would control the hemorrhage and thus put the patient in better condition for operation. He is also convinced that parotid extract will control ovarian pain in patients who have enlarged, prolapsed, and tender ovaries without adhesions.

DR. H. A. HARE stated that he would speak from a theoretical rather than a practical standpoint. An important point is to know the relative activity of the gland which is being prescribed. A knowledge of the condition of the animal from which the gland was obtained is necessary to get definite conclusions. Many contradictory reports may have thus arisen. Again, the minute metabolism of each patient is not known, and thus the exact cause of the condition may be different in different individuals and be acted on differently by the extract given. The fact that some observers report such gratifying results rather militates against the use of extracts as this is comparable to drugs which give wonderful results in the hands of some one individual but which are considered of no value by the profession at large. Because different organs are similarly involved, as the parotid gland and the ovary in mumps, does not prove them to have a physiological connection. They may be only bacteriologically similar. The connection between the ovaries and the mammary glands may be only a reflex one. Physicians will not be able to employ organotherapy in a rational way until they are able to separate symptoms and locate more definitely their cause in individual cases. DR. J. M. BALDY practically agreed with Dr. Hare's conclusions. The application of

these remedies is very limited, although thyroid extract has aided in controlling hemorrhage in a few instances, in nulliparous women only. It has been of use in several cases of irregular menstruation. DR. W. W. RUSSELL, of Johns Hopkins Hospital, stated that organotherapy had been practically useless in his experience. The use of suprarenal extract locally gave a gratifying result in one case. The patient had been treated unsuccessfully for 9 months for bleeding from one kidney. Through a catheter $\frac{1}{2}$ ounce of a 10% solution of suprarenal extract was introduced. There has been no return of the bleeding for 3 months. DR. E. E. MONTGOMERY finds that thyroid extract may cause a recurrence of pregnancy in obese women. He believes the involvement of the parotid gland following operation to be the result of infection rather than from a physiological connection. In the irregular bleeding of women who are near the climacteric, thyroid extract has a certain use. It also moderates the severe pain in malignant disease. DR. J. G. CLARK has been prescribing parotid extract systematically for 3 or 4 months in cases of dysmenorrhea with not the slightest result. DR. J. M. FISHER stated that the use of thyroid extract at the Jefferson Clinic reduced the weight of patients and was serviceable in some cases of amenorrhea. Ovarian extract gave no results. In private practice one case had improved by its use. DR. J. C. DACOSTA confines the use of thyroid to cases of fibroid who refuse operation. Most cases are reduced in size and the hemorrhage ceases. The decrease in size is apt to be temporary.

DR. E. E. MONTGOMERY read a paper on **Operative treatment for cancer of the uterus**. The condition of the patient should determine whether the vaginal or abdominal method should be used in the radical treatment. The vaginal method should be used in cases where the disease is confined to the cervix; the uterus is freely movable, and the vagina is roomy. The excision must be made in healthy tissue and reimplantation prevented by a preliminary curettement and suturing of the cervix. In abdominal hysterectomy the pelvic glands are not to be removed as a routine procedure; the glands are rarely involved in operable cases; the prognosis is unfavorable in patients under 35. DR. J. G. CLARK makes the removal of the glands dependent on the condition of the patient. If, after removing the broad ligaments and getting the ureters well out of the way, the patient is in fair condition, he removes the glands. If the patient's condition is not good, the operation is stopped. The removal of the glands is of prognostic value. If they are found by microscopic study to be involved, the prognosis is very unfavorable. He supports Freund's views in regard to the route selected—vaginal, if the condition is incurable; abdominal, if there is hope of cure. DR. J. M. BALDY stated that cancer of the fundus and of the cervix were practically two diseases, so far as prognosis is concerned. The majority of the former get well, the latter all die. The statistics of the German writers are not to be relied upon. The attempt to clear out all the glands will lose cases. Beside this, it is impossible for any man to dissect out all the glands of the pelvis. Pathologists disagree regarding the condition present in many of these cases, hence the clinician must not depend too much upon their dictum and seek to remove too much tissue. Owing to the lateness of the hour, DR. GEO. ERETY SHOEMAKER merely mentioned several cases he had to report.

NEW YORK.

Dr. John J. McGrath has been appointed attending surgeon to the Harlem Hospital.

State Medical Society.—The following officers were elected January 31, 1901: President, Dr. Henry M. Elsner, of Syracuse; vice-president, Dr. Louis M. Lanehart, of Hempstead; secretary, Dr. F. C. Curtis, of Albany; treasurer, Dr. C. D. Ball, of Albany.

Report of the New York Orthopedic Dispensary and Hospital.—During the year ending September 30, 1900, 164 patients have been admitted to the wards of the hospital, 110 discharged improved, 3 unimproved, 3 died and 48 remained under treatment October 1, 1900. The number of days of hospital care for free patients was 17,902; for pay patients, 2394; total, 20,796. Thirty-six patients were treated by operative measures, and 57 operations were performed.

All were successful. The out-visiting nurse has made 2265 visits to the homes of patients discharged from the hospital.

Neurological Society on Insanity Law.—At a meeting of the New York Neurological Society, held in the Academy of Medicine, resolutions were adopted in regard to the qualifications required for the President of the State Commission on Lunacy. Bills relating to this subject and providing also for a change in the State insanity measures are at present before the Legislature. The resolutions condemn any amendment of the State insanity provisions which do away with the clause providing that the medical member of the commission shall have had five years' actual experience in the care and treatment of the insane.

Medical Profession Honor Prof. Francis J. Quinlan, M.D., LL.D.—A large number of physicians of New York City tendered to Prof. Francis J. Quinlan a complimentary dinner, and a magnificent loving cup beautifully inscribed. They gathered to give testimony of their recognition of the esteem and appreciation in which they held their honored guest not only as a physician, but as a citizen. Speeches were made by Professors Wythe, Townsend, Robinson, and T. A. Emmett. Drs. Phelps McGuire and Smith represented St. Vincent's Hospital; Dr. John McGarth, the Postgraduate School; Dr. Joseph Bissell, Bellevue Hospital, New York City; Dr. Aspell, the Cornell Medical College; Drs. Bodine and Doherty, the New York Polyclinic; Dr. Thomas Manley, the Harlem Hospital; Dr. Quigley, the Fordham Hospital; Dr. P. V. Burnett, the Brooklyn Eye and Ear Hospital; Drs. Ledermann, Hepburn, and MacDonald, the Manhattan Eye and Ear Hospital; Drs. Callan and McCoy, the New York Eye and Ear Infirmary, whilst Dr. Dalrymple came from New Rochelle to add to the occasion. Dr. Nevin journeyed from Jersey City, and Dr. Morris Manges ably represented Mount Sinai Hospital. Many other prominent doctors were seen at the different tables, and the evening was one long to be remembered by all present.

New York Academy of Medicine—Section on Orthopedic Surgery.—Meeting of January 18, 1901. Dr. George R. Elliott, chairman.

Dr. HOMER GIBNEY presented a girl, aged 17 years, tall, with a round back or posterior curve of adolescence, of which he exhibited a tracing. He had applied the plaster jacket she now wore, only a few hours before, by placing her in the recumbent position, the body resting upon two up-rights—one under the pelvis, and the other under the point of greatest prominence of the back. Her head and shoulders were allowed to sag backwards and downwards. The position maintained, which caused the patient some suffering, was a marked overcorrection. Another jacket would be applied later. The patient did not bear the operation well on account of cardiac complication. Dr. HENRY LING TAYLOR said he had not understood what diagnosis had been made, but the girl seemed unusually tall for the age assigned, and asked if the possibility of gigantism had been considered, as a marked round back was common in such conditions. Dr. ROYAL WHITMAN said he was familiar with the history of the patient. She had some cardiac disease, was rickety, overgrown, and badly nourished. He considered her condition merely the round spine of adolescence, partly due to her height and heart-weakness, and called attention to the patient, showing lack of ordinary intelligence. Dr. GEORGE R. ELLIOTT asked Dr. Gibney how much force in pounds he had used to correct the deformity. Dr. GIBNEY replied: that little force beyond gravity was used, the sagging of the body between the supports appeared to give the necessary extension. Dr. W. R. TOWNSEND said that he had put up a case of spondylose rhizomelique last week in a much straightened position, followed by a feeling of relief to the patient. Dr. TAYLOR remarked that Kietely had described anterior crutches to hold the shoulders back, which would seem to answer the purpose of epaulettes as used in this jacket, without their disadvantages.

Epicondylar Fracture of the Elbow.—Dr. HOMER GIBNEY presented a small boy who had sustained a fracture of the elbow three months previously. The fracture was above the condyle. When the patient presented himself at the hospital the elbow was fixed at an angle of 105° with but little movement. The joint was cut down upon by Dr. V. P. Gibney and the detached fragment sutured into place.

Dr. V. P. Gibney said the epicondyle and nearly the entire condyle had been displaced, interfering with motion. He had cut down upon the joint and separated it with an osteotome, cleaned off the site of the fragment and pushed it down, suturing with kangaroo tendon; he then put the arm in a straight position, left it for four or five weeks and then allowed active motion. Passive motion was not employed. Dr. T. HALSTED MEYERS commented upon the excellent result and remarked that children were often allowed to go on with fracture at the elbow united in poor position in the belief that they would outgrow the disability in great degree, which was true, but it was better to correct the deformity entirely, even resorting to open operation when necessary. He called attention to Dr. Lloyd's excellent reports.

Coxa Vara.—Dr. TOWNSEND presented a boy, aged 14, with the history that three years ago, without apparent cause, began to limp and noticed that one leg was a little shorter than the other. The condition increased and he has had some pain. There was one inch of actual shortening. Radiographs were shown. He diagnosed coxa vara of the ordinary type. He said there were two points to note: One, good flexion and extension with little adduction; the other, the smaller size of the limb. Dr. Townsend showed another skiagraph of a patient in which he had made the diagnosis some time ago of coxa vara. In this case, under observation for three years, there had been a progressive shortening of about $\frac{1}{2}$ to $\frac{1}{4}$ inch each year, now amounting to $\frac{3}{4}$ of an inch. Dr. WHITMAN called attention to the importance of the limitation of motion, that although the patient still retained 10% of abduction, there was an apparent shortening of two inches. This shortening and consequent disability was due to the limitation of abduction. This deformity might be overcome, after preliminary stretching of the contracting muscles, by a cuneiform osteotomy at the base of the trochanter which would reestablish the angle of the neck and thus relieve the strain upon it. He advised this operation in Dr. Townsend's patient, though the best results were to be looked for in younger patients, or at an earlier stage of the deformity. Dr. ELLIOTT asked Dr. Whitman how large a wedge of bone he would remove. Dr. WHITMAN suggested cutting a paper model of the bone as shown in the skiagraph, and measuring on that the size of wedge to be cut out; he thought one with a base of $\frac{1}{2}$ of one inch would be sufficient in the patient under discussion. Dr. ELLIOTT asked if the length of the limb would be much increased. Dr. WHITMAN replied that the actual increase in length would be slight, possibly $\frac{1}{2}$ inch; the important point was that there would be no apparent shortening because there would be complete relief of the limitation of motion which caused the apparent shortening. Dr. TOWNSEND said, he had performed the operation referred to by Dr. Whitman in two cases with good results and saw no reason why it should not be done in this case. In one patient, however, a little girl, aged 7 years, who had slight coxa vara, he had applied a traction splint and did not see in this particular case why it was not as good as the osteotomy advised by Dr. Whitman. He thought apparatus worn for a few years would give good results in the mild cases. Dr. MEYERS agreed with Dr. Townsend that it would be better in the beginning of these cases to use some sort of supporting apparatus that would not need bandage or plaster, thus avoiding pressure atrophy. He thought the Campbell brace especially adapted for such cases. It removed part or all of the body weight and was inconspicuous. Dr. V. P. GIBNEY asked just what the Campbell brace was. Dr. MEYERS illustrated it by a drawing showing it extending to the hip. Dr. GIBNEY asked if the Campbell brace had always extended to the hip as drawn by Dr. Meyers. Dr. MEYERS said that it had for the last 18 years. Dr. TAYLOR said that this brace reminded him of the Dow's brace which was valuable when it was desirable to use a perineal crutch and allow motion at the knee. He cited cases which had done well under the use of the hip-splint, but could not give final results as the patients had not returned after treatment was discontinued. He had recently seen a case of coxa vara in consultation when 4 out of 6 surgeons consulted were in favor of the splint treatment. Dr. WHITMAN did not favor the use of apparatus as a routine treatment, believing that after its discontinuance the distortion was likely to increase. The nutrition of the parts was likely to be lessened rather than increased by the use of braces. He had been disappointed in the final effect in cases

in which apparatus had been used. Finally, braces could not rectify the deformity, at best it would but relieve the symptoms and check progress. His operative results had been satisfactory. The patients after operation did not limp. Nearly all of his operative cases were between the ages of 6 and 10 years. DR. TOWNSEND asked if the boy in question would walk perfectly if the adduction were overcome. DR. WHITMAN said if there was no limitation of abduction, the boy would walk almost perfectly; whatever limp persisted would depend upon the actual shortening. DR. ELLIOTT wished to know what would be the prognosis if the case was left untreated. DR. WHITMAN replied that the patient would not get much worse, might get some better; as a rule, after the more acute symptoms had subsided the patients adapted themselves to the deformity and got along very well with a greater or less degree of limping. He stated that several of the German writers were apparently opposed to either mechanical or operative treatment. DR. LOUIS A. WEIGEL, of Rochester, N. Y., thought apparatus might be used to advantage in the earlier stages of coxa vara for the removal of superincumbent weight which is an etiologic factor. He believed the difference in size of the femora as shown in the radiographs was due to a true atrophy or arrest of development. If coxa vara is due to defective nutrition, development of the affected side would be retarded.

Fracture of the Neck of the Femur.—DR. TOWNSEND presented a man, 19 years of age, who in December, 1899, fell a distance of 40 feet, striking on his hip. A diagnosis of contusion was made at the hospital to which he was taken, where he remained in bed 6 weeks, at end of which time he could not walk, except with the aid of crutches. He came to the Hospital of Ruptured and Crippled in April, 1900, and a diagnosis of fracture of the neck of the femur was made. There was one inch of shortening, inversion of foot, crepitation at site of fracture when movements were made. Extreme pain and inability to bear weight on the limb or lift it from the table when lying on his back. A long, traction hip brace and a high shoe were applied and worn for 6 months. The man can now walk with little or no pain, and when lying on his back can raise his leg nearly as well as on the sound side. There is one inch of shortening, no crepitation at hip, and all motions are possible without pain. Dr. Townsend thought traumatic coxa vara could be applied to this case. DR. MEYERS thought the case very encouraging. He had presented a similar case some time ago, where bony union had been secured after 4 months of nonunion. In all cases of fracture of the neck of the femur, an earnest attempt to get bony union should be made. In recent cases, even in old people, with proper splints we would succeed many times. In old people where there had been fracture without real immobilization for many months, the case was not hopeless under proper treatment. DR. WEIGEL exhibited a radiograph of an unusual deformity of the tibia and fibula, following a probable fracture during infancy. The mother had noticed a slight angle, middle $\frac{1}{3}$ of tibia when child was 3 months old. This had increased. The original fracture may have occurred in utero. Dr. Weigel also presented a series of radiographs, showing congenital absence of bones in members of the same family. In the 5 extremities shown, some bone of the hand or arm was absent. In one case there was a rudimentary humerus, an imperfect thumb, and 3 fingers. The mother had no thumb, and gave a history of having born 12 children, four of whom were deformed. The mother attributed her own deficiency to maternal impression, stating that her mother, while pregnant, was shocked by seeing a man at her house without a thumb. Dr. Weigel exhibited another radiograph of a case of extensive osteomyelitis involving the whole of the tibia on one side. The patient had been treated for articular rheumatism. He thought it possible in most cases to make the differential diagnosis between marked suppuration and thickening or eburnation. When there is pus formation, he states that in a radiograph it is difficult to get a clear definition of bone structure on account of the osteoporotic condition usually present. Dr. Weigel also exhibited a radiograph of a tubercular focus in a child's foot, together with another radiograph taken 2 months later, showing the reparative process already well under way. This patient was treated by fixation and rest, any radical surgical interference being contra-indicated. DR. TOWNSEND asked for a differential diagnosis between sarcoma of bone and osteomyelitis. DR. WEIGEL

said that such a differential x-ray diagnosis might be difficult to make without an opportunity of comparing a series of cases. DR. ELLIOTT showed a skiagraph of congenital dislocation of the hip, which was taken after only 15 seconds of exposure. The shortness of time exposure was important. With restless children, long exposure was often impossible without an anesthetic.

Transactions of the New York Obstetrical Society.—Stated meeting, held Tuesday, January 8, 1901. President Dr. H. J. Boldt in the chair.

DR. JANVRIN presented a specimen of **large myomatous growth of the uterus**. The history was as follows: Patient single, 40 years of age, menstrual history regular, no pain or bleeding. One month ago she had her normal period, which continued for several days, after which she began to flow freely. The hemorrhage was controlled somewhat, but she continued to flow for several weeks. Upon examination at the end of 3 weeks, a large abdominal growth was found and the tumor removed, which is here presented. Several cysts of the ovaries were removed at the same time. The case was of interest because no hemorrhage had occurred until the last month, although the mass was of large size. The reason for this lies in the fact that the tumor is probably of the cystic variety.

DR. BOLDT presented a specimen of **tubal pregnancy**, in which the fetus of 2 months was found still within the tube. The great interest in this case lies in the fact that operation was performed as the process of tubal abortion was taking place. The abdominal extremity of the tube is dilated to a diameter of 1 cm. The uterine end is completely occluded. The tube is $2\frac{1}{2}$ cm. in diameter at the thickest point. The patient had been bleeding for 3 months at irregular intervals, accompanied by cramp-like pains. During the week before operation the bleeding was very profuse, so that the physician (who thought that the patient had an intrauterine pregnancy) said that she would abort. Large clots were expelled per vaginam. The patient was very anemic, and suffered great pain. In the abdomen there was a large quantity of blood which had escaped at different times, shown by the varying degrees of consistency; some clots were recent, bleeding continuing from the tube, while some were very firm and yellowish-red, the latter being on the floor of the pelvis. The bleeding for such length of time without completion of the abortion is the main interesting feature.

DR. VINEBERG said that the case was of great interest, showing as it did, that we may get as profuse a hemorrhage from the uterus in ectopic gestation as from an intrauterine abortion. He also emphasized the advisability of anesthetizing in cases of supposed abortion in order to make a careful diagnosis of the exact conditions. DR. BROTHERS mentioned the fact that some men thought it unnecessary in cases of tubal abortion to perform laparotomy, or to excise the tube. But in cases like this one of Dr. Boldt's, where the diagnosis of tubal abortion is made and where the patient may lose her life from exsanguination, the loss of blood occurring externally or in the peritoneum, one is justified in doing an abdominal section and removing the diseased tube. DR. JANVRIN remarked that in many cases upon which surgeons are called to operate there is really a tubal abortion present and no rupture of the tube itself. It is rare for hemorrhages to continue from a tube for 2 or 3 weeks without abortion being complete. In most cases tubal abortion takes place inside of a week. In his opinion there was no question of the necessity for operation in any case where hemorrhage was going on. DR. BOLDT in closing said he believed that an impregnated tube should be treated as one of malignant disease and operation was therefore indicated.

DR. H. J. BOLDT read the paper of the evening. The subject was: **1. The Definition of septicemia and pyemia; 2. The indication for vaginal hysterectomy and for abdominal section and drainage in puerperal fever.** The writer in reviewing the bacteriology of the ailments under discussion, said that while there were many varieties of streptococci, they could be divided into three classes or varieties, depending upon their virulence. In order to show the various definitions for septicemia and pyemia and their mingling with the terms septic infection and septic intoxication, thus creating confusion, the author quoted from a number of recent textbooks and dictionaries. So different in meaning are these various

definitions, that one is necessarily confused in choosing the correct term for a given pathological condition.

The best definition for septicemia is given by Coplin in his "Manual of Pathology," third edition, published in 1900. This is found on page 389, under the term "Mycoses of the Blood." He states that "in these the bacteria are present and multiplying in the circulating blood in which their products are generated. The intensity of the septic phenomena is augmented by the greater production of the poison, and not having even the barrier of protection afforded by the necessity of osmosis or absorption, they are enabled to engender lesions not presumed to occur, at least not to the same extent, in either sapremia or local infection. The embolic production of abscess is the essential element of pyemia, a disease recognized by surgeons as septicemia, plus the infected emboli, to which are attributed metastatic abscesses."

Delafield and Prudden, in their "Pathological Anatomy and Histology," fifth edition, state that "If from a focus of suppurative inflammation due to microscopic organisms, or if from a point of entrance of microscopic organisms without local reaction, the germs and their product become distributed through the body, inducing disease, the general condition is called septicemia. If in the invasion of the body by the microscopic organisms and their products new supplementary foci be established, it is now customary to designate the condition pyemia."

Dr. Boldt in his paper makes use of and favors the terms "acute" and "chronic" bacteremia. He defines "acute bacteremia" as a blood disease caused by microscopic organisms invading the circulation from some primary seat of infection. These infection-producing elements multiplying so rapidly in the blood that the patient usually succumbs within 5 days after the disease begins. Usually the parasitic germs are streptococci pyogenes, but other pathological germs may be present also. Chronic bacteremia (or pyemia) is likewise caused by the invasion of the system by microscopic organisms, but they disseminate from an infected thrombus. They are not diffused into the system in large quantity, neither are they possessed with the same foudroyant virulence from a clinical standpoint. The production of the abscesses found in the condition called pyemia, and upon which the pathological difference between the two conditions depend, is due to the parasitic organisms finding a resting place outside of the blood circulation, and there giving rise to abscess formation. That there is a decided difference in the virulence of streptococci no one will deny; for instance, an incised wound of the finger may be infected with pus containing streptococci and yet slight local disturbance result. On the other hand, during an operation on a patient with puerperal septic infection a small puncture of the epidermis may result in grave local and constitutional symptoms. When septicemia originates from infected thrombi, the infection elements, in the writer's opinion, are diffused to a great extent through the lymph channels. In acute bacteremia, there is usually but one chill or in some instances there is none. The infection is intense and occurs suddenly. There is usually no repetition of the chill because the rapidly multiplying organisms are already in large quantities in the circulation.

In chronic bacteremia, on the other hand, there are repeated chills, due to fresh additions of septic organisms into the system. The pathological differences found on autopsy are well known, and harmonize with the manner in which the pathological germs are introduced into the system. It is impossible to distinguish septicemia from pyemia by a bacteriological examination of the blood or tissues. The author proposes for simplicity to limit the term "septic infection" to "local sepsis," reserving the term "acute bacteremia" for what is ordinarily called septicemia, and the term "chronic bacteremia" for "pyemia," so called.

Both acute and chronic bacteremia are caused by microscopic organisms, but one is of short duration, the other long. So much then for the definitions of the terms to be used in the second part of the paper.

If the definitions and the pathological changes of acute bacteremia are kept in mind, it should be evident that surgical intervention, like extirpation of the uterus, whether performed by abdominal or vaginal route or an abdominal section with drainage, must be futile. The author believes that it is a common error to report cases of local sepsis with severe constitutional symptoms as cases of acute bacteremia, and thus

much confusion is caused. In this way it has been claimed that hysterectomy for acute bacteremia has been followed by recovery. In the opinion of the writer no such result ever has been or ever will be achieved by the surgical intervention alluded to for the cure of acute bacteremia. If ever we should be fortunate enough to find a remedy for acute bacteremia it will be found in the realm of serumtherapy. The writer then said that this decisive assertion had been verified by clinical experience extending over the past 18 years. During this time he had performed all of the major operations on a large number of patients, yet he had not seen a single instance of recovery from acute puerperal bacteremia (general puerperal sepsis), even if operations had been performed. In his opinion the only effect from the operations on such patients was to hasten death. Dr. Boldt continued to perform the various operations for acute bacteremia, thinking that it might be possible to save life, because others had maintained that they had been successful; but it is evident to him that those who made those assertions were mistaken in the view as to what bacteremia (septicemia) is. There is no doubt, however, that the operations alluded to in the title of the paper are indicated in some patients ill with septic infection.

It is then of the greatest importance to know when to operate, and for what conditions. It is not easy to make exact diagnosis, but, as a rule, we can come to a correct conclusion after observing the course of symptoms for several days. Some patients ill with sapremia will show such severe symptoms that they simulate acute bacteremia, but a short observation will usually decide the question. Occasionally patients who suffer from toxemia (sapremia) may present positive indications for the removal of the organ giving rise to the infection. To illustrate, B. S. Schultze, in the *Deutsche medizinische Wochenschrift*, 1886, No. 44, mentions the following case: The patient was delivered of a dead child on September 7, the placenta did not follow, and upon traction the cord tore off. The physician could not reach the placenta to remove it. In the hospital it was found impossible to remove it, even under full anesthetics. She began to show symptoms of infection two days after delivery, and her condition became much worse. She had frequent chills and high temperature, so that it was evident that she would die if the cause of the infection could not be removed, especially as peritoneal irritation had begun. On September 13 a supravaginal amputation was made. The uterine bicornis was gangrenous nearly to the peritoneal cavity. The patient recovered. Another case was reported by Sippel (*Centralbl. f. Gynäk.*, vol. 18, p. 667) in which the placenta was removed by manual extraction, but some placental fragments remained which Sippel could not remove, because of the softened condition of the uterus. The patient was extremely anemic from blood-loss which was large. Septic endometritis resulted, and 13 days subsequent to delivery supravaginal amputation was performed, recovery resulting. An infection by microscopic organisms had been added to the toxic infection by saprophytes, an occurrence not uncommon in sapremia. In such cases the reader favors total extirpation to supravaginal amputation, for the reason that the peritoneum can be protected from infection by approximate safeguards.

In cases of septic infection the author has based his blood investigations entirely upon smear preparations, obtained from a finger, and these were unsatisfactory. In two instances when streptococci were finally found, previous examination having proved negative, the patient succumbed. In 3 successful instances in which indication for operation was based on clinical conditions, the blood examinations were negative, the second alone showing streptococci. It would not in his opinion be just to the patient to wait always for operation until positive evidence was found in the blood. The writer then mentioned a case which had occurred in his consultation practice in 1893. He had seen a patient 3 weeks after delivery who had shown all the symptoms of acute septicemia. The physician had not curetted, but relied solely on vaginal douches, stimulants and quinin. When seen by Dr. Boldt, the patient was greatly emaciated, temperature 103, pulse 124 and feeble. There was no exudate in the pelvis, but the uterus was large, boggy and sensitive to touch. Examination of the interior of the uterus did not reveal the presence of placental tissue. After the examination the patient had a severe chill, temperature rose to 105.8° pulse to 156. In view of the gradual sinking of the patient, the irregular chills, fever, the size and consistency of the

uterus, the condition was diagnosed as septic metritis, and hysterectomy performed the following morning.

The diagnosis proved correct, the tissues of the uterus tearing as if decomposed. The patient had no more chills, the highest temperature after the operation was 101, and recovery was uninterrupted. Under similar conditions even with a negative result of blood examination, the writer would adopt the same course today. It is impossible with our present knowledge to lay down absolute rules for the performance or omission of the operation of hysterectomy, but for general guidance I would advise the following indications for hysterectomy, if it is evident that less heroic treatment is useless:

I. If after a full term delivery, or an abortion, there are no conception products in the uterus and the patient has fever with exacerbations, chills, a small and frequent pulse (120 to 140 or more), if careful observation should show that the infection comes from the uterus alone, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria free, if streptococci are found in the uterus, and, especially, if the blood shows the presence of pathogenic germs.

II. If there are decomposition products in the uterus, as in the instances reported by Schultze, Prochownik, Stahl and others, which cannot be removed satisfactorily per vaginam; if on doing a cesarean section the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis, when there is no evidence of an exudate in the pelvis. The adnexa are to be left undisturbed unless there is a positive indication to do otherwise.

In the discussion Dr. VINEBERG said that he agreed with Dr. Boldt in his indications for hysterectomy, but that he personally preferred the abdominal route to the vaginal. He could not agree with the reader of the paper with regard to the definitions of sepsis. He thought there were no grounds for the introduction of the term bacteremia. To his mind there was but one kind of infection. Many times, from neglect, putrid intoxication runs into acute septicemia, and the profession should be taught that each case of sapremia is one of septic infection from the onset, and that it may pass into acute septicemia. Infection with other bacteria, such as the *Bacillus coli communis*, the staphylococci, and the *Bacillus aerogenes capsulatus*, have also been attended with fatal results. Dr. STONE congratulated the reader of the paper, on his successful effort to pick out and define the different varieties of puerperal infection. To his mind the profession was too apt to think that there was only one form of sepsis, and that the correct thing to do in each case was to curet. This he thought a great mistake, as many cases get well without curettage. Dr. ABRAM BROTHERS thought that the question of treatment depended upon the recognition of the presence or absence of local infection. This infection may be due not only to placental debris after delivery, but to some condition of local infection occurring previous to delivery. He agreed with Dr. Boldt that if the diagnosis of acute bacteremia can be made, hysterectomy or any other form of local treatment is contraindicated. In his opinion the terms "local sepsis," "acute bacteremia," and "chronic bacteremia" were well chosen. Dr. W. E. PORTER said he believed that many cases would not come to hysterectomy if persistent intrauterine irrigations were properly carried out. In his experience the placental forceps were better than the curet for the removal of retained secundia. Dr. MALCOM McLEAN had seen several cases in which lactation had given symptoms severe enough to make one strongly suspect septic infection, and he advises the greatest caution in making the diagnosis which would result in the performance of hysterectomy. Dr. G. L. BRODHEAD referred to the cases of hysterectomy for retained placenta, which Dr. Boldt had reported, and said that in his opinion if retained placenta could not be reached by the usual methods, it would be better to incise the cervix in order to get more space in which to operate. Certainly the greater part of retained placenta could be removed in this way and therefore hysterectomy would never be indicated. Dr. JANVIN said he had never removed a uterus for acute septicemia, but that he should like to ask Dr. Boldt to tell how one should know whether to perform abdominal or vaginal hysterectomy. Dr. BOLDT in closing said that he would again refer to the excellent definition given by Coplin

under the term "mycosis of the blood." We must recognize the fact that puerperal fever is always in a degree a septic infection. If fetid discharges come from the vagina, it does not necessarily mean that the case is a serious one. Patients with acute bacteremia may have no fetid discharge, and yet there may be an intense septic endometritis. We must watch our cases for a number of days or several weeks, and if we find that all treatment has failed, the patient is steadily getting worse, no other cause for the chills, etc., can be found, where the parametria are free, and there is no peritonitis, where perhaps streptococci are found in the uterine secretions, then, under these conditions, we are justified in considering vaginal hysterectomy. Abdominal hysterectomy should be considered only in cases where we are called upon to perform a cesarean section on a septic uterus, or where there is an intense septic intoxication associated with a septic endometritis, the patient's condition not improving under other treatment. The reason why the placenta could not be removed in the case reported by Schultze was on account of there being a uterus bicornis. In the other case, quoted from Sippel, the general condition of the patient was such that it was not advisable to carry on intrauterine manipulation further, so great was the danger of perforation. In conclusion, Dr. Boldt said that it required great judgment to decide in these cases what was correct to do, but that each must judge from his own experience with the aid of all the symptoms present. We should all endeavor to make definite definitions of the diseases that we are dealing with.

NEW ENGLAND.

Diphtheria at the Navy Yard.—The receiving ship *Wabash*, the marine barracks and the naval prison at the Charleston Navy Yard have been quarantined by order of Admiral Sampson. The quarantine has been established to prevent the spread of diphtheria.

WESTERN STATES.

Wesley Hospital.—Dr. R. D. Sheppard, of Northwestern University, received two donations to Wesley Hospital on February 8, 1901, one of \$5,000 and one of \$1,000.

College is Quarantined.—Ellsworth College, of Iowa Falls, was placed in quarantine on account of smallpox. Over 100 students and professors are restrained.

University Closed on Account of Scarlet Fever.—The faculty of the University of Wooster, Mo., dismissed all the students for two weeks on account of one young woman who had contracted scarlet fever.

New Hospital.—A new hospital, to cost \$125,000, and which in convenience of appointments and completeness is expected to have no superior in the Northwest, is about to be erected in Baker City, Oregon. It will be under the direction of the Sisters of St. Francis.

Prize Essay on the Dangers from Quackery.—The Colorado State Medical Society offers a prize of \$25 for the best essay, if deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements. The competition is open to all. Essays must be type-written in the English language, and submitted before May 15, 1901. Each essay must be designated by a motto, and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the Society for publication. Others will be returned on application. Essays should be sent to the Literature Committee, Room 315, McPhee Building, Denver, Colorado.

SOUTHERN STATES.

Dr. E. G. Hill has been elected secretary of the Manchester, Va., Board of Health.

Richmond (Va.) News.—The Hunter McGuire Memorial Association has raised about \$400. When the amount has been somewhat increased, it is proposed to erect a monument to this distinguished surgeon in one of the public parks.

Appointment.—Dr. W. D. Bacon has been appointed resident physician of the Baltimore University Hospital in place of Dr. W. R. Stover, who recently resigned. Dr. Edwin Moriarty has been appointed assistant resident physician to succeed Dr. Bacon.

Vaccination of School Children.—The Louisiana State Board of Health has addressed a circular letter to all superintendents of parish public schools, all presidents of parish boards of public education, all principals of parish public schools, presidents of State educational establishments, and to the press of the State, calling attention to the following resolution adopted by the board:

Be it Resolved, That copies of the law be printed requiring the vaccination of public school children, and sent to each superintendent of public schools, as well as the presidents of all educational institutions receiving public moneys.

This circular is intended to meet the danger resulting from the prevalence of smallpox in certain sections of this and adjoining States.

In Memory of Dr. Rohe.—A memorial meeting to the late Dr. George H. Rohe, who died two years ago, was held February 6 by the Medical Society of the College of Physicians and Surgeons of Baltimore in the college amphitheater. The president, Mr. J. M. Barry, of the graduating class, presided. Addresses concerning the life and work of Dr. Rohe were made by Professors William Simon, Aaron Friedenwald and J. W. Chambers. Short tributes were paid to the memory of Dr. Rohe by Drs. Henry M. Hurd, Wilmer Brinton, William R. Stokes, Thomas A. Ashby, H. H. Biedler, and John F. Crouch.

MISCELLANY.

Holding Consumption in Check.—Deaths from consumption in Philadelphia are estimated to be one-third less than they were 15 years ago. The health authorities say the improvement is due to their continuous battle against the disease.

Medical Certificates for Immigrants.—The bill amending the immigration laws so as to exclude persons affected with insanity, idiocy, or epilepsy was favorably reported February 5, from the House committee on immigration and naturalization. The bill requires a medical certificate from immigrants showing freedom from these ailments and requires steamship companies to deport immigrants found to be incapacitated in this respect.

Scarcity of Naval Surgeons.—There appears to be a prevailing embarrassment in the navy because of the inability of the medical corps to secure competent young physicians as assistant-surgeons. The army seems to be preferred on account of the higher rank which it offers and the better prospects for the future.

Obituary.—DR. J. C. CARPENTER, of Sherman, Tex., on February 3, 1901, aged 85 years.—DR. JOHN HUNDLEY, at Montague, Md., on January 30, 1901, aged 75 years.—DR. CLAYTON A. COWGILL, at Philadelphia, Pa., on February 5, 1901, aged 75 years.—DR. JAMES A. SHUTTLEWORTH, at Pleasant Hill, Mo., on February 2, 1901, aged 88 years.—DR. HENRY C. HILL, Assistant Surgeon of the 128th New York Volunteers, at Lockport, on February 8, 1901, aged 69 years.—DR. JAMES T. PERKINS, of Springfield, Md., on January 30, 1901, aged 47 years.—DR. S. H. CADE, of Negreet, La., on February 7, 1901.—DR. WILLIAM P. MANNING, of Washington, D. C., on February 9, 1901, aged 56 years.—DR. M. G. CUNNINGHAM, at Binghamton, N. Y., on February 11, aged 48 years.—DR. FRANK BOND, at Brooklyn, N. Y., on February 10, aged 74 years.—DR. LEVI ROYER, at New Windsor, Md., on February 10, aged 62 years.—DR. PETER MOIR BARCLAY, at Newburg, N. Y., on February 11, aged 67 years.—DR. SAMUEL C. BUSEY, of Washington, D. C., on February 12, aged 72 years.—DR. WISE, at San Francisco, Cal., on February 3, 1901.—DR. JOHN STUART WOODSIDE, at Chester, Ill., on February 11, 1901.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended February 9, 1901:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
FLORIDA:	Jacksonville . . .	Jan. 26-Feb. 2 . . .	1	
ILLINOIS:	Chicago . . .	Jan. 26-Feb. 2 . . .	4	1
KANSAS:	Lawrence . . .	Jan. 26-Feb. 2 . . .	2	
"	Leavenworth . . .	Jan. 1-31 . . .	4	
"	Wichita . . .	Jan. 26-Feb. 2 . . .	22	
KENTUCKY:	Lexington . . .	Jan. 26-Feb. 2 . . .	2	
LOUISIANA:	New Orleans . . .	Jan. 26-Feb. 2 . . .	9	2
MASSACHUSETTS:	Lawrence . . .	Jan. 26-Feb. 2 . . .	2	
MICHIGAN:	Grand Rapids . . .	Jan. 26-Feb. 2 . . .	1	
"	Manistee . . .	Jan. 26-Feb. 2 . . .	4	
MONTANA:	Butte . . .	Dec. 26-Jan. 20 . . .	39	
NEBRASKA:	Omaha . . .	Jan. 19-Feb. 2 . . .	6	
N. HAMPSHIRE:	Manchester . . .	Jan. 26-Feb. 2 . . .	32	
NEW YORK:	New York . . .	Jan. 26-Feb. 2 . . .	50	2
"	Utica . . .	Jan. 19-29 . . .	1	
NORTH DAKOTA:	Morton Co. . .	Jan. 30 . . .	10	
OHIO:	Ashtabula . . .	Jan. 26-Feb. 2 . . .	2	
"	Cleveland . . .	Jan. 26-Feb. 2 . . .	49	3
PENNSYLVANIA:	Allegheny City . . .	Jan. 26-Feb. 2 . . .	5	
"	Erie . . .	Jan. 26-Feb. 2 . . .	2	
"	Pittsburg . . .	Jan. 26-Feb. 2 . . .	8	
SOUTH CAROLINA:	Greenville . . .	Jan. 26-Feb. 2 . . .		1
TENNESSEE:	Jackson . . .	Jan. 1-31 . . .	20	2
"	Memphis . . .	Jan. 26-Feb. 2 . . .	18	
"	Nashville . . .	Jan. 26-Feb. 2 . . .	4	
TEXAS:	Galveston . . .	Jan. 12-26 . . .	37	
UTAH:	Ogden . . .	Jan. 1-31 . . .	32	
"	Salt Lake City . . .	Jan. 26-Feb. 2 . . .	29	
WISCONSIN:	Eau Claire . . .	Jan. 22 . . .	12	
"	Washington			
"	Township Jan. 22 . . .		20	
"	Green Bay . . .	Jan. 26-Feb. 2 . . .	1	
"	Milwaukee . . .	Jan. 26-Feb. 2 . . .	2	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague . . .	Jan. 5-12 . . .	21	
BELGIUM:	Antwerp . . .	Jan. 12-19 . . .	3	
BRAZIL:	Rio de Janeiro . . .	Dec. 1-15 . . .		27
ENGLAND:	Bradford . . .	Jan. 23 . . .	4	
"	New-Castle-on-Tyne . . .	Jan. 12-19 . . .	6	
INDIA:	Calcutta . . .	Dec. 15-29 . . .		72
"	Karachi . . .	Dec. 16-23 . . .	5	
JAPAN:	Korea, Seoul . . .	Dec. 22 . . .		Many cases and deaths.
RUSSIA:	Moscow . . .	Jan. 5-12 . . .	2	1
SCOTLAND:	Glasgow . . .	Jan. 18-25 . . .	324	3
SPAIN:	Barcelona . . .	Nov. 25-Dec. 30 . . .		71

YELLOW FEVER.

COLOMBIA:	Cartagena . . .	Jan. 8-13 . . .		3
CUBA:	Cienfuegos . . .	Feb. 1 . . .	1	
"	Havana . . .	Jan. 22-29 . . .		1

CHOLERA.

INDIA:	Calcutta . . .	Dec. 15-29 . . .		87
STRAITS SETTLEMENTS:	Singapore . . .	Dec. 8-15 . . .		25

PLAGUE.—UNITED STATES.

CALIFORNIA:	San Francisco . . .	Jan. 12-19 . . .	2	2
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PLAGUE.—FOREIGN.

INDIA:	Calcutta . . .	Dec. 15-29 . . .		46
JAPAN:	Osaka . . .	Dec. 22-Jan. 7 . . .	3	
"	Wakayama . . .	Dec. 22-Jan. 7 . . .	1	
TURKEY:	Smyrna . . .	Dec. 30-Jan. 6 . . .		1

Changes in the Medical Corps of the U. S. Army, for the week ended February 9, 1901:

MACDONALD, CHARLES E., acting assistant surgeon, is assigned to temporary duty on the transport "Oopack" during the voyage to the Philippines. Upon arrival at Manila he will report to the commanding general, division of the Philippines, for assignment to duty.

BAILEY, GUY G., acting assistant surgeon, leave of absence granted January 9 is extended 14 days.

BELT, HARRY D., acting assistant surgeon, having relinquished the unexpired portion of the leave of absence granted him January 18, will proceed from New York City to Fort Trumbull, and report for temporary duty.

The following named acting assistant surgeons will proceed from the places hereinafter designated to San Francisco, Cal., and report to the commanding general, department of California, for assignment to duty with troops en route to the Philippine Islands, where upon arrival they will report to the commanding general, division of the Philippines, for assignment to duty: POLK D. BROWN, Hartsville, Tenn.; HENRY M. HALL, Cedar-town, Ga.; MELVILLE A. HUGHES, Washington, D. C.; EDGAR W.

MILLER, Chicago, Ill.; FRANK W. PEASE, Wahpeton, N. D.; JULIUS M. PURNELL, Paris, Ky.; ANTON R. SCHIER, Oconomowoc, Wis.

DEVEREUX, J. RYAN, acting assistant surgeon, is detailed as a member of the board of officers at Washington Barracks for the examination of officers for promotion, vice Captain Edward L. Munson, assistant surgeon, relieved.

CLOSSMAN, AUGUST VON, acting assistant surgeon, now at St. Louis, Mo., will report in that city to Major Thomas F. Davis, Twelfth Infantry, recruiting officer, for duty as examiner of recruits.

HORNE, WILLIS S., acting assistant surgeon, will proceed from Marlin, Tex., to San Antonio, Tex., and report to the commanding officer, department of Texas, for assignment to duty.

KEAN, Major JEFFERSON R., surgeon, will proceed to Washington, D. C., and report on February 4 to the president of the board of officers convened in that city for examination as to his fitness for promotion.

A board of medical officers to consist of Colonel ALFRED A. WOODHULL, assistant surgeon-general; Major LOUIS A. LE GARDE, surgeon; Captain WILLIAM C. BORDEN, assistant surgeon; Captain FRANK R. KEEFER, assistant surgeon, is appointed to meet at the Army Medical Museum building, Washington D. C., February 11, for the examination of candidates for admission to the medical corps of the Army.

A board of medical officers, to consist of Lieutenant-Colonel BENJAMIN F. POPE, deputy surgeon-general; Lieutenant-Colonel ALFRED C. GIRAUD, deputy surgeon-general; Major ROBERT J. GIBSON, surgeon; Captain WILLIAM H. WILSON, assistant surgeon, is appointed to meet at the U. S. General Hospital, Presidio, Monday, February 11, for the examination of candidates for admission to the medical corps of the Army.

GIRAUD, Major JOSEPH B., surgeon, is granted leave of absence for 1 month, on account of sickness.

HARTSUFF, Colonel ALBERT, assistant surgeon-general, retirement from active service, February 4, 1901, under provisions of act of Congress, approved June 30, 1882, is announced.

WOOD, Major MARSHALL W., surgeon, will proceed to St. Louis, Mo., and take temporary charge of the medical supply depot at that place during the absence of Major Joseph B. Girard, surgeon, and upon the return of the latter officer will rejoin his proper station.

WALSH, JOSEPH W., acting assistant surgeon, will proceed from Brooklyn, N. Y., to Washington Barracks and report at the U. S. General Hospital at that post for duty.

BANTA, WILLIAM P., acting assistant surgeon, now on temporary duty at the U. S. General Hospital, Presidio, is relieved from further duty in the division of the Philippines and will report to the commanding general, department of California, for assignment to duty at that hospital.

The following-named acting assistant surgeons are relieved from duty at the U. S. General Hospital, Presidio, and will report to the commanding general, department of California, for assignment to duty with troops en route to the Philippine Islands, where they will report to the commanding general, division of the Philippines, for assignment to duty: WILLIAM ALDEN, EDWARD A. SOUTHALL.

SCHUMACHER, FREDERICK, hospital steward, is assigned to temporary duty with troops on the Army transport "Lawton." Upon arrival at Manila he will report to the commanding general, division of the Philippines, for assignment to duty.

PEDLAR, A. J., acting assistant surgeon, is granted leave of absence for 1 month.

CUTTER, J. B., acting assistant surgeon, is granted leave of absence for 1 month.

CARROLL, JAMES, acting assistant surgeon, will proceed from Columbia Barracks, Cuba, to Washington, D. C., and report to the Surgeon-General of the Army for duty in the pathological laboratory of the Army Medical Museum at the latter place.

DELANEY, MATTHEW A., acting assistant surgeon, will proceed from the National Soldiers' Home, Va., to Fort Monroe for temporary duty.

EDIE, GUY L., surgeon, now in San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will report to the commanding general, department of California, for assignment to temporary duty in that department.

Changes in the Medical Corps of the U. S. Navy, for the week ended February 9, 1901:

GUTHRIE, J. A., passed assistant surgeon, detached from the "Franklin," and ordered to the "New York," February 18.

McCORMICK, A. M. D., surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Academy.

SPEAR, R., passed assistant surgeon, detached from the "Buffalo," on arrival at Cavite, and ordered to the "Isla de Luzon."

GROVE, W. B., assistant surgeon, detached from the "Vermont" and ordered to the Naval Hospital, New York.

BUCHER, W. H., assistant surgeon, detached from the Naval Hospital, New York, and ordered to Naval Hospital, Norfolk, Va.

STONE, M. V., assistant surgeon, detached from the "Isla de Luzon," and ordered to the "Buffalo."

DEBB, E. Z., medical inspector, ordered from the Naval Academy, February 14.

DuBOSE, W. R., surgeon, detached from the Naval Academy, February 13, and ordered to the "Wisconsin."

BERTOLETTE, D. N., medical inspector, ordered to the "New York," February 16.

Changes in the U. S. Marine-Hospital Service, for the week ended February 7, 1901:

BAILHACHE, PRESTON H., surgeon, relieved from duty as chairman of the board for the physical examination of Second Assistant Engineer R. F. HALPIN, R. C. S. February 4.

VAUGHAN, G. T., surgeon, detailed as chairman of the board for the physical examination of Second Assistant Engineer R. F. HALPIN, R. C. S. February 4.

CORPUS, G. M., assistant surgeon, Bureau order of January 26, directing Assistant Surgeon Corput to proceed to Cleveland, Ohio, for temporary duty, revoked. February 2.

FRANCIS, EDWARD, assistant surgeon, to proceed to Cleveland, Ohio, and assume temporary command of the service during the absence on leave of Surgeon Pettus. February 2.

CALLAID, J. C., acting assistant surgeon, granted leave of absence for 5 days from February 7. February 4.

Foreign News and Notes.

GREAT BRITAIN.

Dr. W. H. Willcox, has been appointed lecturer on chemistry and physics at St. Mary's Hospital Medical School.

Dr. Walter Myers, of the Liverpool School of Tropical Medicine, who has been carrying out investigations of yellow fever, has fallen a victim to his scientific devotion.

The death of Mr. Bowater John Vernon, F.R.C.S. Eng., the senior ophthalmic surgeon to St. Bartholomew's Hospital, is announced. He was also ophthalmic surgeon to the West London Hospital.

Royal College of Surgeons.—The following candidates passed the final examination for the Fellowship at the last half-yearly meeting of the examiners, and have been admitted Fellows of the College in the order of their seniority as members, viz.: Messrs. Frederic Pinsent Maynard (Major I.M.S.), M.B.Durh., L.R.C.P.Lond., D.P.H.Camb., St. Bartholomew's Hospital, member April 28, 1885; Edgar Godfrey Carpenter, L.R.C.P.Lond., D.P.H.Camb., St. Bartholomew's Hospital, member August 1, 1889; John Herbert Parsons, M.B., B.Sc.Lond., L.R.C.P.Lond., University College, Bristol and London and St. Bartholomew's Hospital, member, November 12, 1891; Elmore Wright Brewerton, L.R.C.P.Lond., St. Bartholomew's Hospital, member February 7, 1895; Alexander Gordon Wilson, M.B.Lond., L.R.C.P.Lond., London Hospital, member May 13, 1897; Edward Septimus Earnshaw Hewer, L.R.C.P.Lond., St. Bartholomew's Hospital, member February 10, 1898; Irwin Walter William Hunter, M.A., B.Sc.Otago, L.R.C.P.Lond., Otago University, New Zealand, and London Hospital, member May 4, 1898; Percy William George Sargent, M.A., M.B., B.C.Camb., L.R.C.P.Lond., Cambridge University and St. Thomas' Hospital, member May 4, 1898; Thomas Alfred Mayo, M.B.Camb., L.R.C.P.Lond., Cambridge University and St. Bartholomew's Hospital, member November 10, 1898; William Archibald Logan, M.B., Ch.B.Dunedin, L.R.C.P.Lond., Dunedin University, New Zealand, and King's College, London, member July 27, 1899; James Sherren, L.R.C.P.Lond., London Hospital, member July 27, 1899; Robert James Johnston, B.A., M.B., B.Ch., R.U.I., Queen's College, Belfast, and Royal University of Ireland, not previously a member.

CONTINENTAL EUROPE.

The Nineteenth Congress for Internal Medicine will be held in Berlin April 16-19, 1901.

Dr. Karl Haegler and **Dr. Friedrich Egger** have been appointed extraordinary professors of medicine in the University of Basel.

Dr. Martin Hahn has been commissioned by the Bavarian Government to proceed to Egypt and India for the purpose of studying the plague.

Society Report.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held at Havana, Cuba, February 4, 5, 6 and 7.

[From our Special Correspondent.]

THE formal opening general session was held at 8.30 o'clock this evening at the "Gran Teatro de Tacon" and was presided over by Military Governor General Leonard Wood, who, in a few well-chosen words, welcomed the delegates to the City of Havana and to the Island of Cuba. The Tacon Theater bears the name of a celebrated captain-general of the island. It is on the west side of the Prado and fronts on Central Park. It was built by Senor Francisco Morti in 1837 at a cost of 500,000 centenes in gold coin, or about \$2,000,000, was named after General Tacon, and is now owned by an American syndicate. Its auditorium is in the shape of a horseshoe and was handsomely decorated. The 70 boxes and six balconies contained hundreds of beautifully attired ladies, while the magnificent chandelier dependent from the ceiling in front of the stage with its 1034 gas jets brilliantly illuminated a most imposing spectacle. The entire total capacity of the theater is about 4000. Many delegates occupied seats upon the platform. Among those from the United States were noticed: Drs. A. M. Phelps, L. A. Pilcher, and B. T. Whitmore, of New York; Liston H. Montgomery, Chicago; Joseph Mullen, Houston, Tex.; J. W. Holliday, Burlington, Ia.; Roland G. Curtin, Philadelphia; Enoch Hollingshead, Pemberton; and William J. Chandler, South Orange, N. J. Beside these were Dr. John Guitéras, Havana; Dr. John Santos Fernandez, President of the Congress; Dr. Thomas V. Coronado, Secretary-General; Dr. Eusebio Hernandez, and probably fifty others, including the Mayor, Hon. Alexander Rodriguez. Many pretty tropical plants surrounded the speaker's platform and embellished the stage, which presented a very pleasing appearance. The entire opera house was well nigh filled with the elite of Havana's 260,000 inhabitants, nearly all of whom were in evening dress. The history of the Congress was then read by Dr. Coronado.

He was succeeded by the president, who dwelt much upon the progress of medical science in Cuba.

Great regret was felt at the absence of Dr. C. A. L. Reed, secretary of the International Executive Committee, who was announced on the program for an address of a scientific nature. (Subject not announced.)

Dr. E. Hernandez, of Havana, then spoke extempore for 40 minutes. Among the numerous expressions he used was: That the general practising physician should be held in great respect by the community where he dwells for his watchfulness in public health matters.

Everything was said and done according to the latest approved Spanish style. A good-sized orchestra interspersed superb music.

Section on General Medicine.

Dr. Carlos A. Finlay, Havana, presiding. The important paper in this section today was read by Major Walter Reed. For his investigations of the relation of the mosquito to yellow fever, see the Manual. Among other statements in his paper was the description of how Camp Lazear had been established at Quemados, which was strictly quarantined so that the experiments could be carried out successfully. Drs. Reed, James Carroll, and Agramonte of the board, at first confined their operations to themselves, and were so enthused with the success of their investigations that they carried out their work still farther by obtaining volunteers to submit to their experiments which showed that the fever was promulgated by the *Culex fasciatus* (genus *stegomyia*) which had been allowed to bite a yellow fever patient, and subsequently allowed to bite a nonimmune who had been carefully quarantined. Sixty-five per cent. of the experiments resulted in well-defined cases of fever (bitten by the female *culex*). To prove this theory, Dr. Reed showed that the *culex* was to be found in all countries where yellow fever existed, and that it was never found where yellow fever did not exist.

In these cases the mosquito did not inoculate the non-immune until between the twelfth and twentieth day after it had bitten the patient. Subcutaneous and intravenous injections of blood taken from a yellow fever patient would produce the disease in a nonimmune.

Said the speaker, the present quarantine laws against yellow fever were needless. We need not scrub with bichlorid solutions, nor disinfect, fumigate or freeze a cargo, merchandise, trunks, bedding, etc. To prove this, at Quemados, non-immunes were dressed in clothing taken from yellow fever patients, and had slept on bedding used by them, and that not one case had developed from this exposure. The detention system therefore was absurd and of no avail whatsoever.

The effective way, therefore, to prevent carrying of the fever was the destruction of the mosquitoes which might have reached a boat. The moral side of the question of subjecting human beings to experiments was dwelt upon, and in all cases that they had experimented upon,—twenty all together—in each instance the subject had explained to him the danger of the process, but in each case the full cooperation of the patient was secured. The paper elicited much discussion. Among those participating were Drs. Finlay, Agramonte, John Guitéras, L. H. Montgomery, of Chicago, H. B. Horlbeck of Charleston, S. C., and Ryder, of Havana.

Dr. Agramonte followed by reading his report, or rather the combined report—which was the same repeated. Both he and Dr. Carroll deserve an equal amount of credit for these investigations and experiments.

INTERMEDIATE SESSION.

The second intermediate or general session of the Congress was held at 8.30 o'clock this evening at the Marti Theater, with the president, Dr. Fernandez, in the chair.

This is a handsome summer garden and theater in the block south of the Pasaje hotel and opposite Parque de Isabel La Catolica. It is commodious and well ventilated. It seats about 1,200 persons.

The business of this second general session, while of a semi-formal nature, was transacted entirely in Spanish. All the speakers read from manuscript. Many ladies occupied the tier of boxes throughout.

The first address of the evening, scientific in character, was delivered by Dr. Gustavo Lopez, vice-president of the Congress, and secretary of the Academy of Medical Sciences. He stood upon a mounted stand erected for the purpose embellished with Cuban colors. His voice was faint, audible only to those nearest to him. Nowhere throughout the theater was there evidence of the Stars and Stripes, and not a flower adorned the platform.

During the interval before the next speaker a lively musical selection was rendered by the orchestra.

Dr. Eduardo Wilde, minister plenipotentiary of the Argentine Republic at Washington and City of Mexico, delivered the next address from manuscript. He closed amidst plaudits followed by orchestral music.

The last address of the evening was of a scientific character, by Dr. Louis H. Debayle, official delegate of the Republics of Nicaragua and Honduras, after which the audience adjourned.

General Session.

Dr. J. S. Fernandez presided. He said Congress desires countries to unite in stamping out yellow fever.

As a result of the remarks in the address delivered on Tuesday evening at the General (intermediate) Session by Dr. Wilde, the Argentine Minister to Washington and the representative of his government at the Congress, treating upon maritime hygiene, a general meeting was held this forenoon of all the Sections in the great hall of the University building. It was a largely attended meeting, and it was unanimously resolved to accept the motion proposed by Dr. Wilde in his address with slight modifications, as the Executive Committee might consider advisable, namely: To convene an International Health Congress which shall be composed of delegates representing the various governments of America which may recognize the call. The mission of the Congress will be to propose a plan for a treaty in which ways and means will be advanced for the suppression of yellow fever at the places of its origin, and in places where it exists.

Dr. Porter, of Key West, Fla., without having been ap-

prised of the scope of Dr. Wilde's paper, proposed a few hours later to Dr. Fernandez a series of resolutions having the same object in view.

After considerable discussion it was decided to incorporate Dr. Porter's resolutions with those of Minister Wilde.

This step was regarded as an important measure taken by the Congress, and was compared by many to the well-verified experiments of Drs. Reed, Carroll and Agramonte on the mosquito as a means of propagating *febrilla amarilla*.

If the theory is correct that mosquitoes are the prime cause of the disease, an international quarantine organization will undoubtedly eradicate this frequently fatal malady and give rise to a less restricted commerce and traffic, thus greatly facilitating trade between the United States and infected West Indian, Central, and South American ports.

This topic was discussed in detail by Secretary Tamayo, Drs. Horlbeck, Agramonte, Fernandez, Wilde, Bennett, Porter, DeBaile, Calmek, and others.

After some remarks endorsing Dr. Horlbeck's article, in which allusion was made to the pressing necessity for a continuous effort in bacteriological work in respect to the question of etiology and mode of transmission of yellow fever, Dr. Joseph N. Porter, State Health Officer of Florida, offered the following resolutions:

Resolved, That this section of Maritime Hygiene and Quarantine of the Pan-American Medical Congress, now being held in the city of Havana, recommends that an International Commission of Bacteriologists and quarantine officials of extended experience be created to study the etiology and manner of transmission of yellow fever, and that the countries most interested in this subject defray the equipment and maintenance of said commission.

Resolved, Also that the commission thus created shall report detailed results of its labors and investigations to the next meeting of the Pan-American Medical Congress.

Section on General Medicine.

Among the notable papers read at this forenoon's section was one by Dr. Liston H. Montgomery, of Chicago, entitled, "Need of a Department of Health as a separate branch of the Federal Government with a physician at its head as secretary, to rank with parity and equal dignity as the other members of the President's Cabinet."

GENERAL OR INTERMEDIATE SESSION.

This was the closing general session held at the Marti Theatre. Among other business transacted was the resolution submitted by Drs. Roland G. Curtin and G. Hudson Makuen, of Philadelphia, upon the death of Dr. William Pepper, they having been appointed by a meeting of representative physicians from the United States at a called meeting held on Wednesday morning at the University, as their expression of sorrow. The resolution follows:

"It is with unfeigned sorrow that we mourn the untimely death of our honored president, Dr. William Pepper, who organized the Pan-American Medical Congress, and so ably and successfully presided over the first two meetings. To his wise supervision is due much of the success of the Congress since its inception. At this time we especially feel the loss of his guiding hand and executive ability to help us in achieving still greater success. In our grief we are not alone, for many and varied enterprises are hampered by the absence of his painstaking care. Among the more prominent may be mentioned the Congress of American Physicians and Surgeons, the University of Pennsylvania, the Commercial Museum (a great and original conception of his own), and the Archeological Museum of Philadelphia. Let his example of untiring industry and the memory of his useful life spur us on to carry out the important work planned by our beloved president, Dr. William Pepper. May the crown of glory, which he richly deserves, be his is the prayer of his associates of the Pan-American Medical Congress."

The resolution was adopted by a rising vote.

Dr. Walter C. Wyman read an elaborate address—"Municipal Sanitation and Cleanliness"—which dwelt largely upon infection, contagious and loathsome diseases, and how best to eliminate this class of maladies. He deprecated the present method of maritime quarantine in the detention of ships containing valuable cargoes, etc. Fresh air and sunshine, good food and cleanliness, are among the best remedies

to ward off infection. Sanitary improvements should be backed up by capital, the same as public libraries and charitable institutions—perhaps on the endowment plan—or capital thus employed should be devoted to building better homes for the poor. Philanthropists should do this. He hoped much would be done in this direction during the twentieth century.

Dr. A. Vandever, of Albany, N. Y., responded in behalf of the registered members of the Executive Committee of the United States in the absence of Dr. C. A. L. Reed, who was detained by serious illness in his family from being present. He thanked the committee and profession of Havana for the excellent arrangements. The committee desired to express its approbation to the ladies' committee for the kindly care they had manifested in looking after visiting ladies.

It was his good fortune to attend the congress held at Washington and in Mexico, but for real scientific work neither of those compared with this meeting. And during this twentieth century a great work will be going on in the investigation of the etiology of yellow fever right here in Havana. This congress was organized for the specific purpose of studying contagious diseases. None of the Republics except Mexico had contributed anything towards studying *flora*, and she had appropriated \$500 for this purpose.

Again he renewed and voiced the committee's expression for the excellent receptions and hospitality which had been extended to us, and for the truly scientific work which had been done by the congress.

NOTES ON THE CONGRESS.

About 75 were present from the United States and about 325 from Cuba, Mexico, Honduras, Costa Rica, and other Central and South American countries. Among those present from the United States were: G. Hudson Makuen, Roland G. Curtin, Philadelphia; A. M. Phelps, Ramon Guitéras, Reginald G. Sayre, F. C. Valentine, Charles Roberts, Thomas E. Ranford, H. A. Komeman, Charles E. Bruce, B. T. Whitmore, New York; H. L. E. Johnson, Walter Wyman, Washington; George H. Simmons, Liston H. Montgomery, E. Wyllis Andrews, Henry T. Byford, Henry P. Newman, Frank C. Greene, Chicago; George N. Kreider, Levi S. Pilcher, Springfield, Ill.; Thomas L. Stedman, J. L. Medina, New York; Joseph Y. Porter, Key West, Fla.; E. Vanhook, J. F. Gillet, Okala, Fla.; T. A. Stoddard, Puebla, Col.; William Perrin Nicholson, George H. Noble, Atlanta, Ga.; S. C. Carson, Greensboro, Ala.; William H. Earles, Louis F. Frank, Milwaukee, Wis.; Joseph Mullen, Houston, Tex.; J. Bennett, Austin, Tex.; J. T. B. Berry, Brandon, Miss.; J. S. Foote, Omaha, Neb.; W. Stuart Carnes, Canton, O.; W. J. Gillette, Toledo, O.; W. E. B. Davie, Birmingham, Ala.; William M. Findley, Altoona, Pa.; E. Hollingshead, W. C. Parry, Pemberton, N. J.; Henry Mitchell, Newark, N. J.; A. Vandever, Albany, N. Y.; A. H. Nichols, Boston, Mass.; J. D. Griffith, Kansas City, Mo.; H. B. Horlbeck, Charleston, S. C.; H. T. Young, J. W. Holiday, Burlington, Ia.; N. C. Morse, Eldora, Ia.; Wm. Jepson, Sioux City, Ia.; D. S. Fairchild, Clinton, Ia.; Thomas McDavitt, St. Paul, Minn.; J. B. M. Gaughey, Winona, Minn.; T. D. Crothers, Henry Hammond, Hartford, Conn. Among others more notable were Eduardo Wilde, Washington, D. C., Rep. Argentine Republic; Thomas N. Calnek, San Jose, Costa Rica; Walter Reed, Carlos A. Finlay, James Carroll, Aristides Agramonte, John Guitéras, Alfonso Betancourt, Erastus Wilson, R. O. Mancour, Havana.

It was noted that no delegates were present from Canada, Maine, New Hampshire, Vermont, Washington, Oregon, New Mexico, Nevada, Montana, North or South Dakota, Kentucky, Tennessee, California, Kansas, Utah, Oklahoma, Arizona, Louisiana, Indiana, Arkansas, Maryland, Virginia, and West Virginia.

Of course the mosquito theory absorbed the greater portion of the discussion. The social functions were as elaborate as could possibly have been anticipated.

Among those specially worthy of mention was the reception by the military governor (Wood) of the island at the governmental palace on Monday, February 4, from 1 to 4 P.M.

A visit to the cigar and cigarette factories of Henry Clay and Bock Co., where 700 male and 500 female employees are engaged, was made on Tuesday, February 5, from 12 to 2 P.M.

A visit to Fort Cabana and Morro Castle, opposite the city, on Thursday, the 7th, at 3 o'clock P.M.

The grand ball at the Tacon Theater was given by the city government of Havana in honor of the foreign guests, members of the congress, on Friday evening, the 8th; 8,000 people were present of the elite of Havana. The refreshments served on this occasion were elaborate.

On Friday morning, the 8th, about 350 ladies and gentlemen visited Rosario, about 40 miles from Havana, where Mr. Ramon Pelyo gave the physicians a complimentary breakfast at one of the greatest sugar plantations in Cuba. The excursion was an exceedingly enjoyable one. His estate is a most magnificent one, and upon the arrival of the train of seven coaches at Aguacate Station we were welcomed by the school children, who, with flags and banners flying, waved their beckoning huzzas to the excursionists. The sight in some respects was pathetic. These children were of all colors, ages, sizes, etc., and were all neatly attired.

The grounds at this estate abound in flowers, plants, and many varieties of tropical fruit trees, like a veritable garden of Eden. Royal palms soared high. The coffee bush was covered with fragrant, white blossoms. The banana, orange, and coconut trees were all heavily loaded with fruit. A gigantic table in the form of a horseshoe was prepared, covered with snowy linen. A feature of the breakfast was the classical Spanish dish, rice and chicken. When the feast was over, toasts and vote of thanks, eloquent and profuse, were offered by the gentlemen from various countries. Dr. Ramon Guit  ras responded in behalf of the United States.

The authors of several papers, which were announced to be read by physicians from the United States, being absent, their papers will in due course appear in the published volume of proceedings, which is promised in about 6 months.

Dr. R. O. MARCOUR, assistant surgeon U. S. Navy, official delegate from the Navy Department, Havana, secretary Section on Marine Hygiene and Quarantine, read the first paper in this section on Monday, February 4, entitled, **Yellow fever and Sanarelli Serum** (see page 87 of the Manual). His was an exhaustive and interesting report of a grave case of yellow fever which he treated with Sanarelli serum. The case was a noteworthy one in so far as it was the first authentic case on record of a grave type of typhoid icterus where a patient had black vomit, and recovered under this method of treatment. The conclusion reached was that this patient would not have recovered had any other method been pursued. Several physicians on duty in Havana at the time saw the case in consultation with Dr. Marcour. The first organ which responded to the serum was the kidneys, second, the nervous system. The irritability of the stomach was quieted considerably. Toward the beginning of convalescence an erythematous eruption appeared first at the points where the serum was first injected, secondly, where the skin is thinnest, and later all over the body. This characteristic eruption was also observed in 2 other cases of yellow fever treated with the same serum by Dr. Marcour, but owing to the mild type of his other 2 cases he did not think them of sufficient importance to the medical profession to be noted and report same in detail. He referred to them several times while reading his paper. After the reading of his paper the President of the Section translated it into Spanish to the Cuban, Mexican, and South American physicians present. The paper elicited much discussion on the part of the foreign members. Dr. Marcour concluded by stating that we need to try the serum only in grave cases, since mild cases recover with simpler methods and good, careful nursing. The writer added that he is now convinced that the *Culex fasciatus* is the only agent capable of conveying yellow fever. The paper consisted of 38 pages of manuscript, and it is difficult therefore to abstract it and do the author justice, owing to the large amount of clinical data furnished therein.

A paper entitled **The operative treatment of prolapse and procidentia of the uterus** was read by Dr. HENRY T. BYFORD, of Chicago, Ill. (See page 75 of Manual for abstract.) He read his paper on February 4, before the Section on Gynecology and Abdominal Surgery.

The Angiotribe.—Dr. HENRY P. NEWMAN, of Chicago, Ill., described the use of his instrument on Thursday morning, February 7. (See page 72 of the Manual for abstract.)

A paper, **New operation for the radical cure of hernia**, was read by Dr. E. WYLLIS ANDREWS, of Chicago, Ill. (See Addenda of Manual.) The author read his paper on Thursday forenoon, February 7, before the Section of Gynecology and Abdominal Surgery as the Section on General Surgery had adjourned.

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A paper—**Summary of the progress made in the nineteenth century in the study of the propagation of yellow fever**—was read by Dr. CHARLES A. FINLAY, before the Section on General Medicine (president of the Section), on Tuesday forenoon, February 5 (see appendix of the Manual for abstract of his paper).

On Wednesday A.M., February 6, Dr. ERASTUS WILSON, Havana, Cuba, read **Municipal hygiene, or preventive medicine as required by the city of Havana** (see page 134 of the Manual for abstract), before the Section on General Hygiene and Demography.

On Monday forenoon, February 4, a paper—**Prevalence of glanders in Havana among the horses and people**—was read by Dr. HONORE E. LAINE, of Havana, Cuba, president of the Section on Veterinary Surgery. (See latter portion of Manual for Abstract.)

On Tuesday forenoon, February 5, Dr. JOSEPH MULLEN, Houston, Tex., read a report of a **Case of removal of the superior sympathetic cervical ganglion for non-inflammatory glaucoma** before the Section on Ophthalmology (see page 106 of the Manual for mention of title). This paper has been promised to the JOURNAL, hence will appear in its entirety in a subsequent issue.

On Wednesday forenoon, February 6, Dr. W. J. GILLETTE, of Toledo, Ohio, read a paper entitled **Present methods and tendencies in medical education in the United States** in the Section on Medical Pedagogy. (This paper is promised the JOURNAL, hence will be published in a subsequent issue.)

On Wednesday, A.M., February 7, Dr. T. D. CROTHERS, Hartford, Conn., read his paper on **Morphinism and crime**, in the Section on Diseases of the Mind and Nervous System (see page 149 of Manual for announcement of title).

On Wednesday A.M., February 7, one of the secretaries of the Section on General Hygiene and Demography read a paper written by Dr. ALVAH H. DORTY, of New York.

All the Sections met in various halls of the University.

Dr. FERD. C. VALENTINE, of New York, read his paper. (See page 52 of the Manual for abstract.)

Dr. JAMES S. FOOTE, of Omaha, Neb., read his paper. (See page 43 of the Manual for title.)

Dr. J. D. GRIFFITH, of Kansas City, Mo., read his paper. (See page 47 of the Manual for title.)

Dr. W. E. B. DAVIS, of Birmingham, Ala., read his paper. (See page 79 of the Manual for title.)

THE BADGE.—The badge worn by members of the Congress was of metal. The dimensions were between an American silver 25-cent piece and a half dollar, and about as thick, was silver-plated and contained on one side the Cuban coat of arms, which consisted of the rising sun over the sea between two points of land and a key below with the word Cuba thereon. The key—or Cuba by geographic position—is to indicate the honor, key to the Gulf of Mexico (or good position for naval and military power). At the bottom of the coat of arms is a palm on the right side, while on the left side our flag, the Stars and Stripes, is seen.

On the obverse side is the inscription, "Pan-American Medical Congress, Havana, 1901." Urn and serpent to indicate Science, and a laurel leaf. All of which was suspended from a yellow silk ribbon bow, indicative of the medical (physician's) color in Cuba.

Psychotherapy of Pain.—Oppenheim (*Therapie der Gegenwart*, March, 1900) believes that pain occurring in an extremity or circumscribed nerve area is often designated as neuralgia, while more frequently it is of a psychogenetic origin, due to neurasthenia, hysteria, or hypochondriasis. As these varieties of pain have, up to the present time, defied various therapeutic measures, it is worthy of mention that the author claims to have cured several cases by psychotherapeutic means. By systematic exercises he causes the patient to neglect the pain emanating from the affected area, in that the patient concentrates his or her entire attention upon some object like the ticking of a watch. If this fails, the patients are taught to direct their attention to two areas,—one near the seat of pain, the other at some distance from it. The author claims by these procedures to have established insensibility in the former painful areas. [M.R.D.]

The Latest Literature.

British Medical Journal.

January 20, 1901. [No. 2091]

1. A Summary of Researches on the Propagation of Malaria in British Central Africa. C. W. DANIELS.
2. Notes on the Life History of *Anopheles Maculipennis* (Meigen). LOUIS W. SAMPSON.
3. Malaria and Mosquitoes in Z-aland. A. VAN DER SHEER and J. BEERENS VAN BERLEKOM.
4. Preliminary Note on an Unclassified Type of West African Fever. S. W. THOMPSTONE and H. E. ANNETT, and R. A. BENNETT.
5. Observations on 15 Cases of Hemoglobinuric Fever in British Central Africa. HERBERT HEARSEY.
6. Note on the Staining of Flagella. J. BLACKBURN SMITH.
7. The Prophylactic and Curative Treatment of Plague. A. LUSTIG and G. GALEOTTI.
8. Dysentery in South Africa. JAMES JOHN DAY.
9. Note on the Lesions Produced by *Oxyuris Vermicularis*. MARC ARMAND RUFFIER.
10. A *Filaria* Found in Sierra Leone; *Filaria Volvulus* (Leuchart). W. T. PROUT.
11. Remarks on the Apparent Immunity of Asiatics from Enteric Fever. FRANCIS W. CLARK.

1.—Daniels believes that *Anopheles funestus* (Giles) is the chief agent in the distribution of malaria in East and Central Africa. After feeding 57 specimens of anopheles on a patient suffering from malaria whose blood contained crescents, 27, or 47.5%, were found to be infected. These 57 mosquitoes had fed 129 times on the patient and out of the 129 feedings, infection of the mosquitoes resulted in 46 instances, or 35.5%. Man appears to be the only intermediate host of the malaria parasites. From June, 1899, onwards the author made observations on the proportion of children of different ages with splenic enlargement, the absence of this condition in the adults having been previously noted. Out of 851 children under 15 years old examined 216 had enlarged spleens. A classification of these observations into a group under 2 years of age, a group between 2 and 4 years, and a group from 4 to 15 years, shows an earlier incidence and an earlier decrease in the proportion with enlarged spleens in the more malarious districts; and as chronic enlargement of the spleen does not always follow even repeated neglected infections, it also indicates a very high degree of prevalence of malaria in the natives in early life. The causation of enlarged spleen as a result of malaria is not well understood, and requires further investigation. This effect of malaria is in part dependent on race. No preventive method is or can be of general application to the exclusion of others. A combination of methods strictly in accordance with local conditions promises the best results. The outlook is hopeful, as a reduction in any factor by any one method will increase the effect of any other methods adopted. The greatest difficulty will result from the scepticism with which the subject will be met in the tropics. Sufficient regard to the species of anopheles has not yet been paid in describing their habits and breeding places. The very local distribution of some of the species indicates some important differences as yet unknown. It is requisite for each species of anopheles that direct proof should be obtained whether the human malaria parasites develop in them or not; in only a few is the proof at present conclusive, and it is being too hastily assumed that the whole genus is implicated. [J.M.S.]

2.—The paper is an exposition of the anatomy of the ova, larvae, and adults of *Anopheles maculipennis*. [J.M.S.]

3.—Van der Scheer and van Berlekom refer to a previously published report of an outbreak of malaria in Middleburg, the principal town in Zeeland, where for 30 years this disease had never occurred. There were two marked peculiarities of this epidemic: (1) It consisted only of cases of tertian fever, and (2) house epidemics were often observed. The malaria houses were reinspected this year with accuracy, and it turned out that several anopheles were found. It became evident that, as in Italy, anopheles prefer to live in stables with rab-

bite, horses, and other quadrupeds. Within such stables as were situated in the neighborhood of the infected houses whole colonies of them were found. The authors tried to infect anopheles by keeping them under a mosquito net, together with a person who suffered from malaria, and whose blood contained not only the so-called febrigenous parasites but also gametocytes, which are destined to undertake sexual functions in the mosquito's stomach and to form vermicules. Their experiments were immediately successful, so that, of 22 mosquitoes that had sucked blood containing gametes, one or another stage of development of the parasites was found in the bodies of 18. [J.M.S.]

4.—Thompstone and Bennett describe a disease that they call hyperpyrexial fever that is generally ushered in by a slight rise of temperature, followed by profuse perspiration and a fall in the temperature to about 99° F. After a period of apyrexia of perhaps 24 hours' duration, the temperature begins again to rise, slowly at first, but when 105° is passed with alarming rapidity so that 107° may be reached on the second day. For from 14 to 30 days subsequently there is absolutely no tendency for the temperature to fall. The skin acts either very slightly or not at all, and all antipyretic drugs fail. There is no enlargement of the liver or the spleen. The urine is of normal character and abundant; the bowels are regular or inclined to looseness. The mind remains remarkably clear in the majority of cases, except when the temperature is at its highest, but constant symptoms in the early days are great anxiety and restlessness. No plasmodia or pigmented leukocytes have ever been discovered, but in some of the latter cases it was noticed that the blood tended to coagulate the moment it was exposed to the air, so that it was only with great difficulty that satisfactory films could be obtained. Treatment of the condition is by baths. If the patient is to recover, some change for the better is to be looked for about the end of the third week. Convalescence is gradual, and it may be 6 weeks after the onset of the fever before the temperature finally assumes its normal course. On the other hand, in 50% of the cases that have come under observation a fatal issue has occurred. At the end of the second week, Annett found 4,384,000 red corpuscles, 15,000 white corpuscles, and 90% hemoglobin. Attempts to cultivate microorganisms from the blood failed. [J.M.S.]

5.—Hearsey gives summaries of 15 cases of hemoglobinuric fever, which he defines as an acute febrile disease, probably of malarial origin, and characterized by the occurrence of an extensive and rapid hemolysis. [J.M.S.]

6.—Smith uses the following method for the staining of flagella of microorganisms. A saturated solution of perchlorid of mercury, made by boiling, is poured, while still hot, into a bottle in which crystals of ammonia alum have been placed in quantity more than sufficient to saturate the fluid. The bottle is well shaken and the solution is allowed to cool. To 10 cc. of this fluid 10 cc. of a freshly made 10% solution of tannic acid are added and 5 cc. of carbol fuchsin. These are mixed and filtered. The cover-glasses are prepared by washing them in a strong solution of hydrochloric acid. They are taken from the acid, wiped with a clean cloth, and thoroughly heated over a Bunsen flame. On a cover-glass which has been sufficiently heated, the film spreads with perfect evenness. The traces of acid that are left on the glass make it easier to avoid subsequent precipitation of mordant or stain. The bacilli are placed on the cover-slip and fixed. The mordant is then filtered, poured on the preparation, and heated till steam is given off. Boiling should be avoided, as it leads to precipitation. The preparation should be kept at this temperature for 3 minutes. It is then well washed in distilled water, and the stain is added and heated in the same way for 3 or 4 minutes. The stain is made by adding 1 cc. of a saturated alcoholic solution of gentian violet to 10 cc. of a saturated solution of ammonia alum. This is filtered and poured on the preparation. This method is particularly applicable to bacilli of the typhoid and colon group. The flagella of the cholera bacillus, the tetanus bacillus, and the vibrio aquatilis are well stained by this method. [J.M.S.]

7.—Lustig and Galeotti in their studies on the treatment of plague determined to inoculate, as a preventive medium, the substance that is alone able to cause in the organism treated an active immunity produced by the action of a specific bactericidal power. This substance was obtained by isolating from the microorganisms the nucleoproteid of

which they are partly composed, for it is to this that immunity is due, although it can be also produced by injecting entire cultures of plague microorganisms. Through the injection of this nucleoprotein, which is an intracellular specific poison, the authors were able to confer on the serum of the animals a bactericidal power, and very likely an antitoxic one as well. The first serum was obtained in the year 1897 and was tried in India on 6 patients, 5 of whom recovered. Besides 29 patients were treated with it in the Poona Plague Hospital, and 21 of them got well. The number of patients treated with this serum on June 10 was 175. The results were altogether very satisfactory, but a great difference in the serums coming from different horses was noted. The mortality among the patients treated with the serum may be placed at about 53%, while the general mortality for plague at the same period was, according to the official statistics, about 94%. More recent results of the treatment of plague with this serum have been published in Dr. Polverini's report. The rate of recovery was 39.36%. At the Arthur Road Hospital, 1,190 patients were treated without serum during the same period with a mortality rate of 19.57%. [J.M.S.]

8.—Much of the dysentery which the private soldier in South Africa believes he suffers from is not dysentery. It usually resolves itself, on questioning the patient, into diarrhea, accompanied by griping pain. In the advance through the Free State one saw many cases of acute diarrhea, in a large percentage of which blood and mucus were passed. Very few of these ended as acute dysentery. The few cases of real dysentery occurring in Colville's Division improved rapidly under treatment with magnesium sulphate, given in hourly doses of 1 dram, and dieting. Out of some hundreds of cases of acute diarrhea and dysentery treated, Day only saw 1 death occur actually in the field, and that was a case of long duration. On admission, the patient was immediately given castor-oil, 1 ounce; tincture of opium, 15 to 25 minims; peppermint-water, 1 ounce; and a diet of arrowroot, milk, soda-water, and brandy or portwine. As soon as the bowels had been thoroughly cleared, magnesium sulphate, 1 dram; dilute sulphuric acid, 15 minims; and peppermint-water, 1 dram, was given every hour until the stools became feculent. As the tenesmus was relieved and the evacuation of blood and mucus ceased, the sulfate of magnesium was administered correspondingly less frequently, but was always continued for about 48 hours after the dysenteric symptoms had ceased. Several cases were complicated by scurvy, malaria, and synovitis. There is a great tendency to relapse should the patient be allowed to get about in the sun too soon during convalescence. Cases of dysentery should be kept separate from cases of typhoid fever. As much care should be taken to either disinfect or destroy the stools of dysentery patients as of patients suffering from typhoid. [J.M.S.]

9.—At the postmortem examination of an adult male who had died from chronic cirrhotic disease of the liver and kidneys Ruffer noticed the *oxyuris vermicularis* in great numbers in the contents of the large intestine, more especially in its lower portion. In the rectum, about 6 inches from the anus, 3 small hard tumors were found, that lay within the walls of the intestine, and was of the size of a small nut, while here and there throughout the length of the large intestine small elevations were also noticed. These varied in size from that of a pin's head to that of a small pea. The mucous membrane covering these tumors and the elevations above noticed was quite intact, and there was no sign of congestion, inflammation, or ulceration around the tumors. Each of these tumors contained a calculus; it shelled out quite easily from the surrounding connective tissue, which formed a capsule around it. The mucous membrane and the submucosa formed the anterior wall of the cyst, the posterior wall consisting of the muscular layer and peritoneum, a thick capsule of connective tissue surrounding the calculi. These calculi were rough, uneven, but not so hard that they could not be cut with a strong scalpel. They were mainly of a yellowish black color, but almost white in parts. The addition of a small drop of mineral acid to a fragment at once produced a strong evolution of gas. Microscopic examination of any one of these calculi showed that they consisted of an amorphous yellowish brown substance, which contained numberless typical eggs of *oxyuris vermicularis*. No traces of the worms themselves could be found inside the cyst. The only possible explanation of these facts is that the *oxyuris* penetrated through the mucous membrane into the

wall of the intestine, and there laid its eggs. These acting as an irritant produced a certain amount of inflammation followed by calcification. The female either found her way back into the intestine, or died and was absorbed. It is quite possible that this process takes place frequently. [J.M.S.]

10.—Prout examined a rounded tumor, about the size of a pigeon's egg, that was removed from the buttock of a frontier policeman, who complained of vague rheumatic pains. In appearance and consistency the tumor resembled a fatty tumor, but, on excising it, it was found to be a cyst containing what seemed to be a mass of filariae bathed in a semipurulent fluid. Later a similar tumor was removed from another frontier policeman. On making an incision into this mass, a greenish, semipurulent looking fluid about the consistency of cream escaped from the cyst. This, on microscopic examination, was found to contain numerous filarial embryos. The interior of the cyst was filled with the adult filariae lying in loops twisted up in the most convoluted fashion, entering the cyst wall, running along shallow tunnels, and reentering the cyst. Owing to this and the softness and brittleness of the worm it was a matter of the greatest difficulty to dissect it out, and it was found impossible to do so without breaking it. Eventually, however, the author succeeded in isolating a complete unbroken adult male, and the head, tail, and intermediate fragments of a female. These two worms formed the whole contents of the cyst. The worm is considered to be a specimen of *filaria volvulus* (Leuckhart). [J.M.S.]

11.—During 10 years only 51 deaths of Chinese from typhoid fever were registered in Hong Kong, as against 65 deaths of non-Chinese, although the Chinese form 94% of the total population. Clark believes, and so stated in a former report, that the Chinese are so fully exposed to the infection throughout the whole period of their existence that they almost always contract the disease in infancy or early childhood, when, if they recover, the disease will have been practically unnoticed, while, if they succumb, the death will be attributed to diarrhea, convulsions, or some other symptom. Should they happen to contract a second attack in adult life, it will be so modified by the previous one as to be again scarcely recognizable, or at least to be insufficient to drive the patient to a hospital under European control. During the current year, while 12 deaths have been registered as due to this disease among the non-Chinese, 22 have been registered among the Chinese, and of these 7 were in infants under 1 year of age, and one a child between the ages of 1 and 5 years. It must be borne in mind that these cases have, moreover, been found amongst the few bodies of infants that are picked up in the streets by the police, and that no postmortem examination is made of the bodies of the 1,500 or more infants that are taken annually to the French and Italian convents in a moribund condition, and whose deaths are registered as due either to diarrhea, undefined fever, marasmus, or convulsions, and that these convent returns comprise about 75% of the total deaths in the colony under 5 years of age. It would seem that the immunity of Asiatics to typhoid fever is only an apparent one. [J.M.S.]

Lancet.

January 26, 1901. [No. 4039.]

1. An Address on the Selective Influence of Poisons in Relation to Diseases of the Nervous System. FREDERICK W. MOTT.
2. A Lecture on Plague. J. MITFORD ATKINSON.
3. A Suggested Method of Preventing Water-borne Enteric Fever Amongst Armies in the Field. LOUIS C. PARKES.
4. Notes on Acquired Syphilis of the Nose and Pharynx. CHARLES A. PARKER.
5. Removal of a Foreign Body from the Bronchus by Intrathoracic Tracheotomy. H. MILTON.
6. A Singular Case of Extensive Deposit of Phosphate of Lime in the Lungs. THEODORE FISHER.
7. Notes on a Case of Poisoning by Coal Tar Naphtha. G. HERBERT DOUTHWAITE.
8. A Case of Anthrax. ARCHIBALD KIDD.
9. Spleno-Medullary Leukemia; Remarkable Tolerance of Arsenic. CHARLES HEATON.
10. Results of 35 Prophylactic Injections of the Antidiphtheritic Serum. PERCY R. BLAKE.

1.—Mott delivered an address before the Nottingham Society on October 10, 1900, on "The Selective Influence of Poisons in Relation to Diseases of the Nervous System." He points out the important fact that each nerve-cell, unit or neuron possesses a biochemical sensitiveness or chemiotaxis, which is influenced by its lymph-environment. The failure of the neuron to carry out properly assimilation and dissimulation owing to improper environment and inherent qualities is the essential which governs functional diseases and primary degeneration of the nervous system. Secondary diseases of the nervous system are due to such causes as hemorrhage, thrombosis, embolism, tumors, injury and diseases of the neuroglia and membranes. In his address he refers only to primary intoxications and degenerations. While toxic substances circulating in the blood or lymph come in contact with all the nervous tissue equally, still certain nerve elements are especially susceptible to some poisons and it is through the particular symptoms which manifest themselves that the poison is often recognized. He mentions as striking examples, tetanus and rabies. Toxic substances often act as predisposing or exciting causes in individuals who show an hereditary neuropathic tendency or who are subject to excessive activity or stress. Mott, therefore, points out as cardinal factors in the causation in the majority of cases, toxemia, stress, and hereditary neurosis. Largely through the nervous system of the individual are the internal activities and the relation to his surrounding environments maintained. He states that the important property of the nerve unit is excitability, and that poisons may increase or diminish this function. Nature guards against the entrance of many poisons into the alimentary and respiratory tracts by the sense of taste and smell. Poisons in the circulation are often neutralized by the secretions of antitoxin. In some instances the nervous system shows a gradual tolerance to toxic environment (habit poisoning), a condition after once established is often indispensable to proper functional activity, and a rapid withdrawal of such toxic surroundings would bring about abnormal activity of the nervous system. He clearly states that every nerve unit possesses potential energy which when called upon may be transferred into active energy. He further adds that potential energy is maintained through the proper relation of constructive and destructive metabolism, and upon the activity of the protoplasm. In neurasthenia potential energy is reduced. There is also a relation existing between certain nerve groups. A paralysis of one group may cause overaction in another unopposed group. In this way many symptoms of nervous diseases are brought about. He divides the toxic substances in the blood or lymph which cause increase or decrease excitability of the nerve elements into those that are introduced from without (exogenetic) and those that are produced within the body (autogenetic). He calls particular attention to such poisons as alcohol, opium, hashish, morphia, cocaine, tobacco, and absinthe; each causing specific action on the higher mental functions, however, always modified by individual temperament. He believes that different toxic substances act upon certain projection fields or identification centers of the brain. He refers to the effects produced by hashish, which consist of remarkable illusions relating to the notion of time and space. Also to the effect produced by morphia, causing persistent and uncontrollable ideation. He states that alcohol is directly or indirectly responsible for 20% of the mental and nervous diseases of the inmates of the London County Asylums. He refers to chronic alcoholism as causing dementia. The characteristic mental symptoms of this chronic intoxication are personal illusions, absence of the knowledge of time, space and loss of memory, especially for recent events. In many of the alcoholic cases, peripheral neuritis was associated. To tobacco is attributed a special action upon the neurons of central vision causing amblyopia, and to lead poisoning is attributed the selective action upon the nerves which supply the extensor muscles of the forearm, producing wrist-drop, and also an action on the brain (encephalitic saturninia). The affection known as pellegra is characterized by degenerative changes in the spinal cord and in the brain and by cutaneous lesions. The special action upon the nervous system produced by ergot poisoning is also mentioned. Under 2 headings he then considers the poisons elaborated within the body; (1) from perverted functions of organs or tissues, and (2) by microorganisms. Under the first group he

calls attention to the nervous derangements due to uremia, to exophthalmic goiter, to toxic substances formed and absorbed during digestion, to cholemia, to diabetes and to pernicious anemia. Under the second group he mentions that delirium occurs in many of the acute infectious diseases, and also that the peculiar selective action of the toxin of rabies and tetanus is striking. When tetanus toxin is mixed with an emulsion of nervous matter it loses its poisonous properties. He further refers to the neurotoxin of diphtheria and the depressive action upon the nervous system produced by influenza. Finally he calls attention to the virus of syphilis as being responsible for many nervous diseases, particularly locomotor ataxy and general paralysis of the insane. He cites the Argyll-Robertson pupil as being an example of the selective action produced by the virus of syphilis. The few manifestations of syphilitic infection in married women who give birth to syphilitic children, he believes is to be explained upon the ground of spermatic infection of the ovum from the syphilized father and that the gradual absorption of toxin from the fetus by the mother renders her immune. [F. J. K.]

2.—Atkinson, in a lecture on **plague**, calls attention to the sudden onset of the disease, marked by chill, fever, great prostration, intense pain in the region where the bubo appears, and occasionally delirium. These early symptoms are soon followed by headache, thirst, vomiting, diarrhea, and depression. The tongue is swollen and coated, the skin is dry, and the conjunctivae are injected. During the first 5 days the buboes appear; the temperature-range is high during the first stage, which lasts from 6 to 10 days. It then falls to normal and, with suppuration, there is a secondary rise. Carbuncular affections and petechia are common. Buboes are of large size in 73% of the cases, and small in the remaining 27%. In 90% suppuration develops. The groin, axilla, neck, and the submaxillary region are the most common seats for the buboes. The most important symptoms referable to the digestive tract are loss of appetite, vomiting, and diarrhea. The tongue is dry and coated, there are no important respiratory symptoms in the bubonic variety. The heart shows the signs of a myocarditis, and in 95% of the cases in the epidemic of 1896 albumin was found in the urine. Sleeplessness, muscular twitchings, deafness and delirium and coma are common nervous symptoms. He states that amongst the Chinese the mortality is 90%. The mortality of those treated in hospitals varies from 73% to 88%. In the Europeans it was between 40% and 50%. Early in an epidemic the death-rate is higher than towards the close. The important pathological changes are swelling and suppuration in and about many of the superficial lymphatic glands, hemorrhages into the skin and other parts of the body, enlargement of the spleen and inflammatory changes in the cerebro-spinal membranes, kidneys, liver and heart. He mentions 3 varieties of the disease: (1) The bubonic, which is the most common form and comprises about 70% of all cases. In this variety the infection is through the skin; (2) the pneumonic, a more fatal form and occurs without external buboes. The portal of infection being through the respiratory tract; (3) the gastrointestinal variety which is also very fatal. He states that the bacillus has been found in great numbers in the buboes and spleen, and also in the lymphatic gland, heart, lungs, liver, kidneys, walls of the stomach, in the feces, vomit, saliva, urine and in the blood. The microorganism has ever been found in the blood corpuscle. He gives the size of the bacillus as 1μ in length and 3μ in breadth. It decolorizes by Gram's method, and stains with the ordinary basic anilin dyes. In the stained preparation it shows the characteristic polar appearance. The bacillus is motile and is best cultivated at a temperature of 37°C , but it will grow at a temperature as low as 23°C . The diplococcus of pneumonia and the streptococcus will not thrive at a low temperature, so that this fact is of value in the isolation of the *Bacillus pestis* from the sputum. The microscopical examination of the blood in 276 cases showed the presence of the plague bacillus in 221 instances. If the microorganism is not found by microscopical examination of the blood, inoculation experiments into susceptible animals and upon artificial culture media should be tried. The diagnosis of plague is a rule easy. It is differentiated from enteric fever, particularly by a sudden onset. Typhus fever runs a shorter course. The disease is spread by means of the con-

taminated discharges from the patient and is carried by such animals as mice, rats and pigs. It is not probable that the bacillus is conveyed through the air, as sunlight in a very short while kills the microorganism. The germ may gain entrance into the body through the skin, the respiratory tract and the gastrointestinal tract. In order to prevent the extension of the disease strict hygienic regulations should be enforced by medical health officers and inspectors of the local government boards. Any person coming in contact with a person affected by this disease should be placed in quarantine for at least 10 days. Careful disinfection and the burning of the dejecta should be strictly enforced. All meat should be inspected. All rats should be destroyed, as they seem to carry the infection. The methods of personal hygiene should also be rigidly followed, especially the care of the skin. Food should be well cooked and the water boiled. He concludes his article by giving the measures adopted in Hong Kong for checking the disease. [F.J.K.]

3.—Parkes and Rideal suggest a method of preventing **water-borne enteric fever** amongst armies in the field by means of weak solutions of sodium bisulphate which are to be used as drinking water. After a number of experiments with different substances, the authors conclude that sodium bisulphate is best suited for the purpose, and they recommend a tabloid of 5 grains to be placed in a cupful of water. The solution should be allowed to stand for 15 minutes before drinking. The acid tabloids render the water more palatable and aid in slaking thirst. Three hundred and fifty tabloids weigh about a quarter of a pound, and these are sufficient to sterilize over 100 pints of water. These tabloids may also be used as thirst lozenges. [F.J.K.]

4.—Parker discusses acquired syphilis of the nose and pharynx. He states that primary syphilis of the nose is very rare. The common seat of the primary sore is generally on the ala or just within the vestibule. The manifestations of secondary syphilis of the nose are coryza, mucous patches, rhinitis erythematosa, and rhinitis papulosa and superficial ulceration. Tertiary manifestations of the nose are quite common. They are gummata, superficial ulceration, deep ulceration and necrosis, and scars and deformity. The complications of tertiary syphilis of the nose are catarrhal otitis, purulent otitis, deafness, pharyngitis, and laryngitis sicca, perforation of the hard palate, and cerebral diseases. He then mentions the diagnosis of syphilis of the nose and outlines the treatment. He states that primary syphilis of the pharynx is fairly common and the most frequent seat being upon the tonsil. He mentions that Seifert collected 179 cases of chancre of the pharynx. He states that the manifestations of the secondary syphilis of the pharynx are erythema, mucous patches, and superficial ulceration, and that the tertiary lesions are gummata, ulcerations, scars, and deformities. In discussing the treatment of syphilis of the nose and pharynx he states that mercury should be given in the primary and secondary stages of the disease, and that a combination of iodid of potassium and mercury gives the best results in the tertiary stage. [F.J.K.]

5.—Milton reports a very interesting operation for the removal of a **foreign body** lodged in the **right bronchus**. The patient, a man, 40 years of age, had some years previously had a tracheotomy done for syphilitic stenosis of the larynx, since when he had always worn a tube. A short time before admission the inner portion of the tube became detached and passed down the trachea. The tube could be felt with a probe through the tracheotomy wound, but could not be seen. Several unsuccessful attempts were made to remove the tube with hooks, forceps, coin-catchers, etc. It was finally determined that the only way to remove the tube was by means of a thoracic section. Milton had on a previous occasion removed a tubercular tumor from the anterior mediastinum, and determined to approach the bronchus in the same manner. An incision was made from the tracheotomy wound to the ensiform cartilage. The sternum was divided with a saw, after separation of the tissues beneath it with the finger, and the edges forcibly separated with strong retractors. An incision 2 cm. long was made in the anterior wall of the trachea, just above the bifurcation. This was followed by a flow of bad-smelling, frothy mucus. The tube had caused considerable ulceration of the bronchus, but was removed without much difficulty. There was little hemorrhage and no interference with circulation and respiration. The bronchial wound was closed with considerable difficulty,

and a gauze drain allowed to pass from it through the wound in the sternum. Excepting for the point of drainage, the external wound was closed throughout. The split sternum was not sutured. The patient suffered no shock during or after the operation. For the first 24 hours the patient was entirely comfortable, but there was some rise of temperature. The gauze drain was removed with considerable difficulty, and was followed by a flow of fetid fluid. There were present moist rales in both lungs, and respiration was increased in frequency. The patient died on the third day, temperature 102, apparently from heart-failure. Postmortem examination showed anterior mediastinum to be the seat of an acute septic condition, and both lungs showed a beginning pneumonia. The pericardium, pleura, and great vessels showed no lesion. There were two pressure-ulcers of the right bronchus. Milton thinks that death was due to acute septicemia. In discussing the case he says that he thinks that the closure of the bronchial wound was a mistake, and that if performing the operation again he would leave an opening through the body of the sternum for the purpose of drainage, and close the slit in the rest of the bone with silver sutures. He remarks on the absence of shock in both of his cases. He thinks there is little risk of hemorrhage when an ordinary amount of care is taken. He thinks the only real danger in the operation is sepsis. Where asepsis can be absolutely assured, complete immediate closure of the thorax would be indicated. Drainage can be accomplished through the sternum, upwards through the neck, or backwards through the middle and posterior mediastinum. The backward drainage is not as difficult as it seems at first sight. Although the method of drainage must vary with each case, Milton thinks the anterior route through the sternum to be the best. [J.H.G.]

6.—Fisher reports a case of **extensive deposit of phosphate of lime in the lungs**. The patient, 32 years of age, was admitted into the Bristol Royal Infirmary suffering from pneumonia, and died upon the day of admission. The autopsy revealed complete consolidation of the right lung and partial consolidation of the lower left lung. The pneumonia was in the stage of red hepatization. Scattered throughout the right and the left lung were numerous granules about the size of grains of sand. These small masses were very dense. A chemical examination of these bodies showed that they were made up of 75% of phosphate of lime. Microscopical examination showed that they were situated in the walls of the alveoli and that they were composed of concentric layers. The nodules were not connected with any of the surrounding bloodvessels. The authors conclude that these bodies were due to amyloid deposits with secondary infiltration of phosphate of lime. [F.J.K.]

7.—Douthwaite reports a case of **poisoning by coal-tar naphtha** in a girl 5 years of age. Between 2 and 3 ounces of the liquid were taken. Shortly after the ingestion of the poison the patient was in an almost complete comatose condition, the respirations were hurried, there was a heavy benzine-like odor to the breath, the face was somewhat livid, the skin cold and clammy, the pupils were dilated, and the pulse was rapid and feeble. The treatment consisted in the use of artificial respiration, hypodermic injection of brandy and the administration of common salt as an emetic. The patient finally recovered from the poisoning, but succumbed to an acute attack of bronchitis some days after. [F.J.K.]

8.—A case of **anthrax** is reported by Kidd in a man 27 years of age. The infection was probably conveyed through the handling of hides. The lesion was situated on the neck and followed a crop of boils. The clinical manifestations of anthrax infection were very well marked, although a bacteriological examination was not made. The local treatment consisted in making free incision into the inflammatory area. He states that the patient passed through a severe illness and finally made a good recovery. [F.J.K.]

9.—Heaton reports a **remarkable tolerance for arsenic** in a case of splenomedullary leukemia. The drug was administered in the form of arsenious acid and arseniate of soda. During a period of 271 days, including intermissions of 58 days, 5½ grains of arsenious acid and 105 grains of arseniate of soda were administered hypodermically. For a while the treatment had a beneficial effect upon the blood. [F.J.K.]

10.—Blake gives a report of 35 prophylactic injections of antidiaphtheritic serum. These prophylactic measures were

instituted after 3 cases of diphtheria developed in the Sun-trap Convalescent Children's Home, High Beach, Essex, Eng-land. The cases of diphtheria were immediately isolated and the remaining 35 children were treated with the prophylactic injections. No other cases of diphtheria developed. [F.J.K.]

New York Medical Journal.

February 9, 1901. [Vol. lxxiii, No. 6.]

1. A Case of Gastrointestinal Hemorrhage Caused by Fatty Degeneration of the Right Ventricle of the Heart. CHARLES PHELPS.
2. A Clinical Analysis of Digitalis and Its Preparation, Calling Special Attention to the Glucosides and More Especially to Digitoxin. LEON L. SOLOMON.
3. Amebic Abscesses of the Liver, with a Report of Four Cases. C. R. DARNALL.
4. Autointoxication from Renal Insufficiency, With and Without Diseased Kidneys; With Reports of Some Remarkable Cases. JAMES T. JELKS.
5. Intestinal Obstruction. LOUIS A. HERING.
6. Some Remarks on Epidural Hemorrhage, Without Fracture of the Skull, and Report of a Case. J. SHELTON HORSLEY.
7. The Closure of Cutaneous Wounds Without Suture. HOWARD LILIENTHAL.
8. Tracheal Injections in the Treatment of Pulmonary Tuberculosis. T. MORRIS MURRAY.

1.—Charles Phelps reports a case of **gastrointestinal hemorrhage** caused by fatty degeneration of the right ventricle of the heart. The patient, a man of 58 years, had accumulated much abdominal adipose tissue and had acquired a small umbilical hernia. He had suffered from no other ailment than gout and indigestion. The operation upon the hernia was simple and without incident save that the anesthetics were badly borne. His general condition following the operation was poor, and on the afternoon of the fourth day he died, soon after a large, gastric hemorrhage. Postmortem: The liver was found to be slightly enlarged with considerable fatty infiltration. There was a less decided cortical atrophy due to chronic passive digestion. Endoarteritis of the small branches of the hepatic artery was found. There was also a moderate degree of chronic interstitial nephritis. The lungs were small and nearly bloodless, but otherwise of normal appearance. The heart was of normal size, its right ventricle was covered with a layer of fat, at least $\frac{1}{2}$ inch in thickness, and the wall of this ventricle was thin as paper, and almost pultaceous in character. The left side of the heart was less encumbered by fatty deposits and it suffered less fatty degeneration of its fiber. The cirrhotic disease of the liver had not advanced sufficiently to account for the fatal gastrointestinal hemorrhage, but the condition of the heart seemed to afford explanation. The blood accumulated in the right side of the heart, and, secondarily, in the inferior vena cava and portal system until the overdistended gastrointestinal vessels finally gave way. [T.L.C.]

2.—Leon L. Solomon presents a **clinical analysis of digitalis and its preparations**, calling especial attention to the **glucosides** and more especially to **digitoxin**. Digitoxin has been especially recommended in chronic myocarditis and in cases of ruptured compensation. He recommends a solution of digitoxin to which a little chloroform is added to prevent its precipitation and has found the following combination to be of great service. Digitoxin $\frac{1}{10}$ grain, chloroform $1\frac{1}{2}$ minims, and alcohol (at 90%) 23 minims. Water sufficient to make half an ounce. [T.L.C.]

4.—Jelks reports 24 cases of **autointoxication from renal insufficiency**, with and without diseased kidneys. The patients suffering from renal insufficiency die, usually, not from the nephritis but from the cardiac complications. Hence, the main indications for treatment are connected with the heart. Conditions of high tension and overaction should be met with nitroglycerin, opium, chloral hydrate or iodide of sodium. If dilatation of the heart is threatened, digitalis infusion or digitalin should be prescribed with rest in bed. In using digitalin, Jelks prefers the German Merck digitalin in preference to the American or French. He administers this

remedy in doses from $\frac{1}{15}$ of a grain to $\frac{1}{2}$ of a grain 3 or 4 times a day. [T.L.C.]

5.—Hering first discusses the various sites of intestinal obstruction and the causes of this condition. In his experience chronic constipation with fecal impaction is the most common cause. The most frequent site of the impaction is the descending colon. The symptoms of intestinal obstruction are next enumerated and discussed. Prophylaxis is best accomplished by preventing or overcoming constipation. For this purpose he not only recommends medicine and diet, but particularly massage and exercise. The **operative treatment** should be instituted promptly if the use of high enemas has proved unsuccessful. The administration of purgatives, particularly in cases of intussusception, is questionable treatment. The various methods of intestinal and anastomosis are then dealt with. After operation measures to move the bowel are not to be instituted until the third day. [J.H.G.]

6.—Horsley reports a very typical case of meningeal hemorrhage in which operation gave immediate relief. The patient was a man 22 years of age, who was struck on the head with a wooden club. He was unconscious for a short time after the injury, but regained consciousness and felt perfectly well until several hours later, when he again became unconscious, developing complete hemiplegia. Twenty-four hours after the injury Horeley removed a large epidural clot and instituted drainage. The next day the patient was conscious and had an uninterrupted convalescence. [J.H.G.]

7.—Lilienthal, after discussing infection of wounds from skin sutures, recommends a method of wound closure which he has employed in hospital and private practice with uniform success for 3 years. The deeper portions of the wound are closed with subcutaneous sutures and the skin is then brought together by means of narrow strips of sterilized zinc-rubber plaster. This method has resulted in aseptic healing in all wounds and gives a resulting scar such as follows the use of the subcuticular suture without any of the drawbacks of the latter. [J.H.G.]

8.—Murray recommends an **intratracheal injection** composed of essence of thyme, essence of eucalyptus, essence of cinnamon, of each 5 grams; sterilized olive oil, 100 ccm. This is the solution recommended by Mundell, of Roubaix. Murray's results have confirmed Mundell's to some extent. He injects 3 ccm. 3 or 4 times consecutively. The method of administering intratracheal injection is simple. The curved canula of the syringe is passed between the vocal cords and the fluid is slowly injected into the trachea. He employs the Schadel syringe. The usual effect, in a majority of the cases, is a slight explosive cough. He has not observed a single instance of glottic spasm follow even the first injection. Out of 13 cases treated during the past 7 months, 10 have been benefited decidedly, the cough and expectoration had been lessened and the temperature lowered. This improvement is the more noteworthy because the patients were very poor, not in the hospital, and were under the most unfavorable surroundings. [T.L.C.]

Medical Record.

February 9, 1901. [Vol. 59, No. 6.]

1. Summary of the Progress Made in the Nineteenth Century in the Study of the Propagation of Yellow Fever. CHARLES FINLAY.
2. Investigations upon Corporeal Specific Gravity, and upon the Value of this Factor in Physical Diagnosis. HEINRICH STERN.
3. The Use of the Aqueous Extract of the Suprarenal Capsule as a Hemostatic. W. H. BATES.
4. The Clinical Significance of Dulness in Appendicitis. H. T. MILLER.

1.—Will be treated editorially.

2.—Stern reports the result of a series of investigations on **corporeal specific gravity** and upon the value of this factor in **physical diagnosis**. The determination of the absolute weight of an individual is an important factor to the physician and medical examiner in general. Frequently, however, the absolute body weight does not reflect the real physical condition of the organism. This is especially important in recognition of the fact that light or heavy

people need not necessarily be afflicted with a wasting disease or with obesity. The specific weight of an individual and the density of his structures have been assigned too insignificant a role in medical diagnosis and therapy. It is the density of the organism and its tissues and not its absolute weight which discloses with an almost absolute degree of certainty its soundness as well as a variety of morbid conditions. Stern describes his method for the determination of the corporeal specific gravity for which the reader is referred to his paper. The tabulated results of the specific gravity of certain parts of the body are given. The writer concludes that after the second week of life, the density which is highest (1.066) soon after birth declines to 1.048 in boys and 1.050 in girls, to remain at this minimum until the close of the second year. Thereafter a slow but steady rise sets in, which culminates in the male between the twenty-fifth and forty-fifth year, and in the female after the menopause. In the advanced period of life, the blood density in both sexes is raised once more, it thus contains towards the close of life a similar degree of concentration as at the time of birth. The information furnished by the body density of an individual will assist us in determining certain questions. Among these are: Body soundness, body immunity, and probable duration of life. [T.L.C.]

3.—W. H. Bates, of New York, emphasizes some facts as to the value of **suprarenal substance as a hemostatic**. He believes after 6 years' experience in its employment that it is the most powerful known astringent and hemostatic. Satisfactory results will be obtained with a freshly prepared mixture of one part of the dried and powdered gland, and 10 parts of water. For the use in the eye or ear the emulsion should be filtered. Sterilization by heat will not alter its efficiency. The mixture when used locally will always control hemorrhage from mucous membranes. The internal use of the extract as a hemostatic is efficient in some cases. Another important factor is that suprarenal extract when it controls hemorrhage locally, or after internal administration, does so in less than one minute. [T.L.C.]

4.—H. T. Miller believes that sufficient stress has not been placed upon the **point of dullness in appendicitis**. In every instance in his experience in which he has relied upon this symptom he has been led to a correct conclusion. In cases without any pronounced inflammatory symptoms, and in which the dullness was marked, he found the appendix indurated and adherent to the adjacent tissue. Nineteen cases are briefly reported. In every instance in which dullness was present, pus was diagnosed, and this was verified either by operation, or by autopsy, with the exception of 2 cases of his series. [T.L.C.]

Medical News.

February 9, 1901. [Vol. lxxviii, No. 6.]

1. Some Unusual Cases of Infectious Diseases—A Clinical Report. DELANCEY ROCHESTER.
2. Remarks upon the Construction of Amputation-stumps, with a Report of Two Cases of Amputation by the Osteoplastic Method of Bier. ALEXIS V. MOSCHCOWITZ.
3. Parasites in the Blood. LEON T. LEWALD.
4. General Remarks on the Combination of Ether (57 parts) and Chloroform (43 parts), Known as the M. S. Mixture. EDWARD ADAMS.
5. A Report of some Cases of Abdominal Surgery, with Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and the Gallbladder. CHARLES GREENE CUMSTON.

1.—DeLancey Rochester presents a clinical report of six unusual cases. The first, in which a child had a slight rhinitis with a pulse of 80 and a temperature of 100°. He was also suffering from a sore throat which had come on about midnight of the day before. Rochester makes a practice of taking cultures of sore throat, and did so in this case as a routine matter. A report was received that a pure culture of the *Klebs-Löffler bacillus* was found. Antitoxin was at once administered, although there was no exudate visible, and the constitutional disturbance was not great. Twelve hours after the antitoxin was given he discharged two pieces of membrane from his nose. Twenty-four hours later he appeared better, but 36 hours afterward both tonsils of the

pharynx were covered with **membranous exudate**, and there was a rise of temperature to 101.5°. His second case was somewhat similar in the throat symptoms and the bacteriologic report. However, in this case a **croupous pneumonia** developed, and **pneumococci** were found in the sputum in pure culture. Antitoxin was administered in this case early and in large doses. These two cases are interesting as showing the value of making pure cultures from all cases of sore throat. The second, particularly, illustrates the importance of using all methods of diagnosis, and the possibility of **synchronous infection with two virulent microorganisms**. Had it not been for the discovery of the pneumococcus the second case might have been regarded as a pneumonia of **diphtheritic origin**. His last three cases are those of **scarlatina without eruption**. In Case 3 the child had come home from school sick, had vomited and was complaining of headache. His temperature was 102.5°, his pulse 120, respiration 28. There was a marked **bronchitis** and a few patches of **pneumonic involvement** at the base of both lungs. Calomel was ordered, the chest was cupped, and hot foot-baths given every two hours. The next morning the nurse called attention to the fact that during the foot-baths the child became very red, but when seen there was no rash on the body and the tongue and throat showed no evidences of scarlet fever. In 5 days the child had completely recovered. In Cases 4 and 5 the patients were two little brothers with very slight febrile symptoms, their throats were not sore, but there was a peculiar mottling of the skin, and they both had vomited. Eighteen days after the first child was taken sick, both he and his brother appeared well and were vaccinated. The writer noticed at this time that his fingers were desquamating a little, and the diagnosis of **scarlet fever** was made. This doubt was settled by an older brother being taken ill in a few days with a frank case of **scarlet fever**. His sixth case suffered from **two attacks of scarlet fever**; the second occurring late in the period of desquamation of the first attack. Several physicians saw the child during both periods of eruption. [T.L.C.]

2.—According to Moschcowitz every **amputation-stump** should respond to the following requirements: 1. It must be able to support the weight of the body. 2. It must be painless. 3. It must be no more liable to local disease than any other portion of the body. 4. It must disfigure its owner, as is commensurate with the nature of the ailment. He then describes the technic of amputation of the leg which he uses as a prototype, all the amputations being merely slight modifications, which can be readily adapted to the special limbs to be amputated. [W.A.N.D.]

4.—Edward Adams, of New York, concludes that the chief advantages of the M. S. mixture (the combination of ether and chloroform) are the following: 1. The stage of excitement and struggling are not marked. 2. It requires a short time to get a patient under,—5 or 10 minutes. 3. Very little of the anesthetic is required—on an average about 40 cc. are used an hour. 4. It is a comparatively safe anesthetic. 5. It is very pleasant to take. 6. The after-effects are not marked. 7. Patients recover quickly. 8. It can be used in nearly every condition in which either chloroform or ether is employed. [T.L.C.]

5.—Cumston gives a "potpourri" of various surgical cases, illustrating **abdominal conditions**, especially those connected with the cecum, liver, and gallbladder. He gives illustrative cases in this the first portion of the paper, which is to be concluded in the subsequent number of the journal. [W.A.N.D.]

Boston Medical and Surgical Journal.

February 7, 1901. [Vol. cxliv, No. 6.]

1. Gonorrheal Infection. BENJAMIN TENNY.
2. A Bacteriologic Diagnosis of the Gonococcus. OSCAR RICHARDSON.
3. Treatment of Acute Gonorrhea. FRANKLIN G. BALCH.
4. Gonorrhea in Women. W. L. BURRAGE.
5. Treatment of Chronic Gonorrhea. GARDNER W. ALLEN.
6. The Seminal Vesicles in Gonorrhea. CHAS. L. SCUDDER.
7. Gonorrheal Prostatitis. JOHN BAPTIST BLAKE.
8. Gonorrheal Conjunctivitis. CHARLES H. WILLIAMS.
9. When is a Gonorrhea Cured? PAUL THORNDIKE.

1.—Tenney endorses Guiard's conclusion that every case of urethritis that lasts more than a few days is, or at least may have been at the start, a true infection by the gonococcus. That mild and transient inflammations of the urethra with purulent discharge do occur in the course of acute fevers, attacks of gout or articular rheumatism, and are acquired from instruments or from sexual contact, must be admitted. The growth of the organism may be divided into 3 stages: 1. On and in the epithelial cells. 2. In the sub-epithelial layer and the leukocytes, where they develop very rapidly. 3. In the epithelial cells again, as the growth of a sort of dam of new tissue beneath them furnishes a layer unfavorable to the development of the gonococci. The persistence of the infection is a matter of great importance, and also a matter in which the greatest care in diagnosis is necessary. In the declining stage, when pus cells must be found on the threads or by sedimentation, the greatest accuracy in staining by Gram's method is essential. While we know that this germ in some individuals will reproduce itself for months and even years in some pocket of the urethra, prostate, or seminal vesicle, it usually disappears within from 3 to 5 months. That sterility may, and often does, result from a gonorrheal infection, is a simple and reasonable proposition, but sterile marriages are not necessarily sterile because the wife has been infected by the husband. The latter may have become incapable of impregnating by the obliteration of his seminal canals, and then have starved out his gonococci, before marriage. The author does not believe that infection of a wife by a husband who has had no visible discharge for months is at all a common event. Nevertheless, it undoubtedly has occurred in some cases, and it is a part of the duty of the doctor who treats men with this disease to have a square talk with every patient, and fully explain why he ought to make sure by as competent examination as he can get that he is completely free of his gonococci before he marries, no matter when that may be. He refers to the work of Christmas, who cultivated gonococci and thus produced a poison that would kill a guinea-pig in from 5 to 7 hours. From this toxin an antitoxin was produced. As the damage and discomfort to the ordinary individual appear to be due more to the marvelous fertility of the organism than to its toxin-producing power, one would think the usefulness of an antigonotoxin would be limited to the complications of gonorrhea that are accompanied by constitutional symptoms. The author is of the opinion that about 20% of the males and 5% of the females of the community may have become infected at some time, but certainly no more. The common impression is that no immunity follows an attack of gonorrhea. Judassohn, however, introduced pus from a fresh gonorrhea into 6 urethrae that were in the chronic stage of gonorrhea, and of these 2 only started afresh. Without question gonorrhea resembles other bacterial diseases in the resistance offered by different individuals to its progress and even to its onset. In the majority of cases the gonococci probably are confined to the urethral tissues, while in others they escape by the blood- or lymph-channels to find lodgment in some joint or tendon-sheath or even in the heart. It seems a reasonable proposition that the same conditions that favor the persistence of the disease and stimulate the pathologic process should also favor the infection. The chief conditions that are recognized as having this power are the use of even moderate amounts of alcohol, sexual excitement, a tendency to gout or rheumatism, and tuberculosis. While Tenney does not maintain that alcohol is the only reason for the usual human susceptibility to this organism, he does believe that it has an influence that is too little recognized at present [J.M.S.]

2.—The important diagnostic point for the gonococcus is its property of decolorizing by Gram's method. The other points of morphology and position inside the leukocytes, are not necessarily characteristic. In the bacteriologic diagnosis of urethral inflammation the most important precautions are: (1) To smear the pus on the cover-glass in a thin film; and (2) to see that the anilin oil gentian-violet solution has not decomposed. In order to avoid errors in this regard, the solution should not be more than 2 weeks old. From the so-called scientific standpoint Richardson does not consider the cover-glass examination as being conclusive. The results of the cover-glass examination must be controlled by cultures in which the suspected coccus is isolated and its identity proved by its cultural peculiarities. From the standpoint

of the pathologist, the chief interest today attached to the gonococcus is the role it plays in inflammatory processes other than urethritis. It does not suffice to prove that a given case of arthritis is due to infection with the gonococcus by showing that cocci decolorized by Gram's method are contained inside the pus-cells of the exudate, but in addition it must be shown that these cocci will grow only on special culture media and it must be rigidly determined that they will not grow on ordinary culture media. Furthermore it must be shown that these colonies on special culture media have certain appearances, and that the micrococci composing such colonies are decolorized by Gram's method and have a decided tendency to group in fours. The culture must not be more than 48 hours old, because some cocci that voluntarily stain by Gram's method have been observed to be decolorized when the cultures are older. The cover-glass propagation of colonies should not be made too thick, and the judgment as to whether the coccus decolorizes or not after treatment with Gram's method should be made only from portions of the field in which the cocci are well separated from one another. [J.M.S.]

3.—Balch believes that it is very doubtful that an injection of any antiseptic substance would prevent an attack of gonorrhea after a suspicious connection. Theoretically, such an injection should be an extra safeguard, because the gonococci would not have penetrated the cells and could easily be reached by an antiseptic. It is best to treat an acute case of gonorrhea twice a day during the first week or 10 days of its course and after that the patient should use an injection himself 2 or 3 times a day for 2 or 3 weeks longer. As injections for abortive treatment Balch only believes in silver nitrate, permanganate of potassium, and protargol. He employs a solution of 1 grain to the ounce of silver nitrate. If there is no evidence of very active inflammation he uses 2 grains to the ounce. It is unwise to use stronger solutions than this. When permanganate of potassium is used from the beginning instead of silver nitrate, it is best to irrigate with a large amount of a weak solution, such as 1 to 4,000, rather than with a little of a stronger one. Where it is impossible to see a patient as often as these two methods require protargol is a safe injection for him to use himself. A $\frac{1}{2}$ solution is as strong as it is best to begin with, and if there is any great amount of scalding this should be diluted. With all 3 of these methods it is often necessary to give a mild astringent injection at the end to get rid of the final gluing together of the lips of the meatus in the morning. If the patient presents himself only after the disease has been fully developed for several days, and there is a thick, yellow discharge with scalding, painful erection, etc., there is no use in trying to abort the trouble. If an injection is used at all it should be very mild. It is usually safest to give no local treatment for a time, but to rely on medicine. The citrate and acetate of potassium are useful, chiefly because they make a patient thirsty. The same result can be accomplished by making him drink water as a medicine. It does not upset his digestion at least 2 quarts a day should be drunk. Compound salol capsules are good and should be taken after meals and before going to bed. Urotropin has not done so well as it was at first hoped it would. It must always be borne in mind that while an injection can cure a discharge it can also keep up one. In obstinate cases it is occasionally surprising to see how quickly the discharge will cease when all treatment is stopped. [J.M.S.]

4.—Clinically acute gonorrhea in the female is much less frequent than in the male. The disease is not, as in the male, always preceded by a period of acute invasion, the symptoms of which necessarily attract the attention of the patient and the physician, and for this reason gonorrhea in women is often overlooked. It is sometimes better to examine near the menstrual period, because at that time the congestion of the pelvic organs increases the discharges, and it is probable that more gonococci are thrown off. The experiments of Wertheim explain the fact that a subject of chronic gonorrhea may infect his hitherto uninfected wife, and become again infected from her; that is, the gonococcus, by passing through the new culture of the wife, again becomes virulent for the husband. If we are called upon to pronounce when a woman is entirely free from the danger of transmitting gonorrhea, it is at once apparent that we have to face a more complicated problem than we have in

the case of gonorrhea in the male, because of the many possible lurking places for the gonococcus in the sexual organs of the female. As a practical matter we may say that a woman is cured of gonorrhea when there are no signs of chronic inflammation about the pelvic organs, and when two or more negative cultures have been taken from the urethra and the cervical canal. As a germicide, protargol, in solutions of from 1% to 5% seems to be displacing silver nitrate as the standard remedy, and has given better results than the many other salts of silver. [J.M.S.]

5.—The points at which a subsiding inflammation of the urethra most commonly lingers are the penoscrotal angle and that portion of the pendulous urethra just anterior to it, the bulbomembranous junction, the prostatic urethra, and the fossa navicularis. In the treatment of chronic gonorrhea, the objects to be aimed at are the removal of fibrous deposits, the restoration of the thickened and rigid mucous membrane approximately to its original soft and elastic condition, and the cleaning out of diseased follicles and glands. The first principle of this treatment is dilation. After dilation, the local application of various remedies is effected by means of injections or irrigations, and later the urethra is inspected through the endoscope and local applications made under control of the eye to such points as require them. [J.M.S.]

6.—**Seminal vesiculitis** may be either acute or chronic. Direct gonorrheal infection is extremely rare, but when it does occur it is very acute and of an extreme type. The contents of the vesicle become purulent, the vesicle wall and the perivesicular tissues are involved, and occasionally the peritoneum, which lies close to the summit of the vesicle, is also implicated. There are a few cases reported in which a general peritonitis has resulted from such peritoneal involvement. Aside from the gonococcus, in certain cases presenting the signs of an acute seminal vesiculitis, the only organism found present has been the colon bacillus. It is probable that infection may take place, therefore, not only by continuity along the surface of the urethra and through the seminal duct, but also by direct invasion from contiguous tissues, such as the rectum. The symptoms of acute seminal vesiculitis are almost wholly inflammatory in character. While the acute inflammatory process is at its height the urine may be nearly clear, but it becomes purulent with the decrease of the symptoms and the escape of pus from the vesicular cavity. The involvement of the perivesicular tissues is determined by rectal palpation of the vesicles. At the outset measures directed toward checking the inflammatory process should be taken. If the pus is present it should be evacuated by incision and drainage either through the rectum or through the perineum. Chronic vesiculitis is due either to indirect gonorrheal infection or to tuberculous infection. Symptoms of chronic seminal vesiculitis of gonorrheal origin are functional or neurotic in character. Complaint is made of perverted sexual desire, irregular seminal emissions, and neurotic sensations. The treatment by massage of the vesicles should be instituted before resorting to extirpation, which, in turn, should be reserved for those extreme cases that are associated with serious or severe subjective symptoms. There are 3 routes by which the seminal vesicle may be reached, the inguinal, the perineal, or the sacral. Details of the different operations are given. [J.M.S.]

7.—The processes involving the prostate, that accompany, complicate, or are dependent upon a preexisting or coexisting gonorrheal urethritis, may be either acute or chronic, and last from 3 days to several years. In extent these processes may be limited to the prostatic follicles, they may involve the entire organ, or they may penetrate the capsule and extend to the surrounding tissues. In intensity they may be of any degree from a simple congestion with vague symptoms, to rigors, fever, prostration, and death. **Infection of the prostate** may come by direct extension from the urethra, by the blood or the urine, or by continuity of tissue. In gonorrhea the infection always comes from the urethra and from a preexisting posterior urethritis. It is evident, therefore, that it may be due either to the gonococcus alone, or to a mixed infection. Clinically, a posterior urethritis always precedes a prostatitis, even though the latter be due to manipulations with unclean instruments. Anything that irritates or tends to increase the congestion accompanying a posterior urethritis may act as an exciting cause of a

prostatitis. Among many agents may be mentioned alcohol, coitus, prolonged sexual excitement, exposure to cold, forcible and injudicious injections, horseback riding, bicycling, and such violent exercise as running and jumping. The jolting coincident to a railroad journey may be a determining factor. Prostatitis usually appears at the end of the second or during the third week of urethritis. The acute cases may be of the type of simple congestion; of inflammation limited to the follicles and perifollicular tissues; of a process involving both follicles and parenchyma and progressing to pus formation of greater or less degree, and, finally, of a process involving almost the entire gland and extending to the periprostatic tissues. The chronic type is almost always follicular, although it occasionally is characterized by one or more small abscesses that develop without the majority of the typical symptoms. The duration of the acute congestive and follicular types is from 3 days to 3 weeks; of the parenchymatous and purulent types from 1 to 3 months, and of the chronic type for months or years. Retention of urine is present in a large proportion of cases; it may be relieved by repeated catheterization; by inserting a small catheter and leaving it in place, or by aspirating over the pubes. Unless we desire to utilize the catheter to facilitate discharge of the abscess through the urethra, aspiration is the method of choice. If the abscess points into the rectum the fluctuating point may be incised with a bistoury. [J.M.S.]

8.—It has been estimated that from $\frac{1}{3}$ to $\frac{1}{2}$ the existing cases of blindness have been caused by gonorrheal inflammations of the eyes, generally as a result of infection of the cornea and the ulceration and sloughing that often destroy more or less of that tissue. The disease generally occurs in infants, beginning from 1 to 5 days after birth, or in young adults, and in almost all cases is caused by carrying to the surface of the conjunctiva some of the diplococci of Neisser. Other pyogenic organisms may give rise to a **purulent conjunctivitis** similar to the true gonorrheal form, so that it is not possible in any given case to say that the trouble must be due to gonorrheal infection without making a bacteriologic examination. The inflammation of the conjunctiva will disappear in time without any serious results to vision, but the principal attention must be constantly directed to the condition of the cornea, to prevent, if possible, the infection of its tissue with the purulent matter. For this purpose the first and most important treatment is the careful removal of the purulent discharge. This should be done every 15 minutes or $\frac{1}{2}$ hour, if necessary, night and day for the few days the disease is at its height, and at longer intervals as the discharge decreases. In the early stages of the disease, applications of cold may be made, but should not be continued if corneal complications arise. Williams believes that silver nitrate solutions should not be used in the early stages, but in the later stages of the disease, after the intense swelling of the eyelids has begun to subside and the discharge is more purulent, a 2% solution may be applied to the conjunctival surface and then neutralized with salt-solution. Nothing, however, should take the place of the constant cleansing. Solutions of protargol appear to be less reliable than silver nitrate. The edges of the eyelids and the surrounding skin should be protected with vaseline. In patients who are in poor physical condition, the application of heat will often prove better than cold. If the cornea becomes hazy and a small ulcer forms, continue the irrigation, use 1% atropin 3 times a day, and hot applications rather than cold. In some cases of marginal ulceration solution of eserine, $\frac{1}{2}$ grain to the ounce, may be used every 4 hours, but it must be used with care. The number of cases of ophthalmia neonatorum have been greatly reduced by the prophylactic treatment of Credé. In adults, if the disease has only affected one eye, the other eye should be at once protected by covering it with a small pad of absorbent cotton and gauze. [J.M.S.]

9.—**When is gonorrhea cured or ended?** We must admit at the beginning that the question cannot be answered. The medical world is united in realizing that gonorrhea is not the simple disease it was once considered, but is one that often spreads to places in which its local treatment is impossible; which very often becomes chronic, and sometimes defeats the efforts of the most expert for its eradication; which in very many instances retains its contagious capabilities long after its very existence is supposedly ended. Physicians can use every effort to prevent the exposure of innocent women to this infection, and can teach the rest of

the world, both medical and nonmedical, the necessity for being similarly careful. According to Thorndike, the methods of examination at present at our command are fairly adequate to determine in any individual case whether there are still contagious possibilities in that case. The methods of treatment at present at our command are fairly adequate for the treatment of those cases in which remnants of disease are found. All such remnants of disease should be treated, whether they contain gonococci or not. There are a few cases in which the remnant of discharge persists, but in which no cause for its persistence can be found, in spite of many most careful efforts. Some of these cases must probably be allowed to marry with traces of discharge still discoverable; but none such should marry until every possible effort has been made to demonstrate the noncontagious character of the pus and until the possibility of future trouble has been explained. [J.M.S.]

Journal of the American Medical Association.

February 9, 1901. [Vol. xxvi, No. 6.]

1. The Technic of Bloodless Work. ROBERT H. M. DAWBARN.
2. Analgesia from Spinal Subarachnoid Cocainization. JOHN B. MURPHY.
3. Rheumatic Diseases of the Eye. H. W. WOODRUF.
4. Ovulation and Menstruation not Interdependent Functions. C. C. THAYER.
5. Dysmenorrhea. GEORGE TUCKER HARRISON.
6. Treatment of Menorrhagia of Pelvic Origin by Electricity. G. BETTON MASSEY.
7. Movable Kidney from the Standpoint of the General Practitioner. ALEXANDER MARCY, JR.
8. Some Notes on the Climatology of Arizona. WILLIAM DUFFIELD.
9. Preventative Treatment of Migraine. E. W. MITCHELL.
10. Cases Illustrating Value of Rectal Injections of Salt Solution in Hemorrhage and Threatened Collapse. T. B. GREENLEY.
11. Physiologic Resuscitation in the Still-Born. DANIEL LICHTY.
12. Clinical Report. Cases of Ectopic Pregnancy. J. HENRY BARBAT.

1.—Dawbarn urges the advisability of saving all blood possible in every operation, and then discusses the various means of doing this. In operations upon the extremities the milking of the part while it is elevated, and the application of an Esmarch tube is recommended. In operations upon the leg, the middle of the thigh is the best point for the application of the constricting tube, thus avoiding the external peritoneal nerve; in operations on the forearm, the tube should be applied in the lower or upper third of the arm, thus avoiding pressure of the musculospiral nerve. In operations upon the scalp the blood supply can be controlled by the application of a constricting elastic band around the head. Bloodless operations upon the breast can be done by passing 2 long mattress needles underneath the gland, and below them a constricting rubber band. In operations upon the bladder, perineum, and genitals, in both males and females, the Trendelenburg posture is of great advantage. Dawbarn then discusses the cording of the extremities to prevent bleeding within the abdomen, thorax, and skull. By keeping the blood in the extremities, clotting in the visceral cavities is hastened. He thinks this a good treatment in cases of apoplexy, particularly if instituted early. Only 3 limbs should be corded at one time, and the cording should be carried out in regular rotation. The application of the Esmarch bandage and tube over injuries about the joints where there is a great deal of swelling for the purpose of thoroughly examining the bones, Dawbarn has often found useful. In performing the operation of tonsillectomy the author's method of constricting the base of the tonsil with a purse-string suture is recommended. The application of first suprarenal extract and then cocaine to the mucous membrane of the bladder, rectum, and vagina is found useful in controlling bleeding in operation on these organs. [J.H.G.]

2.—Murphy first discusses briefly the history of spinal analgesia as first proposed by Corning and first practised by Bier. Of 631 cases collected by Murphy of subarachnoid cocainization there was perfect analgesia in 45%, partial in

2.21%, and in 3.32% it was a failure. But one death has been reported and that in Tuffier's clinic. It is a question whether this death was not due to cardiac lesions, found postmortem, and not to the use of the cocain. Physiological effect: The effect is produced by direct application of cocain to the posterior roots and ganglia and not to the cord itself. The sense of contact is not affected, the reflexes are slightly diminished, some incoordination is usually present, intestinal peristalsis and uterine contractions are usually stimulated, while the sphincteric action of the bladder, vagina and rectum are often completely abolished. Dosage is next discussed, and the sterilization of the solution used. Murphy has used with satisfaction the glass ampullae containing the solution which had been prepared by certain well-known and trustworthy manufacturers. The point of introduction is a space between the fourth and fifth lumbar vertebrae, one-half inch from the median line, the patient occupying a sitting position. In some cases of spinal deformity it has been impossible to insert the needle at this point. Injections have been made between the sixth and seventh cerebral vertebra. Murphy thinks this, until further investigation has been made, an operation not free from danger. The fluid should never be injected except when the cerebrospinal fluid is flowing from the needle, and it should always be injected slowly, requiring from 40 to 60 seconds. Symptoms: First there is a sensation of heat passing over the entire body, then that of thirst, followed in a few minutes by nausea, which may last for 10 minutes. Preceding the vomiting there is increased rapidity of pulse, pallor, and respiration. These symptoms last for a few minutes usually, but are in some cases very marked and make stimulation necessary. Murphy thinks that hyoscin hydrobromate, $\frac{1}{100}$ of a grain, and nitroglycerin, $\frac{1}{100}$ of a grain, are the best stimulants under the circumstances. The analgesia usually appears in from 3 to 10 minutes, though sometimes it may be delayed from 20 to 30. It usually begins in the feet and gradually ascends, though in rare instances it may first appear as a band around the body and then descend. And in rarer instances still it has been known to ascend from the level of the injection and involve the upper extremities, the neck, and face. Amputation of the breast has been performed by this method. The duration of the analgesia may extend from 12 minutes to 5 hours. Muscular rigidity sometimes interferes with abdominal work. This method may be employed at all ages. Symptoms: Headache, lasting several hours to several days, is a usual post-operative symptom. Prolonged vomiting is unusual. Vertigo and some ataxia in gait may persist for some days. The temperature usually rises after the operation. On the day after the operation the patient is in a much better condition than when chloroform and ether have been used. Coma and delirium both have been observed in some cases. Mental exaltation from cocain is frequently observed. Failure to obtain analgesia after the employment of this method Murphy thinks is due to faulty technic or personal idiosyncrasy. [J.H.G.]

3.—The muscular, fibrous, and vascular portions of the eyeball render it particularly susceptible to **rheumatic affections**. According to the author some diseases of the eye due to chronic rheumatism are iritis, episcleritis, scleritis, ocular palsy, glaucoma, and vitreous opacity. The author reports a case of iritis, episcleritis, and scleritis, all of unquestionable rheumatic origin. He considers deep scleritis as the most serious, but also as a rare ocular disease due to rheumatism. [M.R.D.]

4.—Thayer gives a thorough review of the literature of the interesting subject of the **relationship between ovulation and menstruation**. He concludes from his investigations that menstruation is no integral part of ovulation, nor an absolute factor of conception, though these two conditions are usually concurrent and attendant. In accord with the general belief, he states that there may be ovulation without menstruation, and menstruation without ovulation, and conception without menstruation. [W.A.N.D.]

5.—Harrison, by reference to the literature, presents an interesting anatomic description of the source and extent of the distribution of the cerebrospinal and sympathetic nerves to the pelvic organ, and at the same time demonstrates the communication between them. He also shows that in the sympathetic paths vasomotor, secretory, and sensory fibers run, and from this intimate relationship it is easy to explain

the various morbid phenomena of **dysmenorrhea**. With reference to the causes of dysmenorrhea it is the common practice to refer the phenomena to diseases of the uterus, the tubes, the ovaries, and the peritoneal covering of these organs, as well as to the pelvic connective tissue. The etiological factors are generally to be found in inflammatory processes. He does not believe that dysmenorrhea in its full type, if allowed to persist unchecked, will undoubtedly cause oophoritis and endometritis, as has been stated to be the case. He calls attention to the fact that there may be a peculiar form of dysmenorrhea of nasal origin, the sensitive points lying in the inferior turbinate bones and the tubercular septi, which undergo changes during menstruation. [W.A.N.D.]

6.—Massey urges the intelligent use of **electricity in the treatment of menorrhagia of pelvic origin**. He claims that expertness is readily gained by those equipped with sufficient gynecologic and electric training, and though the actual work will require some time and trouble, the result, he states, cannot be other than pleasing when it keeps the patient at home, and makes her a well woman. [W.A.N.D.]

7.—Marcy presents a study of **movable kidney**, as seen by the general practitioner. He states that the medical treatment of this condition should consist in the use of such measures as would improve the general health of the patient, together with the accumulation of surplus fat. The rest-treatment, with forced feeding and massage, is sometimes beneficial. As a tonic he prefers tincture of nux vomica in large doses, together with cold douching of the spine followed by brisk rubbing. The mechanical treatment consists in the use of elastic bandages, sometimes fitted with a special pad, called a **kidney-pad**; this device sometimes relieves the symptom but does not always keep the kidney in its proper place. The ideal treatment is surgical. [W.A.N.D.]

8.—Duffield, in an article entitled "Some Notes on the Climatology in Arizona," states that there is a great diversity of climates in Arizona, varying from subtropical to that of the high mountain elevations. The advantages of the climate are a dry atmosphere, a low percentage of humidity and a high percentage of sunshine. Arizona offers an elevation of 13,000 feet above sea level, and the State is well supplied with mineral and thermal springs. [F.J.K.]

9.—Mitchell in an article gives the **preventative treatment of migraine**. Meals should be taken at regular intervals and great care must be exercised in not overfeeding the patient. Especial precautions should be used in excluding rich and highly seasoned food. The patient should not be allowed red meats, and stimulants must be excluded. Fish, bacon, brains, sweetbreads and eggs may form part of the diet. Outdoor exercise and frequent bathing are recommended. The important indications in medicinal treatment are to regulate the bowels, to keep the liver active, and promote intestinal antiseptics. The drugs which are indicated are the various salicylates, and mercurials. He gives a formula recommended by Dr. Rachford, which is as follows: sulphate of soda 120 grains, phosphate of soda 30 grains, salicylate of soda 19 grains, tincture of nux vomica 3 drops, distilled water to make 4 ounces. This dose is to be taken before breakfast. Water should be partaken of in large amounts. [F.J.K.]

10.—Greenly recommends the **injection of salt-solution** into the lower bowel in the treatment of **threatened collapse from hemorrhage**. He uses an ordinary fountain-syringe or a common hand-syringe for the purpose of introducing the fluid into the rectum. The solution should be heated to a temperature of from 110° F. to 115° F. A gallon of water should contain 1 ounce of sodium chlorid. He believes that the rectal injections of salt-solution are preferable to hypodermoclysis or intravenous injection. He has treated collapse following hemorrhage with good results. [F.J.K.]

11.—In speaking of the **physiologic resuscitation of the stillborn** Lichty remarks, that there is an anatomic and physiologic area or center in the medulla oblongata which is recognized as presiding over respiration is no longer a subject of doubt or discussion. The group of dynamics stored in the centers coordinating respiration is very complex and of wide distribution, as evidenced in impending asphyxia, dyspnea, or aroused respiration, when nearly all the muscles of the trunk are called into requisition, reinforced by the rigid extremities which fix the trunk as auxil-

iaries. Resuscitation in most cases of asphyxia is accomplished by prompt depression of the upper zone of the body, to favor gravitation of the blood, to the dependent cerebellar region and medullary center. Next in importance to this is the supplying of artificial heat externally; and the supplementary pressure of the capillaries by the subcutaneous subperitoneal, or rectal flushings with the normal salt-solution. This is the method as used in adults, and Lichty believes that it would be just as efficacious in the case of a newborn child. [W.A.N.D.]

12.—Barbat records a case of **right-sided ectopic pregnancy**. The case is of interest on account of the meager symptoms, and the fact that the ovum, which was extruded from the left ovary, was fertilized in the left tube. [W.A.N.D.]

Berliner klinische Wochenschrift.

December 24, 1900. [37. Jahrg., No. 52.]

1. Contributions to the Normal and Pathological Histology of the Human Hypophysis Cerebri. C. BENDA.
2. A Grave Spinal Symptom-complex Caused by a Serpentine Aneurysmal Change in the Spinal Bloodvessels. F. BRASCH.
3. Extirpation of the Hypophysis Cerebri. F. F. FRIEDMANN and O. MAAS.
4. Amyloid Degeneration, with Special Regard to the Kidney. M. LITTEN.

1.—In preparing sections of the human **hypophysis** for microscopic examination, Benda has found that the best staining methods are the blood-staining methods of L. Michaelis, Weigert's method for staining fibers, the author's iron-alizarin-toluidin-blue stain, and finally also Weigert's or Pal's methods for staining medullary sheaths. In four cases of akromegaly the author found the hypophysis enlarged, and in two cases tumors were found. The author will not admit without qualification that enlargement of the gland is responsible for the increase in size of the osseous system. [M.R.D.]

2.—Will be abstracted when concluded.

3.—The authors have devised an operation for **extirpation of the hypophysis**, by means of which animals may be kept alive for months after the operation. They believe that the hypophysis is not necessary for the maintenance of life. In no case have the authors upon postmortem examination found any change in an organ which could have been attributed to the absence of the hypophysis. The technic of the operation is described in detail. [M.R.D.]

4.—Frequently a combination of large white kidney and **amyloid** change in its vessels is seen. Neither macroscopic nor microscopic examination will reveal the condition, but only the chemical test. This variety of kidney is much larger and heavier than normal, averaging from 250 to 400 grains. The increase in size affects equally all diameters. The delicate thinned capsule is easily stripped off without adhering to the parenchyma. The surface of this kidney is strikingly anemic with an occasional yellowish tinge. The consistency of the organ is firm. The cut surface of the kidney has the same waxy luster as the external surface. In the amyloid contracted kidney the customary changes associated with amyloid degeneration are found. Thionin is stated to be the only stain which colors amyloid material sky blue, while other substances will be colored a reddish violet. In the majority of cases of amyloid kidney the urine is of fair quantity, pale yellow, clear and of a low specific gravity; upon long standing hardly any sediment can be seen. The author believes that an increase in the quantity of urine is not as frequent as has been supposed. Furthermore there is no other renal affection in which the urine varies so markedly. The urine does not show a systematic array of conditions, characteristic for amyloid degeneration of the kidney. It has been stated that waxy casts are seen; but there is no reason why albumin casts may not be the subject of amyloid degeneration. Litten believes that albumin in the urine is absolutely necessary for the diagnosis of amyloid degeneration of the kidney. The albuminuria may be constant or recurrent. [M.R.D.]

Wiener klinische Wochenschrift.

January 3, 1901. [14. Jahrg., No. 1.]

1. The Treatment of Chronic and Infectious Ulcers by Hot Air. CARL ULLMANN.
2. The Ability of Bacteria to Pass Through the Intestinal Wall. HUGO MARCUS.
3. A Case of Pemphigoid Measles. J. ZUHR.

1.—Ullmann reviews the literature, telling how many chemical substances have been used as counterirritants upon infected wounds, ulcers, etc., to produce local hyperemia. Phototherapy, Röntgen-rays, etc., have the same effect. But the simplest and oldest of all is heat. Hitherto this has been applied as the cautery, as conducted, or as radiated heat. He quotes a case of serpiginous ulceration of the groin, in a man 28 years old, described by Haslund, treated by cautery first without improvement, and then placed in a permanent hot-water bath for 19 days. This treatment completely healed the wound. He has used hot air in about 150 venereal and nonvenereal ulcers. The apparatus used is then described. It covers the male genitalia, wrapped in wadding, after the adjustment of which the temperature of the enclosed dry air can be raised to 150° C., and is kept there from half to over an hour. A local hyperemia results, with some edema, but no constitutional symptoms therefrom. The air must be dry, so that no burns occur. He reports a case of venereal ulceration, operated, and then treated thus, with recovery in 8 days. The details of 10 more cases of indurated ulcers follow, all cured by this treatment. [M.O.]

2.—Marcus replies to the criticisms made by Posner upon the method of performing his experiments to test the ability of bacteria to pass through the intestinal wall. He reports 6 new experiments upon animals (with 2 control experiments), in all of which infection of the urine followed, and in one instance, general infection. From these it is striking to note that when the urine was infected the blood was not. The one positive result of all his experience is the fact that with decided coprostasis, the bacteria in the intestines never reach the blood. [M.O.]

3.—Zuhr reports a case, a boy 8 years old, who developed typical confluent measles with huge blisters scattered throughout the eruption. There was albumin in the urine. The diazo-reaction was negative. All the other symptoms of measles were present. The fever remained high, and death occurred in 10 days. Zuhr considers it a rare case of pemphigoid measles. [M.O.]

Deutsche medicinische Wochenschrift.

December 27, 1900. [26. Jahrg., No. 53.]

1. Concerning Experimental Descending Tetanus. L. ZUPNIK.
2. The Reaction of the Prostatic Secretion in Chronic Prostatitis and its Influence upon the Viability of Spermatozoa. H. LOHNSTEIN.
3. Sunstroke. M. HERFORD.
4. Therapy of Croupous Pneumonia. A. TAGESSON-MÖLLER.
5. Colpocleisis with Artificial Rectovaginal Fistula in a Case of Incurable Vaginointestinal Fistula Due to Recurring Carcinoma. H. SAFT.
6. Concerning the Presence of Sebaceous Glands in the Mucosa of the Cheek. LUBLINSKI.

1.—Zupnik has been able in a series of animals of different species to produce a typical descending tetanus which was in its symptoms practically the same as that which occurs in man. This was done by inoculating the animals about the feet or ankles. If the animals were inoculated about the peritoneum or groin, an ascending tetanus occurred. This seems to explain the usual occurrence of an ascending tetanus in animals—the character of the disease depends upon the point of inoculation. The minimal fatal dose of the toxin was also variable according to the point of inoculation. More toxin was required when the animals were injected about the feet. [D.L.E.]

3.—Herford reports several interesting complications of heat stroke. Those chiefly spoken of are: disturbance of speech, bleeding from the intestines, and acute icterus. A case in which there was severe intestinal hemorrhage died,

and the postmortem showed marked hyperemia of the gastrointestinal tract and other organs, and the liver looked like the liver of acute yellow atrophy. There were scattered small hemorrhages in the brain. The importance of this find upon autopsy is indicated by the course of 2 cases of speech disturbance. The patients exhibited marked ataxia after the heat stroke, with very decided disturbance of speech. In one case these symptoms improved fairly rapidly, and had almost completely disappeared at the time of the report. The other patient had shown comparatively little improvement, and seemed unlikely ever to recover entire health. The cases resemble the instances of acute ataxia reported by Leyden, and the combination of ataxia and speech disturbance and other less striking symptoms remind one of multiple sclerosis. The probable cause of these symptoms in Herford's belief was scattered small hemorrhages in the brain. [D.L.E.]

4.—The treatment of pneumonia recommended is manipulation of the chest by various forms of massage, friction, vibratory exercises, etc., by means of which it is claimed pain can be well controlled, the breathing can be improved, the strength of the heart action can be increased, and the course of the lung changes themselves can actually be favorably influenced. [D.L.E.]

6.—Lublinski describes at some length one case, and more indefinitely a series of cases in which he has observed sebaceous glands in the mucous membrane of the cheeks. The one patient whose case was described at length was a physician. The inner surfaces of the cheeks were covered with numerous small yellowish papules which produced no subjective sensations. There was no history to explain their occurrence. Other patients in which they were observed had usually a history of excess in the use of alcohol or tobacco, dyspepsia, the use of mercury, or other similar causes. They were not infrequently seen in diabetes and gout. They usually appeared in the interdental spaces, and were comparatively rare on the lips. They commonly caused no symptoms, and were accidentally discovered. Microscopic examination, which was undertaken in a number of cases, showed that they were undoubtedly sebaceous glands. [D.L.E.]

January 3, 1901. [27. Jahrg., No. 1.]

1. General Therapy. L. BRIEGER.
2. The Reasons for Natural Immunity Towards Certain Infections. A. WASSERMANN.
3. Concerning the Origin of Aceton from Albumen. F. BLUMENTHAL and C. NEUBERG.
4. The Protective Vaccination of Hogs and Sheep against Foot-and-Mouth Disease. LOEFFLER and UHLENHUTH.
5. Pathogenesis of Gonorrheal Epididymitis. D. BASKAL.
6. Etiology of Dysentery. DRYCKE.

2.—Wassermann reports in brief an experiment which shows, in his belief, that the natural resistance to disease is due chiefly to the presence in the organism of complements (alexines); that is, there are present in the normal blood ferment-like substances which have the power to destroy bacteria, and they are the chief shield of the organism from infection. His experiment consisted in injecting normal guineapigs with an agar culture of typhoid bacilli mixed with normal rabbit-serum. These animals lived. If instead of the normal rabbit-serum the serum was taken from rabbits which had been injected with normal guineapig-serum, the infected guineapigs died. The serum of the latter series of rabbits contained anticomplements (antialexines). In animals infected in this way it was observed that the peritoneal fluid about an hour after infection showed large numbers of motile typhoid bacilli, an evidence that the organism in these animals had not controlled the infection. On the next day the animal was usually found dead. [D.L.E.]

3.—Blumenthal and Neuberg briefly discuss the question as to the origin of acetone, and note that the general tendency recently has been to consider that acetone and its congeners are produced only by fats, and it has recently even been stated that protein does not produce acetone or its congeners. They note that some authors consider that they have produced acetone from casein, and then report their own experiments. It has been shown by a number of authors that iron salts are very important in oxidative processes in the body. They, therefore, took gelatin solutions,

added peroxid of hydrogen, and then added a soluble iron salt (ferrous sulfate). The vessel containing this mixture was put in an oven and frequently shaken. After 3 to 5 days they found that the peroxid of hydrogen had disappeared. They then distilled the fluid, and in testing the distillate found an aldehyde present, and also, with the hydroxylamin test, found that there was a ketone present. They then carried out the P-nitrophenylhydrazin test, and got a pronounced reaction. They, therefore, consider that they undoubtedly produced acetone and aldehyde from gelatin (which is a protein), and think they thus demonstrate the possibility of its occurrence in this way in the body. They also consider that one must admit that the iron salts may have an important role in oxidative processes in the body. [D.L.E.]

4.—The authors give a general discussion of the methods of producing the serum, and its value in treating animals, both as a prophylactic and in the management of the actual disease. The serum is now produced in a way which allows of an exact measurement of its value, and is obtainable on order. [D.L.E.]

6.—Deycke, in referring to Kruse's recent article in this journal, states that while working in Constantinople he found that it was possible in most cases of dysentery to obtain a bacillus in much larger numbers than any other organism, and this bacillus seemed to belong to the colon group and resembled the bacillus of typhoid fever. It almost constantly produced typical severe dysentery in cats, and this was usually fatal. The postmortem changes found were, losses of mucosa, petechia, erosions, sometimes ulcerations and general swelling of the mucous membrane of the colon. The small intestine was uninvolved. The histological changes were entirely analogous to those seen in man. [D.L.E.]

January 10, 1901. [27. Jahrg., No. 2.]

1. Vomiting from Chloroform and Other Inhalation Anesthetics, with a Proposition for its Prevention. L. LEWIN.
2. Concerning the Chemistry of Bacteria. E. BENDIX.
3. Vaginal and Abdominal Section in Tuberculous Peritonitis. G. BAUMGART.
4. The Determination of the Inferior Border of the Stomach by Means of the X-rays. W. BECHER.
5. Death from the Thymus Gland. H. KOHN.
6. The Quantitative Estimation of Indican in the Urine and its Clinical Significance. WOLOWSKI.

2.—Bendix briefly reports that he has obtained a characteristic orcin test and a typical osazon of pentoses by proper treatment of the bodies of typhoid bacilli, as well as a series of other bacteria. He therefore feels convinced that pentoses are present in these organisms. He has also apparently shown that the nucleoprotein of the bacteria contains the pentoses, and the nucleoprotein is probably the chief or sole carrier of the pentose radicle. It has been shown that higher organisms contain pentoses chiefly in union with nucleoproteins. This work is therefore further testimony of the similarity of the higher and lower organisms, and it is shown that bacteria are able to take comparatively simple bodies, and, by synthesis, produce the characteristic nucleus of complicated composition from them. [D.L.E.]

4.—Becher recommends that the lower border of the stomach be determined by introducing a soft stomach-tube, and then pouring through this a suspension of bismuth, and at once examining the patient with the fluoroscope and marking the shadows seen with Levy-Dorn's special pencil. He states that it is unnecessary to fill the tube after the complicated methods recommended. By the simple method he recommends one sees the tube readily, and the shadow can easily be seen where the bismuth suspension has reached the lower border of the stomach. He considers this an exact and rapid method. [D.L.E.]

5.—The case is reported of a child 7 months old which was brought into the out-patient clinic in moribund condition, and died within two hours. The postmortem examination showed a very large thymus gland, the weight being about 40 grams and the measurements 8 cm. by 6 cm. by 4 cm. The heart was hypertrophied and dilated, and the aorta was dilated up to the point where the thymus gland compressed it,

and narrowed its lumen. At this point there had been severe compression of the aorta (at about the middle of the arch), and Kohn considers that it had undoubtedly produced the cardiac dilation and hypertrophy, and had caused death in this way. There has been much discussion as to the cause of death in disease of the thymus and it has been denied that pressure of the thymus could have this result alone. In this case it seemed to be unquestionable that a fatal result had ensued in this way. [D.L.E.]

6.—Wolowski describes at length a method for the quantitative estimation of indican, which he states can be carried out within a half hour, and which he considers gives results which are satisfactory for clinical purposes. The details are too elaborate to allow of a complete description. It depends upon precipitating out the albumins and then the pigment (with lead), and then adding to known quantities of urine varying numbers of drops of a solution of hypochlorite of calcium and some hydrochloric acid, then adding chloroform and ultimately learning the amount of hypochlorite that it takes to destroy entirely the color reaction. He makes the rather remarkable statement that in many diseases indicanuria is the sole cause of the disease. Possibly it is meant that it is the index to the severity of the affection and to its origin. He found in many skin conditions, particularly in some cases of asthma, in many cases of vertigo, in a case of epilepsy, in many gastric and intestinal affections, and in numerous nervous diseases, particularly the neuroses, that the indican was largely increased, and as the disease improved the indican disappeared more or less completely from the urine. The treatment which he recommends is biniodide of mercury with intestinal lavage. [D.L.E.]

Journal des Praticiens.

January 26, 1901. [15me Année, No. 4.]

1. Disturbance in the Innervation and Circulation of the Heart in Infectious Diseases. JOSEPH PAWINSKI.
2. A Case of Gonorrheal Myelitis. M. LABBÉ.

1.—After a historical review of the work done by the men who discovered the relation of myocarditis and other changes in the innervation and circulation of the heart to the infectious diseases, Pawinski reports 3 cases in full. The first, a man of 45, hereditarily neuropathic, had influenza pneumonia after mental overwork; the second, a man of 50 years, after a brother had died of aneurysm, had follicular tonsillitis; and the third, a woman aged 50 years, who smoked cigarettes continually, had influenza after having had an operation under chloroform. Each attack was accompanied by severe nervous and cardiac symptoms. After discussing the possibility of their being cases of mixed infection, Pawinski inclines toward believing that they were not. He thinks that the nervous and vasomotor mechanism of the heart did not functionate well in these cases even before the infection; thus, after the arrival of the influenza or pneumonia bacilli, severe cardiac attacks are at once understood. As treatment he advises rest in bed, milk diet, and the usual heart stimulants, caffeine, camphor, strychnin, etc. [M.O.]

2.—Labbé reports the case of a man, aged 35, who entered the hospital with gonorrheal arthritis existing for a month in both legs. He had taken salicylates without improvement. Both knees were affected, both legs were paralyzed, and he complained of painful micturition. These symptoms grew better gradually, yet the "blenorragic foot of Jacquet" remained associated with a spasmodic paraplegia, marked when he attempted to walk. The muscles of both legs atrophied, and Babinski's reflex was found. Syphilis, the infectious fevers, and hysteria were all excluded. But for 17 years gleet had existed off and on, with gonorrheal arthritis. Labbé considers this a case of gonorrheal myelitis, with favorable prognosis. He advises sulphur baths, massage, and electricity. [M.O.]

The Government of India has sanctioned the establishment of a ward in the Station Hospital, Calcutta, for the accommodation of British officers returning to India from China, and also the enlistment of 2 nurses to attend them.

Original Articles.

PERFORATING ULCER OF THE STOMACH; OPERATION; RECOVERY.*

By JOHN H. MUSSER, M.D.,

of Philadelphia,

Professor of Clinical Medicine, University of Pennsylvania,

AND

HENRY R. WHARTON, M.D.,

of Philadelphia,

Clinical Professor of Surgery, Woman's Medical College; Surgeon to the Presbyterian and Children's Hospitals.

G. C., aged 40, single, farmer, resident of Maryland. He used tobacco moderately, but no alcohol. He was regular in his meals, and his dietary was not an unusual one. He had had much care and anxiety.

Had dyspepsia for many years previous to present attack, chiefly of acid form. For 3 months prior to the date of the symptoms for which he required operation, he suffered from pain in the epigastrium, and occasional attacks of vomiting. He never vomited blood. The pain was often relieved by food, so that it was his custom to carry crackers and eat then when the gnawing became more pronounced.

It may be said, for many years the patient has been spare of build and rather gaunt, although quite strong. The pain became so severe and constant that he decided to come to Philadelphia to secure relief. On the morning of December 18, 1900, he arose early, partook of a light breakfast, drove to Annapolis, a distance of 15 miles. He arrived in Philadelphia at the office of Dr. D. Murray Cheston about 4.15 p.m. On examination Dr. Cheston found a tumor about the size of the fist to the right of the median line, just below the margin of the ribs. Further examination was postponed until the evening, when it was arranged the writer should see him in consultation.

At 5 p.m. the patient repaired to a restaurant to take his first food since early morning. At this hour he took a glass of soda water. He was at once seized with violent pain in the epigastrium and fell on the floor in a faint. He vomited and symptoms of collapse rapidly followed. He was removed to Dr. Cheston's office where Dr. Morris saw him suffering from severe general pain and collapse. Dr. Cheston saw him at 6.15 p.m.

The previously described tumor had disappeared. The pulse was 120. Temperature 97°. The abdomen was hard. The pain was general. The writer saw him at 8 p.m. having the good fortune to have the conjoint advice of Drs. Murray and Radcliffe Cheston. The condition was as indicated above. The writer was impressed with the extreme board-like rigidity of the flat abdomen. It was impossible to make any impression. The epigastrium was tympanitic. The pain was extreme and complained of in many situations. The patient complained of intense heartburn indicating some hyperacidity. There was no vomiting; some retching occurred, when esophageal and faucial burning was extreme.

The diagnosis of perforation of a gastric ulcer was made because of first,—the history of the case; second, the presence of a painful and tender tumor which disappeared suddenly; third, the onset of acute pain and collapse; fourth, the hyperacidity; fifth, the absence of signs of affection of the gallbladder or the appendix, or of pancreatic disease. Pancreatic hemorrhage and acute pancreatitis were considered possible, though not probable, because of the signs of tumor antecedent to the perforation, and because of the absence of the more prominent symptoms of pancreatic hemorrhage,—tumor and tympany.

It was our belief that general peritonitis was advancing rapidly, in spite of the subnormal temperature, because of the general pain, the increased pulse-rate and the rigidity of the muscles.

It remains to explain the presence and disappearance of the tumor. Without doubt perforation had occurred slowly

and a localized peritonitis had set in. The sudden pain and shock were due to the giving away of adhesions and the outpouring of the stomach-contents into the peritoneal cavity. With this accident the tumor disappeared.

It was fortunate for the good fellow, no doubt, that he had a long fast preceding perforation; that the opportunity for immediate operation could be afforded, and that 6½ hours after the perforation, his peritoneal cavity was being cleansed with hot salt-solution.

Dr. H. R. Wharton presented the following notes upon the case:

The previous history of this case has been given by Dr. J. H. Musser. I saw the patient on the evening of December 18, 1900, four hours after a sudden attack of pain in the epigastric region, which caused him to faint. When I saw him he was suffering excruciating pain, which he referred to the abdomen. He was slightly nauseated and was making ineffectual attempts to vomit. The temperature was 97°, the pulse 120. The abdomen was not markedly distended, but the abdominal muscles were so rigid that it was impossible to palpate any of the abdominal organs. He could not locate any especial point of tenderness, but complained loudly of severe pain all over the abdomen.

After consultation with Dr. M. Cheston, Dr. R. Cheston, and Dr. J. H. Musser, we decided that he was probably suffering from a perforated gastric ulcer, and that an operation was advisable.

He was removed to the Presbyterian Hospital, and 6½ hours after his first attack of pain an anesthetic was administered and it was decided to open the abdomen in the epigastric region, as the symptoms pointed strongly to a perforated gastric ulcer.

When the patient was fully under the influence of the anesthetic it was noticed that the rigidity of the abdominal muscles was only slightly diminished. An incision 3 inches in length was made from the tip of the ensiform cartilage towards the umbilicus, and as soon as the peritoneal cavity was opened it was found that a quantity of thin opaque purplish fluid escaped. The incision was slightly enlarged, and the surface of the stomach was exposed; this organ was grasped and partly removed from the abdomen and carefully examined for the presence of a perforated ulcer; the greater curvature, the lesser curvature, and the anterior and posterior surfaces were carefully examined and no ulcer was discovered. The stomach was replaced and the gallbladder next examined, thinking that this organ might have been ruptured, as masses of bile-stained mucus were noticed floating in the abdominal effusion. The gallbladder was found intact. The ascending colon was next sought for and drawn upwards, and the appendix inspected and found normal in appearance. The abdominal effusion was next removed by sponging, and it was then noticed that a small amount of fluid still continued to escape from the region of the pyloric end of the stomach. The stomach was next examined by drawing it outward, so that the posterior portion of the pyloric extremity was exposed to view, and there was disclosed a round opening, about ½ inch in diameter, from which fluid could be seen to escape. The perforation was situated on the posterior surface of the pyloric end of the stomach, about ½ inch from its junction with the duodenum.

Attempts were made to invert the edges of the opening by introducing silk sutures, but as the edges of the ulcer were undermined and very friable, the sutures cut through and without producing the desired result. There was also more or less induration of the tissues surrounding the ulcer, which prevented the inversion of the edges of the ulcer. I then decided to cover the ulcer by infolding the walls of the stomach by sutures introduced some distance from the perforation. This was accomplished by introducing six sutures of silk, which effectually closed the opening and prevented leakage, and after they were placed and securely tied, a few additional sutures were introduced at the ends of the infolded tissue. The abdominal cavity was next very thoroughly flushed with hot saline solution, about 8 gallons being employed. Two glass drainage tubes were next introduced, a long one extending downward toward the pelvis, and a shorter one passed upward in the region of the pylorus. The wound was then closed with silkworm-gut sutures, gauze drains were introduced to the bottom of the drainage tubes, and a copious

gauze dressing was applied over the wound and held in place by an abdominal bandage.

The patient was much shocked during the operation, but reacted gradually. The morning following the operation he was free from pain, his temperature was normal, and pulse was 80. The patient was given no nourishment by the mouth for three days, liquid nourishment and water being administered by the rectum. After this time milk in small quantities was given by the mouth. A free discharge of bloody serum occurred from the drainage tubes, which necessitated frequent changing of the dressings. The drainage tubes were removed on the fourth day, and small gauze drains were substituted for a few days. The patient suffered no further inconvenience and made an uneventful recovery, the sutures being removed from the abdominal wound on the thirteenth day. Four weeks after the operation the patient was discharged from the hospital and returned to his home.

Remarks.—Since Mikulicz, in 1880, first performed a formal operation for the exposure and closure of a perforated gastric ulcer, the procedure has been employed in many cases with most satisfactory results. A large number of cases in which operative treatment has been employed have been collected and analyzed by Mikulicz, Lindner, Barker, Weir, Lund, Mitchell, Tinker and Keen, and as the result of their studies much valuable information as to the most frequent site of the perforation, the prognosis, diagnosis, treatment and the details of the operation, have been added to surgical literature.

Perforation is comparatively infrequent in gastric ulcer, occurring according to various observers in from 6.5% to 18% of all cases. In Tinker's collection of 232 cases, only 22 cases of operation for perforation occurred in the United States. This accident is 5 times more frequent in women than in men. As regards the results of operations in Tinker's and Finney's combined collection of 268 cases, 139 recovered and 129 died, giving a mortality of 48%. In Tinker's collection of cases operated upon within 12 hours of the perforation, 75% recovered, and in a late collection of cases 83.78% of cases recovered. All observers agree that the best result is apt to follow in cases in which a short time only exists between the perforation and the operation.

The ulcer is more commonly situated upon the posterior wall of the stomach than upon the anterior wall, in the proportion, according to Pariser and Lindner, of 190 to 10, and is much more frequent near the pylorus than at the cardiac end of the stomach. Mayo Robinson has observed that chronic ulcers are usually situated near the pyloric extremity of the stomach.

The possibility of more than one perforation should not be lost sight of, for statistics show that in 20% of the cases this condition was present.

Death from perforated gastric ulcer results from peritonitis, caused by the bacteria which escape from the stomach into the peritoneal cavity at the time of perforation. Richardson considers that the size of the perforation, permitting a rapid escape of the stomach-contents, is an important factor in the development of a rapid form of peritonitis, producing, as he describes it, "a sudden overwhelming of the abdominal cavity rather than a spreading invasion."

The ideal method of closing the perforation is to excise the edges of the ulcer and bring them together by sutures. This, however, is only possible in exceptional cases, and in the great majority of cases infolding the walls of the stomach over the ulcer by sutures is the procedure which can be most rapidly and safely practised. Irrigation of the abdominal cavity and careful sponging have both been employed, but in my opinion

thorough irrigation is the safer procedure; drainage, either by glass tubes or gauze, is usually required, and pelvic drainage should be provided for, either by long tubes or by a counter-opening near the pelvis.

RECENT PROGRESS IN THE TREATMENT OF ACUTE LOBAR PNEUMONIA.*

By JAMES K. CROOK, M.D.,

of New York.

It may be doubted whether in the present state of our knowledge any definite routine of treatment suitable for all cases of pneumonia can be safely laid down. Weighing carefully the bulk of recent testimony, it would appear that many patients would do fully as well without any drug treatment whatever. According to Eichhorst,¹ for the past 15 years cases of uncomplicated pneumonia occurring in young and strong subjects have received in the clinic at Zürich no medication except a weak solution of phosphoric acid. Most of these patients have recovered, yet phosphoric acid cannot thereby be deemed a specific for pneumonia. The patients would have got well just the same without medicine. Even under the most unfavorable circumstances, as Osler points out, the disease may terminate abruptly and naturally without the administration of a dose of medicine. Young practitioners especially should bear in mind the fact that patients are more often damaged than helped by the promiscuous drugging which is still only too prevalent. All of the late writers whose opinions are most worthy of respect concur in the admonition to withhold drugs until the indications for them arise. Concerning the most desirable methods of meeting the indications, however, there is still more or less variance. But it will be seen that there are many therapeutic procedures regarding the value of which men of judgment and experience are practically agreed, so that the careful seeker after information may easily select a plan of treatment which, if it will not hasten the crisis or cut short the disease, will at least contribute to the patient's comfort and possibly tide him over dangerous emergencies.

On the Surroundings of the Patient.—There is no difference of opinion regarding the advisability of placing the patient in a cheerful, well-ventilated apartment with a temperature as nearly as possible between 65° and 70° F. If it is possible to do this, nothing is gained by covering the patient with the customary "pneumonia jacket" of cotton batting and oiled silk. A light flannel undershirt with the usual night-shirt or gown is much more conducive to the patient's comfort, and interferes less with the physician's examinations as well as with the application of local measures of relief. It is also agreed that the patient's food should be of a fluid character, wholesome and easily digested. Dr. Andrew H. Smith² calls attention to the fact that the adynamia is due to systemic poisoning and not to exhaustion, and cautions against the practice of overfeeding, which is liable to intensify the already labored respiration.

On the Use of Poultices, Ice, etc.—The time-honored custom of enveloping the affected side in a big flaxseed poultice does not meet with much encouragement in recent literature. Most writers ignore the subject altogether, and those who refer to it do so in terms by no

* Read before the Medical Society of the State of New York, Albany, January 29, 1901.

means enthusiastic. Broadbent³ states that poultices are distressing when assiduously applied, and thinks that a 3-hour application twice in 24 hours is sufficient. According to H. F. Williams continuous poulticing devitalizes.⁴ Blistering also appears to be losing favor. On the other hand, the use of cold applications, including ice-bags, has become a well-established therapeutic procedure and is endorsed by almost all recent writers. According to Thomas J. Mays,⁵ ice-bags applied to the head and chest relieve fever, lessen the tendency to convulsions in children, allay the irritation of the nervous system in adults, limit and check the extension of the pneumonic process by contracting the pulmonary capillaries, abate pain in the chest, support the function of the heart, and give rest and comfort generally. This method has the further advantage of being easy of application and of not being opposed by the patient's friends.

Few observers claim as much as does Mays for the ice-bag, but almost without exception the method is cordially recommended by recent writers. Sponge-baths also are generally advised. Hare⁶ recommends that after consolidation has taken place, hyperpyrexia be treated by cold sponging with friction and an ice-bag to the head and heart, but no internal antipyretics. It is doubtful if anything we can do for our patients is attended by less danger and is followed by more grateful results than are these entirely safe and simple procedures. (*Vide* articles by Raw,⁷ Walton,⁸ Williams,⁴ Dreschfeld,¹² and Rees.⁹) Baruch¹⁰ believes that most of the indications arising in pneumonia may be successfully met by properly applied hydrotherapeutics. According to Baruch, this method of treatment fortifies the nervous system, stimulates the heart, renders the patient comfortable by reducing high temperature and promoting sleep, and makes for the elimination of noxious products arising from the presence of the pneumococcus. The only discordant note is that of Sir Samuel Wilks,¹¹ who maintains that cold as well as hot applications are harmful. Cold applications are, of course, not to be used in afebrile cases occurring in old and feeble persons.

On Blood-letting.—Almost all recent writers deplore the general abandonment of the old-time method of blood-letting in pneumonia. There can be no doubt that our ideas regarding this procedure are undergoing a cautious revision. Sir William Broadbent voices the general sentiment as follows:³ "Venesection may be of great service when invasion of the lung is so rapid that the right ventricle cannot cope with the sudden resistance in the pulmonary circulation and is paralyzed by overdistention. Not less than 16 to 20 ounces should be removed. The same results are not obtained later when asthenia has become a prominent symptom, although there is still a dilatation of the right heart." Frederico Rubio¹⁸ believes the abandonment of blood-letting to have been a distinct loss. E. Michel¹⁴ highly extols the value of venesection as a standard method of treatment in the early stages of pneumonia, with the subcutaneous introduction at the same time of a quantity of Hayem's saline solution exactly equalling in amount the blood withdrawn. P. K. Pel,¹⁵ director of the Medical Clinic at Amsterdam, advocates venesection in severe dyspnea and cyanosis, and believes that it may often save life. Sir Hermann Weber¹⁶ believes the popular prejudice against bleeding in moderation to be unfounded. Professor Hermann Eichhorst states that venesection is still indicated for the pulmon-

ary edema of pneumonia, and asserts that he has saved many patients from a suffocative death by a timely resort to it. The change for the better occurs so suddenly that no one can doubt the relation between cause and effect. Eichhorst is of the opinion as a consultant that many physicians are altogether too timid about resorting to the method. Even in the case of drunkards or old persons, it may under certain circumstances be safely performed.

H. F. Williams⁴ recommends venesection in robust persons, 10 or 15 ounces of blood being removed from the general circulation to relieve an overburdened heart. William Porter¹⁷ goes so far as to order venesection as soon as the diagnosis is well established; that is, within four days at the farthest from the initial chill.

It is the present writer's opinion, based on a careful study of the literature, as well as from his own experience, that the special indications for venesection are as follows:

Sthenic type of the disease in a robust, full-blooded person and in an early stage.

The presence of a forcibly or violently acting heart with accentuation of the pulmonary second sound.

Dyspnea, with a sense of suffocation and beginning cyanosis of the face.

These indications do not arise often, but when they do occur, the practitioner should be able to meet them by this method, the swiftest and most surely effective at the command of medical science. The amount withdrawn is not to be gauged by drams or ounces, but by the effect produced upon the heart's action and the respiration which, if favorable, will be practically instantaneous. As a rule it is safe to abstract as much as 20 ounces in an average-sized adult patient, although in many cases half that quantity will be sufficient.

On Arterial Sedatives.—A strong feeling has undoubtedly arisen in the medical world against the indiscriminate use of arterial and cardiac sedatives. Eichhorst¹ strongly decries the use of veratrum viride and tartar emetic, which formerly possessed such an extensive vogue. The latter drug appears to have become all but obsolete. So able an observer as Hare,⁶ however, still recommends the use of veratrum viride in sthenic cases in 3 minim doses at 15 minute intervals, along with sufficient Dover's powder to lessen painful cough and increase diaphoresis. Such treatment should be continued only during the first 12 hours.

Dr. Melvin,¹⁸ of Colorado, states that country doctors throughout the West still adhere to veratrum viride, believing that it will hasten the crisis and shorten the course of the disease. Walton⁸ recommends 2 to 4 minims of tincture of veratrum viride every 2 hours, or oftener, watching the effect on the pulse and gradually bringing it down to 70 or 80 per minute. Williams⁴ believes in the administration of aconite in small doses alternately with bryonia alba for sthenic cases, while Herman Weber still maintains that small doses of antimony may be beneficial. C. Z. Weber¹⁹ also recommends antimony, as well as aconite and veratrum viride, under certain circumstances.

It will thus be seen that this plan of medication still has friends. Most practitioners, however, recognize the danger of remedies which depress the power of the heart's action, and it is not to be doubted that arterial sedatives are used with much less freedom than formerly. It is the author's opinion that the advantages claimed for these agents may be obtained with

much greater safety and with equal effectiveness by the persistent use of cold sponge-baths and ice-bags.

On the Use of Calomel and other Purges.—It was customary at one time to begin the treatment of pneumonia, as a matter of routine, with free purgation, and the mild chlorid of mercury was the agent generally employed for this purpose. No recent writer, however, seems to endorse this plan. Cathartics are given in accordance with the requirements of the individual case. As a rule, however, calomel is still the purgative employed when such treatment is required.

On Antipyretics.—The use of internal antipyretics is mentioned by almost all the writers of the year, but only to be condemned. Eichhorst¹ is the only author of prominence who countenances their use in pneumonia. This writer, who is opposed to the use of cold baths, still endorses the exhibition of phenacetin. Quinin is no longer used for its antipyretic effect, although several writers mention it in general terms as being useful. (*Vide* Raw.⁷)

On the Use of Opiates.—Regarding the employment of opiates in pneumonia, the profession is still at variance. Wilks¹¹ states that he is satisfied when he sees a patient taking a saline cathartic, to be followed by a 5 grain Dover's powder every 4 hours. Dreschfeld¹² advises morphia for insomnia until the appearance of expectoration, when it may become dangerous. A. de Winter Baker²⁰ is enthusiastic for the use of Dover's powders in doses of 5 grains every 4 hours. Eichhorst¹ states that opiates should not be given as a rule. The suppression of cough and secretion and the resulting stasis in the bronchi may place the patient in danger of suffocation. Especially to be avoided are hypodermics of morphia for pleuritic pain which may be controlled by wet or dry cupping or local applications.

In the face of the rather contradictory evidence regarding the use of opiates, it would appear to be a good practice to withhold them until positive indications in the way of loss of sleep, severe pain, or intense nervousness, makes their exhibition necessary.

On the Use of Alcohol.—The best sense of the profession at the present day is not in favor of the routine use of alcohol in pneumonia. Yet all writers who mention it admit its use under proper conditions. Michel¹⁴ believes it is almost always indicated in alcoholic subjects. According to Eichhorst,¹ it should be exhibited only to such patients as require a promptly acting stimulant to the heart and perhaps to the nervous system. Hence it is indicated, as a rule, only in the elderly. In youth, alcohol should be administered only to drunkards, for if the stimulant in habitual use be withdrawn, we have to fear both heart failure and delirium tremens. The antithermic influence of alcohol is not worth considering. Pel¹⁵ is of the opinion that in typical cases there is almost always cardiac weakness. Alcohol is then usually urgently indicated, and often saves life. J. M. Allen²¹ gives no alcohol, while Walton⁵ advocates it when the first cardiac sound becomes weak.

Gilman Thompson,²² in his recent work on the Practice of Medicine, recommends the use of alcohol when the pulse begins to fail or increases in frequency to 120 or over. He advises 10 to 20 ounces in 24 hours. Osler,²³ however, states that 2 or 3 ounces of whisky in the 24 hours constitute a sufficient dose in ordinary cases. Broadbent,⁸ with his usual felicity of expression, states that stimulants are rarely necessary but often useful, and should be reserved until their use is indicated. It does not appear that the carbonate of

ammonia is prescribed as much as formerly. It is mentioned in a casual way by several writers, but is usually omitted from consideration. It is the writer's own opinion that this preparation should not be given unless the expectoration is exceedingly viscid, tenacious, and difficult to raise.

Digitalis and the Cardiac Tonics.—There is still much difference of opinion relating to the value of digitalis in pneumonia, but the weight of recent experience offers but little encouragement to its use. Michel¹⁴ is opposed to its employment in pneumonia. He states that by its use we but add further poison to the already toxemic circulation. There appears to be no proof of Landouzy's claim that digitalis is an antidote to the pneumococcus. Michel¹⁴ prefers the use of caffeine when a heart tonic is required. Eichhorst¹ also gives preference to caffeine. He has never been able to convince himself that digitalis exerts any influence whatever on the inflammatory process, although it had been regarded by Traube and his followers as almost a specific.

Eichhorst¹ also recommends the hypodermic injection of camphorated oil hourly or half-hourly in cases where cardiac weakness is extreme. Pel¹⁵ informs us that camphor is the most trustworthy analeptic known to medical science. In cases where life is threatened from failure of the heart, it may administered in large amount subcutaneously with ether. He believes that life may often be saved by this means.

Raw⁷ has very little use for digitalis in pneumonia. In case of rapid heart with a quick, soft, irregular pulse, it sometimes does good in large doses—say 15 or 20 minims of the tincture every two hours until two drams are taken; or $\frac{1}{30}$ or $\frac{1}{20}$ of a grain of digitalis may be given hypodermically to tide the patient over a critical period. Hare⁶ considers digitalis the best circulatory stimulant, but it often fails because of high fever. If the latter is reduced by hydrotherapy, digitalis is most efficient. Response to the drug is so slow that 10 or 12 minims may be given hypodermically, and so lasting that 12 to 24 hours may elapse before repetition is necessary.

All writers mention the use of strychnia in favorable terms. It may probably be regarded as our most valuable cardiac tonic in pneumonia. Perhaps the only contraindication to its use is a state of high nervous tension with active delirium. Nitroglycerin is recommended by several writers as a cardiac tonic in pneumonia in the one condition of high peripheral tension. Its use is not advised with a great deal of confidence by recent authors.

On Oxygen Inhalations.—The use of oxygen inhalations is endorsed by some recent medical writers, and stated to be useless by others. It is admitted to be safe by all. Salinger²⁴ recommends its use for 15 minutes every 2 or 3 hours when actual dyspnea is present. Broadbent⁸ states that inhalations of oxygen are of direct benefit when the face is livid and the lips blue, and with strychnia and stimulants, may be instrumental in saving life. Raw⁷ states that his experience with oxygen has been, on the whole, rather disappointing. No recent author speaks very enthusiastically of the remedy. One gains the impression from a perusal of recent literature, that the chief advantage of oxygen inhalations is in impressing upon the patient's friends that everything possible is being done to effect relief. One well-known consultant states that he generally despairs of the patient's life on seeing an oxygen cylinder by the bedside of a pneumonia patient to whom he is called.

On the Use of Saline Infusions.—No striking contribution to this subject is found in recent literature. The method is adverted to by several writers, but they offer no additions to our knowledge. William Ewart and Beaumont Percival²⁵ employed a saline infusion with rather disappointing results. The cases reported, however, were exceptionally severe and the patients were perhaps incapable of recovery under any method of treatment. They regard the results as warranting a further trial of the method in cases with anxious prognosis.

On Specific Medication.—In a paper²⁶ read before this society at its last meeting, the author considered at some length a scheme of medication based upon the discovery of the pathogenic microorganism of pneumonia. This plan of treatment embraces two separate and distinct methods of therapeutic procedure, as follows :

1. The administration by the stomach of certain drugs tending to destroy the pneumococcus by rendering the blood an unfit medium for its culture.

2. The introduction into the patient's body of an animal serum tending to neutralize the toxic influence of the products of bacillary life. In his former paper the writer presented an outline of what had been accomplished by this scheme of treatment up to that date. During the year which has elapsed it would appear that no great progress has been made in the direction of a specific drug treatment directed against the pneumococcus. Several contributions appear, but they do not embrace a large number of cases and their results are consequently not of special significance. W. O. Bridges²⁷ reports 2 cases of acute lobar pneumonia successfully treated with sodium salicylate, 15 grains every two hours, and 6 successful cases treated with guaiacol carbonate, in doses of 8, 10, and 12 grains every two hours.

J. M. Allen² advocates the use of sodium salicylate in 15-grain doses with milk of magnesia every four hours. He states that the number of pneumococci in the blood and sputum were markedly diminished during its exhibition.

Dr. Chas. F. Stokes²⁸ advocates the use of creosotal in accordance with Dr. Andrew H. Smith's suggestions. He administers this substance with apparently good effect in doses of 12 minims every two hours.

Caccianiga³⁷ advises the internal use of silver salts in the specific treatment of pneumonia, and reports the results in 112 cases treated in this way. Two and one-half to three grains in pill form are given in the 24 hours, or the drug may be administered suspended in mucilage. Under this method the mortality-rate was 17%, whereas under other forms of treatment a death-rate of 28% was observed. Of 47 sporadic cases only 3 died.

Comini also successfully treated 5 cases with silver salts. A sixth case treated by other methods died. These reports, while somewhat meager, are on the whole quite encouraging and tend to stimulate further experiment in this direction.

On the Use of Antipneumotoxin.—The progress of serumtherapy in acute lobar pneumonia cannot be said to have been particularly brilliant during the year 1900. A singular dearth of activity is apparent in France and Germany, the two countries to which we naturally turn for advanced information in this department. A number of tests have been made both with cultures prepared from the blood of pneumonia patients and with animal

serum, and several clinical reports are found in the literature of the year, but the net result appears to leave us about where we were one year ago. Clinical experience has been too meager to allow of any positive deductions being made. Further than this, no apparent progress has been made in standardizing the antitoxic serum, and it is impossible up to the present time to secure a preparation possessing any positive stability.

Chas. B. Canby⁸⁰ publishes an account of the use of Pane's serum in 3 cases. The results in these cases appeared to demonstrate a high degree of value in the preparation, each case being followed by rapid recovery.

J. C. Wilson³¹ considers in detail the subject of serum-therapy in pneumonia, and reports 18 cases treated with McFarland's antipneumococcic serum in the German Hospital of Philadelphia. Of the 18 cases, 4, or 22 %, died. Three of the fatal cases were alcoholic, while in the fourth the history in this respect was unknown. The duration of the attack in the serum cases was 5 to 14 days. Defervescence usually took place by crisis or rapid lysis. The serum was administered in all cases hypodermically, the total quantity varying from 20 cc. to 460 cc. The immediate effects were more marked and more favorable in cases in which recently drawn serum was used than in those in which it had been drawn for a longer period. They consisted in general of a lowering of the pulse-rate, mitigation of the pain, and a tendency to drowsiness. No results could be attributed to the tri-kresol in the serum.

Dr. McFarland, in his discussion of Wilson's paper, stated that the serum was very difficult to cultivate and its nature uncertain. It might be antitoxic or antimicrobial, but was probably both. Alexander Lambert,²² however, states that the antipneumotoxic serum is not bactericidal but bacteriolytic. He used a horse-serum by subcutaneous injection in 12 cases with a result of 9 recoveries and 3 deaths. It seemed to cause a slight reduction of temperature and improvement in the pulse, but did not bring on a crisis in any case. In two alcoholic cases the serum had absolutely no effect. He had not persisted in the use of the preparation because he had been unable to see that it shortened the disease or held in check the pneumonic process. Antonio Fanoni²³ reports 6 grave cases cured with antipneumotoxic serum. In a subsequent communication²⁴ the same writer states that he has successfully treated 9 additional cases by the same means. Several other writers report isolated cases treated with the serum, but their results add very little to our stock of knowledge on the subject. The study of antipneumotoxin is still in an elementary phase of development, and we must await further progress before expressing positive opinions as to its value.

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PERIODICAL INSANITY.*

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PERIODICITY in mental diseases has been recognized from earliest times. The ancients supposed it to depend upon the phases of the moon. Later it was associated with atmospheric conditions. At the time when psychiatry came to be recognized as a branch of medical science, it was a generally accepted fact that all forms of insanity tended to recur, which belief is held by some alienists even to this day. Later psychiatrists began to recognize that only certain cases of insanity showed a recurrence, each time exhibiting similar symptoms. These were divided into two groups, periodical mania and periodical melancholia, according as they presented symptoms of excitement or depression. Falret and Baillarger next called attention to a very small number of cases, originating from the same groups, mania and melancholia, which they called *folie circulaire*. It comprised cases in which the periodicity was characterized by a regular alternation between the mania and the melancholia, with perhaps a short interval of lucidity.

More recently many psychiatrists have assigned the name periodical insanity to a definite group, which they divide into periodical mania, periodical melancholia, and circular insanity.

Spitzka says of this group: "Periodical insanity is characterized by recurrence of mental disorder at more or less regular intervals; the attacks being separated by periods during which the patients present a state of apparent mental soundness."

Krafft-Ebing presents a clearer and more definite picture of this group of psychoses, which he describes as being characterized by anomalies of the emotions, formal disturbance of thought, accompanied by appropriate actions with less pronounced delusion-formation and infrequent hallucinations. He includes in his periodical psychoses, besides the periodical mania, periodical melancholia, and circular insanity, dipsomania, abnormal sexual impulses, and menstrual insanity.

Finally Kraepelin has given the most complete and definite description of this form under the name of manic-depressive insanity, assigning to it fundamental

symptoms which serve to differentiate the disease picture at the very onset.

While the tendency to recognize periodical insanity as a distinct disease has been most marked among the German and French psychiatrists, the English and American writers have paid little attention to it. Yet most institutions in America have for some time preserved a place in the classification of their cases for those which show a periodicity. They have been variously called periodical mania, periodical melancholia, recurrent mania, recurrent melancholia, recurrent insanity, and circular insanity. Almost all of the institutions have recognized periodical mania; several circular insanity; a few periodical melancholia, but only a very few have noticed that close relationship existing between these different groups, which warrants their being considered as one form of mental disease.

The examination of the records of the Connecticut Hospital for the Insane for the year 1899 shows that 15% of the admissions, which numbered 426, were cases of periodical insanity. Of these over two-thirds were patients who had suffered from more than one attack. The records of the Worcester Insane Hospital, where the writer spent two years, show that for the year 1898, 14% of the admissions, amounting here to 488, were cases of periodical insanity. Of these almost two-thirds were suffering from the second or later attacks. The records for the same hospital for the year 1899 give 12% of the 548 admissions. The admissions at the McLean Hospital for the year ending October, 1899, show over 23% of the cases to be suffering from this form of insanity. The records of these institutions place this disease in point of numbers second only to dementia praecox.

Periodical insanity may be described as a mental disorder which recurs at intervals throughout the life of the individual. The individual attacks, which appear in one of three forms, the maniacal, depressive, or mixed, are characterized by a sufficiently definite symptomatology to distinguish them from other forms of mental disease. Your attention is called first to the symptomatology of the maniacal, depressive, and mixed forms, the citation of cases illustrating the first two, the etiology, the course, prognosis, and differential diagnosis.

In the maniacal form the most prominent symptom is found in the psychomotor sphere. There is an increased facility in the cerebral centers for the translation of stimuli into action, giving rise clinically to what may be called a pressure of activity. Every impulse immediately leads to action. The patients cannot remain quiet, are constantly in motion, go from one thing to another, open and close windows, overturn furniture, dance about, laugh and sing. When the condition is very pronounced, the impulses for action crowd upon each other so rapidly that they are unable to accomplish anything coherently. It is especially noticeable in speech. The pressure of speech is so strong that it is impossible for them to remain silent. The transfer of word concepts into movements of speech is greatly facilitated, so much so that the internal associations of ideas give way in the direction of the train of thought to the purely external associations, and we have instead of coherent sentences a flight of ideas, and phrases abounding in sound associations. The following is an example: "Neatness of feet don't win feet, but feet win the neatness of men. Run, don't run west, but west runs east. I like west strawber-

* Read before the New York Neurological Society, October 2, 1900.

ries best." The same is noted in attempts at writing. Single sentences, or phrases, may be well started, but they are soon resolved into a senseless enumeration of catch phrases, bits of slang and rhymes. In connection with this intense psychomotor restlessness, it is a striking fact that there is a great diminution of the sense of fatigue. The patients exhibit no signs of fatigue after weeks or months of incessant motion. A certain insensibility to pain, heat and cold is part of the same condition.

In the field of apprehension and comprehension there is more or less disturbance. This is not noticeable in the lightest forms. The greatly increased distractibility of attention is accountable in part for this. Every striking sense perception forces itself upon the patients so strongly that they respond immediately. While speaking of one subject, a sound caught up from the surroundings distracts them and leads into a different train of thought. In this way they lose their power to choose and arrange correctly external impressions.

It is one of the striking features that, associated with great motor restlessness and incoherence of thought, the consciousness is mostly unclouded. The patients continue well oriented as to place, persons and time. Their replies may not clearly demonstrate this, but a careful observation of the actions and remarks indicate that they are acquainted with their surroundings. In the extreme maniacal condition, called delirious mania, the consciousness regularly becomes clouded, but even here one is frequently surprised by their clear apprehension.

The disturbance in the association of ideas is another prominent symptom. The patients are quite unable to follow out any definite line of thought. They leap suddenly from one thought to another. Their remarks show a strong tendency to become overburdened with details which sooner or later will quite divert them from the original thought. The associations of ideas which are common to the everyday life are the ones which play a prominent role in their numerous digressions and incoherent statements. The patients are rich in words, not in ideas.

Hallucinations are rare. Likewise delusion formation plays an unimportant role. Delusions when present are transitory, unstable, and have little bearing upon the actions. They are mostly expansive, occasionally depressive, and when related are often embellished with numerous fabrications.

These patients very often show some insight into their mental condition. They will say, "I am crazy, I know I am crazy," but they rarely appreciate the necessity for their confinement. In emotional attitude the patients are happy, contented, and exhibit a feeling of well-being. They laugh, sing, and joke, and are satisfied with their environment. But more characteristic are their rapid and sudden changes of emotional attitude; in the midst of joy and happiness, they temporarily may become tearful, complaining and abusive.

In the depressive forms, the most characteristic symptom common to all is the psychomotor retardation, which stands in contrast to the psychomotor pressure of activity of the maniacal forms. The translation of sensory stimuli into motor impulses is very slow—is retarded—and in the most pronounced cases it is entirely lacking, giving rise to the condition of stupor. In the mildest forms it appears only as a deficiency in the power to carry out that which has been determined upon. They recognize the necessity to

perform a certain act, they determine to do it, but lack the power. Simple movements, such as walking and talking, are performed very slowly and without energy. The condition may become so pronounced that there is abolition of expression, and inability to move, to leave their beds, and to attend to the calls of nature, or even to utter a word, presenting the picture of stupor.

The association of ideas undergoes a marked change in that it also shows retardation. The patients are silent because they have nothing to say. In marked contrast to the maniacal states in which there is profuse production, here there is an utter dearth. Their responses to simple questions are uttered slowly, in low tones, and are monosyllabic, indicating a lack of reflection and a poverty of ideas.

The emotional attitude is uniformly one of depression, despair, gloom, and anxiety. The field of apprehension does not show much disturbance except in the more marked cases where stupor prevails, then there is cloudiness of consciousness with disorientation, or a condition of dreamy confusion. Hallucinations and delusions are prominent features. The hallucinations are mostly of hearing, and of a depressive character. The delusions are apt to be uniformly persistent and stable, and are accompanied by a corresponding emotional attitude, which is more or less constant and pronounced. The delusions at first may be only of reference, but later they develop into ideas of persecution and self-accusations. Delusions of a somatic character are also apt to prevail.

The mixed form comprises a mixture of these two. Usually one type predominates over the other, giving rise to two forms, the maniacal stupor, where the depressive symptoms are the most prominent, and the stuporous mania, where the maniacal symptoms are the most marked. In the former the patients remain the greater part of the time in a stuporous condition with marked psychomotor retardation. We have, interrupting the condition for short periods, a typical maniacal state with pressure of activity, flight of ideas, and happy exhilarating attitude. These patients suddenly jump up from their seat or bed and waltz about the room, singing, perhaps overturning some fellow-patient in jest, and after a few minutes, or hours, return to their previous stuporous condition.

In the condition of stuporous mania, the typical maniacal symptoms are interrupted by short periods of depression with retardation.

As illustrative of the disease, I have selected two cases, one of each of the maniacal and the depressive forms.

CASE I.—J. H., the patient, is a woman 19 years of age. Her mother is said to be insane. She has a good personal history. At 18 years of age, April, 1899, following an attack of influenza, she became despondent, lost all activity, showed retardation in movements and speech; as expressed by her sister, she would remain seated, unoccupied, and in one place for the entire day, and barely would speak a word. She expressed no delusions or hallucinations. After 3 months she slowly regained her activity, began to sew and engage in housework. She then explained her condition by saying that she had felt all the time as if a heavy cloud had settled over her, which hindered her from thinking, moving or speaking. The consciousness was clear. In the fourth and fifth months she would say that the burden was lifting and that she was feeling like her old self.

She was able to return to her shop-work by November, 1899, where she was steadily engaged until April 9, 1900. She arose that morning saying that she had had a dream, in

which she saw a man who had laid commands upon her and had threatened to kill her unless she obeyed. She immediately developed great psychomotor activity, singing, dancing, talking incessantly, and displaying many impulsive actions. She was brought to the hospital on the fourth day, at which time she showed the greatest possible pressure of activity; her movements were incessant, of great variety, and performed with much energy. She would rush down the corridor, shouting at the top of her voice, suddenly stopping to waltz gracefully a few times, ending at the door, which she would pound vigorously as an accompaniment to a Bowery song, then turn about and commence a declamation abounding in sound associations and accompanied by the wildest gestures. Suddenly she would bend on her knees in an attitude of prayer, singing softly a couple of bars, and then burst out in boisterous laughter, making a dash at the clothing of the nurse, attempting to tear it from her. When forcibly held in a seat, her hands, feet and head were in constant motion, sometimes in rhythm to a song, at others beating a tattoo. It is characteristic of these movements that they are purposeless and never show stereotypy, are easy and sometimes graceful, but are never constrained, which points serve to differentiate them from those in other forms of psychoses. The attention cannot be attracted except by persistent or forcible speech, sometimes accompanied by a little shaking of the shoulder, when she answers pertinently in monosyllables, but is sure to run off immediately into irrelevant remarks, following the line of formal associations. Frequently a bright object held before her leads quickly to another train of thought, which may be just as abruptly distracted before half expressed. The content of her thought is rich in words, but poor in ideas. It centers about her former experiences with various friends, contains many proper names, common phrases, slang and rhymes. That she is keen of perception at times is indicated by occasional remarks which demonstrate that she knows something about where she is and those associated with her. Her emotional attitude changes rapidly; at one moment she is laughing heartily over an unattractive picture in a newspaper, trying amiably to elicit the physician's pleasure; at the next she suddenly assumes the attitude of defiance, cursing him roundly, and tries to relieve him of some of his clothing. At times she seems to have hallucinations of hearing and appears to address unseen acquaintances. Only occasionally does she express depressive or expansive delusions, which are purely transitory and in no way influence her actions. The reflexes are exaggerated. Physically the sleep is very much disturbed, the appetite is excellent, and she maintains her normal weight in spite of her greatly increased activity. This condition continued without abatement or change for four months, at which time the great activity began to disappear and the train of thought became more coherent. Since then improvement has been gradual. At the present time—after 7 months—there still remains volubility, and some excessive activity and business about trifles; otherwise the attitude and coherence of thought are quite normal.

CASE 2.—M. F., a patient now 26 years of age with good family and personal history. At 22 years, while out at service, without any apparent cause, she suddenly became despondent, lost interest in her work, took sparingly of her food, became dull; in movements gave evidence of retardation, was slow, sluggish, spoke at first in low tones, and in reply to questions was monosyllabic.

She did not express delusions or give evidence of any hallucinations. The consciousness at first was clouded. In the course of five days the retardation had so far increased that she remained in bed, paying no heed to the calls of nature, and becoming almost mute. Once or twice she exhibited impulsive movements, when she attempted to strangle herself, and threw her clothing out of the window.

Finally, after 2 weeks, she refused food for 1 week. After this she continued profoundly depressed. Although absolutely silent she would carry out the directions of the nurse, showing the preservation of the power of apperception, but her movements were exceedingly slow and without energy. After 5 months she became a little more active and did some mending, but she still continued silent. In the following month she was able to work regularly in the dining-room, though inclined to be reticent and diffident. She never expressed any hallucinations or delusions. In 8 months more she left the hospital completely recovered,

with clear insight and fair memory for events of the psychosis.

She immediately reentered service and continued in that employment until 25 years of age, when she again suddenly became despondent without evident external cause. She became listless in her housework, and lacked initiative. In carrying out directions she required repeated prompting. Finally, in 5 days she became so sluggish that she would remain unmoved in one place for hours. In the third week she expressed hallucinations of hearing, saying that she heard some one about her repeating that she was bad, and in accordance with this idea she would frequently move her hand as if to brush some one away. She was able to recognize her former acquaintances, but was unable to speak to them. In answer to questions she was monosyllabic, or would simply nod or shake her head. Her answers were much delayed, sometimes requiring several seconds for utterance, and meanwhile the countenance would give evidence of effort. For a few days at a time she would exhibit some restlessness when she would walk slowly up and down the day room fidgeting with her hands. On a few occasions she was heard to mutter to herself, "Oh, let me off the hall, the sinners are after me, let me die! I have caused all sin, let me die, so that I can stop thinking!" but most of the time, for 9 months, she sat quietly by herself unemployed, perfectly mute, with dejected countenance, not even expressing delusions when questioned. The orientation was undisturbed, she knew perfectly the place, those about her, and the day of the week and month.

She then gradually became interested in ward work and would converse in low tones to nurses, but not until 4 months later was she able to overcome all retardation, to speak out in natural tones, and to work with perfect freedom.

During the attack there was some tendency toward constipation and a very moderate loss of weight.

The most prominent etiological factor in this disease is the defective heredity, which is found in from 70–80% of cases. Occasionally the parents have suffered from the same form of mental disease. It often happens that the first attack has an exciting cause; this is especially so in women when it appears during pregnancy or the puerperium.

Other exciting causes are shock, acute diseases, and mental strain. More frequently the second and succeeding attacks occur independently of an external cause. It occasionally happens in women that when the first attack appears during puerperium or pregnancy, the succeeding attacks recur with each childbirth, and almost always continue to recur after the climacteric. The first attack in over one-half of the cases appears before the twenty-fifth year. Less than 10% appear after the fortieth year. The first attack is more often of the depressive form. Succeeding attacks are likely to be of the same type as the first, but it very rarely happens that all the attacks are of the same form. At some time or other during the life of the patient who has been suffering from recurrent attacks of one form, an attack of the other form is very apt to appear. The interval between the individual attacks varies. In 4–5% of cases the attacks pass directly from one into another, alternating between the maniacal and the depressive forms, presenting the picture of *folie circulaire*. In the other cases (95%) the intervals vary from a few weeks to many years. We have no means of judging whether the intervals are to be short or extended. The attacks are, however, more frequent between the ages of 15–25, and again during the climacteric.

It sometimes happens that only one attack occurs during life, but when there is but one attack it differs in no essential particular from the attacks recurring as many as three times annually. As the attacks are repeated, the lucid interval tends to shorten,

and the duration of the attacks to lengthen. The patients do not suffer from mental deterioration except when the attacks have been long, frequent and severe. During the lucid intervals mental faculties are retained. In the few cases when the attacks have been long, frequent, and severe, there is a very mild degree of mental deterioration, indicated by a certain amount of constraint, a lack of independence in action, a tendency to be morose, unusual susceptibility to fatigue, sleepiness, and a diminished capacity for work, or, on the other hand, there may be irritability, self-consciousness, and instability.

The prognosis of the psychosis is bad, in view of the tendency to recurrence, but more favorable when one considers the recovery from the individual attacks, and the prospect for lucid intervals of varying length, during which time they are capable of caring for families or returning to business.

During the height of the disease, or in the extreme maniacal and depressive conditions, death may occur from exhaustion, or in consequence of self-inflicted injuries.

One of the great advantages of being able to recognize this form of insanity at the onset of the disease, is the comparative certainty in forecasting the future course. For instance, in the case of the young woman who in April, 1899, developed the depressive form of periodical insanity, lasting five months, then enjoyed a lucid interval of seven months, when she suddenly developed an attack of the maniacal form, we immediately offer a good prognosis for the present attack, with a reservation that 5% of cases become circular. But we emphasize the fact that she probably will have other attacks at varying intervals, and furthermore that she will never suffer from great mental deterioration. This prognosis, which we are able to outline with a great deal of certainty, aids in the prevention of marriage and the excessive engagement in business, both of which patients are very apt to do in spite of the moral restriction placed upon them by the physician.

That periodical insanity with such a definite symptomatology, course and outcome, has failed of recognition, except by its periodicity, is evidenced by the fact that those who describe it say that it can be recognized only in this way.

Spitzka says that "the deliria if present are apt to be of a reasoning character, while moral or affective perversion and certain propensities and impulses not ordinarily found in the simple insanities, serve to indicate the character of the disorder. Aside from these signs it is only the history of the case revealing the periodical recurrence of similar attacks, which serves to justify a diagnosis that the disorder is probably a periodical one."

Chapin notes* that the actions in the recurrent insanity are not unlike those described as characterizing mania or melancholia in its various manifestations.

Kirchhoff says in his description of periodical insanity, especially in reference to the periodical mania, that diagnostic doubt can only be removed by the repetition of the attacks.

Berkley says "the diagnosis of 'periodical melancholia' can only be made out with certainty when a recurrence has taken place." Of circular insanity, he says that the diagnosis "can only be made upon the basis of an indubitable history of the disease and of the family record, or after observation for months or years."

Periodical insanity is distinguished from dementia

praecox by its more rapid onset, absence of mental deterioration, and the periodicity of the course. The depressive forms of periodical insanity are distinguished from the conditions of depression encountered in dementia praecox by the existence of retardation, the uniformity of the emotional attitude, the continuous presence of depressive delusions. The stuporous state in the catatonic form of dementia praecox is distinguished by negativism, muscular tension and the tendency to constrained positions. The conditions of excitement which occur in dementia praecox differ from the maniacal forms of the periodical insanity by the absence of pressure of activity and flight of ideas with formal associations, and by the presence of delusions and hallucinations. The latter if present in the maniacal states are infrequent, unstable, and have but little bearing upon the actions.

In conclusion we may say that

a. periodical insanity is a mental disease characterized by a definite symptomatology, course and outcome.

b. It, in point of numbers, is one of the most prominent psychoses.

c. The symptoms are sufficiently characterized to permit a differentiation from other forms of mental disease in the first attack,

d. and allow the forecast of the whole course of the disease, *i. e.*,

e. recurrence of attacks throughout the life of the individual, mostly of the character of the first,

f. with lucid intervals of varying length from weeks to years, except in very small percentage of cases,

g. without a tendency to mental deterioration, except in cases where the attacks have been long, frequent, and severe, and even then it is of a light grade.

MEDICAL EXAMINATION OF SCHOOL CHILDREN.*

By EDWARD M. GREENE, M.D.

Medical Inspector of Schools, Boston, Mass.

THE first city in this country, or abroad, to establish a system of daily medical inspection in all the public schools was Boston. Since then similar methods of inspection have been adopted in New York City, Chicago, and in most of the large cities, as well as in many of the smaller towns. Within a few years we may expect to see some method of medical inspection in general used throughout the country. The important questions are how comprehensive and searching an inspection is desirable, or practicable, and how to organize and conduct the work in the most efficient manner.

I can probably serve you best by giving you the details of the system in use in Boston, and the results of my own observation and experience as a Medical Inspector for the past 7 years.

Medical inspection of schools, both public and parochial, was begun in Boston in the fall of 1894 and was secured only as the result of 4 years of persistent effort on the part of the efficient and progressive chairman of the Boston Board of Health, Dr. Samuel H. Durgin. The immediate occasion which made his appeals successful was the unusual prevalence of diphtheria in Boston during the year 1894.

The system of inspection is under the control of the Board of Health. The School Committee cooperates

* Paper read at the meeting of the Providence Medical Association on February 4, 1901.

cordially in the work, by giving permission for inspectors to enter the school buildings and examine pupils, and by directing teachers to watch for cases of illness and to bring them to the notice of the inspectors.

The masters and teachers appreciate the fact that this work is beneficial to themselves as well as to the pupils, and are anxious to cooperate in carrying it out. The parents see, with approval, that their children are safeguarded from danger, and from the general public nothing has been heard but commendation.

Inspectors are generally selected from the younger men in general practice, as they have most time to devote to the work. Many of them have been hospital internes. They must be interested in the work, discreet, and tactful, and it is desirable that they should live in the locality of the schools assigned to them. There have always been some homeopathic doctors among the Boston inspectors. The work has nothing to do with therapeutic systems, but requires only the ability to make accurate diagnosis. In establishing a work of this kind it is important to have the support of the whole community. Women physicians have not yet been appointed in Boston, but I am told they have been in New York. If otherwise qualified they would make good inspectors, especially in the higher schools for girls.

The number of pupils in the public schools of Boston is about 80,000, and there are about 13,000 more in the parochial schools. There are 250 school buildings, and 50 inspectors of schools, each doctor thus having 5 schools and nearly 2,000 children under his care.

The pay of inspectors in Boston is only \$200 a year. Though the salary is small, the position is an honorable one, and likely to increase a young man's reputation though not his practice directly. Children are not allowed to go to his house in connection with school work, and any that he finds ill, are carefully directed to call in their own family physician, or, if poor, directed to a proper hospital.

To maintain faithful and efficient work on the part of the inspectors some central supervision is necessary. A monthly report, filled out on a printed form is required from each inspector. The report contains a list of the different diseases observed, and the number of cases of each disease found in each school. It also records the number of pupils sent home; the number of vaccinations performed, the number of consultations with teachers in regard to such matters as sending children out of school for contagious disease at home, the determining when they may return to school, and giving advice to the teacher on any other subject. On the back of the blank forms there is printed a classified list of the important or common diseases. To secure uniformity and accuracy, the inspectors are requested to use this approved nomenclature in making their reports. Inspectors should familiarize themselves, if necessary, with the symptoms and appearances of all the diseases there mentioned. This involves, among other things, a considerable knowledge of diseases of the skin, which is not always possessed by the general practitioner.

These reports are mailed at the end of each month to the secretary of the Board of Health, who can then form some opinion of the amount and quality of the work done by each inspector. At the end of the year all the reports are tabulated and published in the annual report of the Boston Board of Health.

An association of the medical inspectors has been

formed which holds meetings from time to time, and is presided over by the chairman of the Board of Health. The objects of the association are: to make the men acquainted with each other; to establish an *esprit de corps*; to secure uniformity of decision on questions of school attendance, in order that children of the same family in different schools may be alike excluded, or admitted, after there has been contagious disease at home; to discuss the methods by which the contagion of diphtheria, and similar diseases, may be spread in the schools, the criteria for determining when the danger of contagion is ended, etc. The association has been addressed occasionally by specialists in diseases of the eye, ear, nose, and throat, etc., who have discussed the diseases of those organs which have especial importance in relation to our school work.

Let us now follow the inspector as he makes his daily rounds. He has to deal with teachers as well as pupils. The former receive such instructions in regard to the early symptoms of contagious diseases as helps them to promptly detect suspicious cases, and send them to the inspector for examination. They are taught the importance of having the child's eyes examined when there is a complaint of habitual headache, and the necessity of examination for polypi, or enlarged tonsils, in mouth-breathers, and many other useful things.

The inspector sees only those children to whom his attention is called by a printed slip on which the teacher has filled out the date, name of the child, the number of the school room, and the complaint which the child makes, or the symptoms which the teacher has noticed. These slips are filled out soon after the opening of school, and deposited in a convenient place where the inspector finds them. On his arrival at school, each child is sent out to him for examination. On each child's slip he records his own diagnosis, and his advice in regard to excluding the child from school or not, and any remarks he wishes to make for the information of the teacher. The child hands the slip to the teacher, and the latter sends it to the master, who is obliged to keep these slips on file, thus preserving in each school a record of all the illness that occurs there. An opinion can then be formed in regard to the relative sanitary condition of each building. Questions of drainage, plumbing, heating, and ventilation, are not considered by the medical inspectors, but are referred for investigation to special experts of the Board of Health.

The children who come under our inspection may be divided into two classes: 1. Those who are the subjects of contagious disease, and who must be excluded from school for the benefit of the other children. 2. Those who are suffering from noncontagious though perhaps severe and disabling disease, or who are mentally or physically below the normal standard. Some of this second class may be advised to stay out of school, as in cases of certain acute diseases of the eyes, or ears, ozena (if particularly offensive), spinal caries, epilepsy, etc. A considerable number of children of the first class are found,—those who are suffering with the specific infectious diseases, or with contagious parasitic skin diseases. Some are found among the poorer children, who have returned to school after some unreported illness, for which they have had no physician, and in whose throats the bacilli of diphtheria are sometimes discovered; others are found to be still in the desquamating stage of scarlet fever.

The inspector should always have with him one or

more of the diphtheria culture outfits, which are supplied by the Board of Health, and take a culture from every case of acute pharyngitis, or tonsillitis, which he sees. Many cases of diphtheria can be discovered in no other way. After a culture has been made, the child is sent home to remain until a report has been received from the laboratory on the following day. If a case of contagious disease is discovered the child's books are wrapped up in a bundle and sent to the Board of Health for disinfection or destruction, and the desk and seat are washed by the janitor with a strong solution of corrosive sublimate or formaldehyde.

If more than one contagious disease is found in any room every child is sometimes examined by the inspector. Clinical thermometers are never used, on account of the difficulty of thoroughly disinfecting them. For a tongue depressor a thin, narrow piece of pine wood is used and burned after use, so that nothing is carried from one child's mouth to another's. This is a very important precaution, and has been the means of forestalling criticisms. The practice of having a child use his own finger for a tongue depressor is strongly condemned, in spite of its convenience, as the soiling of the fingers with the secretions of the mouth would greatly increase the danger of spreading the contagion.

The question of excluding children affected with pulmonary tuberculosis has arisen. For the child's own sake, as well as to protect others, we advise the exclusion of such children.

To protect the healthy from the dangers of contagion is hardly more important than to improve the condition of those who are more or less defective physically. Often they may be advised of the measures necessary to make them healthy and vigorous and to greatly improve their capacity for pleasant and profitable study. It has been a great satisfaction to me to have detected numerous cases of previously unsuspected chronic hypertrophy of the tonsils, or of adenoid disease, and to have pointed out to these delicate, chronically ailing children the importance of being carefully treated by experts in diseases of the throat and nose. At my suggestion the teacher often writes a note to the parents explaining the conditions found, and the importance of treatment. The improvement of mind and body that is later observed in these children is remarkable.

Another very important subject which is brought to our attention daily is that of imperfect vision, with its resultant evils of eye-strain, habitual headache, and nervous debility. Such cases are very frequent. When there is no visible lesion; we roughly test the child's ability to read printed matter or figures on the blackboard at normal distances, and if this is not easily done, or if there is habitual headache without other obvious cause, we have the parents advised to take such children to an oculist for expert examination. Many of them go to hospital clinics where, I am sorry to say, they are sometimes turned over to young and incompetent assistants, and return to school wearing improper glasses, and without relief from their unpleasant symptoms. The labor of examining so many cases of errors of refraction proves tedious and uninteresting to the older and abler oculists of the hospital staff. Certainly great good could be accomplished by having a competent oculist make a systematic examination at the school, once at least, of all the children in the grammar school grade. The Boston Board of Health has not yet been able to see its way to having this service performed.

Much has been done in giving advice to individual pupils on the subject of proper clothing, food, exercise, and cleanliness. Inspectors are sometimes invited to address the teachers of their schools on such subjects, and sometimes mothers of younger children have been present to hear such addresses.

A great and salutary lesson in personal cleanliness, and one long remembered, was taught the children a few years ago when a systematic inspection was made of the heads of all the school children in Boston, for the purpose of discovering pediculi capitis. One-half of all the children were found to be infected, more or less, with these parasites, in some cases to a very disgraceful extent. In one of my primary schools, where the pupils were nearly all children of ignorant foreigners recently arrived from the "old country," nine tenths of all the children were found to be infected. The need of proper treatment was so urgent that an exception was made in this one instance to the rule forbidding the giving of prescriptions, and each infected child was given printed directions to buy and properly use a good supply of crude petroleum. Those who were found on subsequent examination to have neglected this advice were promptly excluded from school until they returned clean. Some heart-burning was occasioned among the mothers and children of the better class who were taken by surprise at our diagnosis, but we heard much more of commendation than of criticism. Some amusing incidents occurred. One small boy, ignorant of the object of the examination, told his mother on returning home that the doctor had examined his head, and had told the teacher "there was nothing in it." The fond mother at once entered a violent protest against having her young hopeful put into a class with idiots.

Shower-baths have been put into the basements of some of the recently constructed school buildings, and children are now allowed and sometimes requested to make a systematic use of them during school-hours.

Innumerable other questions may suggest themselves to you in regard to this work, as I have attempted to present only the most important features of the subject.

TETANUS FOLLOWING CLEAN OPERATION WOUNDS.*

By JOSEPH B. BISSELL, M.D.,

of New York.

Visiting Surgeon to Bellevue and St. Vincent's Hospitals.

The sudden advent of symptoms of tetanus after an apparently clean operation, where the wound had united by first intention, without any indication of other infection, is so rare that the following 2 cases seem worthy of consideration; more especially because in both cases the disease went on to a fatal termination.

The operations were months apart. Both took place in St. Vincent's Hospital in New York City. One was operated upon by myself, and the other by my colleague, Dr. John Aspel. One occurred in one building of the hospital, the other in another building. These buildings are at different ends of a city block, only connected with each other by a long corridor. Neither operator was present at the other's operation. There was a separate staff of assistants, as well as nurses. None of the instruments were used in both operations.

* Read before the New York State Medical Society at Albany, January 31, 1901.

The ether was given in both cases by the same physician. The catgut used was prepared and treated in the same room and by the same person, and taken from the same general reservoir in both cases; but the dressings as well as the instruments had been kept in different operating rooms. The above two circumstances are all that the 2 cases have in common. Several hundred other cases before those operations and since have had the same etherizer and the same catgut, and there have been no other cases of tetanus. It would seem fair, therefore, to throw out any suspicion of their complicity in the infection. Both these cases were women, and both were abdominal operations, in a sense.

CASE 1.—P. H., female, 36 years old, German nativity. Family history negative. Her general health had always been of the best. A few years ago she had had some trouble with her teeth, and several had been drawn. She wore a plate of false teeth when she entered the hospital. Had had three children; last child two years ago. All of her labors normal, and children healthy. About six months ago her present condition began. Her symptoms became gradually worse, until upon entering the hospital she had a procidentia uteri to a degree that the os protruded through the vulva. The patient was a well-nourished woman, all her functions and organs normal, except for constipation. On October 29, 1900, she was prepared in the usual way for operation, but as there had been a number of cases in which pus was present in the hospital, special care was taken in the disinfection of the patient and the antiseptic precautions of the surgeons and the dressings. Under ether anesthesia the cervix was dilated and the uterus curetted. As the perineum was somewhat relaxed, a moderate perinorrhaphy was performed. Next a double Alexander operation was performed. The patient came out of the anesthesia in good condition. The operation was rather long, lasting about two hours. The patient ran a normal postoperative course, with the exception that on the fifth day the temperature was a little over 99° F. On the fourth day following the operation the dressings were removed and the wounds in the inguinal region were found united by first intention. The stitches used were catgut in each wound, except in the perineal wound, where one silkworm suture was put in. This was removed, together with the catgut stitches, on the sixth day, when the perineal wound seemed to be united. On the fourteenth day following the operation, the patient complained of stiffness about her jaws and some difficulty in opening her mouth. On the next day the muscular rigidity about the jaws had increased, and she exhibited marked signs of trismus; she also had pain on deglutition as well as a feeling of constricting bands about her throat. Her temperature and pulse were normal. On November 15th, the day following, her general condition was worse and she had an anxious, strained expression in her face. From time to time there was a spasmodic contraction of the facial muscles, exhibiting the symptoms of risus sardonicus. At this time began periodical contractions of the abdominal muscles. Two days later, for the first and only time, until the day before her death, the temperature went to 100½. Her pulse now became much more rapid and she was gradually losing strength. She continued to have convulsive movements of different sets of muscles, principally in the abdominal region and about the face and neck; her pulse at this time running from 112 to 120; her respiration being 24 to 30. On the evening of November 21st her temperature suddenly went to 102½, her pulse 138, respiration 104. When free from her convulsions she had no pain and no other symptoms except that the jaw was very rigidly fixed up to 48 hours before her death. She died on the morning of November 26, of heart failure, her general circulatory condition having weakened perceptibly in the last 24 hours. The treatment consisted of large doses of chloral, bromide, and physostigmine. Twenty grains of the chloral, 15 grains of bromide of soda, and ½ of a grain of physostigmine was given every four hours. It was possible by this means to diminish the convulsive movements very markedly, so that there was no great increase of such symptoms from the beginning of her spasms.

CASE 2.—Patient was a fairly well nourished woman, of about 40 years of age, upon whom the laparotomy was per-

formed on September 6, 1900. The abdominal incision was large and through it a 10½-pound fibroid was removed, together with uterus and adnexæ. There was no complication with the removal. Hemorrhage was controlled and prevented by the use of the angiotribe and heavy, silk ligatures. The abdominal wound was closed by a single layer of deep silkworm-gut sutures. A few superficial sutures of the same material were also taken. Anesthesia lasted 2 hours, and the operation 1 hour and 50 minutes. At its conclusion the patient was in a very good general condition, and experienced practically no shock. After operation the patient did well, and with two exceptions the course was uneventful—the temperature was somewhat irregular, and the bowels somewhat troublesome. On the morning following the operation the temperature was 101°, and from this time on for 8 days it did not go below 100°, but vibrated between this and 102°. This temperature was thought to be due to the condition of the bowels, especially as there was great difficulty in attempting to get intestinal evacuations. Eight and one half days after the operation there was first noticed a slight trismus and a rigidity of the postcervical muscles. This condition grew so rapidly worse that inside of a few hours the jaws were firmly locked, and there was a large accumulation of mucus in the pharynx with great rigidity of the neck muscles. In the afternoon of this day there were two severe spasms lasting about 2 minutes each. There was rather profuse perspiration following the injection of antitoxin which was used at 10 o'clock in the morning; the first symptoms of the tetanus having been noticed at 9 o'clock. Two more injections of 20 cc each were given during the afternoon. The first injection contained 40 cc. Board of Health antitoxin was used. At this time the temperature was 103°, but soon fell to 102°, remaining there until the next morning. On this day, the 15th, the dressings were removed and the wound examined. It was of healthy appearance, and there was no local tenderness. All sutures were removed. The next day, September 16, the patient grew continually and rapidly worse. The muscular rigidity was more marked and the clonic spasms increased in rapidity and duration until they were coming on every half or even quarter of an hour. At first only the face, trunk, and upper extremities were rigid; later the rigidity was general. In addition to the antitoxin, of which 160 cc. were given, chloral and bromid and physostigmine were also used as sedatives. Chloroform inhalations and morphin hypodermatically were also given. The temperature rose and the pulse increased to 105 and 106 respectively, the convulsions getting stronger and the patient getting weaker, until she died of exhaustion on the afternoon of the 16th. During the last hour the patient was semicomatose.

It will be seen that the course of the tetanus was distinctly different in the two cases. In Case No. 1, the disease began and lasted practically without any temperature for 14 days. It began in this patient on the fourteenth day, and death occurred at the end of two weeks. In Case 2, it began on the ninth day and the patient lasted only a little over 24 hours. In the first instance no tetanus antitoxin was used, in the second case it was used subcutaneously in fairly large quantities.

Aside from the sudden and startling appearance of the tetanus, going on to death in one case in a little more than 24 hours, the most interesting feature for discussion are the etiology and the treatment.

Such adjectives as idiopathic, rheumatic, spontaneous, and autoinfectious, to describe the cause of tetanus, are used, I believe, simply to cover up our ignorance and are silly subterfuges unworthy of scientific men. The following facts about tetanus are proven and undisputed:

The disease is caused by a germ, which, with its toxin as well, has been clearly isolated. According to Park, one of the best known American bacteriologists, the tetanus bacillus occurs in nearly all garden soil, superficially and to the depth of several feet, especially

soil which has been manured. It occurs in hay dust, in the intestine of the horse and the cow, and hence in manure, in the mortar of old masonry, in the dust from rooms, barracks and hospitals, in the air, and in the poison used on the arrows of certain savages who obtain it from crab-holes in the swamps. The spores of this bacillus are very resistant, they retain their vitality for months and years in a desiccated condition. The bacillus will grow in the presence of oxygen or of most acids. It takes 3 hours soaking in a 1 to 1000 bichlorid solution to destroy the spore. Carbolic acid in 10% solution will kill it. An exposure of an hour to 80° C. does not affect it. A $\frac{1}{10}$ of 1% HCl solution will destroy it in 5 minutes. The great virulence of this germ is well known. It grows best at 37° C. It does not multiply in the human body, but produces lesions through which absorption takes place at the point of entrance.

The toxin of tetanus, according to the best authorities, has a selective affinity for the cells of nerve-tissue. It acts directly on the substance of the motor ganglia and produces changes in them. In the cases which recover these changes either are not produced, or they cannot be very lasting ones, as but few cases are on record where, after a cure, the results of the muscular spasms remain. Examples of the longevity of the tetanus bacillus are frequent and undisputed. Hermann Kaposi reports a case where the germ entered the body at the time of an accident which occurred 5½ years previous to his operation. The operation developed tetanus and the case terminated fatally. Another case was that of an officer in the German Army who was injured by a bullet passing through the soft parts of the pelvis and injuring the bones. The bullet was removed at some distance from the point of entrance, and both entrance-wound and wound of removal healed kindly. Two and a half years afterwards, following a hard day's exercise in stormy weather, tetanus symptoms developed, and he died on the fifth day. The surgeon who reported this case believes that this exposure to cold, with a tired-out body, had lowered the resistance of the tissues so that the tetanus germ, which had been present and quiescent during these years, was stimulated into activity, and the tetanus infection took place. There was no other exposure to a tetanus germ that could be discovered after a most careful investigation.

Cheeseman reports a case of tetanus coming on 8 months after vaccination. A number of other cases are on record in which the disease developed several months, or even years, after the known exposure to the bacillus. Dupuytren reports a case of tetanus following an operation. At the autopsy it was accidentally discovered that a tiny piece of a whip was embedded in a scar on the body. From this foreign body tetanus cultures were produced. The patient had complained of neuralgic pains in the scar for the past several months.

Morgan reported a case where a splinter, which had caused a neuralgia lasting 2 months, was removed, and rabbits inoculated with it died in a few days of tetanus.

In this country and abroad numerous well-authenticated cases of tetanus are recorded following vaccination, erysipelas injections, and other serum injections. In many of these the time between the introduction of the serum and the development of the tetanus is of varying length. It is not known how long the tetanus bacillus will keep its vitality in living tissues. Why these bacteria should remain quiescent in the body for

days or months, or even years, and then suddenly become active and produce their toxin, is hard to explain. We can, however, surmise that the resistance of the human body to these germs, as well as others, may through some injury to the tissues or depression caused by an operation, a severe cold, or other irritation, become weakened and thus give stimulus to the bacillus to produce its toxin, and the disease occurs.

As to the point of entrance of the poison, the bacilli themselves in all probability do not enter very extensively, at any rate, the human body. They make a lesion, however, through which the toxin is absorbed. Thalmann, in a large number of experiments on animals, proved that the most favorable point for incubation of the tetanus bacillus and of entrance for its poison was the cavity left after the extraction of a tooth; next most infectious were wounds of the nose and mouth. Injections of the tetanus bacillus into the stomach, the intestine and the urethra gave negative results, even when the lining of these organs had been injured or was diseased. If the breathing apparatus was sound and undiseased, no effect was caused by the inhalation of the germs. In one case where catarrhal inflammation was present infection occurred. Diseased tonsils offer a most acceptable road of entrance to the toxin.

For my own cases there are only two possible explanations for the origin of tetanus—either want of proper disinfection against this germ, or a preceding exposure, the bacillus remaining innocuous until excited by the trauma of an operation.

As to the asepsis in my patients: There had been several instances of slight infection in the operative cases in the hospital, and special pains were taken with these cases in order to prevent further infection. The patient, the field of operation, the hands of the operator and his assistants, the instruments and the dressings were carefully prepared and rendered as near aseptic as practicable methods could devise. Other patients were operated upon on that day, the days preceding and the following days under as near as possible the same conditions, and no other case of tetanus developed.

As regards a dormant bacillus, the cases in the literature cited above would seem to prove that such a proposition is possible, and indeed much more probable than that infection took place at the time of operation. In the first case reported by me—that of P. H.—the cavities left by extraction of her teeth several months before may have been the starting point of this disease.

Treatment.—The modern treatment of tetanus resolves itself into two classes—preventive treatment by means of vaccination, and treatment after the disease is present. Preventive treatment should be carried out wherever there are cases of tetanus in the hospital or in the neighborhood of an operation; where there is a history of exposure, however remote, in a given case for operation; or in an accidental wound; in those districts where tetanus is common; or in injuries where the wound has been contaminated with earth in any way. The injection is harmless, if it be a definite and well-prepared antitoxin, and the probability of its success is great. Tizzoni reports two cases infected with a very virulent tetanus culture. Both were students in his laboratory. Antitoxin was used subcutaneously. One, in which it was used on the third day following the infection, had very slight symptoms and recovered. The other case was injected within 24 hours; at the end of 13 days he had slight convulsions of the

muscles of the extremities, and recovered without further symptoms. Bazy, in his surgical clinic, when he thought there were conditions favorable to tetanus, immunized all his cases before operation by injections of the serum. In his 23 cases none had tetanus; while, under exactly similar conditions in the preceding year, not having taken antitetanic precautions, he had four cases. In a tetanus epidemic in Prague, at one of the obstetric clinics, for nearly a year all antitoxic measures failed to prevent the appearance of new cases. After preventive vaccination was used in every woman before confinement, there were no cases; while in the neighboring clinics there were numerous instances.

When tetanus is present, it can be treated in three ways: By medicines, usually in the form of sedatives; by injections of antitoxin; and by a combination of the two methods. A fourth way is by the injection of some antiseptic solution, such as bichlorid of mercury or carbolic acid, or by extractives, such as brain emulsion; these substances, however, have not proved satisfactory, and in several recorded cases this method has done positive harm. Inasmuch as the antitoxin affects at once the tetanus poison in the circulation and destroys it as rapidly as it arrives, it is unnecessary to reopen healed wounds to disinfect or to excise them, nor is it necessary to amputate members of the body; the antitoxin being able, as soon as injections are begun, to take care of and neutralize all the toxin as fast as it is produced.

The drug treatment consists almost entirely of sedatives in large doses; the heart's action being kept up at the same time with stimulants, introduced by rectum, if necessary, and digitalis and nitroglycerin by hypodermic medication.

The serumtherapy offers very favorable prospects for the cure of tetanus. In experiments made upon animals, it was found that the injections of antitoxin would either save them from infection, or cause a cure after the outbreak of convulsions. The serum must be of a high class and of a definite quality. It has no specific poisoning effect on the organism. Steuer proved that a neutralization of the toxin by the antitoxin takes place in a thoroughly mechanical manner; this new combination being in itself harmless. Antitoxin affects only the toxin in circulation, not that already taken up by the nerve-cells. We cannot act by injections upon the poison already in combination with the protoplasm. The serum must be absolutely sterile. If possible, the first injection must be given inside of the first 24 hours after the outbreak of the symptoms, and must be copious in quantity. It can be given either subcutaneously, intravenous, subdural, or intracerebral. Subcutaneous injection is used principally in the preventive treatment and is of little benefit after tetanus has appeared; it must be used in very large doses. The intravenous is somewhat more favorably looked upon, but must also be used in large quantities, and is not as effective as the remaining two classes of application. The best injection of all is the cerebral injection, which demands, however, a special technic for the carrying out of the operation, as the antitoxin serum must be introduced into the lateral ventricle itself. This can be best done according to the methods of Alexander Fraenkel or Albert Kocher. Dr. Frank Hartley, of New York City, has recently perfected a new method by which he is able definitely and certainly to inject the antitoxin into the lateral ventricles. The subdural, or spinal, method is explained by its name, the antitoxin

being introduced beneath the dura, through a spinal foramen.

The quantity of antitoxin injected by either of these methods depends somewhat upon the severity of the symptoms, bearing in mind that a proper serum is harmless and too much cannot be given. Some authors advise that the intracerebral injection should be assisted by copious subcutaneous and intravenous, as well as subdural injections.

Together with the serum treatment, chloral and the bromides should always be used. This combination-method offers the best hope of favorable result.

Our antiseptic measures against a germ as tenacious of life and as virulent as the tetanus spore is known to be, are not satisfactory and complete. The ordinary disinfection of the hands and the wound location as practised in the hospitals and in private cases will not destroy this bacillus; and until we have some more certain way than that at present in use, we can never be sure, in the presence of this bacteria or its spore, of preventing tetanus. I present, therefore, for your consideration these few suggestions as to the preventive and curative treatment in operative cases where a possible tetanus germ is lurking.

ADHESION OF THE SOFT PALATE TO THE POSTERIOR WALL OF THE PHARYNX.

By AUGUSTUS KOENIG, B.S., M.D.,

of Philadelphia.

THE influence of nasal obstruction upon the general health and the comfort of the individual is a very profound one and one whose dangers should not be overlooked.

When nasal breathing is impossible, it must of necessity be supplanted by mouth breathing, the evils of which are very obvious. Firstly the air which in our cities and workshops is thoroughly dust-laden, is taken directly into the pharynx, trachea and lungs, instead of being first filtered of its foreign particles by the air-passages of the nose. As a result the dust particles set up an irritation of the throat and lungs. Within certain limits, of course, the respiratory mucous membrane is able to rid itself of and to throw off these foreign substances, ciliated epithelium lining the trachea being especially constructed for this purpose. Should this irritation, however, be continued indefinitely a chronic catarrhal inflammation will be the result, and a condition will be present closely allied to colicosis or anthracosis. Secondly, the air entering the pharynx directly is dry and either hot or cold, depending upon the temperature of the surrounding air and the season of the year. In this case the nose is not capable of carrying out its function of equalizing the temperature of the inspired air and of moistening the same. These factors are all very potent in producing, as a predisposing cause, pneumonia, bronchitis, laryngitis, tuberculosis, etc.

Aside from the possible production, secondarily, of these diseases, profound constitutional symptoms will be present, such as anemia and emaciation, which cause lassitude, headache and a general inability to perform both mental and physical work properly. These conditions are inevitably the result when the blood is not properly oxygenated; and proper oxygenation cannot take place in a lung whose mucous membrane is in

a chronic catarrhal state, and where a sclerosis or overgrowth of connective tissue has taken place.

These facts will be illustrated by the following case, in which there was practically a complete nasal obstruction, owing to an adhesion of the soft palate to the posterior wall of the pharynx. Operation in this case was followed, not only by local improvement, but also by a very marked improvement in the general health.

Mr. R. C., in October, 1898, presented himself for examination and treatment. His father died at 62 and his mother at 40 years of age. They both died of diseases which were unknown to the patient. There was probably no tuberculosis or cancer in the family history. The patient is 34 years old, was born in Glasgow, Scotland, and is a machinist by trade. Measles is the only disease of childhood from which he suffered. When 11 years old he caught cold, which resulted in an ulcerated sore throat lasting 8 months. In healing, union took place between the soft palate and the posterior wall of the pharynx, completely closing the posterior nares, and also attended by total loss of hearing. There is absolutely no history of syphilis. The patient went to the Western Infirmary of Glasgow for treatment. Some polypi were removed and his throat operated upon, but apparently with little success, as far as the breathing was concerned. The hearing, however, was greatly improved after the operation. In October, 1898, I found on examination that the anterior nares were fairly clear. There was an adhesion of the palate to posterior wall of the pharynx, extending from the right side to within $\frac{1}{4}$ inch of left side. The communication between the nose and mouth was scarcely enough to admit a retractor. Nasal breathing was almost completely abolished. By a great effort the patient was able to draw a small amount of air through the nose. Owing to the mouth-breathing, the mucous membrane of the pharynx was atrophied, dried, parched, and shining. The patient was very thin and pale from the anæmia. He was easily fatigued, and it was only his strong will power which enabled him to carry on his work successfully.

No general anæsthetic was given for the operation, but the parts were thoroughly cocainized with a 5% solution of cocain. The separation of the soft palate from the wall of the pharynx was begun with a properly curved pair of scissors. After the opening was considerably enlarged the total separation was accomplished by an instrument which I had made, having the general curve of a Gottstein curet, but having a double lateral cutting edge. The cocain had such a contracting influence upon the capillaries that the bleeding was not at all excessive.

After the operation the soft palate was freely movable and the patient was gratified by being able to draw his first good breath. By means of a Belloque's canula a thread was passed through the nose into the mouth. An antiseptic gauze plug was attached to this and the nasopharynx well plugged to prevent hemorrhage. This plug remained in situ for 48 hours, when it was removed and the cavity well cleansed with Dobell's solution and covered with a powder of aristol and tannic acid.

The gauze plug was not used after the first 48 hours, but it was replaced by a hollow silver plug which was specially made to fit the cavity.

Through this silver plug the patient was able to breathe perfectly, and yet the freshly cut surfaces were held apart and thus prevented from reuniting. By means of a spray the patient was able to keep the parts clean. Healing took place in 3 weeks.

Twenty months have elapsed since the operation and there has been no return of the trouble.

Formosa.—News has been received at the Western coast of America of a fresh outbreak of the plague, 7 deaths having occurred in 7 days.

THE TREATMENT OF ERYSIPELAS.

By N. G. KEIRLE, JR., M.D.,

of Baltimore, Md.

Physician in charge, Bay View Hospital.

DURING the last fifteen months we have treated about 30 cases of erysipelas by the following method, and with such uniform success that we no longer fear the disease. In fact, not a single case has failed to yield to treatment in a few days, usually three or four.

The affected area is first enclosed in a painted ring of tincture of iodine. The ring is not to be started at the margin of the reddened area, but from 2 to 3 inches from it, and a sufficient number of coats should be applied to cause a slight desquamation of the upper layers of the skin. At the same time the whole surface enclosed in the ring is to be covered with an ointment of ichthyol, about 1 dram to 1 to 2 ounces of vaselin. This is covered with a piece of gauze and a hot stupe applied and changed about every 4 hours. At the end of 12 hours the ichthyol ointment is washed off and a fresh coat applied, and if the iodine has not had sufficient effect, one or more new coats are applied. Internal treatment may or may not be instituted, as the result is the same in either case. Although both iodine and ichthyol are used in the treatment of erysipelas we have not heard of any cases treated as above. In our cases three or four days of this treatment have not failed to stop the trouble, the inflammation not crossing the painted line of iodine except in one case, in which another ring painted further out, and the same treatment as at first, effectually stopped the spread of the trouble. We make no claim to originality, but cannot remember having seen the above used, and the success is so uniform that we offer it as a suggestion to those who have had trouble in checking this, at times, troublesome disease.

Wound of the Left Vertebral Artery.—Bouchaud reports (*Revue de Med.*, Nov. 10, 1900) the case of a man, aged 40, who, in Nov., 1896, was stabbed during a quarrel in the upper portion of the left side of the neck. Two days after the accident he had partial loss of consciousness, which lasted 8 days. In the beginning, all 4 limbs were paralyzed as were also the muscles of the trunk and of the neck. The paralysis was flaccid, and was unaccompanied by rigidity or convulsions. For 15 days the patient had retention of urine with incontinence, and pronounced respiratory difficulty. Sensation was almost completely abolished, except in the face; but, nevertheless, he had for nearly 4 months sharp lancinating pains in the shoulder, back, and feet. There was no vomiting, no difficulty in swallowing, and there were no bedsores. The symptoms disappeared gradually, and at the end of 7 months the patient began to walk. In April, 1898, examination showed a scar just behind the mastoid process. The patient could walk, although his legs were weak, but the patellar reflexes were normal. The hands were weaker than the legs, and the dynamometer showed greater weakness in the left than in the right hand. Sometimes there were involuntary contractions of the fingers and frequent twitches in different parts of the body. Speech was somewhat embarrassed. There was a marked change in the general sensation, except in the face, but sensations of heat and cold were readily perceived, and sensation produced by the prick of a pin was exaggerated. While he could walk, the patient could not tell the character of the material on which he stepped. The respiratory, circulatory, and digestive functions presented nothing abnormal. In October, 1898, the symptoms were less marked. The author believes that the vertebral artery was wounded, and that the blood was effused between the dura mater of the cord and the vertebrae; the resulting compression of the spinal cord producing the symptoms. [J. M. S.]

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The Method of Transmission of Yellow-fever.—

In 1881, Charles Finlay, of Havana, first conceived the idea that the yellow fever organism was conveyed from patients to nonimmunes by mosquitoes. He tells us in his address before the Pan-American Medical Congress at Havana that this idea first occurred to him upon studying a report published by the Navy Department in 1880 "On the Yellow Fever on the United States Steamship *Plymouth*." In a footnote in this report is contained the following opinion of Dr. Bemiss: "The poison of yellow fever is reproduced chiefly, if not wholly, in the body of the patient, but undergoes some change after it escapes from the body which increases its toxic quality." This statement gives no clue to the mosquito theory of transmission, but it is interesting in that it suggested the line of thought which led to Finlay's theory. There had been previous observations on the increase in the number of mosquitoes during yellow fever epidemics, but to Finlay belongs full credit for the development and exposition of this view. For many years he was met by strong opposition, but continued his experimental studies. In June, 1900, the Surgeon-General of the United States army appointed a board for the purpose of pursuing scientific investigations with reference to the acute infectious diseases prevalent in the Island of Cuba, which was composed of Dr. Walter Reed, Dr. James Carroll, Dr. A. Agramonte and Dr. Jesse W. Lazear. According to its preliminary report (PHILADELPHIA MEDICAL JOURNAL, October 27, 1900) the Commission failed to isolate the *Bacillus icteroides* either from the blood during life, or from the blood and organs of cadavers. They turned their attention to Finlay's theory, being impressed by the brilliant work of Ross and the Italian observers in connection with the mosquito-malaria theory. They felt justified in concluding that Finlay's view was the correct one and they formulated this opinion by stating that "the mosquito serves as the intermediate host for the parasite of yellow fever, and it is highly probable that the disease is only propagated through the bite of this insect." Many yellow fever experts did not believe that the Commission was fully justified in its conclusions from the facts at hand. There was a feeling that some other means of infection than the mosquito might have been responsible for attacks observed. However, the Commission continued its work with unremitting zeal, and its Additional Note

upon "The Etiology of Yellow Fever," read before the Pan-American Medical Congress in Havana and published in the *Journal of the American Medical Association* (February 16, 1901), confirms beyond peradventure the correctness of the original views. These conclusions are well worthy of repetition. It is now determined that the *Culex fasciatus* serves as the intermediate host for the parasite of yellow fever, and it is also determined that this variety is identical with the so called *Culex tiniads* as described by Giles. Theobolt (according to Howard) separates *Culex tiniads* from the genus *Culex* and places it in a new genus, *Stegamina*. It may now be accepted that malaria has a genus of its own, *Anopheles*, and yellow fever, the genus *Stegamina*. Yellow fever, they have shown, is transmitted to the nonimmune individual by means of the bite of a mosquito that has previously fed on the blood of those sick with the disease, and it appears necessary that an interval of about twelve days must elapse before the mosquito is capable of conveying the infection. The bite of a mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack. The Commission have also succeeded in producing yellow fever experimentally by the subcutaneous injection of blood taken from the patient during the first and second days of the disease, and it has also determined that an attack of yellow fever produced by the bite of the mosquito confers immunity against the subsequent injection of the blood of an individual suffering from the non-experimental form of this disease. They have further proven that the period of incubation, in 13 cases of experimental yellow fever, has varied from 41 hours to 5 days and 17 hours. Most important is their conclusion that yellow fever is not conveyed by fomites and that it is consequently unnecessary to disinfect articles of clothing, bedding or merchandise supposedly contaminated by contact with those sick with the disease. They observe that a house may be said to be infected with yellow fever only when there are present within its walls mosquitoes capable of conveying the parasite of this disease. In consequence the spread of the fever must be controlled by measures directed to the destruction of mosquitoes and the protection of the patients against the bites of these insects. The Commission seems to have established definitely the mode of propagation of yellow fever, but they have shown that the specific cause of the disease remains to be

discovered, thus summarily disposing of Sanarelli's claims.

Dr. John Guit  ras, a well-known authority upon yellow fever, was one of those who at first opposed the mosquito theory, and especially the conclusions which the Commission set forth in their preliminary report. In a recent contribution to *Revista de Medicina Tropical* of Havana, however, he accepts unreservedly the later conclusions of the more elaborate studies of the Commission. It will be seen that scientific research has accomplished more of practical value from the study of the theory of infection than from the bacteriological causes of disease.

This subject opens a vast field for preventive medicine, and it would seem reasonable to assume that enteric fever may soon be included in the category of those infections whose transmission is brought about, and in consequence, the epidemic character maintained in part by flies, gnats or other insects. It is interesting to conjecture whether in the case of enteric fever the offending insect will be found to be of one variety as in yellow fever and malaria.

The Literary Morals of the Antivivisectionists.—

Dr. Keen's reply to the Antivivisectionists (published in this number of the JOURNAL) is more than a criticism; it is in itself a fine example of human vivisection. It is not quite so bad as cruelty to animals, because animals at least are always ingenuous and innocent, whereas these particular antivivisectionists are, as Dr. Keen shows, just the reverse. The scarification administered to Mr. James M. Brown, is fortunately done by a surgeon so eminent as Dr. Keen, so that Mr. Brown will have no occasion to complain in the future that he was not scarified by skilled hands. When the President of the American Humane Association again takes up the cause of suffering humanity he will have himself to attend to first, and when he wishes to find an example of a surgeon who can dissect a man alive, his thoughts will doubtless revert instinctively to Dr. Keen.

As for the controversy itself (if that can be called a controversy which is rather a case of literary detective work) we cannot do better than refer our readers to the letters themselves. Dr. Keen shows, with a precision and scorn worthy of Junius, that the antivivisectionists in their pamphlet had descended to the methods of literary dissimulation. In a perverted cause, which they proclaim to be one of truth and humanity; they have employed the weapons of misrepresentation and false witness. With the merits of vivisection, as an absolutely essential aid to scientific medicine, we are not at present concerned—neither are we concerned with the merits of the antivivisectionists, for those persons among them who are responsible for their pamphlets, have apparently no very conspicuous merits to speak of. We are quite willing to accord to public opinion and to the law-making powers the right to demand full knowledge

on this whole subject of vivisection. We can quite readily concede that as a method of science it may be subject to occasional abuse, and should be properly supervised by law; we can even understand that the sympathies of some high-minded persons are not unnaturally stirred by the exaggerated tales from the laboratories; but, with all this, we cannot sufficiently condemn the ignorance, willfulness and perversity of persons who, like Mr. Brown, seek to cast opprobrium upon scientific medicine for its splendid achievements in modern bacteriology and pathology, and who in their so-called logical methods seek constantly, in the language of Socrates, to make the worse appear the better reason.

A Doctor as Major-General.—Among the names of the 16 army officers, recently sent to the Senate by the President for promotion in the U. S. regular army, was that of a doctor of medicine. This is noteworthy because the appointment is in the line, and not in the medical staff. It is unprecedented, so far as we can recall, either in this country or in any other; in fact, in any other country than this such a promotion would, we suppose, be practically impossible. The officer thus distinguished is Dr. Leonard Wood, the well-known military Governor of Cuba. Doctor, or General, Wood is a graduate in medicine of the Harvard Medical School. His distinguished career in Cuba is too familiar to all readers to need to be recalled here. It is sufficient to say that this career has been in both the military and civil service, and not in a medical capacity. We understand, however, that General Wood held the regular army rank of assistant surgeon, and that therefore his promotion by such a great leap has called forth criticism in army circles, in which it is regarded as practically an appointment from civil life to high rank in the regular army. We are not specially concerned here about these caste distinctions, and we see no reason why a medical man should not be thus advanced in a service in which lawyers and business men are sometimes honored with high military rank. General Wood has earned his promotion as clearly as any of the other appointees. It is not unusual for physicians in this country to gain high political positions. They have been members of Congress and Governors of States, and perhaps it is reserved yet for one of them some time to be President. It is highly desirable, in fact, that the profession should be better represented in the civil service of the country, especially in the law-making branches.

The Medical Examination of School Children.—In his very interesting annual report to the Board of Public Education of this city, the president, Samuel B. Huey, Esq., devotes some space to the subject of the medical inspection of school children. He gives some figures which make interesting reading. In the report of the visiting physicians it is shown that from January 1 to

October 31, 1900, there were 3,446 cases of *contagious* diseases detected in the schools of this city. Among these diseases were diphtheria, measles, mumps, whooping-cough, syphilis, impetigo, ringworm, epidemic conjunctivitis, and lice. This is a goodly showing, and would seem to vindicate the wisdom of those who have advocated and succeeded at last in establishing this system of inspection. 212 cases of lice, 116 cases of impetigo, and 753 cases of ringworm, turned loose in our public schools, help to make splendid breeding grounds out of these nurseries of learning for some rather unpleasant affections. Surely no advocacy is needed after this for a thorough system of medical inspection and control. Of noncontagious diseases 2,430 cases were reported—1000 fewer than the contagious cases. This is also significant, for it shows that the more serious affections are in excess of the less troublesome ones. In the JOURNAL for last week we published an interesting paper on this subject by Dr. Greene, Inspector of Public Schools in Boston, in which he describes in detail the admirable system adopted in that city. Boston, we believe, was the first city to adopt a system of inspection; and, it is to be noted, that city is paying its medical inspectors for their valuable services while Philadelphia is still meditating over it. The salaries in Boston, to be sure, are not high, but they are something to the young men who are devoting their time and expert knowledge to the public service. Too much public medical work is already done for nothing by men who can ill afford it, and we do not quite agree with Mr. Huey that the subject is "a many-sided one." We think it is only a one-sided one. If, as Mr. Huey quotes in his report, the work of the medical inspectors during this last year has averted epidemics, this work is worth paying for. If it is desirable that our public schools should not become hotbeds for loathsome diseases and foci from which these diseases can be spread broadcast, then it is also desirable that the educated physicians who give their skilled services should be paid for keeping the schools free from contagion. The janitors are paid for cleaning out; why are not the young doctors? But Mr. Huey promises that the subject shall receive the "thoughtful consideration of the Board." It is but just to the Board to say that the fault is not with it, but with Councils.

Asthenic Bulbar Palsy.—This affection, which is a good example of a bad disease with a worse name, has recently been interesting the neurologists, and has been described, with reports of cases, by Dr. Charles W. Burr and Dr. D. J. McCarthy, in the January number of the *American Journal of the Medical Sciences*. We are inclined to criticise the name—a name for which Dr. Burr and Dr. McCarthy are not responsible—because, first, most if not all paralytic affections are in their very nature *asthenic*, and therefore this term as applied to this disease is not sufficiently distinctive;

and, second, because this particular disease, while often presenting bulbar symptoms, is by no means confined to the medulla oblongata, and is sometimes apparently not even distinguished by marked bulbar involvement. The name *myasthenia gravis* is better in some respects and worse in others, for while the disease is sufficiently grave it is probably not located in the muscles.

Asthenic bulbar palsy was first described by Wilks in 1877, and about 60 cases have since been put on record. It is, in brief, a disease marked by progressive weakness, involving often the extremities, and accompanied, as a rule, with such bulbar symptoms as tremor and weakness of the lips and tongue, and impaired deglutition; also, in some cases, with slight involvement of the orbital muscles. The reflexes may be preserved or even exaggerated. The disease seems to be confined largely to the motor neurons, but sensation may in some instances be somewhat impaired. At autopsy but little is discovered to account for the symptoms, and in this respect the disease has been something of a mystery. Dr. Burr and Dr. McCarthy in one of their cases found no gross lesions, but under the microscope they observed chromatolytic changes, with swelling and displacement of the nuclei, in the nerve cells in the medulla oblongata. In the tenth nerve atrophy of some fibers was observed, and very slight changes in the twelfth. The muscular fibers were normal. It is thus seen that astonishingly little was observed to account for a disease which was evidently capable of making extensive ravages of a most minute kind in the nervous system, and yet of leaving few traces of its destructive course. In discussing the disease the authors feel compelled to fall back upon general physiological and pathological laws, and to draw inferences from analogous affections. They conclude that the disease is probably located in the motor neurons, and that it is due to the activity of some toxin. It is not confined to the motor neurons arising in the bulb.

We think these conclusions are just, and that asthenic bulbar palsy may be relegated to that class of insidious disabling affections which are to be regarded as in a general way due to some intoxicants. Landry's paralysis, while clinically different, is still in this list, and Bell's mania, although a psychosis, is probably another instance. It may be recalled that some of the most violent poisons, such as those of tetanus and hydrophobia, as well as such drugs as strychnia and morphia, can do their deadly work and leave scarcely a trace behind. With improved microscopic technic we have come far enough to recognize some minute changes in cytoplasm which show these results in dead, not living, matter, but even the most enthusiastic among us will hardly claim that we can read the secrets of many diseases in dead cytoplasm.

Anesthesia from Subarachnoid Injection of Cocaine.—In 1891, when Quincke first proposed lumbar

puncture of the subarachnoid space, he believed that the proceeding would be useful from a therapeutic standpoint. On the contrary, the operation has developed, in the hands of the physicians, into a diagnostic measure of great value. The surgeons, however, have utilized the method for the purpose of injecting cocain into the subarachnoid space in order to produce anesthesia. Tuffier is one of the foremost advocates of this method of producing anesthesia. His first paper appeared in 1899, and has been followed at various intervals by others detailing results of his work. Recently (*Semaine Médicale*, December 12, 1900) he has published the results of 252 operations which he had performed under medullary anesthesia. These operations ranged in severity from curettement of abscesses to gastroenterostomies, 6; nephrectomies, 2; and other intraperitoneal operations, in all, 142. Among the symptoms noted during the period of anesthesia are a slight general malaise and nausea, or vomiting; the latter symptom in 20% of the patients operated upon; the pulse is accelerated and a little soft. After the anesthesia there is a sensation of thirst that lasts 2 or 3 hours, the temperature is frequently elevated, and there is, in the majority of the patients, considerable headache, the pathogenesis of which is unknown. Tuffier considers this method of producing general anesthesia to be perfectly safe, and says that he has never seen the symptoms assume such an intensity that he feared for the life of his patient. So far as extraperitoneal operations are concerned, he thinks that medullary anesthesia will stand favorably in comparison with general anesthesia. He advises only those who are thoroughly familiar with intraperitoneal surgery to employ the method for abdominal operations, on account of the anxiety that would be caused by the nausea and vomiting. There has been but one death after operation done under anesthesia thus produced; the patient succumbed during a journey undertaken after his convalescence. At autopsy, this patient was found to have had serious cardiac lesions with congestion and edema of the lung.

Some surgeons in this country have adopted this method of producing anesthesia when the operation is to be done below the diaphragm. In the *PHILADELPHIA MEDICAL JOURNAL* for November 3, 1900, Fowler gives the results of 41 successful applications of the method; Goldan reports 18 successful cases, and 2 failures; and Keen reports one case that terminated fatally 18 days after the operation, from exhaustion and urinary sepsis. In this case eucain was used instead of cocain. Lee reports 7 cases; Rodman 2; LaPlace 2; and Marx reports 42 cases in which the method was used for the performance of obstetrical operations or to relieve the pain of normal labor. One great objection to the method is the mental anguish that must be produced by the manipulations and the surroundings of the operation. In order to prevent this mental shock,

some operators have blindfolded the patients and stuffed their ears with cotton-wool.

It seems to us that the surgeons are very fortunate not to have had a greater number of unfavorable results following the employment of this method. Of course, a man who undertakes an operation under this form of anesthesia will be extraordinarily careful at first, but as he becomes more used to the method, may he not become less particular, and may he not have sepsis as a result? Surely, the introduction of $\frac{1}{2}$ grain of cocain into such an extensive lymphatic space as the subarachnoid space of the cord must be attended with some risk, and what is to prevent dangerous cocain poisoning? Indeed may not the headache, the pathogenesis of which Tuffier is unable to account for, be due to the absorption of the drug? Still, the results so far reported seem to favor the method in some fields of surgery. In a former comment in this *JOURNAL* we called attention to possible psychic or neurotic manifestations, as results of mental shock. In the present number we publish an interesting report of a double amputation of the feet under cocain anesthesia.

The Medical Aspects of the Siege of Peking.—

In the *China Medical Missionary Journal* for January, 1901, there is an interesting account by Dr. Lillie E. V. Saville of hospital experiences during this celebrated siege. The number of medical men and women who were present during the siege was quite remarkable; altogether there were of all nationalities 20 men and women with medical and surgical degrees. On June 21 the International Hospital was organized in the British Legation. Mr. Cordes, who was wounded at the time the German minister was killed, and a Russian student with a penetrating wound of the shoulder joint, were the first patients. Dr. Poole of the British, and Dr. Velde of the German, Legation were on the staff, and Miss Lambert was the nurse. The women doctors were asked to act as nurses, a position which was gladly accepted by them. The impromptu hospital was not so badly off for surgical dressings, as Dr. Velde had a large supply of the kind used in the German army. He had also a sterilizer. Instruments were always sterilized before operations. To most of the medical attendants the experience with shot and shell wounds was new, and they had much to learn. The hospital gradually grew until it included an operating room, five wards, and a convalescent ward for officers and civilians (this last in Lady Macdonald's house), and another for the marines elsewhere. Three American ladies superintended the kitchen, and their work was beyond all praise.

Dr. Saville says that the hospital had first claim to the commissariat stores, and that nowhere else were there such fragrant pony soup and such really eatable mule stew; and these delicacies were so appreciated

that she thought the officers and men considered it worth while to be slightly wounded in order to get a few days of such feeding. Owing to the difficulties caused by diverse languages, the patients were warded according to nationality. Italians and French were put together with a French Sister in charge; Russians were in another room where they were most tenderly cared for by Madame de Giers herself—the Russian Minister's wife. With the Russians were put the Germans, while one room was always full of the bright little Japs. English and Americans naturally went together. There was only one room, however, for officers and civilians, and here were nursed British, Americans, Germans, French, Italians, Austrians, Dutch, Australians, and Russians—a polyglot assemblage. It was wonderful how the stores and supplies were kept up. They represented much self-denial on the part of others and exhibited many expedients. The pillows were made from the packing straw of wine bottles; shirts were made of the best damask linen or of bright yellow cotton. There were few bedsteads; mattresses being placed on the floor, but every wounded man had a mattress with sheets and pillows.

Bullets were rarely hunted for at the first dressing, but, considering the circumstances, a fairly good asepsis was maintained. Flies were the chief plague of the sick. The fighting being done mostly behind barricades, the proportion of head injuries was large. Some cases of recovery are mentioned that are almost marvelous in view of the surroundings. Dr. Saville gives a description of some of these wounds, and says that operations were undertaken for their relief not unsuccessfully amid these distressing circumstances. Two cases of tetanus occurred. One of these happened to a member of the Japanese Legation, his wound having become contaminated by the flies which had laid their eggs under the dressings. These cases of tetanus were fatal. An exciting episode was caused by a case of strychnin-poisoning. A Russian had taken some of the drug from a bottle in mistake for sodium bicarbonate. His life was saved, apparently by chloroform inhalation and induction of free vomiting.

Toward the close of the siege diarrhea and dysentery were prevalent. There were two deaths from the latter disease among the Russians, who were known to be exceedingly careless about their drinking water. There were also three cases of typhoid fever, one proving fatal after the end of the siege. During the siege there was no death in the hospital of any patient who survived his injury 24 hours, excepting in the two cases of tetanus; but two patients died afterwards. Dr. Saville says that the harmony of action among all persons who attended upon the sick and wounded was a striking feature of the siege of Peking. Differences of creed and nationality and of professional status were laid aside, and all worked together with much happiness

and devotion. The report of this noble work deserves to be spread widely abroad.

Forest-camps for Cases of Tuberculosis.—We wish to endorse most heartily the proposition of State Forestry Commissioner, Dr. J. T. Rothrock, to establish camps on various suitably situated forest-reservations in Pennsylvania where tents will be erected for the free use under proper regulations of tuberculous citizens who desire to avail themselves of the benefits of open-air treatment, but are unable to secure other change of climate. Pure air and sunshine constitute a potent factor in the prophylaxis and treatment of tuberculosis, and the plan proposed is entirely in the line of modern practice, from the medical as well as from the philanthropic point of view.

Acute Ulceromembranous Angina in Children Due to the Fusiform Bacillus and Spirillum of Vincent.—Aurel Athenasius (*Gaz. Heb. de Med. et de Chirurg.*, December 30, 1900; 47me Année, No. 104; Paris Thesis, 1899-1900, No. 550) has made a complete study of ulceromembranous angina in children and shows that the fusiform bacillus and the spirillum of Vincent are the specific agents of the disease for the following reasons: 1. The considerable quantity in pure culture of these microorganisms in the false membrane at the beginning of the angina, even before the appearance of ulceration. 2. The almost inevitable association of the bacillus and the spirillum in the false membrane. 3. The absence, or at most the presence of very few microorganisms of the mouth. These organisms have lost themselves in the matting formed by the interlacing of the spirilli and bacilli. 4. The diminution of the number of bacilli and spirilli of which the false membrane is composed as the ulceration proceeds towards cicatrization. 5. The concomitant disappearance of all the signs that give this variety of angina its special aspect. 6. The coincident appearance in the false membrane and in the neighborhood of the tonsils, of a large number of the normal buccal microorganisms that have been supplanted during the disease by bacilli and spirilli. 7. The rapid repair of the lesions at the same time that the specific agents diminish in number. The reappearance of large numbers of specific microorganisms and the extension of the lesions whenever some unfavorable feature interrupts the regular progress of the disease. In order that these microorganisms may become virulent it is necessary that favorable conditions of soil and bacterial association be present. From the clinical point of view the affection may be divided into two periods: First, the period of false membrane formation; and, second, the period of ulceration. Each of these stages of the disease has its special clinical manifestations and the second stage always succeeds the first. The author has never seen cure follow the first period; in all cases ulceration has followed the development of the false membrane. In the stage of ulceration the diagnosis is only to be made from primary or tertiary syphilitic lesions by bacteriological examination of the membrane. Bacteriological examination will also differentiate the disease from diphtheria. The course of the affection is acute and lasts about 15 days. The result is always favorable, and the treatment consists of washing the nose, pharynx, and mouth with a weak solution of permanganate of potassium. [J.M.S.]

Reviews.

Panama and the Sierras. A Doctor's Wander

Days. By G. FRANK LYDSTON, M.D. 12mo, pp. 283. Illustrated from the Author's Original Photographs. Chicago: The Riverton Press, 132 Market Street. 1900. Price, \$1.75. Prepaid.

This interesting little book is not too medical for the laity and not medical enough to tire the physician who desires a few moments of recreation. It comprises a series of interesting anecdotes and reminiscences told in a charming manner. The illustrations are produced from original photographs taken by the author and are quite impressive. The Sierras and the Isthmus of Panama are so ably described that one can almost feel the tropical zephyrs and sunshine. There is an instinctive desire to finish the book after it has been begun, and to describe its contents would be detracting from the interest of those who intend to read it. Concise, witty and instructive, "A Doctor's Wander Days" is a pleasant divertissement after a doctor's busy day. [M.E.D.]

Obstetric and Gynecologic Nursing. By E. P. DAVIS, A.M., M.D. Professor of Obstetrics in Jefferson Medical College and Philadelphia Polyclinic. 12mo, volume of 402 pages. Illustrated. Philadelphia and London: W. B. Saunders & Co., 1901. Price, \$1.75 net.

As is stated in the preface, this volume is designed to furnish instruction as to the various duties of the obstetric and gynecologic nurse, and while dedicated to the training schools of the Jefferson and Philadelphia Hospitals, it can not fail to be of the utmost value to the well trained nurse wherever she may be. It is well-known that too many nurses receive their diplomas with almost no knowledge of obstetric requirements and often with absolutely no obstetric training. The theoretical portion of this defect can be largely remedied by a perusal of Dr. Davis's most excellent book, to the preparation of which he has brought the experience of many years of a large and varied practice. Not only are the duties of a nurse in attendance upon a woman in labor described, but chapters are also given to the nurse's duties in the latter months of pregnancy and when called upon to assist in the various obstetrical and gynecological operations. Numerous illustrations still further elucidate an instructive text, and a system of black captions renders reference easy. The book must fill a long-felt want to both physician and nurse. [W.A.N.D.]

Medico-Surgical Aspects of the Spanish-American War. By LIEUTENANT-COLONEL NICHOLAS SENN, M.D. 8vo, pp. 379. Chicago, 1900.

In this book are collected the letters contributed to the *Journal of the American Medical Association* by Dr. Senn while he was a medical officer in the service of the United States.

Although a considerable part of the book relates to matters of nonprofessional interest, many of its pages deal with subjects of the highest medical importance. Even when the author treats of subjects outside of the domain of medicine he brings to bear upon the discussion his well-known professional acumen. Medical readers will therefore constantly find important professional observations recorded. For example, Dr. Senn speaks of the great number of hernias found in men who had gone through the campaign. The evidence seemed to show that this condition was produced, not by hard marching or violent exertions, but by "the relaxation of tissue, caused by disease and its effects, aided undoubtedly by the prevalence of intestinal affections which must have often resulted in increased abnormal intraabdominal tension."

The frequency of varicocele in recruits was greater than would have been expected. Very few of the cases, however, were sufficiently important to call for active surgical treatment. The infrequency of appendicitis in the many thousand soldiers directly or indirectly under the observation of Dr. Senn is remarkable. He says that at Camp Wikoff not

one case came under his observation which would have justified operation.

A partial list of the titles of the letters will give an idea of the scope of the volume: "Typhoid Fever in the Porto Rican Campaign," "Recent Experiences in Military Surgery after the Battle of Santiago," "The Surgery of Camp Wikoff," "Nurses and Nursing in War," "Physical Characteristics of Ten Thousand Men," "A Compact Operating-Case for Military Service." These titles are sufficient evidence of the value of the book to both military and civil practitioners of surgery.

Dr. Senn's remarks on the qualifications and duties of the military surgeon will appeal to all practical men. He says "The surgeon who understands the principles and practice of good cooking is of more service to the troops than the one who can repeat, word for word, the contents of the most exhaustive treatise on *materia medica* and therapeutics. The medical officer with a full knowledge of hygiene and sanitation and endowed with the faculty of making a rational, practical use of it is preferable to the most expert clinician." [J.B.R.]

The History of Ancient Gynecology. By W. J.

STEWART MCKAY, M.B., M.CH, B.Sc., Senior Surgeon to the Lewisham Hospital for Women and Children, Sydney; Late Surgeon to the Benevolent Asylum Maternity Hospital, Sydney; Fellow of the British Gynecological Society, and of the Obstetrical Society, of London. Pp. 302. New York: William Wood & Co., 1901.

The writer of this work must certainly be credited with enormous patience and industry, all the more remarkable because of the difficulty in obtaining access to the ancient authorities which a residence in Australia must entail. In writing the history of ancient gynecology as it has never been attempted before, he has set down in the form of extracts or summary all of importance that may be found relating to this branch of medicine in the extant writings of Egyptian, Hindu, Greek or Roman authors. He has utilized translations of Egyptian and Arabic authorities, but has mostly consulted originals. A brief sketch is given of the life and works of the more celebrated authors, such as Galen, Hippocrates or Soranus, after which are collected all the statements of each concerning the diseases of women. The writer is able to say that he believes he has neglected no work among ancient classical authors of any importance which contains any passages on gynecology.

While finding little in the Jewish Talmud worth incorporating in his book he notes as a point of interest gathered from the commentaries written in the first five centuries of our era that the Rabbins made many vaginal examinations. They discovered that hysterectomy was possible in animals and had undertaken cesarean section on the living woman. Gonorrhea is also frequently mentioned in their writings. The oldest work on medicine is a papyrus, obtained in Egypt by Ebers in 1872, dating from the sixteenth century before the Christian era. Though the part of the work specially devoted to gynecology has not been preserved, some facts relating to the subject are to be found in the portions extant. There are here references to uterine prolapse, to the use of the medicated tampon, the suppository, the enema, etc. Specialism in medicine is not a modern development, for Herodotus, the Greek historian, says of the to him ancient Egyptians: "Some physicians are for the eyes, others for the head, others for the teeth, others for parts about the belly, and others for internal disorders."

How many centuries has it taken before mankind learned through aseptic methods to read literally these words of an old Greek physician: "The napkins must be kept clean, be of soft texture, as also the linen used for the eyes, and the sponges for the wounds; for these things are of great importance for the healing."

Hippocrates (460 B. C.) describes a method of applying the Trendelenburg position for the treatment of prolapsus uteri which is simple and effective. Cushions were placed on a ladder, the patient tied on by ankles, knees and thighs. One end of the ladder was then raised against the gable end of a house!

In the literature of Hindu medicine, which may antedate Christianity by a thousand years, are references to the trocar for tapping dropsy and presumably ovarian cysts; to the suprapubic operation for stone in women; to the catheter; to nutrient enemata, and numerous instruments, including the three-cornered surgical needle.

The catgut ligature for vessels and the knee-chest position seem to have a very ancient origin. The reader of this most interesting book will surely be inclined to agree with Solomon who wrote that there was nothing new under the sun. Since it is also true, as the same writer has said, that of making many books there is no end, it is helpful for the student of our art to have access to such a collection of data as that here under discussion. Endless research is thus avoided. Many subjects of interest are summarized in closing chapters, but the absence of an index greatly detracts from its convenience for reference. Every practitioner of the gynecology of today may find profitable food for thought in its perusal. Every gynecological writer should have it. [G.E.S.]

A Textbook on Practical Obstetrics. By EGBERT H. GRANDIN, M.D., Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital; Late Consulting Obstetric and Obstetric Surgeon of the New York Maternity Hospital; Late Obstetrician of the New York Infant Asylum; Fellow of the American Gynecological Society, of the New York Academy of Medicine, of the New York Obstetrical Society, etc., etc., etc. With the collaboration of GEORGE W. JARMAN, M.D., Gynecologist to the Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University; Late Obstetric Surgeon of the New York Maternity Hospital; Fellow of the American Gynecological Society, of the New York Academy of Medicine, of the New York Obstetrical Society, etc. Third edition, revised and enlarged. Illustrated with 52 full-page photographic plates and 105 illustrations in the text, 6½ x 9¼ inches. Pages xiv-511. Philadelphia: F. A. Davis Company, publishers, 1914-16 Cherry Street. Price, extra cloth, \$4.00, net; sheep, \$4.75, net.

The authors of this well known and well received book have in the present edition maintained the high standard of their previous work. A chapter dealing with the anatomy of the female organs of generation has been added, as well as a section upon elementary embryology. The illustrations are profuse and are largely taken from photographs of the living subjects, although there still remain some of the original plates of manikin-practice. We regret that, some important subjects are disposed of in rather a summary manner not altogether in accord with the status of a textbook. This is eminently true of affections of the fetus and fetal membranes, no mention whatever being made, for example, of malignant deciduoma, which has of recent years assumed an unusual importance in obstetric and gynecologic surgery. The recent pathologic developments also in the same department do not receive sufficient attention, but from a clinical and surgical standpoint the book is well worth a careful perusal. The text is clear and the mechanical work excellent. [W.A.N.D.]

A System of Practical Therapeutics. Edited by HOBART EMORY HARE, M.D. Second edition, revised and enlarged. Vol. I, with illustrations. Philadelphia: Lea Brothers & Co. Price, \$5.00.

This volume is the first of a practically new system of Therapeutics based on Hare's well-known system which was published ten years ago. It is not a mere reprint, or even a second edition in the ordinary sense, but in many respects is a new work. Nearly one-half of the articles are entirely new and the rest of the material has undergone a complete revision. The scope of the work has been enlarged so as to meet the wants of the practitioner in the entire field of medical and surgical therapeutics. Among the subjects which are presented in an entirely new form are Diabetes

Mellitus, Rheumatism, Spasmodic Croup, Scarlet fever, Measles, Rôtheln and Varicella, Typhoid Fever, Croupous and Catarrhal Pneumonia, Dengue, Influenza, Acute Rheumatism and Tonsillitis, Mumps and Diseases of the Mouth, Diseases of the Liver and Gallbladder, Tuberculosis, Rickets, Scurvy, the Diseases of Pregnancy, Parturition and the Puerperium, Fractures and Dislocation, Antisepsis and Asepsis, Anesthetics, Minor Surgery and Bandaging, Disinfection, Mineral Springs, Swedish Movements and Massage.

In the wealth of material contained in this first volume we are impressed with the value of some chapters especially, and we should like to review them in detail if it were possible. Dr. Edward Martin, for instance, has written on the present treatment of syphilis, and has brought the subject thoroughly up to date and presented it in the most practical and interesting way. He believes that mercury should form the basis of treatment in all periods of syphilis, and that this drug is most efficacious when administered by inunction. As to the hypodermic method, Dr. Martin says that there seems to be no reason for believing that it is likely to be adopted as regular treatment in preference to all others. The special indication for this method is found in those cases in which the seat and rapid advance of the syphilitic lesion are such that the patient's life is directly threatened or he is in danger of becoming seriously crippled. This method is, therefore, in our judgment, especially indicated in syphilis of the nerve centers and probably also of the eye. It is contraindicated when the kidneys are diseased or when the patient is suffering from diabetes or marked visceral lesions, anemia, or systemic dyscrasia.

Dr. John K. Mitchell has written a very full and elaborate article on the Rest Cure. In this he embodies the methods of practice which have been used especially at the Orthopedic Hospital in this city under the supervision of Dr. S. Weir Mitchell.

Dr. Simon Baruch has written the chapter on hydrotherapy. The author's well-known predilection for this system of treatment prepares us to expect the very complete exposition of it which he has given in this chapter. He fails to do justice, however, to the work of Dr. James C. Wilson, of Philadelphia, and a few others, in familiarizing the use of the Brand bath in the treatment of enteric fever. The treatment of diabetes mellitus is described by Dr. James Tyson, of Philadelphia, in the complete manner to be expected of such an authority. The article on the treatment of tuberculosis, by Dr. Flick, is, in our judgment, one of the most valuable and complete in the book. It is a review of the subject which practically leaves nothing out of count, and is based on the most recent and scientific knowledge of tuberculosis as an infectious disease.

Professor Remington has given a most instructive paper on prescription writing and the combining of drugs. This ought to be useful to every physician, if every physician will take the time to read it. It is well worth reading, and some parts of it are not a little diverting, especially the section devoted to faults in prescription writing, with fac-similar illustrations. The whole paper is an admirable account of what may almost be called one of the lost arts.

Another important paper is on disinfection, by Dr. W. M. L. Coplin. The author starts with a statement of the theory of disinfection, and then describes all the processes according to the most improved methods. It is a paper of great practical utility.

Time and space will not permit us to mention in detail all the other papers in this volume. Professor Wood's introductory chapter on therapeutic methods is written with the author's usual acumen and in his well-known style. Dr. James Stewart has contributed a very full paper on rheumatism and gout. Among other papers worthy of special note is the one on mineral waters by Dr. James K. Crook, and the one on diseases of the blood by Dr. Ralph Stockman. If the succeeding volumes of this work are brought up to the standard attained in this first volume, they will constitute a work that will be a most valuable addition to the library of every physician who subscribes for it. [J.H.L.]

The Medical Press and Circular states Sir Thornley Stoker is mentioned as a probable candidate for the vacancy on the Council of the Royal College of Surgeons in Ireland, created by the death of Dr. Jacob.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

Professor W. W. Keen has asked for a leave of absence at the Jefferson Medical College in order to take a long trip around the world. He will start next June, after the meeting of the American Medical Association, and will return in September, 1902, to resume his teaching and practice.

The Mutual Aid Association of the Philadelphia County Medical Society has just received \$3,110.55, which is a part of the legacy under the will of the late Dr. Albert Ericke. This, it is understood, is the Association's share of the amount awarded by the Orphans' Court at the first distribution made by the executor.

Dr. John D. Ross, of Williamsburg, Blair Co., Pa., is the oldest medical practitioner in the State. Dr. Ross graduated from the Medical Department of the University of Pennsylvania in 1832. He is now in his ninety-fifth year and in full possession of his mental faculties. Dr. Ross was president of the Pennsylvania State Medical Association in 1863.

Extracted Wrong Tooth.—Suit for \$5,000 was brought against a Philadelphia dentist for the extraction of a wrong tooth. The plaintiff alleges that the dentist had maliciously extracted the tooth, but it is said that the testimony showed that the patient was taken to the dentist's office by his father, that he pointed out the tooth to the dentist, and that the latter had by mistake extracted another tooth.

Dr. William H. Egle, genealogist and historian, died February 19, at Harrisburg Pa. He was graduated from the Medical Department of the University of Pennsylvania in 1859. In 1863 he was appointed surgeon of the Forty-seventh Pennsylvania Regiment, and served until December, 1865. In March, 1887, he was appointed State Librarian, which position he held for 12 years. He was the author of a history of Pennsylvania, and a large number of other historical publications.

Free Hospital for Consumptives.—The Committee on Appropriations at Harrisburg, has decided to recommend \$50,000 for the establishment of a free sanitarium at White Haven, near Glen Summit. The appropriation, it is proposed, shall be made available in two annual installments of \$25,000 each. These recommended appropriations will be in addition to the original award of \$10,000 for the treatment of incipient cases, endorsed by the Legislative Committee having in charge the apportioning of the State's funds.

Philadelphia Neurological Society.—At the stated meeting to be held February 25, at 8.15 P.M., in the hall of the College of Physicians Drs Wm. H. Zeller and F. X. Dercum will exhibit **A case of astereognosis** and Drs. GEORGE L. WALTON and WALTER E. PAUL, of Boston, will, by invitation, read a paper entitled **Astereognosis, with illustrative cases.** The presence of members of the profession is cordially invited. At the close of the meeting a reception will be tendered Drs. Walton and Paul at the University Club.

Medical Alumni Meet.—The Philadelphia Alumni of the Medical Department of the University of Pennsylvania met February 16 at the Bourse, and heard a lecture given by Ernest W. Kelsey, of the Class of '94, in association with William C. Henderson, detailing two years' experience in the Alaska gold fields. The lecture was illustrated with lantern slides. A communication was received from Provost Harrison advising the appointment of a committee to consider the best way of raising funds for the building and endowment of a new medical laboratory. A committee will be appointed by the executive board of the association.

The Rush Hospital.—The annual meeting of the corporation of the Rush Hospital for Consumption and Allied Diseases, of Philadelphia, was held February 19. There was no opposition to the reelection of the old board of officers, as

follows: President, Hon. William N. Ashman; secretary, Nathaniel E. Janney; treasurer, E. A. Sobernheimer; trustees, Jeremiah J. Sullivan, Samuel Castner, Jr., Rev. Thomas J. Barry, Frank Read, Dr. James Tyson, Miss Mary S. Buckley, Barclay H. Warburton, W. H. Staake, George W. Farr, Frank A. Sobernheimer, Edmund G. Hamersly, Emma A. Duffield, Mrs. George Pierce and Kenneth M. Blakiston.

Berks County Medical Society.—At the February meeting of the society Dr. HUNSBERGER, of Blandon, read a paper on **Delirium tremens**, in which he compared the symptoms in a measure to uremic poisoning. When diaphoresis could be established the patient improved. He cited a number of instances of men who were heavy and constant drinkers, who did not have the delirium simply because they were working before a hot blast furnace, which caused them to perspire very freely, and thus to unload the poison by the skin. His plan of treatment is rest in a dark room, diaphoresis, purgation, diuretics, hydrate of chloral, only in a few doses early, and digitalis in a few doses. Bromides of potassium and sodium and morphia to produce sleep if necessary.

Vital Statistics of Philadelphia for the week ended February 16, 1901:

Total mortality	CASES.	DEATHS.
Inflammation of appendix 3, bladder 1, brain 12, bronchi 13, kidneys 21, lungs 94, peritoneum 4, pleura 3, stomach and bowels 17, spine 2		170
Inanition 17, marasmus 8, debility 4		29
Tuberculosis of lungs		68
Apoplexy 25, paralysis 8		33
Heart—disease of 33, fatty degeneration of 3, Uremia 12, diabetes 2, Bright's disease 12		36
Carcinoma of stomach 4, uterus 2, liver 2, pancreas 1, rectum 1		26
Convulsions 11, puerperal 1		10
Diphtheria	91	12
Brain—softening of 2, congestion of 2, disease of 2		11
Typhoid fever	61	6
Old age		7
Suicide		17
Alcoholism		5
Cyanosis		2
Scarlet fever	62	7
Influenza 16, aneurysm of aorta 2, asthma 2, casualties 5, congestion of lungs 3, childbirth 2, cirrhosis of the liver 2, croup 3, membranous croup 3, diarrhea 2, dropsy 1, dysentery 2, epilepsy 1, erysipelas 4, hemorrhage from stomach 1, from uterus 1, hernia 2, leukemia 1, poisoning 2, arterial sclerosis 2, spine 1, shock 2, septicemia 3, suffocation 2, whooping-cough 3		10
		73

County Medical Society.—The treatment of tuberculosis of the glands of the neck with minimal scarring, by Dr. G. BETTON MASSEY, was the first paper at the meeting of February 13. Because of the author's illness the paper was read by Dr. E. R. KIRBY. The method is offered as a substitute for cutting operations, which leave unsightly scars and is a modification of the cataphoric method for treating cancer. The destruction of the tubercle bacilli by nascent oxychloride of mercury is the principle upon which the operation is based. A small opening is made through the skin and the wound cauterized sufficiently to keep it open for drainage. Through this opening is introduced, at intervals of a few days, a gold electrode amalgamated to hold as much mercury as possible. A current of 2 to 10 milliamperes is passed for 10 minutes. The sinus drains the products of the dead bacilli. Two cases of cure by this method were reported. The resulting scar is a mere point. Dr. J. H. GIBBON said that two points seemed worthy of comment. The first is that tuberculous glands are rarely single and unless the results of this treatment extend to others than the one to which application is made its efficacy is not assured. Again, simple drainage often causes such glands to shrink without any applications. Dr. HAMMOND believes the condition is one which should not be irritated by such a method. The capsule is broken down and spreading of the process is more likely. The tuberculous process can be spread by the caseous matter formed, as well as by the bacilli themselves.

Dr. A. R. MOULTON reported a case of **Rupture of the rectum and hernia of the intestine in an insane man.** The patient was a man of 34, an inmate of the Pennsylvania Hospital for the Insane, who had induced a rectal prolapse by means of his hands. On November 20, 1900, the rectum ruptured and a loop of small intestine and mesentery, 2 feet in length, protruded. Shock was profound and death followed in 36 hours.

Pathological Society.—The meeting of February 14 was opened with a paper by **DR. ALBERT WOLDERT**, who showed **original specimens of zygotes of estivo-autumnal malarial parasites in the middle intestine of the mosquito.** Specimens of the **anopheles** were secured from breeding places within the city limits, allowed to bite patients having malaria, and were then dissected after 4 or 5 days. After several unsuccessful trials, zygotes were found. Search for mosquitoes showed that the **anopheles** was present in every locality where malaria was endemic, but was also found where there was no malaria, one such place being in the Pocono Mountains, 3,000 feet above sea level.

DR. D. L. EDSALL read a paper on **The diagnosis of pancreatic disease by the estimation of the urinary sulphates and of the fecal fat.** Two cases were reported. In one case there were stomach symptoms, jaundice, and other signs of pancreatic disease. Examination of the urine showed that the ethereal sulphates were less than half the normal quantity, the ratio between the ethereal and the preformed being 1 to 20 or 29, instead of 1 to 10. Autopsy showed carcinoma of the head of the pancreas. In the second case the ethereal were above normal. The patient recovered apparently having had only an attack of catarrhal jaundice. The estimation of the sulphates is of real value only when a positive result is obtained. When the test is negative, very little attention should be paid to it. When positive it is not of much value if the patient be on restricted diet. It is also to be considered in relation to the conditions which so often accompany pancreatic disease—constipation, icterus, cachexia, etc. These all tend to increase the sulphates. A decrease when these conditions are present is of diagnostic importance. Indicanuria is not considered of diagnostic value in any disease. Regarding the presence of fat in the stools there is a widespread belief among students and even practitioners that this means pancreatic disease. This is not true, as there is fat in normal stools. The importance of icterus as a cause of fatty stools was emphasized. In the second case before mentioned the stools contained a very high percentage of fat. The conclusion reached is that fatty stools are not of much importance in proving the existence of pancreatic disease. **DR. WADSWORTH** believes that indican is of value as a sign and the short time needed to make the test is in its favor. The formation of sulphates is dependent on a catarrhal coating of the intestine. The amount of fermentation present depends on the rate of motion in the intestines. Sluggish motion of the intestines, catarrhal coating, etc. must be taken into account when studying liver or pancreatic disease.

DR. JAMES H. LLOYD reported a case of **Extensive sinus thrombosis caused by long-standing middle ear disease.** The case was reported as one unusual in its etiology, symptomatology, and pathology. The patient was a woman of 34, who had been deaf in both ears since an attack of measles in early childhood. The case was an obscure one, having been sent to the hospital as one of typhoid fever, autopsy showed a chicken-fat clot in the right lateral sinus.

DRS. J. H. GIRVIN and J. D. STEELE reported a **carcinoma of the pleura diagnosed by tissue removed in tapping.** The patient is a woman of 50 who had pleurisy 3 years ago. There are now lumps in the right breast and the axillary glands are enlarged. Tapping removed 27 ounces of bloody fluid and a long thin piece of tissue, which on examination proved to be carcinoma.

DR. RANDLE C. ROSENBERGER showed specimens from a **sarcoma of the mediastinum of a rhinoceros.** The animal had died recently in Zoological Gardens, presumably of old age, as it was nearly 100 years old. Examination showed a small round cell sarcoma of the mediastinum. It had caused no symptoms and no metastasis was noted.

NEW JERSEY.

State Board of Health.—The New Jersey State Board of Health is considering the advisability of disinfecting the books used in circulating libraries of that State, and has decided that they must be fumigated at regular intervals.

Atlantic City Medical Society.—At the annual meeting the following officers were elected: President, Dr. Theodore Boysen, of Egg Harbor City; vice-president, Dr. W. K. Darnall; secretary and treasurer, Dr. Theodore Senseman; reporter, Dr. A. B. Shimer.

Smallpox in Woodbury.—The appearance of smallpox in this city has occasioned a feeling of alarm among the residents. Two cases are reported, remote from each other. Both patients are school boys. A special meeting of the Board of Health and Board of Education was held, and it was decided to recommend a general vaccination.

NEW YORK.

Appointment.—Dr. Daniel W. Marston has been appointed visiting surgeon to the Randall's Island Hospital, by the New York Department of Public Charities.

Red Cross Hospital.—The sum of \$100,000 raised by private subscription has been used to purchase a plot of ground in New York City on which a Red Cross Hospital and Home for Red Cross Sisters will be erected. The additional \$60,000 required to build the hospital and home will be raised in the same way.

New Mount Sinai Hospital.—Preliminary and foundation plans for nine new hospital buildings, to be erected for Mount Sinai Hospital, on the block bounded by Fifth Avenue, Madison Avenue, One Hundredth and One Hundred and First Streets, were submitted to the Department of Buildings. The buildings will be built of brick, with terracotta trimmings, and have been estimated to cost \$1,600,000.

German Hospital.—The thirty-first annual report of the Board of Trustees of the German Hospital and Dispensary of New York City states: During the past year, according to the report, 3,352 patients were treated at the hospital. Of these 2,447 were free patients. In the dispensary 22,595 patients received treatment free of charge. The expenses at the hospital amounted to \$79,405, making an average of \$1.20 a day for each patient. During the year the hospital received \$10,047.50 in legacies and \$4,963.80 in donations.

Albany Hospital for Incurables.—A tract of land was purchased recently by the trustees of the Albany Hospital for Incurables. The modern pavilion system connected by corridors will be utilized. The work has been incorporated under the direction of Messrs. M. T. Hun, L. G. Hun, Wheeler B. Melius, Daniel Casey, with the approval of Judge William L. Learned. The incorporators are William H. Murray, M.D., Robert Geer, John W. McNamara, John H. Farrell and Charles N. Phelps.

New York Neurological Society.—Stated meeting February 5, 1901. Dr. Joseph Collins, President.

A Case of Locomotor Ataxia Trained by the Fraenkel Method.—**DR. A. WIENER** presented this man. He had been under this system of training for about one year, and while ataxia was still present, he had been very greatly improved, and was now able to go about even at night unaided. There had been no other treatment for the tabes.

Sarcoma of the Brain.—**DR. A. WIENER** also presented a pathological specimen from a person, 17 years of age, who had first come to him about November 1, 1898. There was an absolutely negative history of alcoholism and syphilis. About 2 years before this time the patient had suffered from a severe fright, and almost immediately thereafter had had a severe convulsion. Nothing further had been noticed until the summer of 1898 when she had suddenly developed a difficulty of speech, with right facial palsy. She had suffered from bad headaches frequently for 3 months previously. On coming under observation, there had been excruciating pain over the occipital region, complete deafness in the right ear and a bulging of the tympanic membrane. The right sterno-

mastoid muscle had been in a state of constant contraction, and there had been a double optic neuritis, most marked on the right side. The voice was hoarse. Neither the upper nor the lower extremities had suffered any loss of power. There was no swaying when the eyes were closed, nor was there any bladder trouble. Her temperature was 100° F. The seventh, eighth, ninth, tenth, eleventh and twelfth nerves were affected on the right side, and the sixth nerve on the other side. On November 8, a slight ptosis had been noticed, and the twelfth nerve palsy had become more marked. On November 28, there had been vomiting, vertigo and an increase in the ptosis of the left eye. On December 8 there had been complete third nerve palsy on the left side, and the headache had been very severe. Having diagnosed a tumor of the brain, the patient had been sent to the Mt. Sinai Hospital. A mass had developed behind the ear, and on aspirating this it had been found that the case was one of congenital sarcoma. On January 11, 1899, the third palsy had entirely disappeared on the left side, and the swelling behind the ear had grown larger. On January 21, the patient had suddenly become confused and blind in both eyes. In April it had been decided to open the mass to relieve the pain. By June 30 the patient had been up and around again. In October there had been a complete brachial plexus palsy on the right side. The tumor had kept on growing until almost the size of the patient's head. The patient had died on February 2, 1901, and an autopsy had been performed. The whole tumor had been found below and outside of the brain. In front was a large giant-cell sarcoma which had completely destroyed the sphenoid bone. At the back the tumor had destroyed the occipital bone. The brain was exhibited, and it showed that only the pons had suffered pressure. The tumor had apparently started in the mastoid portion of the temporal bone.

Tendon Transplantation for Deformity of the Hand.—DR. W. R. TOWNSEND presented a case of this kind, which had been exhibited to the society about 1 year ago. It was a case of infantile cerebral palsy. Instruments had been used at the time of birth, but no damage had apparently been done to the exterior of the skull. He had never been able to use his right hand, and it was a typical "claw-hand" when the boy came under observation at the age of 15 years. On December 21, 1899, an incision had been made over the wrist, exposing the tendons. The flexor carpi radialis, the flexor carpi ulnaris, and the palmaris longus were divided just above the annular ligament. The hand was then turned over and an incision made on the dorsum of the wrist, and the extensor communis digitorum exposed. A dissection having been made through the interosseous space, the extensor tendon was pushed through, and being too long, was doubled upon itself. It was then attached to the tendons previously mentioned. The union of the tendons had been satisfactory and permanent. The tendons had not shown any tendency to unite to the surrounding tissues. He was now able to write fairly well, whereas formerly he could not even grasp a pen. DR. B. SACHS said that he had been deeply interested in this subject, and it was certainly the best procedure that had been suggested for these cases of contracture whether of spinal or cerebral origin. The problem was to split the tendon of the over-acting muscles and unite them to the tendons of the under-acting muscles, and so restore the equilibrium of power. It had been found prudent not to allow the patient to exercise much or to use electricity until the tendinous union had become very firm. It was unfortunate that this boy was not able to extend his fingers, yet he had secured good extension of the wrist. In spite of the tendon transplantation the boy experienced no difficulty in producing flexion when he desired to do so. DR. SCHLAPP remarked that it seemed to him that the boy's hand was decidedly larger now than when he had seen the case a few months ago.

DR. CREIGHTON presented a young woman of neurotic temperament who, 4 years ago, had had hysteria and typical attacks of **grand mal**. One year ago she had had the grip, followed by pneumonia, and this had been followed by headaches, aching spine, and numbness in the left side. There were severe contractures in the left arm. A small painful tumor had appeared in the left palm, and had been removed by the family physician under cocaine. It had returned and had been again removed. A galvanic current of 10 milliamperes had brought out a slight redness on the palm. Three

days before menstruation a large red spot had appeared on the back of the forearm, and soon afterward several similar spots had made their appearance on the arm. A few days before the next menstruation these spots had returned, and in addition, a number of large blotches on the left shoulder, and on that side of the neck. The whole side was very hyperæsthetic. There was slight narrowing of the visual field, and there was left-sided sweating. The speaker said that the case was very similar to one recently reported from Erb's clinic. DR. JOSEPH FRAENKEL asked whether there had been a history of malaria, and whether the case might not be looked upon as one of morphea. DR. CREIGHTON replied that there was no history of malaria, and the family physician had stated that the tumor which he had removed grew on the nerve. The microscopical examination had been made at the laboratory of the Presbyterian Hospital, and the report had been that there was a slight round-cell infiltration only; no nerve degeneration was found. The thyroid gland was not enlarged. DR. C. L. DANA said that he had seen cases presenting just this appearance, but entirely free from hysteria. DR. W. B. NOYES said that 4 or 5 skin lesions were closely associated with nervous troubles. Herpes zoster, erythema multiforme, Reynaud's disease, all were distinctly related to the nervous system, yet it was very difficult to state the exact relation. It had occurred to him that the element of suggestion regarding the connection with the nerve might be responsible for some of the phenomena present. DR. E. D. FISHER said that this could not properly be described as simple hysteria, or as the result of mere suggestion. The eruption was not characteristic of an hysterical state. DR. M. G. SCHLAPP said that these cases had been described before; they had been brought on by suggestion. In this case an injection had been given in the arm, and shortly afterward this dermatitis had first appeared. The eruption was not characteristic of any particular skin lesion, but it closely resembled cases that had been described as hysterical skin manifestations. In typical zoster there was frequently a degeneration of the nerve fiber itself.

DR. SACHS said that the case was a very unusual one, and he did not regard it as belonging to the class of hysterical hyperemia. It was certainly a distinct form of skin neurosis. The closest resemblance in the anatomical distribution was to herpes. DR. JOSEPH COLLINS said that if the girl should develop a pneumonia he would not be willing to call it a hysterical pneumonia; neither was he willing to call this a hysterical skin disease. He was inclined to think it was closely related to morphea. DR. CREIGHTON said that a case had been reported very recently in which the gangrenous form had ultimately developed. This case had been described as hysterical. DR. J. C. JOHNSTON, the dermatologist, had seen this patient and looked upon her as hysterical.

Paralysis of the Spinal Accessory.—DR. PEARCE BAILEY read this paper. He said that the chief interest of this nerve was surgical. Within the past year two instances had come to his notice of accidental section of the nerve. In most cases the paralysis which results from section was not particularly disabling, but such had not been the case in the instances referred to. When the sternomastoid was completely paralyzed the freedom of movement of the head was interfered with, but not totally abolished. In the two cases referred to the disability had been unusually great, and had led him to study more carefully the nerve supply. It was now regarded as a spinal nerve, pure and simple. The spinal portion of the nerve, represented by the external branch, springs from the upper five segments of the cord. Paralysis of the nerve presents a varying symptomatology according to the site of the lesion. An injury outside of the skull to cause symptoms referable to both branches must be situated directly at the base of the skull. The extracranial lesions of the spinal accessory are confined to the external branch, and are nearly always traumatic. Neuritis in this nerve is rare. A case was cited to illustrate the possible traumatic origin of spinal accessory palsy by injury with a blunt instrument. In two other cases reported the paralysis had been directly the result of operation. In the second case the resulting incapacity had been so great that the right arm had been rendered practically useless for any heavy work. Neurorrhaphy had been performed about six weeks after the operation at which the nerve had been injured, and the ends of the divided nerve had been found separated over one inch. The improvement in motor power had been slow. A reference to the literature showed conflicting views re-

garding the nerve supply. Dr. Bailey said that the spinal center between the first and fifth cervical segments of the cord was fixed and constant, but occasionally all the axons pass to the muscle by the spinal accessory. Under these circumstances the motor impulses reach the trapezius through the spinal accessory, and hence, section of it means total palsy. Dr. W. M. LESZYNSKY said that he had seen a patient two months ago who had been operated upon for torticollis. Over 1 inch of spinal accessory nerve had been removed on the left side without relief, and the function of the muscle had remained perfectly normal. He had seen over an inch of the other spinal accessory nerve removed subsequently, yet the muscle had not been affected at all; hence he had held that it was useless in these cases of spasm to operate upon the spinal accessory nerve. Dr. J. ARTHUR BOOTH said that he had had a case of spasmodic torticollis operated upon by section of the spinal accessory nerve. A little more than one inch had been excised, and the sternomastoid and part of the trapezius had been paralyzed as a result.

Congress of Nurses.—An international congress of nurses will be held in Buffalo next September to strengthen the national and international organizations which the nurses of this country, Great Britain, the English colonies, Denmark, and Holland have for the last few years been intent upon developing. All these countries have now national organizations of nurses, based upon the principles of self-government and mutual agreement, pledged to uphold the honor and best interests of their profession, and to work for a steadily advancing educational standard and ethical development. The national association of the United States has become affiliated with the National Council of Women, as the others purpose doing in their respective countries. The president of the International Council is Mrs. Bedford Fenwick, of London, and the vice-presidents are the presidents of the respective national councils. The chairman of the congress will be Miss McIsaac, superintendent of nurses in the Illinois Training School, Chicago, and the secretary is Miss Banfield, superintendent of the Polyclinic Hospital, of Philadelphia.

CHICAGO AND WESTERN STATES.

Dr. John Madden, professor of physiology, Milwaukee Medical College, has resigned.

Dr. Murphy has been appointed oculist to the Chicago, Milwaukee, and St. Paul Railway at Mason City, and also to the Mason City and Clear Lake Railway.

Dr. W. A. Jones has succeeded Dr. Alexander J. Stone, as editor of the *Northwestern Lancet*. The office of publication has been transferred to Minneapolis.

Visiting Nurses.—During the month of January, 4,287 visits were made by the nurses of the Visiting Nurses' Association of Chicago. This is the largest number ever cared for by the association.

New Medical Registration Board.—A new State Board of Medical Registration has been appointed in Michigan—Drs. Joseph B. Griswold, Grand Rapids; George E. Ranney, Lansing; Walter H. Sawyer, Hillsdale; Austin W. Alvord, Battle Creek; Henry B. Landon, Bay City, and five from other schools of medicine.

The Western Ophthalmologic and Otolaryngologic Association will meet in its next annual session in Cincinnati, Ohio, April 11 and 12. A fine program has been arranged and the medical profession are cordially invited to attend the sessions. Dr. C. R. Holmes, of Cincinnati, is chairman of the local committee of arrangements. Dr. M. A. Goldstein, of St. Louis, is the president, and Dr. W. L. Ballenger, of Chicago, is secretary.

Union State Hospital.—The stockholders of the Union State Hospital, Indianapolis, held their annual meeting and elected the following directors: Deborah Moore, John H. Holliday, Gen. Benjamin H. Harrison, Louis Hollweg, H. H. Hanna, S. P. Sheerin, T. C. Day, Victor Hendricks, Albert Lieber, Nathan Morris, and Bement Lyman. The financial

and hospital reports were submitted and approved. The directors elected the following officers: President, H. H. Hanna; vice-president, John H. Holliday; treasurer, Bement Lyman; secretary, Deborah Moore.

Medical Examination Before Marriage.—*The Cleveland Journal of Medicine*, February, 1901, states a bill providing for a board of medical examiners to decide upon the fitness for marriage of all applicants for marriage license has been introduced in the Colorado House of Representatives. The bill provides that the license may not be issued unless the medical board recommends it. The board is to sit 10 days in every month. A number of diseases and certain defects in family records are declared to be bars to marriage in Colorado after passage of this act. The fee for the examination is fixed at \$15.

Refuse Further Attendance.—Prisoners at the county jail, St. Joseph, Mo., are without medical attention by reason of the increasing numbers of smallpox patients there, which caused the attending physicians to give up the task of stamping out the disease. Sheriff Spencer has further complicated matters by issuing an order that he would permit no more patients to be removed from the jail to the pest-house unless more guards were placed at the latter point. By reason of the few guards at the pest-house a number of desperate men who are now infected with the disease might make their escape if removed from the jail. An additional pest-house will, in all probability, be built during the next few days.

SOUTHERN STATES.

Virginia State Board.—A bill passed the Senate recently which directly affects all the students of this State. Dr. LeCato introduced the measure which provides that when a medical student has passed an examination on any subject before the State Board, he shall have credit for it even if he fails in other branches at the same time.

Cancer Home.—A new home for the treatment of incurable cancer will shortly be opened in Maryland for the benefit of the poor, through a gift made by Mrs. Rose Hawthorne Lathrop to the Servants of Relief for Incurable Cancer. It is specifically stated that the corporation shall use the donation only as a free home for the poor persons suffering from incurable cancer.

Gulf Coast Medical.—At the reorganization of the Gulf Coast Medical Society, at Scranton, the following officers were elected for the ensuing term: Dr. B. F. Duke, of Pascagoula, president; Dr. J. J. Washington, of Pass Christian, vice-president; Dr. J. N. Rape, of Moss Point, secretary and treasurer. The next meeting will be held at Pass Christian on May 1.

CANADA.

Against Tuberculosis.—A conference has been called by the Governor-General of Canada, urging all governments to adopt organized methods for diminishing the spread of tuberculosis.

French-Canadian Medical Congress.—The French-Canadian physicians of Quebec are organizing a medical congress of the French practitioners of North America, to be held next summer. The French practitioners of Louisiana have expressed their intention of attending.

MISCELLANY.

Practising Without License.—Three Chinese doctors have been arrested in Kansas City for practising medicine without a license.

Supernumerary Digits.—An infant has recently been born in Cincinnati with 6 toes on each foot, and with 6 fingers on the right hand and 7 on the left.

Dr. Chapot Prevost, who performed the operation on the xiphopagus, has been awarded a sum amounting to about \$4,000 as a prize by the Brazilian government.

Obituary.—DR. N. H. RIDDICK, at Norfolk, Va., on February 14, aged 50 years.—DR. J. W. ELLIOT, at Yazoo City, Miss., on February 14.—DR. THOMAS FRIDGE MURDOCH, at Baltimore, Md., on February 18, aged 72 years.—DR. H. B. POTTER, at Orleans Four Corners, N. Y., on February 18, aged 61 years.—DR. JOHN M. THOMAS, at Corry, Pa., on February 19, aged 75 years.—DR. WALWORTH MARSH, at West Point, Miss., on February 15, aged 29 years.—DR. GEORGE L. KIRBY, Superintendent of the State Hospital at Raleigh, N. C.

Election of Officers.—The following officers were elected in the national societies which recently met in Baltimore: American Psychological Association—Professor Josiah Royce, president; Dr. Livingston Farrand, secretary. Society for Plant Morphology and Physiology—Dr. Edward F. Smith, president; Professors F. C. Newcombe and L. M. Underwood, vice-presidents; Professor W. F. Young, secretary and treasurer. American Morphological Society—Professor J. S. Kingsley, president; Professor E. A. Andrews, vice-president; Professor T. H. Montgomery, Jr., secretary. American Association of Bacteriologists—Professor William H. Welch, president; Professor E. O. Jordan, vice-president; Professor H. W. Conn, secretary and treasurer.

Health Reports.—The following cases of smallpox, cholera, and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended February 16, 1901:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
CALIFORNIA:	Oakland	Jan. 12-26	4	
FLORIDA:	Jacksonville . .	Feb. 2-9	2	
GEORGIA:	Jeffersonville . .	Feb. 7	2	
ILLINOIS:	Cairo	Jan. 26-Feb. 9 . .	8	
"	Chicago	Feb. 2-9	2	
"	Pulaski County . .	Feb. 2-9	5	
IOWA:	Ottumwa	Jan. 5-26	2	
KANSAS:	Lawrence	Feb. 2-9	3	
"	Wichita	Feb. 2-9	9	
KENTUCKY:	Lexington	Feb. 2-9	1	
LOUISIANA:	New Orleans . . .	Jan. 2-9	14	4
MINNESOTA:	Minneapolis . . .	Jan. 26-Feb. 9 . .	9	
MISSISSIPPI:	Vicksburg	Feb. 2-9	4	2
NEBRASKA:	Omaha	Feb. 2-9	8	
N. HAMPSHIRE:	Manchester	Feb. 2-9	26	
NEW YORK:	New York	Feb. 2-9	17	6
OHIO:	Ashtabula	Feb. 2-9	2	
"	Cleveland	Feb. 2-9	48	1
"	Toledo	Feb. 2-9	1	
PENNSYLVANIA:	Pittsburg	Feb. 2-9	5	
TENNESSEE:	Memphis	Feb. 2-9	16	
"	Nashville	Feb. 2-9	9	
UTAH:	Salt Lake City . .	Feb. 2-9	32	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Jan. 12-26	27	
CHINA:	Hongkong	Jan. 5-12	1	
ECUADOR:	Guayaquil	Nov. 24-Jan. 5 . .		25
EGYPT:	Cairo	Jan. 1-7		1
ENGLAND:	London	Jan. 19-26	3	
"	New-Castle-on-Tyne	Jan. 19-26	5	
FRANCE:	Paris	Jan. 12-19		6
INDIA:	Bombay	Jan. 1-15		6
"	Calcutta	Dec. 29-Jan. 5 . .		96
"	Karachi	Dec. 23-Jan. 6 . .	7	3
"	Madras	Dec. 15-Jan. 4 . .		3
MEXICO:	Merida	Dec. 20	Epidemic.	
"	Tuxpan	Jan. 28-Feb. 4 . .		3
PORTO RICO:	Ponce	Feb. 8	22	
RUSSIA:	Moscow	Jan. 12-19	4	
"	Odessa	Jan. 12-19	31	5
"	St. Petersburg . .	Jan. 5-19	6	2
SCOTLAND:	Glasgow	Jan. 25-Feb. 1 . .	180	

CHOLERA.

INDIA:	Bombay	Jan. 1-5		9
"	Calcutta	Dec. 29-Jan. 5 . .		31
"	Madras	Dec. 15-Jan. 4 . .		19

PLAGUE.—FOREIGN.

CHINA:	Hongkong	Dec. 29-Jan. 5 . .	2	2
ENGLAND:	Hull	Jan. 30	2 deaths, crew	
			S.S. "Friary."	
WALES:	Cardiff	Feb. 8		1
INDIA:	Bombay	Jan. 1-15		550
"	Calcutta	Dec. 29-Jan. 5 . .		28

Changes in the Medical Corps of the U. S. Army, for the week ended February 16, 1901:

DUTCHER, First Lieutenant BASIL H., assistant surgeon, having been discharged from hospital in Manila, will return to his station at Tayu, Pangasinan.

The following named acting assistant surgeons are authorized to proceed to Manila and report to the president of the Army medical board, for examination for appointment as assistant surgeons. Department of Northern Luzon—GEORGE M. EKWURZEL, ISIDOR M. UNGER, ERNEST F. SLATER, LOREN B. OHLSOBER, JAMES F. EDWARDS, and U. S. GRANT DEATON; department of Southern Luzon—FRANK T. WOODBURY and WILMOT E. BROWN; department of the Visayas—PAUL R. FLETCHER.

STEPHENSON, Major WILLIAM, surgeon, will report to the commanding general, department of Southern Luzon, for assignment to duty.

MUNSON, Captain EDWARD L., assistant surgeon, is granted leave of absence for 2 months on account of sickness.

BECHEE, MAX A., acting assistant surgeon, will proceed from Los Angeles to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, where he will report to the commanding general, division of the Philippines, for assignment to duty.

SANTOIRE, H. A., acting assistant surgeon, is granted leave of absence for 1 month from about February 18.

The following named dental surgeons will proceed from the places designated to Washington, D. C., and report to the Surgeon-General of the Army for instructions: JOHN S. MARSHALL, Chicago, Ill.; ROBERT T. OLIVER, Indianapolis, Ind.

IRA E. GATES, GEORGE GRIFFITH, BENJAMIN HANSON, JAMES SWEENEY, PAUL H. WEYRAUCH and AMOS A. CARTER hospital stewards (appointed February 8 from privates of the hospital corps) now in Manila, P. I., are assigned to duty in the division of the Philippines.

FREDERICK W. BOSCHEN, AUSTIN G. BARBER, LOUIS FRANK, FRANK LUVE, HERBERT SHARMAN, PAUL L. STANGL, AUGUST J. STROMBERG, DON D. WILLIAMS, THOMAS J. WALKER, JOSEPH WATERS, GUSTAVE FONTEENE, WILL G. BUTLER and HARRY MEADE, hospital stewards (appointed February 8 from acting hospital stewards of the hospital corps) now at Manila, P. I., are assigned to duty in the division of the Philippines.

MORGAN, ROBERT W., dental surgeon, will proceed from Lynchburg, Va., to Washington, D. C., and report to the Surgeon-General of the Army, for instructions.

ARTHUR, Major WILLIAM H., surgeon, will proceed to Dagupan, province of Pangasinan, and assume command of the military hospital at that point.

SCHREINER, First Lieutenant EDWARD R., assistant surgeon, will proceed to San Isidro, province of Nueva Ecija, and report to the chief surgeon, Fourth division, for duty at the hospital at that point.

PENROSE, Major GEORGE H., surgeon, upon report of medical examining board, will proceed to San Francisco, Cal., and report to the adjutant-general of the Army, with a view to discharge by reason of disability.

The following named medical officers, now at stations designated, will report on the day of arrival at the Presidio of volunteer troops from the Philippine Islands, to the chief mustering officer for temporary duty to make the medical examination of officers and enlisted men belonging to volunteer regiments, required by G. O. 124, series 1893, H. Q. A., and other existing regulations: Major ROBERT J. GIBSON, surgeon, San Francisco, Cal.; Acting Assistant Surgeon CHARLES H. ANDREWS, Army General Hospital, Presidio; Acting Assistant Surgeon FRANK A. E. DISNEY, Presidio. This duty will be performed by Major Gibson, surgeon, in addition to his other duties at these headquarters, and he will make immediate request for such clerical assistance, accommodations, materials and appliances as may be needed in the work to be performed by the medical officers under this order.

LATIMER, CHARLES H., acting assistant surgeon, will proceed to his home, Washington, D. C., for annulment of contract.

JAMES, WILLIAM F., acting assistant surgeon, is granted leave of absence for 1 month.

PITCHER, GEORGE S., acting assistant surgeon, will proceed to his home, Portland, Me., for annulment of contract.

PROMOTIONS.

To be assistant surgeons, with rank of captain—CLARK I. WERTENBAKER, Ohio; FRANK A. E. DISNEY, New York; CHARLES H. ANDREWS, New York; ROBERT H. ENDERS, Sr., Arkansas; MATTHEW LEPPER, Missouri; CHARLES ANDERSON, California; JAMES S. KENNEDY, Pennsylvania, all acting assistant surgeons, U. S. Army; FRANK P. KENTON, Kentucky, late major and surgeon Fourth Kentucky Volunteers; GUY G. BAILEY, Michigan; GEORGE A. MCHENRY, Mississippi; EDWARD F. HORB, New York; SHANNON RICHMOND, Missouri; ELMER S. TENNET, New Hampshire; SAMUEL D. HUNTINGTON, California, all acting assistant surgeons, U. S. Army; JAMES J. ERWIN, Ohio, captain and assistant surgeon Thirtieth Infantry; JAMES F. PRESNELL, Iowa; FREDERICK H. SPARENBURGER, New Jersey; IRVIN E. BENNETT, Pennsylvania; JAMES H. MCCALL, Tennessee, all acting assistant surgeons, U. S. Army; THOMAS C. STONEKARD, Indiana, late major and surgeon One Hundred Fifty-ninth Indiana Volunteers and acting assistant surgeon U. S. Army; HAROLD W. COWPER, New York; DWIGHT B. TAYLOR, Ohio, all acting assistant surgeons, U. S. Army.

To be assistant surgeons, with rank of first lieutenant—February 4—ARTHUR W. MORSE, Illinois, vice POLHEMUS, promoted; FRANK C. BAKER, District of Columbia, vice BORDEN, promoted; HENRY S. KIERSTED, Pennsylvania, vice MEARNS, promoted; ALLIE W. WILLIAMS, Georgia, vice EDIE, promoted; JOHN J.

REILLY, New York, vice CROSBY, promoted; JEROME STEWART CHAFFEE, New York, vice KNEEDLER, promoted.
To be assistant surgeons of Volunteers, with rank of captain—HARRY A. LITTLEFIELD, Oregon, late acting assistant surgeon, U. S. Army, February 9; FREDERICK W. COX, S. Dakota, late captain and assistant surgeon First South Dakota Volunteers, February 9; GERRY S. DRIVER, District of Columbia, acting assistant surgeon, U. S. Army, February 9; JUSTUS M. WHEATE, Indiana, acting assistant.

Changes in the U. S. Marine-Hospital Service, for the week ended February 14, 1901:

SAWTELLE, H. W., surgeon, granted leave of absence for 30 days from February 20. February 14.
KALLOCH, P. C., surgeon, granted leave of absence for 3 days from February 17. February 8.
GEDDINGS, H. D., passed assistant surgeon, granted leave of absence for 8 days from January 26, on account of sickness. February 12. Granted leave of absence for 30 days from February 3. February 12.
GARDNER, C. H., passed assistant surgeon, granted leave of absence for 7 days. February 11.
PARKER, H. B., assistant surgeon, to proceed to Gulf Quarantine and assume temporary command of the service during the absence on leave of the medical officer. February 8.
MOORE, DUNLOP, assistant surgeon, to proceed to Port Townsend, Wash., and assume temporary command during the absence on leave of the medical officer in command. February 11.
McCOY, G. W., assistant surgeon, granted leave of absence for 14 days from March 13. February 12.

Changes in the Medical Corps of the U. S. Navy, for the week ended February 16, 1901:

BAGG, C. P., passed assistant surgeon, detached from the Cavite Naval Station and ordered to the "Culgoa."
ALFRED, A. R., passed assistant surgeon, detached from the "Culgoa" and ordered to the Naval Station, Cavite, February 7.
BIDDLE, C., surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered home and to wait orders.
LEWIS, D. O., surgeon, detached from the "Iowa" and ordered to the "Philadelphia," February 13.
ARNOLD, W. F., surgeon, detached from duty at the Naval Recruiting Rendezvous, Chicago, Ill., March 1, and ordered to the "New Orleans," sailing for Manila, March 15.
GRIFFITH, S. H., surgeon, detached from the "Prairie" when put out of commission, and ordered to duty under the Bureau of Medicine and Surgery.
CORDEIRO, F. J. B., surgeon, detached from the "New Orleans" and ordered home and to wait orders.
MOORE, A. M., surgeon, retired, ordered to duty at Naval Recruiting Rendezvous, Chicago, Ill., March 1.

Foreign News and Notes.

GREAT BRITAIN.

Mr. T. P. Legg, M.B.Lond., F.R.C.S., has been appointed assistant surgeon to the Royal Free Hospital.

Election.—Dr. Martin J. P. Dempsey, F.R.C.P.I., visiting physician to the Mater Misericordiae Hospital, Dublin, has been elected to the chair of materia medica and pharmacy in the Catholic University School of Medicine, rendered vacant by the death of Dr. F. J. B. Quinlan.

Cancer Laboratory.—A research laboratory has been opened in connection with the Middlesex Hospital, London, England, which is to be entirely devoted to the care and investigation of cancer. In the hospital are 60 inoperable cases, which will be under close scientific observation.

Enteric Fever Among British Troops.—The Secretary of State for War gave a statement of the increasing number of cases of enteric fever among the troops in South Africa. In October there were 569 cases and 98 deaths; in November, 1,213 cases and 207 deaths; and in December, 1,665 cases and 286 deaths. The total since the beginning of the war to December is 19,101 cases and 4,233 deaths.

CONTINENTAL EUROPE.

Dr. G. Holzknecht has been appointed Röntgen-ray expert in Vienna.

Pirogoff Congress.—The Eighth Pirogoff Congress will be opened in Moscow in December, 1901.

Plague Steadily Spreading.—There were 922 deaths from the plague in Bombay during the past week.

Physicians Rewarded.—The Czar's physicians who were in attendance upon him during his recent attack of typhoid fever, have been rewarded. Prof. Leo Popoff has been appointed body physician to the Czar, Dr. Tichskonoff honorary physician to the imperial family, and upon Dr. Hirsch has been conferred the order of Alexander-Nevski.

Autopsies on Suicides.—Professor Meller, of Kiel University, the renowned expert in mental diseases, made autopsies on 300 suicides in 5 years, and now states that he found the brains of 43% showed distinct malformation; 29% of the remainder were suffering at the time of their death from acute febrile inflammation; 143 of the aggregate had organs diseased by alcoholism.

Cheap Modes of Transportation Responsible for Obesity.—The multiplication of cheap modes of transport, in the opinion of the *London Medical Press and Circular*, favors the tendency to obesity, so that with the rapid development of underground and surface electric traction in London and other large cities the next generation must look out for an increase in the number of stout individuals.

Bubonic Plague.—The *Daily Mail* publishes the following from its St. Petersburg correspondent: Serious reports are in circulation here regarding the outbreak of what was first called "hunger typhus," but is now officially admitted to be bubonic plague in the Khirgiz steppes of western Siberia. Many thousands have died. The Government is sending out large quantities of wheat to be distributed to the starving population and is organizing traveling medical services to localize the outbreak.

The Influence of Neurectomy upon the Union of Fractures.—B. G. Muscatello and D. Damascelli (*Archiv f. klin. Chir.*, Bd. 58, H. 4.) after many experiments come to the conclusion that fractured bones may unite independent of influence from the nervous system. It had been believed that when nerves were cut in cases of experimental fracture, that the results were delayed ossification, larger and softer callus, and frequently the formation of pseudoarthroses. Experimenting upon guineapigs the authors fractured the ulna, but left the radius intact, the latter acting as a protection. At the same time they resected a portion of the brachial plexus. [M.B.D.]

The Relation of Appendicitis to Diseases of the Uterine Appendages.—In a paper read before the N. Y. State Medical Society, January 29-31, 1899, Dr. Albert Beahan says: The occurrence of right side pelvic disease when the question arises as to the diagnosis between disease of appendix and appendages, is frequent, and sometimes requires fine distinction. Gross changes in the appendages resulting from disease coexisting with appendicitis are not uncommon. There has not been shown to be any close relation, except of proximity. Functional disease, with disturbances of menses—a dysmenorrhea exists as a law of cause and effect. Four cases in hospital at the same time recently, unmarried women from 17 to 23 years, had had irregular, painful menses. In one of these cases where an anomaly existed of the appendix, passing for a short distance between the coats of the intestine, making a tight stricture, the menstruation had always been painful, and recently a local peritonitis had occurred at menstrual epoch. Our case records, other than these 4, show that these are not coincidences. A locked or torpid colon, with gas accumulations, an exaggeration of menstrual phenomena, increased pallor, or muddy complexion, languor, pains, nausea or vomiting, pronounced nervous irritability, peevishness with febrile rise to 98½° F. or 100¼° F., especially during the latter part of the day, if a tender, enlarged appendix is found, establishes the diagnosis. A recurrence of this group of symptoms at one or more succeeding menstruations may be expected. The thermometer showing a hovering of the temperature about the 99½° mark, has come to the clinical test. The tolerance of the female pelvis to disease should not mask the diagnosis, nor should a serious attack of appendicitis be permitted. Remove the appendix early; it will be a surprise to see its condition, and a gratification that it was done.

Special Article.

VIVISECTION AND ANTIVIVISECTION.

A Correspondence Between Mr. James M. Brown, President of the American Humane Association, and Professor William W. Keen, of Philadelphia.

THE following correspondence has been submitted to us by Dr. Keen. It speaks for itself without special introduction. Our comments will be found in the editorial columns.

LETTER FROM THE PRESIDENT OF THE AMERICAN HUMANE ASSOCIATION.

TOLEDO, O., October 4, 1900.

Prof. William W. Keen, Late President of the American Medical Association, Jefferson Medical College, Philadelphia.

DEAR SIR:—My attention has just been called to a passage in the published "Report of the Hearing" before the Senate Committee, held at Washington last February, on the Bill for Regulation of Vivisection. In this volume, the following conversation between Senator Gallinger and yourself is recorded.

Senator Gallinger. "What knowledge have you of the advances made by vivisectionists that have led them to progress from the brute creation to the human creation in making these so-called vivisection experiments?"

Dr. Keen. "I presume that you refer to a pamphlet issued by the American Humane Society. I have only to say in reference to it that there were a number of experiments which I would utterly condemn. Of the experiments narrated in that pamphlet, I have looked up every one that I could. Only two are alleged to have been done in America. Many of them are so vague and indefinite that I could not look them up, but as to those that I could, some are garbled and inaccurate—not all of them, observe."

Senator Gallinger. "Some of them?"

Dr. Keen. "Some of them."

A statement of this character, based upon such authority, it is impossible to ignore. Proceeding from one less eminent than yourself, in that profession which you represent and adorn, it might pass without notice; but coming from you, sir, such a charge must be investigated and probed to the fullest extent. Its importance is evident, and in testing its accuracy, you will give me, I trust, every assistance in your power.

First, regarding the cases of experimentation upon human beings recorded in our pamphlet, "Human Vivisection," you informed the Senate Committee that *many of them are so vague and indefinite that I could not look them up*.

We challenge the accuracy of that statement, and ask for proof. Of the various series of experiments upon human beings, made for the most part upon women and children in hospitals and infirmaries,—the authorities given in this pamphlet are as follows:

1. *Bulletin of the Johns Hopkins Hospital* for July, 1897.
2. *Boston Medical and Surgical Journal* for Aug. 6 and 13, 1896; *The Philadelphia Polyclinic* for Sept. 5, 1896.
3. *New York Medical Record* for Sept. 10, 1892.
4. *The British Medical Journal* for July 3, 1897; the *New England Medical Monthly* for March, 1898.
5. *The Medical Press* for December 5, 1888; the *British Medical Journal* for Aug. 29, 1891; the *London Times* for June 27, 1891, (and other journals).
6. *The Medical Brief* for June, 1899.
7. "Ringer's Therapeutics," pp. 585, 588, 590, 591, 498, 503; the *London Lancet* for Nov. 3, 1893.
8. *The Newcastle Daily Chronicle* for Sept. 21, 1888.
9. *The Medical Press and Circular* for March 29, 1899; the *London Lancet* for May 6, 1899, p. 1261.
10. *The Aug. Wiener med. Zeitung*, Nos. 50 and 51.
11. *Deutsche med. Wochenschrift*, Nos. 46 and 48 of year 1894.
12. *Deutsche med. Wochenschrift* of Feb. 19, 1891.
13. Lecture before Medical Society of Stockholm, Sweden, May 12, 1891.
14. *The British Medical Journal* for Oct. 15, 1881; *Medical Reports* for May 16, 1893; the *Nineteenth Century* for Dec., 1895.

For one series of experiments in the above list,—those made by Dr. Jansen upon children of the Foundlings' Home, (with the "kind permission" of the head physician, Prof. Medin) because, as he said, "calves were so expensive," it

appears that the only authority given was a reference to his lecture, delivered before a Swedish Medical Society upon a certain date. Although, so far as known, the facts there stated, have never been denied, yet the reference may, perhaps, be called indefinite. But one case is not "many." To what other of the references above given, did you refer when you informed the Senate Committee that "*Many of them are so vague and indefinite that I could not look them up*"? Had you stated that your library,—ample as it is,—did not contain, and could not be expected to contain all of the foreign authorities to which reference was made, there would have been nothing to criticize. I must assume, sir, that you have not put forth an aspersion of another's reliability merely to have acknowledgment of the inadequacy of your sources of reference; that the proofs of your statement, covering "many" cases, are available, and, in the interest of accuracy, I ask you to produce them.

Second. There is yet another point to which I ask your attention. You made the statement before the Senate Committee that in regard to our published account of cases of human vivisection, "*many of them are so vague and indefinite that I could not look them up; but, as to those that I could, some are garbled and inaccurate; not all of them, observe.*"

This, sir, is a most serious charge. You distinctly declared that of the cases personally investigated by yourself, as quoted in the pamphlet on "Human Vivisection," some are "garbled and inaccurate." We deny the charge, and again challenge production of evidence upon which it is made.

A "garbled" quotation is one which, by reason of omission and perversions, is essentially unfair. Sometimes it is a statement from which parts are omitted or transposed for the purpose of conveying a false impression. To omit quotation of parts, not directly bearing upon the question, for sake of brevity,—this is not "garbling," for all quotations would then be impossible. We assert that in quoting accounts of the cases of human vivisection, no omissions of essential facts have been made sufficient to impair the accuracy of fairness of the quotation. Let us put the matter to the test. Point out, if you can, the "some cases" which you found "garbled and inaccurate," and in proof of the charge, quote the omitted sentences or words, which, had they been inserted, would cause you and the general public to justify and approve the experiments on human beings, which we have so severely condemned.

Third. You stated, sir, before the Senate Committee, that only two experiments upon human beings "are alleged to have been done in America." I question, sir, whether that remark is quite in accord with the highest ideals of truth; it is the language of doubt; it seems to signify and imply that even you are aware of no other experiments upon human beings than two cases which are thus "alleged." I am very confident, sir, that you will not venture formally to assert—what you have seemed to imply—that you know of but two experiments upon human beings, made in this country, and recorded in the medical literature of the United States. There is, indeed, need of further enlightenment, if the medical profession of this country, so worthily represented by yourself, is ignorant of what has been done by men without pity and without conscience.

Trusting to have response from you at an early date, I am,
Yours most truly,

(Signed)

JAMES M. BROWN,
President.

REPLY OF DR. KEEN.

1729 CHESTNUT STREET, PHILADELPHIA, PA.,
January 21, 1901.

James M. Brown, Esq., President American Humane Association, Toledo, Ohio.

DEAR SIR:—Your letter of October fourth reached me promptly, but as I then notified you would be the case, very pressing engagements, absence, etc., prevented an earlier reply.

Now that I have a little leisure, I can answer your letter and furnish you in detail the proofs for which you ask.

There are two pamphlets, both entitled "Human Vivisection." First, one of 80 pages "printed for the American Humane Association, 1899," the other of 7 pages "published by the Humane Society, Washington, D. C.," without date, but from its contents, published a little later, as it is chiefly

a synopsis of the same instances reported more fully in the larger pamphlet. Hereafter when I speak of "the pamphlet," I mean the larger one unless I specifically mention the smaller one.

This larger pamphlet consists of two parts: first, (pp. 3-12) a reprint of a portion of "Senate Document No. 78" and the rest of it of various quotations, translations and comments. No name is attached to either part to indicate who is responsible for the accuracy of the references, the translations or the quotations. As the whole is preceded by an open letter signed by the president and secretary of the American Humane Association, and as you refer to the pamphlet as "ours," I presume the Association holds itself responsible for such accuracy, especially as you as its new President challenge me for proof.

The pamphlet purports to furnish a reprint of a portion of "Senate Document No. 78" and refers to this document in a way that would lead uninformed readers to suppose that this is a document expressing the sentiments of the United States Senate. It is, therefore, important to call your attention to the fact that Senate Document No. 78 is simply a collection of statements and papers by various persons printed by order of the Senate, but in no sense expressing the opinions or convictions of that body. The last paper in this document is one on "Human Vivisection," by "A. Tracy."

In two respects "A. Tracy" has a right to complain that the reprint is inaccurate. First, it omits to print the name of the author "A. Tracy." Surely he (or she?) should receive whatever credit there is attaching to his work.

Secondly, on page 30, line 8 of Senate Document No. 78, I read "A. Tracy's" comment. ["This patient, therefore, was scientifically murdered."] This statement the reprint very wisely omits—but there are no indications of the omission. Of this, more hereafter.

Your letter challenges the accuracy of my statements in three particulars.

1. I stated that many of the references in the pamphlet are "vague and indefinite."

2. I said that some of the accounts of the experiments are "garbled and inaccurate."

3. I stated that of the experiments narrated in the pamphlet only two were alleged to have been performed in America.

You will pardon me if I indignantly resent your imputation of untruthfulness in regard to this last statement. You entirely misinterpret my statement, which had no reference to my knowledge or ignorance of any other American experiments. I said that the pamphlet only contained two instances of such experiments which were alleged to have been done in America. These are recorded on pages 4 and 5 of the pamphlet. All the rest were done in Europe, South America, and Hawaii, years before it came into our possession. If you still question the accuracy of my statement and believe that there is a third instance of experiments done in America and described in the pamphlet, point it out by page and paragraph.

Turning now to the other two really important matters referred to in your letter, let me again state clearly the question at issue. It is not whether the experiments meet with my approval, but solely whether the reports of them in the pamphlet issued by the American Humane Association are reliable and accurate both as to their sources and their substance.

I. MANY OF THE REFERENCES ARE VAGUE AND INDEFINITE.

The references are so vague and indefinite in many cases that the statements and quotations made cannot be verified by consulting the originals. The preface of your president and secretary states that: "In each case the authority is given," and what sort of "authority" do you depend upon?

Newspaper medicine and surgery are notoriously inaccurate. I have personally had so much experience and observation of this that I am always certain that at least one-half or more of the statements in newspapers in reference to medical matters are inaccurate, not purposely, but only because the writers are not medical men. Yet you depend for the accuracy of your statements upon newspapers as follows. (I follow the inaccurate spelling of foreign names in your pamphlet):

1. The Vienna correspondent of the *London Morning Leader*, Jan. 26, 1899 (p. 3), of whom more hereafter.

2. The *Deutsche Volksblatt*, Jan. 25, 1899 (p. 3).
3. The Washington correspondent of the *Boston Transcript*, Sept. 24, 1897 (p. 9), of whom more hereafter.
4. The *New York Independent*, Dec. 12, 1895 (p. 11).
5. The *London Times*, June 27, 1891 (p. 16).
6. The *Tägliche Rundschau* of Berlin. (p. 17); no year, month, or day being given.
7. The *Vossische Zeitung* of Berlin, no year, month, or day being given (p. 18).
8. The *Vorwärts*, no year, month, or day being given (p. 18).
9. The *Danziger Zeitung*, July 23, 1891 (p. 18).
10. The *Schlesische Volkszeitung*, July 24, 1891 (p. 18).
11. The *Hamburger Nachrichten*, July, 1891, no date stated (p. 19).
12. A correspondent of the *Newcastle* (England?) *Daily Chronicle*, Sept. 21, 1888 (p. 22).
13. Dr. R. E. Dudgeon, in the *Abolitionist*, April 15, 1899 (p. 24).
14. A letter by Dr. Edward Berdoe to the *London Chronicle*, without year, month, or day (p. 29).

Few of these fourteen newspaper references can be consulted in this country; five of them (Nos. 6, 7, 8, 11, and 14) are impossible of consultation for want of any date whatever.

In no case would I be willing to admit a newspaper paragraph, a nonprofessional and usually unsigned statement (even if correctly quoted) as a sufficient authority for a grave charge against an individual or the profession.

Look for a moment what stuff Senator Gallinger stated at the "Hearing" he had himself caused to be printed. It is published on page 31 of the "Hearing" and on page 3 of the pamphlet. It consists of cable dispatches printed in some newspaper—Senator Gallinger did not even remember its name. The author of the dispatch from London is utterly unknown. The dispatch states that "the Vienna correspondent of the (London) *Morning Leader* says" so and so. Who and how reliable is the Vienna correspondent? He says that "the physicians in the free hospitals of Vienna" do so and so. Who are the physicians? In what hospitals were these deeds of darkness done?

And upon such evidence it is seriously proposed to indict the medical profession! Whether these dispatches are "garbled and inaccurate" in their alleged facts who can find out?

If a lawyer tried to convict a man of petty larceny on such testimony he would be laughed out of court. And yet a Senator of the United States and the American Humane Association actually adduce such statements as evidences of the gravest charges and spread them broadcast!

I now add six other "vague and indefinite" references not to newspapers.

15. On page 13 there is a quotation from Tertullian. The reference in the footnote is "Tertullian, *De Anima*, vol. ii, pp 430, 433, tran. by Holmes." I have compared the quotation with Clark's Edinburgh edition of the "Translation of Tertullian by Holmes," the date of the edition being 1870. No such quotation exists on pages 430, 433. Possibly it may be that the quotation is from another edition. No edition is named in the pamphlet; another instance of a "vague and indefinite" reference.

16. On page 17 a formal accusation is quoted as made by a Dr. Eugen Leidig against certain surgeons. No reference whatever to any book or journal is given by which the accuracy of the quotation can be tested. Is not this again "vague and indefinite?"

17. On page 24 is a reference to a paper by "Professor E. Finger, of Vienna (*Allg. Wiener med. Zeitung*, Nos 50 and 51)." No year is given, a somewhat essential part of the reference, as there are over forty volumes of this journal, each with the weekly numbers 50 and 51. No such paper by Finger is published in that Journal at least from 1890 to the present time. The reference is quoted from a paper by Dr. R. E. Dudgeon in the *Abolitionist* (an English journal) of April 15, 1899. I have been unable to consult this journal. If Dudgeon gave the year, then the Humane Association pamphlet has misquoted him. If he did not, then both the Association's pamphlet and he have been "vague and indefinite."

18. On page 25 again is a reference to a statement in a "lecture before the Medical Society of Stockholm," by Dr. Jansen of the Charity Hospital, reporting certain experiments. No reference whatever is given even to a newspaper much less to any medical journal. As the statement is in quotation marks, it purports to be the exact words used and ought to have had some source to which a reference was possible, especially as the preface of the pamphlet says "in each case the authority is given." I am glad to see that in your letter you recognize this as one in which the reference is really inadequate. I notice, however, that even in your letter you do not supply this missing reference. You say the facts asserted in the Jansen paragraph have never been denied. Of course not. The first requisite is to know whether they are correctly quoted.

Turning now from the larger pamphlet to the smaller one, which was spread broadcast by house to house distribution in Washington, at the time when the hearing on this matter took place last winter, I find repeated in this a number of the same vague and indefinite

references and garbled and inaccurate quotations already or to be described, to which are to be added the following:

19. On page 3 an extract from a report referring to experiments upon insane patients is printed in quotation marks. The only reference is to a "published report" in 1890 of the "Medical Staff of the Public Insane Asylum in Voralberg, Austria." The librarian of the Surgeon General's office informs me that there are two small insane asylums in the Voralberg, namely,—at Hall and Valduna. Some reports of the former are in the Library and in them no account of the experiments referred to can be found. No reply has been received to a letter addressed to this asylum as named in the pamphlet and written over a year ago.*

20. On the same page is an account of some experiments on bacteria from boils and the reference is to the *Deutsches Volksblatt*, no day, no month, no number, no page, nor even the year is given. If this is not "vague and indefinite," what is?

21. On page 24 there is an account of Kroenig's experiments (to which I shall recur later). No reference whatever is given to the source from which the account is taken.

II. SOME OF THE STATEMENTS ARE GARBLED AND INACCURATE.

To be vague and indefinite in charges affecting the morals and the reputation not only of individuals, but in fact of a whole profession is bad enough, but to make statements that are "garbled and inaccurate" is, as your letter recognizes, a much more serious matter. Let me consider the instances in detail.

1. "Vivisection Experiments upon the Insane," pages 4 and 5.

In the following quotation, the words of the original which I enclose in brackets are omitted. "To these patients the thyroid tablets [each pill representing 5 grains of the fresh sheep's gland] were administered," etc. This omission is of moment, because any one familiar with the administrations of thyroid extract knows that the doses used by Dr. Berkley are frequently given to human patients, including the insane, without producing symptoms dangerous to life, but on the contrary with benefit. I have myself given such tablets to patients with goiter for weeks together in larger doses than Dr. Berkley used.

In the following paragraph the quotation is garbled by omitting the words which I enclose in brackets: "Two patients became frenzied and of these one died before the excitement had subsided [the immediate cause of the exitus being an acute disseminated tuberculosis]." And again in the next paragraph, giving a report of the same case, the pamphlet quotes: "The thyroid extract was now discontinued, but the excitement kept up . . . for 7 weeks, at the end of which time she died." One would think this was the end of the sentence and that she died from the effects of the thyroid tablets. Not at all. The original continues as follows: she died "with the clinical evidences of acute miliary tuberculosis," (galloping consumption). Does this not come within the definition of garbling given in your letter? "A 'garbled' quotation is one which, by reason of omission and perversions, is essentially unfair."

To say that this patient, who actually died of galloping consumption died from the effects of the thyroid extract which had not been given for 7 weeks before death is as absurd as it would be to say she had died from the effects of moderate doses of laudanum given 7 weeks before. Yet "A. Tracy's" comment on this case is "[This patient, was, therefore, scientifically murdered]." Your Association mutilates its reprint by wisely omitting this piece of absurdity though the omission is not indicated. Moreover, the pamphlet states "there is no intimation that the administration of the poisonous substance was given for any beneficial purpose to the patients, for he took care to select patients that were probably incurable." On the contrary, Berkley's original paper expressly states that instead of being incurable, one (Case No. 1) was cured and another (No. 3) was improved. Besides this, though the pamphlet is dated 1899, it omits all reference to Dr. Berkley's letter to the *British Medical Journal* for October 30, 1897, in reply to your friend Dr. Berdoe, which shows that, as a result of the administration of the thyroid tablets to these 8 patients—a well-recognized remedy for insanity†—

not one died from the effects of the drug, but that on the contrary, two of those alleged "incurables" were cured—25%!

In his admirable letter to *Life* (December 6, 1900), Dr. Berkley says: "The purpose for which the article was written was to show to the medical profession that a certain medicament in common use was not free from objection, and should not be given in unsuitable cases. In proper ones the results are among the most resplendent attained by modern medicine, converting the drooling dwarf into an intelligent, well-grown man or woman; or, in other instances, as in myxedematous insanity, affording the otherwise hopelessly insane with almost a specific to recover their reason."

2. The Cases of Lumbar Puncture by Dr. Wentworth, of Boston (p. 5).

"Lumbar Puncture," I may remind you, is the simple insertion of a hypodermatic needle between the vertebrae into the sheath of the spinal cord, but below the cord itself, to obtain a few drops of the cerebrospinal fluid for diagnosis.

The pamphlet gives what is called a "brief abstract" of five of the experiments related. The abstracts are indeed brief, so brief as to give a wholly erroneous impression as to the causes of the patients' death. The omissions are glaring instances of what the logicians call a *suppressio veri*, equivalent to a *suggestio falsi*. Let me point this out in detail.

Case 2.—It is correctly quoted that the last puncture (where there were several punctures I only give the last date) was made "February 16, on day of patient's death." The pamphlet fails to add, however, the important fact stated by Dr. Wentworth that the postmortem showed an empyema [abscess in the chest] which had burst into the lung, pneumonia, and inflammation of the brain with pus as the cause of death.

Case 3.—The pamphlet correctly says, "Puncture January 17, 1896; patient died January 22." What Dr. Wentworth adds is omitted, namely, "No symptoms attended or followed the operation." Moreover, the postmortem showed that the patient died from the widespread changes common to infantile wasting.

Case 5.—The pamphlet says, "Puncture February 3, 1896; patient died February 4." It omits to state what immediately afterward follows, that the postmortem showed "primary tuberculosis of the intestines. Double pneumonia," as the cause of death.

Case 6.—The pamphlet quotes, "Punctured February 1; patient died in convulsions three weeks later." It neglects to state what Dr. Wentworth particularly mentions, "No reaction on the part of the patient attended the operation," and it also fails to state that the child was seen only once and that the diagnosis then made was tubercular meningitis, which was clearly the cause of the child's death, three weeks later.

Case 7.—The pamphlet quotes, "Punctured February 27; patient died February 28." It omits the fact that the postmortem showed that the child died from defective development of the brain and other causes; and that the history showed that the child, who was 7 months of age, had "frequent convulsions, which began when he was about 3 months old. While in the hospital the convulsions occurred not less than 20 times a day. Oftentimes he had several in an hour."

The inference from the pamphlet's "brief abstracts" of these cases is clearly, and it seems to me by these omissions was meant to be, that the deaths were due to the lumbar punctures, whereas the evidence is that the deaths were due to other causes, and in two instances the operation is expressly stated not to have done any harm. Are not these abstracts "garbled and inaccurate"?

3. On page 7 the pamphlet refers to some experiments on the inoculation of lepers with syphilis, made in Hawaii, but published in the *New York Medical Record* of September 10, 1892. It is stated that the patients "were already suffering from one incurable disease and the object of the experiment was to ascertain whether with another, and even worse disorder, they might not be infected." This statement is incorrect. Most writers recognize only three stages of syphilis, primary, secondary, and tertiary. The writer of the article in question believed that leprosy was a fourth and final stage of syphilis and not an independent disease. It is a well-recognized fact by all scientific writers that a patient suffering from syphilis in any stage is immune to an inoculation of the virus; that is to say, the inoculation will not "take" if

* This letter was written by myself and not by the librarian of the Surgeon General's office.

† I quote the following from the eighth edition of Hare's "Therapeutics" as to the use of thyroid extract: "In the dose of from 5 to 20 grains (0.35 to 1.3) three times a day [i.e., 15 to 60 grains a day] according to the degree to which it produces its effects, it has proved of value in acute mania and melancholia, puerperal and climacteric insanities, and in stuporous states with primary dementia." Berkley's maximum dose was 15 grains a day.

he is already a syphilitic. It was for the purpose of determining whether leprosy was a fourth stage of syphilis that the attempt was made. None of those inoculated took the disease.

4. Sanarelli's Experiments on the Inoculation of Yellow Fever, page 8.

The references here are to the *British Medical Journal* for July 3, 1897, and the *New England Medical Monthly*, March, 1898. The extracts marked with quotation marks are from the *New England Medical Monthly*. Between the first and the second sentences of the quotation there should be some stars to note an omission, but none such appear. The omitted words state that *not* the germs of the disease, but the carefully filtered and sterilized germ-free fluid was used. Besides this and many other minor inaccuracies many of the scientific terms are changed into non-medical terms, which is not objectionable in itself. But such changes and inaccuracies should exclude quotation marks, for when used they mean that the words quoted are the *ipsissima verba* of the author, if in the same language, or an exact translation if from a foreign language.

But this is the least of all. The pamphlet says that the injection produced certain symptoms, among which are mentioned "the jaundice, the delirium, *the final collapse*," the last three words being in italics in the pamphlet to call special attention to them. In the *British Medical Journal* and in the *New England Medical Monthly*, the words "the final" are *not to be found*. We see not a few patients suffering from "jaundice, delirium, and collapse" who recover, but when the expression is changed to "the final" collapse, it means to everyone that the patient died.

Moreover, the end of the quotation is as follows: "I have seen [the symptoms of yellow fever] unrolled before my eyes thanks to the potent influence of the yellow fever poison made in my laboratory." *This entire sentence does not occur* either in the *British Medical Journal* or in the *New England Medical Monthly*. Whether it is quoted from some other source not indicated, or has been deliberately added, I leave you or "A. Tracy" to explain.

Moreover, immediately afterward on the authority of the Washington correspondent of the *Boston Transcript* it is stated "it is understood that some if not all of the persons inoculated died of the disease" and then seven times afterward are repeated "the final collapse," the "unrolling before the eyes," "scientific assassination," "death" and "murder" quoted from a public speech before the American Humane Association. Let us see if these *were* "murders."

In the two references given there is no indication whether any of these patients died or not. How, therefore, "it is understood that some, if not all of them died," I do not know. As a matter of fact none of the human beings inoculated by Sanarelli died, as anyone desirous of learning the truth could have ascertained by consulting Sanarelli's original publication reporting his experiments with full details. (*Annali d'Igiene Sperimentale*, 1897, vol. vii, Fascic. iii, pp. 345 and 433.)

What hysterical oratory about "the final collapse," which was not final; "scientific assassination," which did not assassinate; and "murder" of those who were so disobliging as still to live! And this on the authority of the Washington correspondent of the *Boston Transcript* who, the pamphlet assures us, is a person "who would seem to be unusually well informed in matters of science!" An excellent example of "newspaper medicine" and a good reason for my refusal to accept it as evidence, especially from other correspondents who may not be as "unusually well informed." May I ask whether "the Vienna correspondent of the *London Morning Leader*" is also one of those who in your opinion is "unusually well informed in matters of science" and whether his testimony is as wholly false as the one under consideration?

5. On page 23, the pamphlet quotes an account of some experiments by Dr. Neisser from the *Medical Press and Circular* (England) of March 29, 1899." This is an instance again of misquotation and omission which can scarcely be other than intentional. The last sentence of the first quotation states: "Of these 8 girls, 4 developed syphilis." No stars indicate that any words have been omitted. The original reads: "Of these 8 girls, [5 were prostitutes, and of these 5] 4 developed syphilis." The words in brackets are entirely omitted in the pamphlet. They make a deal of dif-

ference, for what is more probable than that 4 out of 5 prostitutes should develop syphilis? Whether it makes any difference or not, however, is at present not the question. The issue is whether the quotation is "garbled and inaccurate." Does it not fulfil another of the definitions of "garbling" given in your letter, viz., "omissions of essential facts . . . sufficient to impair the accuracy or fairness of the quotation?"

Moreover, the pamphlet's comment upon this case is as follows: "Does the London journal which reports these awful experiments denounce them as a crime against every law of morality? Not at all. It simply says that 'it would be difficult to acquit Dr. Neisser of a large measure of responsibility in respect of the causation of syphilis in these cases!'" Could reproof be more gentle?

Is that really all that the *Medical Press and Circular* "simply says"? On turning to that journal after the above sentence, which is correctly quoted, the editorial continues thus: "We, however, are less concerned in establishing the culpability of Dr. Neisser than in condemning the spirit which prompted such experiments. All measures, even if novel, which may reasonably be expected to assist in bringing about the recovery of the patient without injury to his health may legitimately be resorted to with the consent of the patient, but measures, whether by drugs or by operation, which have not for direct object the cure of the patient and which may prove inimical to his health or condition, are inadmissible under any circumstances and must expose the perpetrator to professional ostracism and to penal rebuke."

Is "professional ostracism and penal rebuke" a reproof than which nothing could be "more gentle"? If this statement is not "garbled and inaccurate," what do words mean? How could this misrepresentation be otherwise than intentional?

6. On page 24, again, reference is made to the experiments of Menge.* The extracts being in quotations marks would purport to be exact translations. This is not the case. The collocation of the paragraphs, also (especially in the smaller pamphlet), is such that it would be supposed even by a careful reader that the babies experimented upon were inoculated with the germs taken "from the pus in the abdominal cavity of a person who had died of peritonitis," without any precautions or preliminary experiments, and that, therefore, these babies were exposed to a fatal infection. This is not true. Four columns of text in the original intervene between the first and the second paragraphs alleged to be quoted, and these detail experiments which proved that the inoculations which he then carried out would almost certainly be harmless. The result showed that he was right, for not the slightest ill-effects followed. I have only words of condemnation for Menge's experiments, but to misrepresent these experiments is scarcely less culpable than to perform them.

7. Then follows a brief account of Kroenig's experiments. The object of these the pamphlet says were "to observe the surest way of breeding purulent bacteria." This is not true. On the contrary, his object, like Menge's, was to determine how these bacteria are normally *destroyed* in the part of the body in which the experiments were made. In only a single instance did any ill effects follow, and in this case the inflammation was brief and not dangerous either to life or health. In fact, the very titles of these two papers proclaim the destruction of the bacteria and not the surest way of breeding them, as Menge's title reads, "On a quality (Verhalten) of the vaginal secretion in non-pregnant females, which is hostile to bacteria," and Kroenig's is on the same peculiarity in pregnant women.

In the comment on these two series of experiments, they are spoken of as inoculations "with loathsome diseases," which would suggest to any one that the patients were successfully inoculated with syphilis or other similar diseases. This was not the case. Only inflammation would follow even had the inoculations been successful.

Moreover, to show the vague looseness of the alleged quotations, the two paragraphs on the experiments of Menge are in quotation marks and are introduced by the words "He says: 'the bacteria I used, etc.,'" as if they were exact continuous translations. "He says" nothing of the kind. Instead of being exact translations, the first paragraph is made up of partly correct and partly incorrect translations

* *Deutsche medicinische Wochenschrift*, 1894, Nos. 46 to 48.

from page 891 near the top of the second column and near its middle; and the second paragraph of partly correct and partly incorrect translations from page 907 near the bottom of the first column.

No reference whatever is given to Kroenig's paper either by number, date, or page. Is not this "vague and indefinite"? As a matter of fact it is the same journal (No. 43, p. 819) as Menge's paper, but published three weeks earlier.

8. On page 25 is one of the most outrageous instances of garbling and mistranslation, or worse, which I have ever known to be perpetrated even in antivivisectionist publications. It relates to observations and experiments of Professor Schreiber, reported in the *Deutsche medicinische Wochenschrift* of February 19, 1891.

The subject is introduced with the startling caption: "Inoculations with Tuberculin and Germs of Consumption." In the smaller pamphlet the caption is simply: "Injected Germs of Consumption." What was injected was not the "germs of consumption" at all, but tuberculin, a substance which at the date of Professor Schreiber's publication was engaging the attention of physicians throughout the civilized world as a therapeutic and diagnostic agent. To describe inoculations with tuberculin as "inoculations with the germs of consumption" can be attributed only either to gross ignorance or to wilful disregard of the truth.

In the first paragraph occurs the sentence: "He began with one decimilligram and continued to inject the tuberculin in ever-increasing quantities, until he at last injected as much as 5 centigrams, about 50 times as much as Koch said was the maximum dose for children of 3 to 5 years old." Any fair presentation of these experiments would have included Professor Schreiber's sentence which he prints in bold-faced type: "But even with so large a dose injected at one time, the children showed *no trace of a reaction.*" It would, perhaps, be too much to expect your society to have indicated on what grounds Professor Schreiber was led to the employment of such large doses, and that his observations demonstrated for young infants an exceptional tolerance of tuberculin, a phenomenon for which there are analogies with other drugs.

But the worse falsification is the succeeding account, in the form of what purports to be an exact translation of Schreiber's inoculation of a boy with tuberculin. The alleged quotation begins: "I am sorry to say that it is very difficult to obtain subjects for such experiments. There are, of course, plenty of healthy children in consumptive families, but the parents are not always willing to give them up." The words "I am sorry to say that," and the entire next sentence "There are, of course, plenty of healthy children," etc. are *not in the original, but are additions made out of the whole cloth.* The next following sentences contain many inaccuracies, such as the translation of the German words "beträchtlich angeschwollen" as "swelled up enormously," instead of "swelled up considerably." But the worst is the deliberate insertion of the following sentence italicized in the pamphlet which also does not occur in the original: "I cannot yet say whether the boy will be consumptive in consequence of my treatment." The correct translation of Schreiber's words at the point where this closing sentence appears in the pamphlet is as follows: "I could discover no other alterations in the otherwise apparently healthy boy." [Andere Veränderungen konnte ich an dem sonst gesund scheinenden Knaben nicht entdecken.]"

While I have said enough about this case to substantiate my charge of garbling and inaccuracy, I cannot refrain from utilizing it also to show the utter misapprehension which the citation of detached sentences and paragraphs from medical articles is calculated to create in the mind of a non-medical reader. Even when the words are quoted correctly, they are likely, when detached from the context, to give rise to entirely false impressions. This is a criticism which applies not only to other examples cited in this pamphlet, but to a very large number of reports of experiments and of quotations from medical journals and books current in antivivisectionist writings, and the resulting dissemination of erroneous conceptions is often greater even than that caused by inaccurate or garbled quotations. A brief explanation of the present example will show the justification of this charge.

For what purpose did Professor Schreiber inoculate the boy with tuberculin? His article leaves no doubt as to the

answer. He points out the importance of the earliest possible recognition of tuberculosis in a patient in order to secure the best curative results. The boy's mother had consumption, and the author calls attention to the frequency of unrecognized tuberculosis in the offspring of tuberculous parents. The boy received a small dose (1 milligram) of tuberculin, which, if he were free from tuberculosis, would produce no effect, but which if he had unsuspected tuberculosis would produce a transient (though possibly a severe) fever and a local reaction, indicative of tuberculosis. Such a reaction followed the injection of tuberculin, and the diagnosis of tuberculosis, which had not been, and very likely could not have been made in any other way, was established. I do not know what could have been more fortunate for this boy than the recognition in its incipency of a disease previously unsuspected, and which, recognized thus early, should in all probability be cured by proper treatment. This tuberculin test is constantly employed to prevent the spread of tuberculosis in our cattle. In our children it enables us to discover the same disease in an early, curable stage. Shall we care for our cattle better than for our children?

Its use is not properly to be called an "experiment" at all. As I write this, I find in the *Journal of the American Medical Association* for January 12, 1901, page 75, 3 cases of the use of tuberculin in human beings by Prof. J. M. Anders, who points out its value in enabling us to diagnosticate consumption "in latent forms and dubious cases however incipient" long before percussion or the stethoscope will reveal the disease. I can imagine his surprise if he were charged with making 3 horribly cruel "experiments" and injecting the "germs of consumption."

It is euphemism to call such an alleged quotation, in which words and one entire sentence are interpolated and another wholly changed in meaning, a "mistranslation" or even a "garbled and inaccurate" account. Does it not amount to literary forgery? It is another illustration of the fact that when an antivivisectionist attempts to say anything about scientific experiments either the moral sense is blunted or the truth-telling faculty is in abeyance. A good English example is the misstatements in Miss Frances Power Cobbe's book laid bare by Victor Horsley, and Schreiber's and Sanarelli's cases will serve as excellent examples of American misrepresentation—if so long a word is needed to describe them.

I am sorry my reply is so long, but in fewer words I could not explain the many and gross errors to be pointed out. I have given you indeed "many" instances in which the references are "vague and indefinite" and "some" in which the accounts are "garbled and inaccurate." These adjectives are, I submit, very mild ones to apply to such a pamphlet.

You can hardly be surprised after the extraordinary and repeated interpolations, mistranslations and worse which I have demonstrated in this letter that I am unwilling to accept any alleged quotation or translation emanating from the American Humane Association as accurate and truthful unless I can compare it with the source from which it is derived.

In conclusion let me commend to the "Humane" Association the closing words of President Elliott's letter to be found on pages 218-9 of the "Hearing."

"Any attempt to interfere with the necessary processes of medical investigation is in my judgment in the highest degree inexpedient and is fundamentally inhuman."

I shall take the liberty of publishing my reply. I suppose that you will not object to the publication of your letter with it in order to explain the reason for the reply?

Very respectfully yours,

WILLIAM W. KEEN.

Jenner Institute of Preventive Medicine.—The following appointments have recently been made at this institution: Dr. S. G. Hedin, of the University of Lund, Sweden, has been appointed Head of the Department of Pathological Chemistry; Mr. J. Beresford Leathes, Lecturer on Physiology at St. Thomas's Hospital Medical School, assistant in the same department; and W. J. Young, of Owens College, Manchester, assistant in the Chemical Department. Drs. Moore, Petrie, and Mackenzie have been elected to fill the three Research Studentships.

The Latest Literature.

British Medical Journal.

February 2, 1901. [No. 2092.]

1. A Clinical Lecture on the Complications of Gastric Ulcer and their Treatment. A. W. MAYO ROBSON.
2. A Case Illustrating the Relief of Chronic Gastric Disease by Gastroenterostomy. ARTHUR E BARKER.
3. Remarks on a Case of Retroperitoneal Cyst. JOHN WARD COUSINS.
4. Strangulated Femoral Hernia; Successful Primary Resection of the Damaged Gut. HENRY BETHAM ROBINSON.
5. Some Remarks on the Radical Cure of Hernia; Based on 190 Cases of Operation for the Cure of Oblique Inguinal Hernia. A. R. ANDERSON.
6. Carcinoma of the Liver at the Age of 24 Years. DAN MCKENZIE.
7. Remarks on Aneurysm of the Coronary Arteries of the Heart; with Notes of Two Cases. T. WARDROP GRIFFITH.

1.—In discussing gastric ulcer, Robson excludes from his remarks ulcers due to tubercle, syphilis, and malignant disease. Ulcers are divided into "erosions" and "simple ulcers." The latter is subdivided into the acute round ulcer, most frequently found in young women and frequently complicated by hemorrhage and perforation, and the chronic irregular ulcer more frequently seen in men, but, according to Robson, not infrequently found in the female sex. Symptoms and diagnosis: Pain after eating, with vomiting and tenderness in the epigastrium, are the most indicative symptoms of ulcer. In many cases no symptom of the condition is present until there occurs a sudden hemorrhage or perforation. The kind of pain will often indicate the seat of the disease. For instance, an ulcer on the posterior wall will give rise to more pain when the patient is recumbent, and an ulcer on the anterior wall will be most painful when the patient is prone. When the ulcer is at the pylorus the patient is more comfortable when on the left side, and the reverse is true if the ulcer is at the cardia. When the ulcer is situated in the anterior of the wall of the stomach there is greater tenderness over the epigastrium. Vomiting is apt to give marked relief from pain in cases of ulcer, but this is not true of cancer of the stomach. The presence of hydrochloric acid in excess favors the diagnosis of ulcer. The blood in the vomit is apt to be free or clotted, though it occasionally resembles the coffee-ground vomit of cancer. Distention of the stomach by the evolution of carbonic acid gas will show whether or not dilatation is present. In chronic ulcer of the stomach a tumor may not infrequently be felt. The duration of the chronic ulcer, which is usually of years, as compared with the short duration of cancer, will frequently aid in a differential diagnosis. When there is doubt as to the diagnosis, an exploratory abdominal section may be made if the following two questions can be answered in the affirmative: First. Can an exploratory operation be performed without adding seriously to the risk of loss of life? Second. Is it possible that good will result from the exploration? Treatment should be medical, but if the ulcer becomes chronic, does not respond to treatment, or complications arise, surgical treatment is the only one which will give relief. Robson thinks that the medical treatment should be kept up for a much longer period than is usual, in order to prevent relapse.

Surgical treatment. Robson's mortality in operations for gastric ulcer is below 5%, and he thinks this mortality could be lowered if many of the cases were operated upon earlier. When medically treated the mortality rate is from 20% to 50%. Gastroenterostomy is the operation which Robson thinks most universally applicable to these cases, and he always attaches the bowel to the posterior surface of the stomach. His last 20 cases have all recovered without complication. Excision of the ulcer is not always necessary. **Pyloroplasty** can be done for pyloric ulcer if the pylorus is free from extensive adhesion, can be easily drawn forward, and is not actively ulcerated. If these conditions are not present, gastroenterostomy is to be preferred. Pylorotomy is seldom necessary for simple ulceration. Dilatation after the method of Loreta is not a satisfactory procedure. **Compli-**

cations. Perforation occurs in about 15% of all cases of ulcer of the stomach. That death does not occur in all cases of perforation is due to the fact that the stomach is usually empty and that the omentum becomes adherent at the point of perforation. Protecting adhesions, however, are rare and cannot be depended upon. Perforation not infrequently results in the formation of a subphrenic abscess. **Hemorrhage** occurs in about 80% of cases of gastric ulcer. Robson thinks that in acute hematemesis the treatment should be medical, but that in recurring acute as well as chronic hemorrhage surgical treatment should be instituted. **Cicatricial contraction of the pylorus** resulting in dilatation of the stomach is not an infrequent complication of gastric ulcer, and occasionally gastroplication is necessary as well as direct treatment of the stenosis. Robson has operated upon 11 cases of hour-glass contraction of the stomach as a result of ulcer. Perigastritis with adhesions frequently results from ulcerations of the pyloric end of the stomach, producing dilatation and requiring surgical interference for its relief. [J.H.G.]

2.—Barker describes the case of a woman, aged 42 years, who had suffered since the age of 14 with more or less gastric disturbance and vomiting. Six years before admission the diagnosis of gastric ulcer was made. For the past 16 months the patient had used a stomach tube daily. On admission the patient was extremely weak and anemic, and the stomach was largely dilated, a diagnosis was made of nonmalignant pyloric stenosis. As preparatory treatment for operation, the stomach was frequently washed out, and on the two days preceding the operation saline solution was injected subcutaneously. A posterior gastroenterostomy was performed in the usual way, but before closing the intestinal opening liquid food was thrown into the bowel. The pylorus was bound down by adhesions and was nearly completely closed. The patient recovered promptly from her operation and gained rapidly in flesh and health. [J.H.G.]

3.—Cousins reports a case of **retroperitoneal cyst** which he incised and drained successfully. He does not think that enucleation of these cysts can often be accomplished, and that the undertaking is accompanied by considerable danger to life. Where the pedicle is small, however, he thinks enucleation should be done. [J.H.G.]

4.—Robinson reports a case of **strangulated femoral hernia** in which he performed a resection of the bowel by the Maunsell method. The patient made a good recovery. [J.H.G.]

5.—Anderson, speaking of the mortality following operations for the **radical cure of hernia**, shows the percent to be about one in 100, in nonstrangulated cases. Out of 190 operations, including cases of strangulation, he had 4 deaths, 2 of which occurred in strangulated cases. He thinks that the Halsted-Bassini operation is the best method of obtaining a radical cure. He believes that with this operation, patients can be assured of a radical cure. Unless the cord is large, he does not resect the veins, and thinks this should never be done in children. He uses silk as his suturing material, and has had no cause to regret its use. In 60 operations done in the past year, in which silk was used, he has not had infection to take place in a single case, nor has he ever seen late infection follow the use of silk sutures. He does not advise the use of a truss after the operation, as it does no good, and is apt to do damage. In children he thinks the radical cure should be undertaken if the ring is large, and the hernia is not successfully controlled by the truss. [J.H.G.]

Lancet.

February 2, 1901. [No. 4040.]

1. The Baillie Lectures on Considerations, Touching the Pathology and Relations of Diabetes. W. HOWSHIP DICKINSON.
2. A Clinical Lecture (Abstract of) on Femoral Hernia. WILLIAM H. BATTLE.
3. The Hemorrhagic Diathesis in Typhoid Fever, and its Relationship to Purpuric Conditions in General. ALBERT G. NICHOLLS and G. EVERETT LEARMONTH.
4. The Treatment of Typhoid Fever. FREDERICK J. SMITH.
5. Filatow's Spots in Morbilli. L. FALKENER.

6. Laparotomy and Cleansing of the Peritoneum in a Case of Tuberculous Peritonitis. GEORGE WILLIAM DAVIS.
7. Selenium Compounds as Factors in the Recent Beer-poisoning Epidemic. F. W. TUNICLIFFE.
8. An Intraperitoneal Method for the Radical Cure of Inguinal Hernia. T. H. WELLS.
9. A Case of Primary Carcinoma of the Vermiform Appendix, with Remarks. T. R. C. WHIPHAM.
10. Reflections on Therapeutics. HARRY CAMPBELL.

1.—Dickinson delivered a lecture on **Considerations touching the pathology and relations of diabetes**, at the St. George's Hospital. He emphasizes that from the clinical standpoint the disease is well defined, but that from the pathological aspect much is still to be learned. He states that an uncommon form of diabetes is associated with lesions of the pancreas and a more common variety, with a good lead of certainty, is associated with diseases of the nervous system. He mentions as the most common pathological change, blood extravasation into the perivascular canals of the brain, particularly about the deeper arteries. He states that he has preparations showing these hemorrhages in 8 out of 22 diabetic brains. He also refers to syringomyelia which occurred twice in 8 diabetic spinal cords, and in 3 spinal cords there was hyaline modification of the lateral parts of the gray horns. Attention is directed to the important fact that the nervous system rapidly undergoes changes after death, also that the saccharine blood may have an influence upon the nerve structures, therefore confusion as to origin and effect necessarily arises. The diabetic liver is described as being enlarged, congested, red and firm. He refers to pulmonary consumption in relation to diabetes with particular mention of a form not of tuberculous origin. The inflamed kidney and other changes of the genito-urinary tract are probably due to the passage of saccharine urine, and that diabetic cataract is presumably due to the saccharine blood. The hemorrhages in the brain, previously described, are probably in some way associated with the cause of the disease, and not due to the saccharine blood. Reference is made to the discovery of Claude Bernard, and to Baron Larrey's case of diabetes (in 1820) in a man of 22 years of age who developed diabetes after an extensive wound of the brain made by the thrust of a foil. He states that reference might be made to many cases of head injuries which are followed by glycosuria, most often of a temporary nature. Grief, terror, anxiety, and commercial disasters are frequently followed by diabetes. Diabetes, as reported by Mr. Herbert Page, surgeon to the London and Northwestern R. R. Company, is twice as common in the engine-driver as in the ordinary population. The close association of gout and diabetes and the hereditary tendency of the disease are set forth. The occurrence of loss of patellar reflex in a large proportion of the cases and peripheral neuritis as clinical manifestations of the nervous system are mentioned. He also states that the appearance of earthy phosphates in the urine of diabetics shows the relation of the disease to cerebral irritation. The redness of the mucous membranes of the mouth, particularly of the tongue, and the dusky redness of the face also suggest involvement of the nervous system. He refers to glycosuria as being a concomitant of some cases of insanity, and that while the pathology of both remains largely a problem for the future, there are indications of cerebral changes, and the association between the two conditions seems conclusive. The address is concluded by mentioning that the important clinical observations of this disease are the following: Mental causes acting as an origin; the association of excessive phosphaturia; absence of patellar reflex; and the relation of glycosuria and insanity. [F. J. K.]

2.—In his lecture on **femoral hernia**, Battle discusses at some length the diagnosis of the condition, and lays great stress upon a thorough examination for hernia in all cases of intestinal obstruction. He recalls two instances where he had been called in to operate for intestinal obstruction, when in each case femoral hernia was present and had been overlooked. Patients should be examined standing as well as in the recumbent position. A varix of the internal saphenous vein is sometimes mistaken for femoral hernia, as are also enlarged glands and lipomata in the femoral region. A careful examination of the femoral ring will, in most instances, suffice to differentiate these conditions. When a

femoral hernia is irreducible, it should be operated upon, unless some condition exists which is a positive contraindication. In speaking of the radical cure of these cases, Battle thinks it is a mistake to adhere to one method of operating, and that it is better to change the technic to suit the individual case. He then describes a method which he has employed on three occasions, which consists in the implantation of a portion of the aponeurosis of the external oblique muscle into the femoral ring. This has been followed in each case with very satisfactory result. [J. H. G.]

3.—Nicholls and Learmonth discuss the **hemorrhagic diathesis in typhoid fever and its relationship to purpuric conditions in general**. The authors report a case of hemorrhagic enteric fever. They mention that this term should be used in referring to such cases of enteric fever that show purpuric eruptions of the skin, bleeding from the mucous membrane such as hemoptysis, hematemesis, metrorrhagia and epistaxis. Degeneration of the walls of the bloodvessels are mentioned as factors which are produced by circulating toxin. They state that 4 cases of hemorrhagic typhoid fever have occurred in a series of 200 cases at the Royal Victoria Hospital, Montreal. The case reported by the authors is that of a female of 21, unmarried, and a school teacher by occupation. She was admitted to the Royal Victoria Hospital on June 19, 1900, giving a history of feeling ill for 6 days. A chill, followed by fever, marked the onset of the disease. After a short time the diagnosis of enteric fever was made, rose spots appeared, the tongue was dry and coated, and the Widal reaction was positive. The spleen, however, was not enlarged. Fourteen days after admission a purpuric eruption showed itself upon the skin of the abdomen. These hemorrhages in a few days began to fade. Some days later extensive hemorrhages showed themselves. The patient had 2 hemorrhages from the bowels, there were epistaxis, bleeding from the lips and gums, hematuria and hemorrhages into the conjunctivae. A blood examination at this time showed that there were 13,000 leukocytes. At a later time the blood-count showed 1,540,000 erythrocytes and 35% of hemoglobin. Death occurred on the third of July. The treatment consisted of 18 cold baths, these were stopped when the hemorrhages appeared. Bleeding from the mucous surfaces was treated with supranal powder, and spirit of turpentine and liquor calcei chloridi were administered internally. The case is interesting on account of the sudden onset and absence of splenic enlargement. A postmortem examination made 2 hours after death revealed typhoidal ulceration involving principally the large intestine, but the small bowel was also implicated. Hemorrhages were found in the skin, lungs, heart, kidneys, spleen, intestines, bladder, gallbladder, and connective tissues. There was an old healed duodenal ulcer, acute diffused nephritis was present, the spleen was small and there were some old pleural adhesions. Microscopical examinations revealed fatty degeneration of the capillaries of the lungs and kidneys. The most important fact in reference to the pathological findings is the fatty degeneration of the endothelial cells of the capillaries in the lungs and kidneys, but the authors emphasize that rupture of the capillaries could not be demonstrated. A bacteriological examination was made, cultures being taken from the blood in the heart, peritoneal cavity, and kidneys. The bacillus typhosus was not demonstrated, but the staphylococcus albus was isolated from the blood in the heart and peritoneal cavity as well as from the kidneys. From the blood in the heart a bacillus was also isolated; the characteristics of this organism were the following: The bacillus showed bipolar staining properties; it had rounded ends and was four times as long as it was broad. It was nonmotile, gave an acid reaction in litmus milk and also produced coagulation, formed gas in glucose broth, and was nonpathogenic when inoculated into rabbits. A bacillus was isolated from the kidney, which was regarded as being identical with the bacillus fluorescens liquefaciens. The authors have tabulated statistics from various sources to show the infrequency of hemorrhagic typhoid fever. The total number of cases collected were 12,000, and in this number there were only 18 cases which showed the general hemorrhagic diathesis. They next refer to the etiology of this condition, pointing out as an important fact that scorbutic, hemophilic, or rheumatic taint does not seem to have been noted in the cases. In reviewing the pathology they state that the lesions differ little from those encountered in ordinary typhoid fever. The hem-

orrhages into the tissues and from the free surfaces show considerable diversity as to character and distribution. From the information that can be gathered the bacterial origin of this hemorrhagic condition is probable, but that final proof is still lacking. From the standpoint of onset and symptoms they state that the condition usually occurs in well-developed cases of enteric fever, and that the purpuric manifestations are most frequent in the third week of the disease. This fact strongly suggests that secondary infection acts as the most important cause. They regard the prognosis as very grave, two-thirds of the cases ending fatally. The treatment which is recommended is purely symptomatic, stating that with the appearance of the hemorrhagic state, the cold-bath treatment should be stopped. They mention the treatment recommended by Gerhard, who includes vegetable juices in the diet. They also refer to the many plans of treatment adopted to check the hemorrhage. The authors conclude the article by giving a classification of purpuric conditions. [F.J.K.]

4.—Smith in discussing the treatment of **typhoid fever** lays particular stress upon the examination of the stools, and that the appetite of the patient must be carefully watched. In the management of enteric fever he states that he has laid down a golden rule to examine the stools at least once in 24 hours. The appearance of undigested milk or other food in the stools has led the author to diminish the quantity of food or suspend feeding for 24 hours. The appearance of blood in the stools he states is an indication for the use of opium and the stopping of all food for 24 or 48 hours. When sloughs make their appearance in the stools, which is a natural state during the third or fourth week of every case, hemorrhage may be feared, so that feeding should be cautious. Feculent debris is a desirable constituent of the stools and should indicate the persistence in the line of treatment which has been adopted. He believes that the appetite of the patient indicates the character and amount of the diet, and he has made it a cardinal rule to allow the patient to be the sole arbiter of his diet, the only contrary indications to feeding being vomiting, hemorrhage and tympanites. He advises feeding 4 times during the 24 hours. Sleep, however, is more valuable than feeding, therefore the patient should never be aroused to be fed. He recommends the following articles in the dietary: Liquid custard, baked custard pudding, junket, bread and milk, eggs lightly boiled or poached, jelly and soups, beef tea, beef juice, and stale bread. He does not deny the patient beer or stout. In the treatment of complications he states that vomiting should be controlled by withholding the food, and by the administration of hydrocyanic acid, bicarbonate of soda and bismuth. When tympanites occurs he advises the withholding of all food, the administration of sulphate of soda until the bowels are acting freely. He also recommends that an ice-bag should be placed upon the abdomen. Constipation is treated by the routine administration of calomel. As a rule he does not fear excessive diarrhea, but when undigested particles of food appear in the stools food should be stopped for a while. For the fever he recommends tepid sponging and for hemorrhage from the bowels starvation and the administration of opium. He advises as a routine treatment the administration of either carbolic acid or chlorine water, and in some cases salol. Alcohol he believes should not form a necessary article for the treatment of this disease. He concludes the article by saying that with this method of treatment he believes his results as regard mortality are as good as those with any other plan of treatment and maintains that convalescence is more rapid; relapses, however, are not prevented. [F.J.K.]

5.—Filatow's spots in morbilli are discussed by Falkener. He states that Filatow described them in 1895 and Koplik in 1896, and that they have usually been called Koplik's spots. Koplik described them as bluish white, but the author states that these spots appear as fine white specks. They are easily removed by rubbing. After these spots have persisted for a short while they are surrounded by a red areola. The buccal mucous membrane is the commonest site for Filatow's spots, appearing opposite to the lower molars or upper molars on either side. They are also found upon the inner surface of the lower lip and upon the inner surface of the upper lip. He lays stress upon the fact that in every one of his cases Filatow's spots were observed. From the standpoint of differential diagnosis they are sometimes

to be distinguished from permanent spots upon the mucous membrane, also from curds of milk which collect upon the mucosa, from thrush and aphthous stomatitis. The author has never noted the absence of Filatow's spots in measles, and he has never observed them in any other condition, having examined the mucous membrane of the mouth in from 3,000 to 4,000 cases. They are of great importance from the standpoint of diagnosis, for when they appear the case is most certainly one of morbilli. From the standpoint of early treatment and isolation this sign is of great value. [F.J.K.]

6.—Davis reports a case of **tuberculous peritonitis** in which abdominal section and toilet of the peritoneum resulted in considerable improvement. He thinks it a mistake not to operate in these cases early when there is a chance of obtaining beneficial results. [J.H.G.]

7.—Tunncliffe and Rosenheim in an article conclude that after an investigation relating to the recent beer-poisoning epidemic that selenium compounds would explain many anomalous cases in which the dose of arsenic was very small, and feel justified in stating that these compounds have played an important role with the arsenic. [F.J.K.]

9.—Whipham relates a case of **primary carcinoma of the vermiform appendix** not diagnosed during life but found postmortem. The peritoneum was studied with carcinomatous masses, and one ovary also was the seat of malignant disease. The mucous membrane of the appendix was seen to be extensively involved by spheroidal-celled carcinoma; the muscular coat was only slightly involved. This was the only portion of the alimentary canal that was the seat of malignant disease and Whipham thinks this argues for its being the primary seat. The cancerous condition of the left ovary he considers to be due to dissemination. Microscopic sections of the appendix are shown and other reported cases referred to. [J.H.G.]

New York Medical Journal.

February 16, 1901. [Vol. lxxiii, No. 7.]

1. Stethophonometry. ALBERT ABRAMS.
2. Septicemia in Young Chickens. LEO F. RETTGER.
3. A New Portable and Inexpensive Ophthalmometer. WILLIAM F. AIKEN.
4. Combined Surgical Operations in Female Subjects at a Single Seance. R. STANSBURY SUTTON.
5. The Normal Declinations of the Retinal Meridians. GEORGE T. STEVENS.
6. A Study of Buboos and Their Treatment. FREDERICK GRIFFITH.
7. Hysterical Anesthesia and Analgesia. B. C. LOVELAND.

1.—Albert Abrams, in an article on **stethophonometry**, remarks that **auscultation** of the heart-tone in the conventional manner not infrequently affords us no indication of cardiac strength, if reliance is to be placed on the intensity of the tones in their selective propagation to different parts of the chest. Abrams has devised an instrument which he calls the **stethophonometer**. This instrument is constructed on the disc-valve principle, weighs only two ounces, and is composed wholly of hard rubber. He believes that the employment of this instrument will add greater scientific value to our clinical examinations, in recording the intensity of the acoustic phenomena associated with the heart and lungs. [T.L.O.]

3.—After considering the principles of some of the ophthalmometers used at present, Aiken describes a **new portable and inexpensive ophthalmometer** devised by him. The author claims that the instrument has proved reliable for measuring the corneal convexity. The principle is that of doubling a square image in the direction of one diagonal, the opposite corners touching; the opposite sides of the square thus serve as mires. In the absence of astigmatism, a perfect cross is formed; when astigmatism is present there is a faulty alignment of one pair of sides with a correct alignment of the other pair at right angles. No counting of "steps" is required as a scale of the draw-tube indicates each axis when the arms of the cross in the corresponding meridian are in line. The spherometric range of the instrument is from a curvature $r=5.5$ millimetres to $r=13$ millimeters. The

instrument can be employed with a patient in the position of ophthalmoscopy thus enabling the examiner to determine the astigmatism and make the ophthalmoscopic examination with the patient in the same position. The article is comprehensively illustrated. The instrument is detachable and easily portable. [N.R.D.]

4.—Sutton, of Pittsburg, remarks that until a very recent period when a female patient required 4 or 5 distinct surgical procedures, many months were frequently required for her recovery. Edebohls, of New York, has encouraged the practice of operating at one time upon the several lesions without regard to their number. Sutton reports 15 cases in which several operations were done at one time and uneventful recovery followed. [T.L.C.]

7.—Loveland, reports a case of **hysterical anesthesia** and analgesia in an unmarried woman of 24 years. This case is reported as one of **hysteria major**. The sensation was normal in the head and neck anteriorly and posteriorly. There was tactile, thermic and pain analgesia from the collarbone to just above the nipples in front, and over an equal area in the back, both shoulders and arms being included in anesthetic area. On the front of the body the sensation was normal from the nipples down, along the line of the body to the tenth rib, where an area of extreme **hyperesthesia** began and extended to the groins. On the back normal sensation extended from the lower angles of the scapula to the gluteal folds, except at two small points just below the scapula which were extremely sensitive. In other words they were **hysterogenic zones**. Electrical stimulation of these spots immediately developed an hysterical attack. The limbs, including the feet, were devoid of all sensation. A deep puncture with a large needle produced no evidence of feeling. The upper limit of this condition being the groin in front and the gluteal fold in the back. Contrary to what is usual in such cases, puncture with a surgical needle was followed by some **blood ecchymosis**, though the skin presented the usual pale appearance. The line between the sensitive and insensitive areas was sharply defined. [T.L.C.]

Medical Record,

February 16, 1901. [Vol. 59, No. 7.]

1. The Problem of Appendicitis from the Medical and Surgical Points of View. ROBERT ABBE.
2. The Causes of Failure of Compensation in Diseases of the Heart. MORRIS MANGES.
2. Strabismus and its Management. J. H. WOODWARD.

1.—Robert Abbe discusses the problem of **appendicitis from the medical and surgical points of view**. He presents for careful study a number of specimens selected from several hundred and arranged in groups of 10 to illustrate important points of difference. These specimens present respectively single strictures, multiple strictures, those in which **concretions** have formed, another in which a partial sealing of the canal had occurred with, however, a remnant of the canal remaining, to produce further trouble. One or 2 cases of the series are interesting in illustrating the fact that even a completely obliterated cavity may leave an atrophied appendix which is the seat of a painful neuralgia requiring its removal. One series shows a small follicular ulcer. The idea embodied in the word **catarrhal appendicitis** is a correct one in the very early stages in the morbid condition. Excluding the rarer cases when foreign bodies are entrapped, or in which the **kinking of the appendix** from its short mesentery, the **origin of the stricture** is found in 1 of 2 causes, **septic and linear ulcer** or the **contraction of the catarrhal inflammation**, antedating this stricture by many years. From this study it may be said with certainty that the first attack of appendicitis recognized by the patient is in most cases the end of the disease, for the appendix shows the presence of a stricture which may have existed for many years. The most complete experience clinically of the variations in the symptoms is often required to differentiate between the disease in question and so unlike a malady as typhoid fever. The latter study of leukocytosis throws much light upon the differential diagnosis. Abbe concludes that attacks may often be cured by natural methods; that a long

respite does not mean a cure, and that it is impossible to predict a cure; and finally, that unless the appendix is removed, the disease is always latent where once it is begun. [T.L.C.]

2.—Morris Manges discusses the **causes of failure of compensation in diseases of the heart**. He prefaces his article with a resumé of the opinions of authorities on this subject, and clinically groups the causes of the condition as follows: (1) Failure of general nutrition of the body; (2) disturbance of local nutrition of the heart; (3) increased work of the heart; (4) functional cardiac disorder; (5) effects of improper treatment. These causes are discussed under their respective captions. [T.L.C.]

Medical News.

February 16, 1901. [Vol. lxxviii, No. 7.]

1. A Hair-Cast of the Stomach; its Successful Removal by Laparotomy. NATHAN JACOBSON.
2. Scurvy and Rickets in Young Children. H. A. HARE.
3. The Relation of Tuberculosis to the Tenement-house Problem. ARTHUR R. GUERARD.
4. Treatment of Lupus. H. ROCKWELL VARNEY.
5. A Report of Some Cases of Abdominal Surgery, with Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and Gallbladder. CHARLES GREENE CUMSTON.

1.—Jacobson reports a very interesting case of a young girl, 11 years of age from whose **stomach** he removed a large **hair-cast**. For about two years prior to the operation the patient had suffered from considerable gastric disturbance and pain. Frequent vomiting was also present. About a year before the operation, a cucumber-shaped swelling was noticed in the upper part of the abdomen. The attacks of pain became so frequent that the patient lived largely on milk. She appeared much younger than she was, was thin, ill-nourished and quite nervous. Nothing abnormal was found about the abdominal viscera, but a large, hard, slightly nodular tumor could be palpated above the umbilicus. In shape it was somewhat like a kidney and freely movable. No definite diagnosis was made. The abdomen was opened and the tumor was found to be within the stomach which was opened and a large hair-cast was removed. Both wounds were closed. The patient recovered from the operation and admitted that during all her life she had bitten off and swallowed her hair. At first she did this because she was nervous, but later because she rather liked the tickling sensation produced by the hair in its transit to the stomach. The tumor was 6 inches long, had much the shape of the stomach, was about 2½ inches thick and about 2½ inches in breadth. It weighed 15 ounces. The pyloric end extended into the stomach. Full-sized photographs of the mass accompany the article. Jacobson referred to the frequency of this condition in animals, particularly in the cow, and then discusses 19 cases which have been reported as occurring in human beings. In several instances intestinal obstruction followed the presence of a hair ball, with perforation and death. None of the patients were insane, but a number were described as hysterical. The stomach in a number of instances tolerated the foreign body without rebellion. In one case the mass of hair weighed 5 pounds and 8 ounces. In one case there were two masses of hair found in the stomach. Of the 19 reported cases 10 were discovered post-mortem and 9 upon the operating table. In no case was a diagnosis made. Because of the movability and shape of the tumor it has often been mistaken for a movable kidney. Jacobson finds in one other case the regular recurrence of pain at night from which his own patient suffered. In nearly every case it was not discovered that the patient was a hair eater until after the foreign mass had been removed. In most of the fatal cases death resulted from perforative peritonitis. There was not a single death in the 9 cases operated upon. [J.H.G.]

2.—H. A. Hare mentions the frequency with which **scurvy** in infancy is mistaken for **acute articular rheumatism** and mentions as a point of differential diagnosis the rarity of articular rheumatism in the first 5 years of life. A frank case of scurvy is easy of recognition, but many atypical cases are found. He describes 8 cases, the first in

which the child cried bitterly every time it was moved, particularly if the movement involved the change in the position of his back. An orthopedic surgeon believed that spinal disease was present, and a line of mechanical treatment was followed. No benefit was observed, but after a time scurvy was diagnosed, and under proper treatment, cure followed. His second case also presented similar symptoms of spinal trouble, but careful examination of the child revealed the fact that its gums were slightly spongy, and no evidence of disease in its spine, joints, or head could be demonstrated, the diagnosis of probably scurvy was made, and cure rapidly followed the treatment instituted. The third case was that of a child who suffered at the end of its first year with almost complete paraplegia. It was plump, but pallid, and its gums and mouth presented the characteristic scorbutic symptoms. This child had been fed upon the best cow's milk with the addition of well known form of artificial infant food, and scurvy had not been considered possible. However, under the proper dietetic regimen a speedy cure followed with total disappearance of all the paralytic symptoms. Hare points out that scorbutus in infancy is a disease of the children of the well-to-do, in distinction from rickets which on the other hand seems to be the disease of the poor. [T.L.C.]

3.—Guerard discusses the relation of tuberculosis to the tenement-house problem. He emphasizes the deleterious effects of poor ventilation, lack of sunlight and the effects of overcrowding. He points out the repeatedly observed fact that in many instances tuberculosis occurs again and again in the same house. He has carefully studied the maps and records of the New York City Board of Health, in the Fourth and Sixth Wards of the City and he found that 38% of the total number of dwellings had cases, including deaths, of consumption reported from them during the years 1894, 1895 and 1896. Of these cases one-half occurred in 23% of the affected houses, this being but 9% of all the dwellings in the wards. One-fourth of the houses had apparently become permanently infected as shown by a repetition of three or more cases in them in the three years. In some houses as many as eight cases occurred. During a period of eight years previous to 1897, 136 cases were reported in 12 houses, and he estimates that 200 or more cases of consumption, or an average of about twenty per house, had occurred in these twelve houses in the eight years. These particular wards were studied on account of the dense population and poor surroundings. He believes that much can be done by enforcing landlords to observe the following requirements: 1 To make ample and suitable water closet provision for the number of persons to occupy the house. 2. To supply each set of apartments with a separate water supply and bath. 3. To provide separate storage for coal. 4. To provide sufficient means for washing clothes. 5 To provide pantry accommodation for the keeping of food. The city itself can do much to ameliorate the condition of its poor by establishing public baths and wash-houses as well as providing public squares and breathing spaces. The infected houses should be razed and building laws more stringently enforced. In a table appended to this article it appears that the deaths from phthisis constitute about one eighth the deaths in New York City, and about 91% of these cases occur between the ages of 16 and 65. [T.L.C.]

4.—Varney discusses the treatment of lupus by the x-ray. In passing the x ray through the spectroscopé one sees at the chemical end of the spectrum a combination of 2 of the primary colors, red and blue or ultra violet. He believes that it is by the action of the strong chemical colors that the stimulating influence on the tissues is produced. This is the same principle as that devised by Finsen in which he uses the ultraviolet rays of white light. The results are about the same except the x-ray is somewhat more rapid in its action with shorter exposures, and larger areas may be treated at a sitting. The treatment of lupus by the x ray is painless, its exposures are of short duration, and the area treated may be of any size or location. There is no scar from the treatment if the exposure is properly conducted. The time of exposure is regulated by the density of the rays and the results are evident with much less scarred tissue. [T.L.C.]

5.—The next case reported by Cumston was one of carcinoma of the cecum complicated by appendicitis. The patient was a woman, 48 years of age, who suffered from attacks of appendicitis, for the relief of which a diseased and

adherent appendix was removed. The operation, however, did not relieve the patient's suffering, but the symptoms increased with loss of flesh and symptoms of obstruction of the bowels. A second operation was done, an annular carcinoma of the colon was found, but the patient's condition was not such as to stand a resection and an anastomosis and hence an artificial anus was formed. The patient died a few hours later. The symptoms of carcinoma are summarized as pain, alternating diarrhea and constipation, loss of flesh, dyspeptic disturbances, and intestinal hemorrhage. Physical signs are absent, of course, at the onset of the disease, but later a movable tumor can be palpated which finally becomes fixed. Edema of the leg may follow from compression of the iliac vein. The next case is one of carcinoma of the gallbladder with secondary deposits in the liver, which followed within a year an operation for the removal of gallstones, which was entirely satisfactory. In this case Cumston removed the gallbladder and a large portion of the liver. About two years after the operation, the patient showed symptoms of extensive malignant disease of the liver. Cumston thinks that extirpation of the gallbladder is justifiable only in the presence of malignant disease or of severe inflammatory lesions. [J.H.G.]

Boston Medical and Surgical Journal.

February 14, 1901. [Vol. cxliv, No. 7.]

1. A Case of Cesarean Section for Complete Placenta Previa. C. H. HARE
2. The Woolen Yarn Truss in Infantile Inguinal Hernia. E. S. BOLAND.
3. Disinfection Within and Without the Body in Diphtheria. M. A. VEEDER.

1.—Hare reports the case of a woman, aged 27 years, who was having alarming hemorrhages from placenta previa. A cesarean section was done, and a living female fetus was delivered. The patient died 11 hours after the operation, and the baby died in 13 days of inanition. [J.M.S.]

2.—Boland advises the use of a woolen yarn truss for the retention of infantile inguinal hernia. [J.M.S.]

Journal of the American Medical Association.

February 16, 1901. [Vol. xxvi, No. 7.]

1. The Major Obstetrical Operations. From the Standpoint of the General Practitioner, with a Tabular Report of 23 Consecutive Successful Cases. EDWARD REYNOLDS.
2. Treatment of Sessile and Certain other Ovarian Cysts. H. B. STEHMAN.
3. Paralysis Agitans Without Tumors. AUGUSTUS A. ESHNER.
4. New Methods for the Application of old Principles in the Treatment of Fractures and Deformities of Limbs. JAMES G. HUGHES.
5. Possibilities of Liquid Air to the Physicians. A. CAMPBELL WHITE.
6. Movements of the Intestines. ALBERT BERNHEIM.
7. The Etiology of Yellow Fever. An Additional Note. WALTER REED, JAMES CARROLL and ARISTIDES AGRAMONTE.
8. The Metric System. FRANK G. WHEATLEY.
9. Evolution and Involutionary Types of Mental and Nervous Diseases. EDWARD E. MAYER.
10. Anastomosis of the Ureters with the Intestine. A Historical and Experimental Research. REUBEN PETERSON.

1.—Reynolds discusses the major obstetrical operations from the standpoint of the general practitioner. The operations to be considered in all of these cases of pelvic contraction are forceps, version, induction of premature labor, craniotomy, the cesarean section with or without extirpation of the uterus, and symphysiotomy. The choice between these must always be determined by a consideration of their respective maternal and fetal mortality, under the conditions of the individual case. The conclusions to which he has been forced by his study of the subject are as follows:

1. When the conditions are such that the child can be delivered with anything like reasonable ease by forceps or version; one of these operations is preferable to any cutting operation. 2. When the mechanical relations would render forceps or version unusually difficult, forcible, and prolonged; and when the mother is in the favorable class, the equally low maternal mortality and the far lower fetal mortality of the cesarean section render it the operation of choice. 3. When the mechanical conditions make the intrapelvic delivery of an intact child at term impossible, or unduly difficult, the great superiority of the cesarean section over the induction of premature labor in fetal mortality, and its extremely low maternal mortality, render it again the preferable operation. 4. When the ordinary operations fail and the woman is in the unfavorable class, symphysiotomy is the operation of choice, and may be expected to lead to a favorable result for both mother and child in the great majority of cases, provided always that the degree of mechanical difficulty permits of its application. 5. When, in the unfavorable class of cases, the degree of relative disproportion between head and pelvis is too great to admit of a safe symphysiotomy, craniotomy to the living child should be unhesitatingly chosen, since the maternal mortality of either form of the section is so enormous, and because the life of the potential mother of many children is of more value than that of any unborn fetus. [W.A.N.D.]

2.—In his paper on the treatment of sessile and other ovarian cysts, Stehman gives the clinical results of a method which he claims is simple, applicable in a certain percentage of these cases, and, so far as he knows, not usually employed. Then nonpedicular cysts of the female adnexa as a rule develop either from the ovary—paroophoron—or the parovarium; for the most part they grow between the layers of the broad ligaments, and thus are in intimate relation with the cellular tissue, vessels, ureter, and bladder beneath and in front; the muscular and serous coats of the broad ligaments and ovary on the sides; and the superimposed tube and peritoneum above. His method includes the following steps: After carefully walling off the intestines, the cyst is aspirated and about three-fourths of the collapsed wall removed; the interior of the remainder is thoroughly painted with tincture of iodine and, by the aid of a long dissecting forceps and needle-holder, the marginal ends are turned in with an over-and-over continuous stitch. The abdominal wound is then sutured and sealed. He claims that recovery after this operation is ideal. [W.A.N.D.]

3.—Eshner in an article on **paralysis agitans** reports 2 cases in whom the tremor was the least conspicuous of the symptoms. In the 2 cases the tremor was almost wholly absent and at times was very inconspicuous. In concluding the article he states that this disease may be unattended by tremor. [F.J.K.]

4.—Hughes advocates the **ambulatory treatment of fractures** of the thigh and leg and of certain cases of coxalgia and illustrates his article with cuts of an apparatus which he has devised and found useful in these cases. [J.H.G.]

5.—White, in discussing the possibilities of **liquid air to the physician**, tells of the manifold uses of this new therapeutic agent. In the treatment of abscesses the author believes that liquid air is to be preferred to any other form of local anesthesia. He also recommends it in the treatment of carbuncles, in the treatment of lupus and as a stimulant for chronic ulcers. The cauterizing effect is especially to be applied in the treatment of early epithelioma of the lip and even in some cases of nonoperative epithelioma cure may follow its application. [F.J.K.]

6.—In an article on **movement of intestines** by Bernheim the following interesting case is reported: An enema of cottonseed oil was administered to a woman suffering from floating kidney, nervousness and general debility. Five hours after the injection the patient vomited the oil. He gives an account of the work performed in this line by various investigators. The experiments of Bernheim show that antiperistaltic motions of the intestine may be produced by the injection into the large bowel of certain substances. He concludes by saying that nutritive enemata and the injection of medicine by rectum may be practised with good results. [F.J.K.]

7.—Considered editorially.

8.—Wheatley, in an article on the **metric system**,

gives his reasons why this system should be of general use in medicine and pharmacy. [F.J.K.]

9.—**Evolutional and involutional types** of mental and nervous disease are discussed by Mayer. He described at some length the different epochs of life as being of importance in the production of nervous instability. He considers the influence of childhood from many points of view. Then he passes to the influences of the age prior to puberty, the period of puberty, that of the adult, and finally considers the changes dependent upon the senile. [F.J.K.]

10.—To be treated editorially in the next issue of the JOURNAL.

Journal of Nervous and Mental Diseases.

January, 1901. [Vol. xxviii, No. 1.]

1. Diffuse Degeneration of the Spinal Cord. JAMES J. PUTNAM and E. W. TAYLOR.
2. Report of a Case of Brain Injury, with Peculiar Whistling Spells Following Operation. WILLIAM C. KRAUS.
3. Brush Massage. FRANK R. FRY.

1.—Putnam and Taylor present Bastianelli's classification, making two groups of degenerative spinal lesions in connection either with pernicious anemia or with the more chronic forms of malnutrition, between which the line of separation is not to be too sharply drawn. In the first group it is the anemia which dominates; the spinal lesions make themselves felt only towards the end of life, when they develop with great rapidity. In the second group, in which the more chronic cases belong, including most of those reported by various authors, the disease is one of the nervous system, the malnutrition being of secondary importance. Disease of the central nervous system, in cases of the second group, occasionally strikes beyond the limits of the spinal cord, involving the optic nerves. The anatomical lesions differ somewhat in character. In cases of the first group, according to Bastianelli, they are relatively slight and scattered, and the lateral columns in particular are relatively little affected, while in the second group they are more pronounced and the lateral columns more sharply and extensively involved. Bastianelli also found that lesions of the bloodvessels are less marked in the typical, quasisystematic, whole column degenerations. Putnam and Taylor do not altogether agree with Bastianelli, saying that his observations are not fully maintained by theirs, and that they do not find it to be invariably true that in the more chronic cases in which the nervous symptoms have played an important part for many years, the spinal lesions are necessarily most marked. [T.M.T.]

2.—Kraus reports the case of a man 27 years old, a herdsman in a stockyard, who some time previous to the accident, had a stroke of apoplexy, resulting in hemiplegia of the left side of the body with partial recovery. He was struck by a train, receiving three scalp wounds, one 2 inches long over the occiput, one 2½ inches long over the left parietal eminence, and another 2 inches long over the left frontal region. In addition, he sustained a depressed fracture of the skull, 3 inches above and 1 inch behind the left ear. After trephining and removing the depressed bone during the night the patient began to whistle as he had been accustomed to do when driving cattle, continuing for 1 minute and ceasing for 5 to 10 minutes, keeping it up at regular intervals until he died, 4 days after the accident. There was complete loss of control over bladder and rectum; no increase in temperature, and pulse slightly lowered. [T.M.T.]

3.—Fry recommends the use of brush massage in preference to the ordinary massage, and says that in this method the brush is kept in contact with the skin and manipulated with a combined circumlatory and creeping movement, with varying degree of rapidity and pressure. It adheres to the skin, drawing with it the superficial structure in a way that can hardly be described. Amplitude of the different movement depends much on the length of bristles and spring of the brush. The combined or special movement almost imparts itself to the hand of the operator or can be easily acquired. One of the advantages of this massage is that you can obtain operators, and even people of moderate means can avail themselves of the trial. It is also effective in the heaviest work for which massage is used. [T.M.T.]

Berliner klinische Wochenschrift.

December 31, 1900. [37. Jahrg. No. 53.]

1. Experimental Contribution to our Knowledge of Alopecia. A. BRUSCHAE.
2. On the Transformation in the Urine of Substances Agglutinating the Blood Corpuscles. E. FRIEDBERGER.
3. A Grave Spinal Symptom-Complex Caused by a Serpentine Aneurysmal Change in the Spinal Bloodvessels. E. BRASCH.
4. On the Simplification of the Phenylhydrazin-Test for Sugar. A. NEUMANN.

1.—Two patients who had been given thallium acetate for the night sweats of phthisis developed areas of **alopecia**. This lead the author to make some experimental investigations with this drug. He found that feeding white mice with thallium acetate, alopecia could be produced, but only by a constitutional effect, as local application of the drug did not produce the same results. [M.R.D.]

2.—In experimenting upon guineapigs, Friedberger found that in a guineapig whose blood-serum caused the erythrocytes of the pigeon to agglutinate and then dissolve, that the urine of the animal also possessed that power. Also in a rabbit that had been immunized against pigeon blood, the urine showed this property, but naturally to a less degree than the blood of the animal. The experiments are still in process, but so far it appears that the substances of the blood causing the agglutination also enter the urine. [M.R.D.]

3.—The author's patient presented a clinical symptom-complex which was strongly suggestive of tabes. Microscopic examination showed dilatation and tortuosity of the arteries in a portion of the spinal cord together with hypertrophy of the vessel walls. The cord itself in the lower dorsal and lumbar regions was the seat of chronic degeneration, and also in the higher portions of the cord especially in the posterior and lateral tracts, as well as in the anterior cornua. Together with these changes the author at the postmortem examination found a cardiac hypertrophy with a coexisting contracted kidney. The chronic rise in arterial pressure seemed to be etiologically responsible for the thickening in the walls of the vessels, thus influencing the nutrition of the spinal cord. In addition to these spinal lesions secondary lesions were also found, and were recognized as marked ascending degeneration of the columns of Goll. [M.R.D.]

4.—See PHILADELPHIA MEDICAL JOURNAL, Vol. VII, No. 5, page 211.

January 7, 1901. [38. Jahrg., No. 1.]

1. Gallstones. RIEDEL.
2. The X-rays in Practical Medicine. H. KÜMMELL.
3. The Modern Efforts at Colonization and the Adaptability of Europeans to the Tropics. F. HUEPPE.
4. Report of the Royal Policlinic for Pulmonary Diseases in Berlin from November 15, 1899, to November 15, 1900. M. WOLFF.

- 1.—Will be abstracted when concluded.
- 2.—Will be abstracted when concluded.
- 3.—Will be abstracted when concluded.

Wiener klinische Wochenschrift.

January 10, 1901. [14. Jahrg., No. 2.]

1. The "Boas-Kaufmann" Bacilli in Diseases of the Stomach, with Remarks upon other Bacteria Found. RUDOLPH SCHMIDT.
2. The Crossed Sciatic Phenomenon. J. FAJERSZTAJN.
3. The Cardiorenal Theory. OTTO GROSS.
4. Cod-Liver Oil with Phosphorus. ZWEIFEL.
5. Reply to Dr. Knapp's "Aseptic Bougie." LEOPOLD SCHERBEK.

1.—Schmidt gives a detailed description of the **Boas-Kaufmann bacilli**, long, thread-like microorganisms, so often found in stomachs in which carcinoma exists, with a review of the literature. Then his own experiments follow. When blood was added to cultures of this bacillus, its growth rapidly increased. That it is rarely found in the stomach

contents, in benign conditions, may be due to the absence of blood in the stomach. The various causes which seem to favor its occurrence, are stagnation of the stomach contents; absence or decrease in the production of hydrochloric acid; absence of fermentation; erosion of the upper surface of the stomach; the presence of albumin-detritus and blood, following ulceration. He reports a case, a laborer, aged 37 years, who had had stomach symptoms over 8 years. He had attacks of pain, often lasting days, generally more frequent in the winter. The pain was near the pylorus, and worse at night, and he could not lie on the right side while it lasted. With constipation the attacks grew worse; after vomiting or lavage, they improved. This was undoubtedly a case of benign stenosis of the pylorus, probably due to a cicatrizing ulcer. The cultures from the stomach showed pseudo-lactic acid bacilli and other flora. Then he reports a case of a man of 63, who suffered from stomach trouble for 13 years, accompanied with much flatulence. From the stomach contents a pure culture of the bacterium coli grew, but no lactic acid or Boas Kaufmann bacilli. The case was one of carcinoma ventriculi. The colon bacilli, he explains, may have come from the oral secretion, following their ingestion with food or drink; or they might have come from the duodenum. [M.O.]

2.—First he explains that "Lasegue's sign" in sciatica is the fact that the affected thigh can be flexed at the hip without pain, when the lower leg is flexed at the same time; but when the lower leg is kept straight, flexion of the thigh at the hip causes intense pain. After reviewing the literature of the subject, he says that this phenomenon is due to the stretching of the sciatic nerve. Fajersztajn has noted that besides, a crossed phenomenon exists in most cases of sciatica; when the well leg is raised, with the lower leg straight, pain is felt in the sciatic nerve of the other side, near its exit in the buttock. He explains this theoretically, by supposing that stretching the well nerve causes pain in the affected nerve. He details experiments upon the cadaver to prove this. He found this new sign in 25 out of 41 cases, doubtful in 5 others. All were rheumatic sciatica. [M.O.]

3.—Gross compares the Epstein-Schwalbe work with Norden's, and finds that they disagree, the former advocating the ingestion of much liquid in **cardiorenal affections**, the latter restricting the liquid relatively to the amount of heart weakness. Lavage is thus a two-edged sword, increasing elimination, but overtaxing the heart-muscle. He advises lavage only when the heart muscle is not badly affected. [M.O.]

4.—Zweifel, whose feelings seem much hurt by the unjust criticism of Kassowitz, whose **cod-liver oil with phosphorus**, as Zweifel showed, contained very little, if any, metallic phosphorus, reiterates his opinion, with quotations from his earlier work. He states his arguments very clearly to prove that the cod-liver oil alone acts, when this preparation is given in rachitis, the phosphorus soon becoming phosphoric acid. [M.O.]

5.—Scherbek describes an **aseptic bougie** made by him very like that which Dr. Knapp described. But he thinks that neither Knapp's nor his bougie can be perfectly sterilized. [M.O.]

The New Osiris Pavilion in the Salpêtrière Hospital.—Marcel Baudouin (*Gazette Médicale de Paris*, January 19, 1901) says that this new building, erected through the munificence of M. Osiris, the Paris banker, cost over \$22,000. It is designed especially for gynecology, and Dr. Paul Segond will be its chief. It stands alone, opposite the chapel, with a garden in front of it. Down stairs are 5 single rooms for patients, a ward with 6 beds, and office for the superintendent, etc., and the operating room, with an anesthetizing room, a room for sterilizers and instruments, a small room adjoining for electrical apparatus, and a dark room. The **operating room** is large, well lighted, with a chain to divide the operator from the students. Bath-room and water-closets are at the extreme other end of the building, beyond the ward. Many of the furnishings are American, the steel bed-springs, the model of the operating table, etc. Dr. Segond, to whom the credit of finally obtaining this pavilion is due, will soon begin his course in operative gynecology. [M.O.]

Original Articles.

THE VALUE OF SPUTUM-EXAMINATIONS TO THE
GENERAL PRACTITIONER.¹

By M. HOWARD FUSSELL, M.D.,

of Philadelphia.

Instructor in Clinical Medicine, University of Pennsylvania.

IN 1887 I had the honor of presenting before this society, a paper upon the Diagnostic Value of Tubercle in the Sputum.

In the period which has since elapsed the propriety of examining the sputum in cases of lung disease, not only for tubercle-bacilli but for other organisms, has been recognized by all writers.

The methods of examination, the improvement of the technic and the introduction into general use of oil-immersion lenses have made the detection of the various organisms a matter easily performed by any one at all skilled in the use of the microscope.

The demonstration of the methods of examination is now a part of the curriculum of every good medical school.

It might then be considered a gratuitous act to write a paper upon the value of this procedure.

But notwithstanding the fact that all careful diagnosticians recognize that in many instances an accurate diagnosis of lung tuberculosis cannot be made without a microscopic examination of the sputum, and while a routine examination of the expectoration is made in all well-regulated hospitals, I am convinced that anything approaching a routine sputum-examination by the general practitioner is not practised. Indeed I think that the sputum is not examined at all by the general practitioner except in rare instances.

It is with the idea of bringing the necessity of sputum-examinations before the family doctor that this paper was prepared. These thoughts present themselves to the writer on this subject:

First. The necessity of sputum-examinations.

Second. The value of sputum-examinations.

Third. The technic.

Fourth. The practicability of the procedure.

The necessity of sputum-examinations can best be presented, it seems to the writer, by quoting a number of cases in which a diagnosis was entirely impossible without the light shed upon the case by the examination of the sputum.

During the past two months three cases have presented themselves in the private practice of the writer in which the examination of the sputum made an otherwise doubtful examination positive in two and helped much in the third case.

CASE 1.—Mrs. H., aged 42 years, mother of four children. Family history was excellent, there being no case of tuberculosis or other hereditary disease in the family. The lady was of extremely nervous temperament and first came under my care two years ago while suffering with an attack of hysterical dyspnea. She was anemic, having about 70% of hemoglobin with a slight diminution in the number of red blood-cells. She was emaciated, afraid to venture outdoors for fear she would die of heart-disease. In a word, a typical neurasthenic, who unfortunately a year previously had been told by her doctor she had a weak heart. This fact worried her and she was unable to dispossess her mind of the fear of sudden death. Careful examinations of her heart, lungs, abdomen and urine, revealed only a rapidly-acting heart

without organic lesion. Her lungs showed no sign of disease. Under a carefully regulated life, with abundance of outdoor living, driving, walking, etc., which she willingly took when assured she would not die, she rapidly improved, gained 15 pounds in weight, and seemed entirely well one year ago. In August, 1900, I was again called to see the patient. She was suffering from exactly the same symptoms as previously, plus a very slight cough, with expectoration of perhaps half an ounce of sputum in the morning. There was no fever, as evidenced by careful thermometry. Examination showed the heart normal as before, with a very slight impairment of resonance at the apex of the right lung. Sputum-examination showed myriads of tubercle-bacilli, which have persisted ever since and which were present in the sputum yesterday. My previous knowledge of the extreme hysterical condition of my patient, together with the very slight physical signs, made me quite certain that I was dealing again simply with neurasthenia. The presence of tubercle-bacilli in the sputum, was practically the only way in which I was enabled to make a correct diagnosis.

CASE 2.—A young man of 22 consulted me during the recent epidemic of la grippe. His father and one sister died of phthisis several years ago. The patient had always been well until about 6 months ago, when he had a slight cough in the morning. He consulted a quack contract doctor in the city and for 6 months had been dosed with medicine at \$5.00 per month, paid in advance. Examination and questioning revealed that except for the morning cough the patient had been perfectly well until one week before my visit. He then had coryza, sore throat, aching limbs and a fever, probably an acute attack of la grippe. On examination he had a temperature of 100°. His throat was somewhat red and inflamed. In the region of the left nipple there was a distinct pleural friction with a slightly marked dull note on percussion. I made a diagnosis of influenza with some pleurisy, believing that consumption, which had been so glibly diagnosed by my brother at so much per month, was not present. Examination of the sputum at first revealed no tubercle-bacilli. A second examination showed an abundance of the organism in one slide and none in another taken from another portion of the same sputum. Here a diagnosis was surely and certainly made by the sputum-examination.

CASE 3.—L. C., male, 16 years of age, a large boy weighing 133 pounds, was seized in the beginning of November with one of the most virulent attacks of pneumonia it has been my lot to see in a boy of his age. A chill occurred at 10 A.M. By 4 P.M. he was semi-conscious, had a pulse of 130 and a temperature of 104°. Consolidation of the right lower lobe of the lungs rapidly developed. Pneumococci were abundant in the rather scant sputum. A blood count showed 22,000 white cells to the cm. of blood. After 9 days of desperate illness, a crisis occurred, for a few days the temperature remained about 99½° in the morning to 100° in the evening. Soon the fever took on a septic type, normal or nearly so in the morning, rising to 102° to 104° in the evening. A gradual rise in the number of leukocytes occurred. Constant, almost daily, examinations of the sputum failed to show tubercle-bacilli. Examination of the exudate from the lung procured by puncture also failed to show the organism. Frequent punctures of the chest-wall by a long needle failed to show pus. The physical signs denoted the absence of pus free in the chest, and failed to demonstrate a collection in the lung or between the lobes. However, on the strength of the increasing leukocytes, together with the absence of tubercle-bacilli in the sputum, confirmed us in a diagnosis of intrapulmonary or interlobular abscess. An operation was urged, but refused. In 9 weeks after the beginning of the illness, a diagnosis of intrapulmonary collection of pus was confirmed by the expectoration on three occasions of 8 ounces of pus. This pus showed the presence of streptococci and pneumococci, but no tubercle-bacilli. The patient is now entirely well. Here the negative findings in the sputum-examinations went a great way against a diagnosis of tuberculosis which seemed extremely likely.

Such cases as these might be multiplied many times, but these alone will suffice to make my point of the necessity of the sputum-examination in making a diagnosis which at the time would have been impossible by other practicable means. The value of this pro-

¹ Read before the Philadelphia County Medical Society, February 13, 1901.

cedure is demonstrated by the above cases in making the diagnosis. And it may be stated as a fact to which there are no exceptions, that the presence of tubercle-bacilli in the sputum indicates tuberculosis in the patient. The absence of tubercle-bacilli in sputum does not unfortunately always mean the absence of tuberculosis, but when repeated examinations, carefully made, do not show tubercle-bacilli, it is a valuable point against tuberculosis in the patient.

Sputum-examinations are of value in making an early diagnosis. Myriads of cases are yearly overlooked in the early stages of tuberculosis, because of the dearth of physical signs, which would be easily marked as tuberculosis if the trouble had been taken to make a sputum examination.

The value of an early diagnosis in tuberculosis being made is, beside the object of this paper, but one of its values. The possibility of destruction of sputa containing tubercle-bacilli as a prophylactic measure is beyond computation. A detection of these organisms in the early stages—only a month or a year earlier than a diagnosis would otherwise be made—would be of incalculable value to the human race.

This fact alone, it seems to me, must appeal to every practising physician. It is the family doctor who first sees the case. If he would make or have made an examination of the sputum in every case of continued expectoration, and have the sputum containing tubercle-bacilli destroyed, in a few years the cases of tuberculosis in the world would be greatly lessened. Instead of this trouble the patient is told all sorts of tales, until continued failing health, a progress of the physical signs, so that he who runs may read, at last suggests a sputum-examination, when the organisms are found. Can anyone calculate the new cases which will originate from such a neglected case, or the value in saving human life, by the expenditure of a few minutes of the doctor's busy life?

From the nature of things it is the detection of cases of tuberculosis in which sputum-examinations are of the greatest value. Besides, the detection of various parasites in the sputum is also of value. Recently Stiles, of the Bureau of Agriculture, read a thoughtful paper upon parasitic hemoptysis, which shows the necessity and value of sputum-examinations in many of the tropical regions.

As to the practicability of this procedure in the busy, rushing life of the general practitioner.

In cities such as Philadelphia and New York, which have a bacteriological department of the Board of Health in which examinations of the various ejecta including sputum will be made at short notice free of charge, there is not the slightest excuse for the very busiest man to neglect the precaution of early sputum-examinations.

That the privilege is not taken advantage of to any extent however, I think an examination of the records of that department of the city's government will show. Moreover, doctors who live far from such centers as Philadelphia and New York cannot have the advantage of such departments. To them, I am sure, such an examination of sputum of all suspicious cases is a practical procedure.

Necessarily a working knowledge of a microscope and the ability to recognize various organisms when seen under the microscope, are indispensable. All recent graduates have that knowledge, or should have it. The young men are always anxious and willing

to help the older with or without a compensation, and can be utilized much to the young physician's benefit as well as that of the patient. Anyone, however, with a little practice can learn to speedily and accurately examine a sputum-specimen.

The necessary apparatus is: a microscope, preferably with an oil immersion lens, though lower powers may be used, an alcohol lamp, a bottle of fuchsin, a bottle of Gabbet's counter-stain, some cover-slips and glass slides. Some sputum having been obtained, a small bit of the sputum is put upon a slide and covered with a slip, this is examined with a low power, $\frac{1}{4}$ or $\frac{1}{2}$ inch for foreign bodies such as elastic tissue or the various larger organisms. Another small bit, preferably a small caseous mass, is spread between two slides very thin. The slides are separated and allowed to dry in the air. One is then passed three or four times rather slowly through a Bunsen jet, or, if that be not at hand, through the flame of an alcohol lamp. Upon this is placed some carbol-fuchsin until the whole part of the slide covered with sputum is covered with the stain.

This is heated very slowly and gently until steam is seen rising from the slide. It is allowed to stand one or two minutes. The stain is allowed to flow off the slide, and the portion previously stained with fuchsin is covered with Gabbet's stain, which is allowed to stand for two or three minutes. This is then washed in water and dried by the use of a blotter. Some cedar oil is then placed directly upon the stained sputum and the oil-immersion lens run down until the particles are in focus. The specimen will be seen to have a uniform blue hue—cells, bacteria and a corpuscles all being stained blue. If tubercle-bacilli be present however, they will be seen as small red rods in the blue field. Accurate plates of this can be seen in Mallory and Wright or in von Jaksch.

This method of staining for tubercle-bacilli is preferable to the use of the cover-slip. There is no danger in the various manipulations in breaking a slide, whereas a cover slip cracks except in the expert hands. The whole procedure will take not more than 15 or 20 minutes. Surely time well spent.

It appears to me that Austin Flint's statement made in 1882: "I predict that the time will soon come when in order to corroborate the diagnosis microscopical examinations of the sputa will be considered as much a matter of course as examinations of urine for evidence of renal disease," should be ever present to all of us, if for no other reason than that early diagnosis of tuberculosis can thus be made and myriads of bacilli be destroyed that would otherwise be a source of infection.

RESECTION OF THE RECTUM PER VAGINAM.*

By JOHN B. MURPHY, A.M., M.D.,
of Chicago, Ill.

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It is not the purpose of this paper to consider in detail the pathological conditions, such as fibrous stricture, tubercular disease, neoplasms, and so forth, which may

* Prepared for the Southern Surgical and Gynecological Association, Atlanta, Ga., 1900.

demand removal of the rectum. These have been admirably treated in the recent work by Quenu and Hartmann, and involve such an extensive study that we will but mention them here.

The profession has not yet agreed upon a definite and satisfactory technic in the performance of proctectomy, as it has in hysterectomy and many other pelvic operations. The posterior operations, such as the transsacral and ischiorectal, have, in the last decade, attracted most attention and found many advocates, but

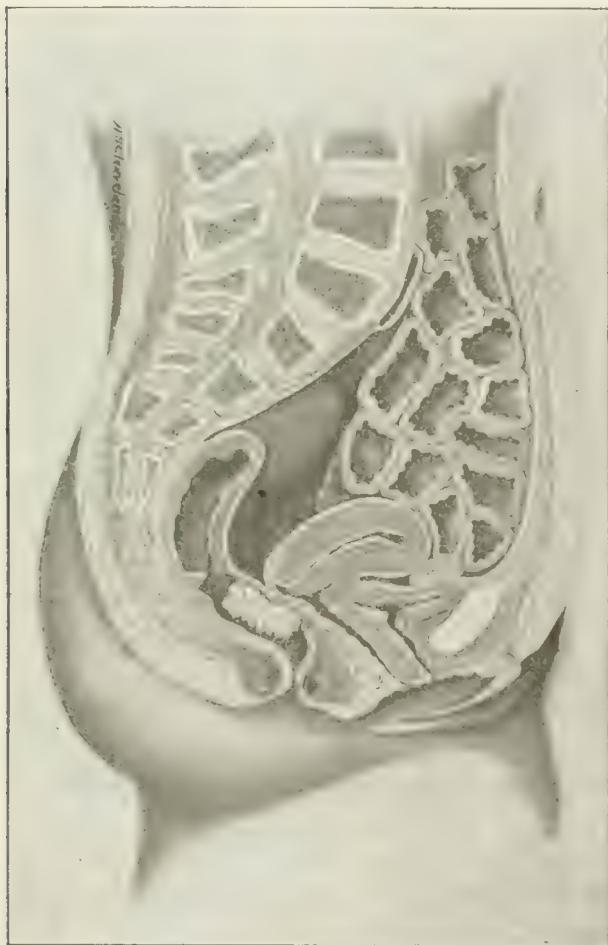


FIG. 1.

that they are difficult, dangerous, and in many respects ultimately unsatisfactory, is beyond question. The mortality in 14 of the largest European clinics is 21.2%. (Pruz.)

The perineal proctectomy of Volkmann is applicable only to carcinoma involving the third and lower half of the second portion of the rectum. The vaginal route has been overlooked, or at least greatly slighted, and notwithstanding the fact that a number of operators have been forced by the pathological conditions present to make use of it, in only a few instances has it been the method of election.

The procedures resorted to for rectal extirpation may be classified as follows, partially after the plan of Renzaldt and Stintzing:

1. Bloodless dilation of the sphincter. (Simon.)
2. Circular incision around the anus. (Lisfranc.)
3. Perineal methods:
 - a. Posterior division of sphincter. (Dieffenbach.)

- b. Posterior longitudinal incision with retention of the anus and sphincter. (Kocher.)
- c. Resection of coccyx. (Kocher.)
4. Transsacral method with resection of portions of sacrum:
 - a. One-sitting. (Kraske: In America, Fenger.)
 - b. Transverse section. (Bardenheuer, Rose.)
 - c. Oblique section. (Hochenegg.)
 - d. Transverse resection of sacrum and coccyx. (Heineke; Schlange; Kocher; Hegar; Rydygier; Mancy.)
5. Parasacral methods, division of soft parts on side of sacrum without section or excision of sacrum or coccyx. (Zuckerkindl; Wölfler; Schelkly.)
6. Vaginal extirpation. (Des Quins; Norton; L. L. MacArthur; Campenon; Rehn; Vautrin; Price; Byford; Bristow; Julius Sternberg.)
7. Primary vaginal celiotomy, examination of extent of disease and then complete division and later excision with end-to-end union of intestine—retention of sphincter. (Rehn; Murphy after method to be described herein)

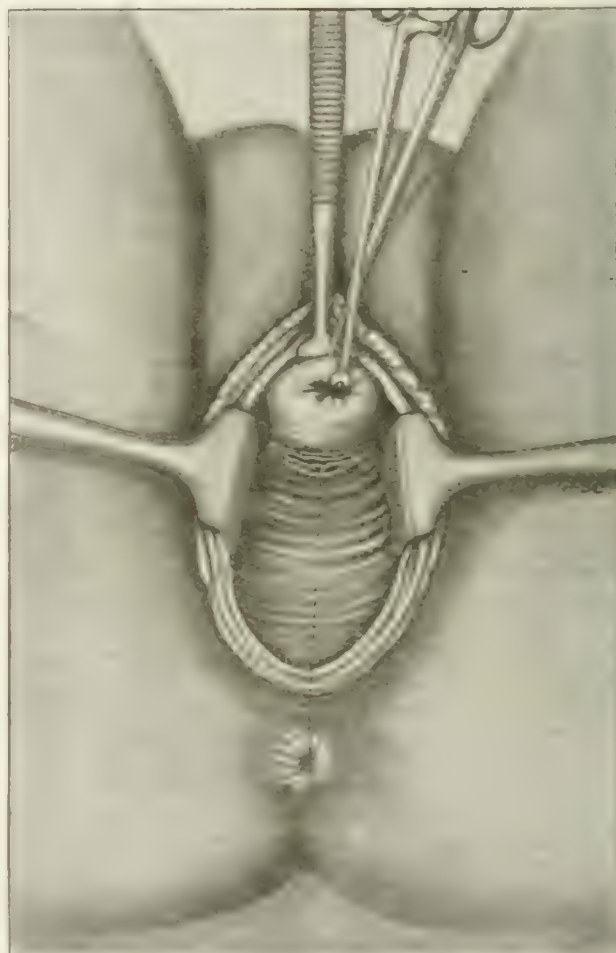


FIG. 2.

DEVELOPMENT OF THE VAGINAL OPERATION

1. In July, 1890, DesQuins¹ in a case of carcinoma of the rectum involving the rectovaginal septum, removed the septum with the tumor, drew down the sigmoid and sutured it to the anal portion of the rectum, which he had retained. The peritoneum was not closed by suture. The defects in the perineum and vaginal wall were closed by suture, silver wire being used for the former. The patient died shortly after operation, but it was noted that there was immediate continence of feces. Cause of death was not given.

2. December 17, 1890, A. T. Norton² removed a carcinoma

of the anterior rectal wall, not involving the vaginal mucosa, by complete division of the perineum without opening the peritoneal cavity. He excised the entire lower segment of the rectum, including the sphincter, and sutured the proximal end of the bowel to the skin. The patient had fecal continence one month after operation.

3. In 1891, L. L. MacArthur³ in a secondary operation for recurrent carcinoma of the rectum, removed the diseased portion of the bowel and sutured the proximal end into the upper portion of the vagina. The operation was followed by good results.

4. Campenom, in 1894,⁴ performed a resection of the

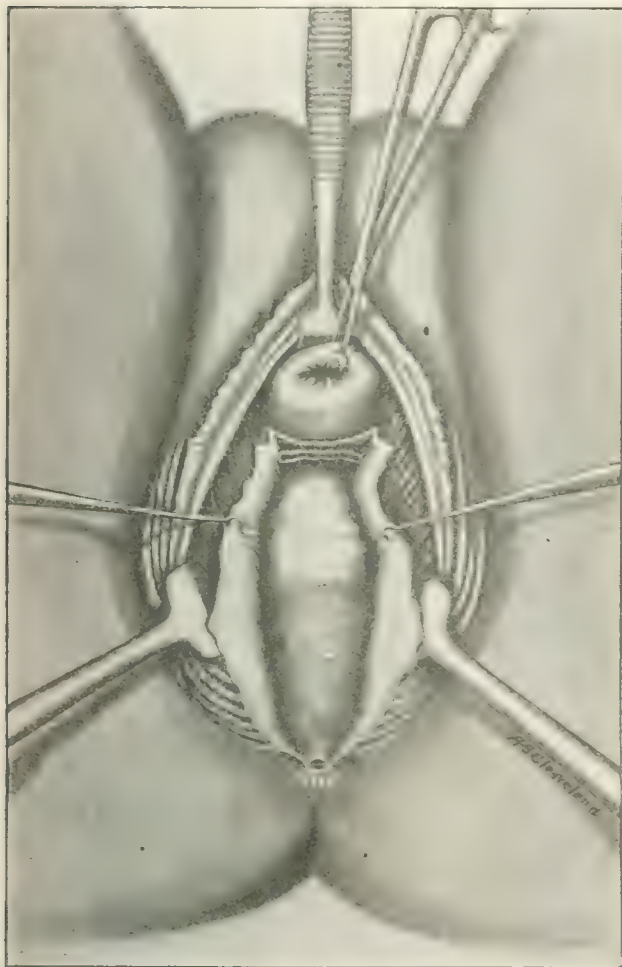


FIG. 3.

rectum for nonmalignant stricture, not involving the vaginal wall. His incision was in the rectovaginal septum, extending out onto the perineum, which, however, was not completely divided. End to-end approximation of the proximal bowel with the anal portion, which had been left intact, was accomplished by means of sutures. Patient recovered, stricture did not return, and she had sphincteric control.

5. In 1895, L. Rehn⁵ removed a carcinoma of the rectum by division of the perineum and later opened the peritoneal cavity. Death from peritonitis.

6. Vautrin,⁶ in May, 1895, removed a carcinoma of the rectum per vaginam. The details of the operation are not given in the report.

7. In 1896, Joseph Price⁷ reports an operation performed by himself, for carcinoma of the uterus and rectum. He did an anteroposterior hysterectomy, removing the rectum with the uterus, and subsequently suturing the proximal end of the bowel into the vaginal wall. The patient recovered from the immediate effects of the operation, but died on the seventh day. Subsequently he performed an operation in which he utilized the button as a means of approximation.

The case recovered, and is probably the first case of approximation of this kind on record.

8. In November, 1896, Dr. H. T. Byford⁸ reported a case of excision of a rectal carcinoma by incision through the upper portion of the vaginal wall. In his efforts to draw down the remaining portion of the rectum, the peritoneal cavity was torn open. The proximal end of the bowel was sutured into the upper part of the posterior vaginal wall, with the intention of similarly suturing the anal segment into the lower part, and closing the vaginal orifice, thereby converting the vagina into a portion of the fecal tract. He does not state the result, but mentions that in a later case he successfully performed the operation, the patient surviving for 1 year.

9. Bristow,⁹ in 1896, removed a carcinoma of the rectum through the posterior vaginal wall, without opening the peritoneum. His case recovered, and in comment he says: "Farther than 6 inches it is not possible to go, judging from my experience in this case."

10. Julius Sternberg¹⁰ reports from Gersuny's Clinic in

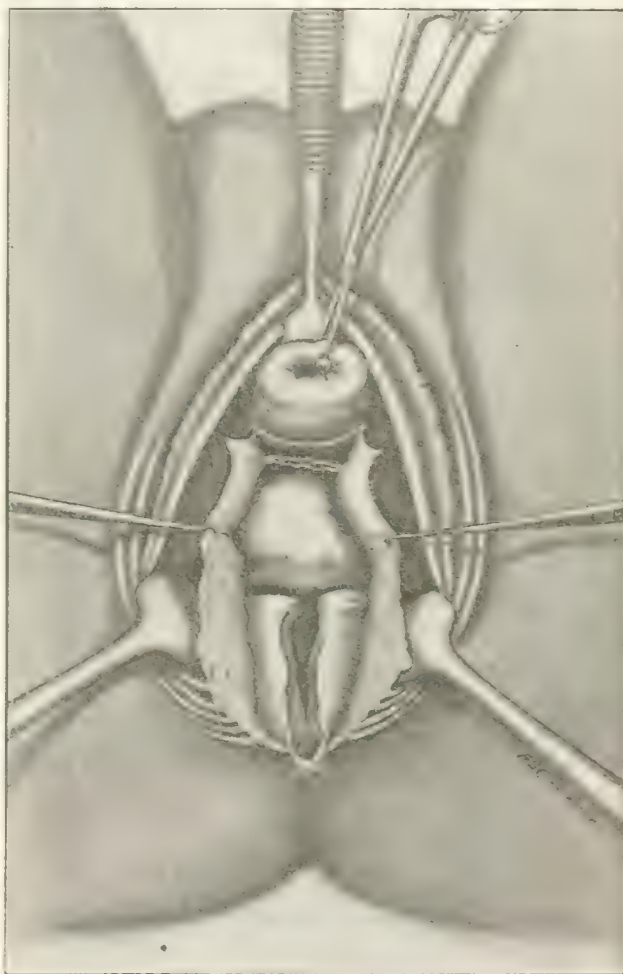


FIG. 4.

Vienna, 14 cases of resection of the second and third portions of the rectum through the posterior wall of the vagina. All were cases of malignant disease. His results were 12 recoveries and 2 deaths. In some of the cases where the peritoneum was accidentally opened, it was closed with sutures. The sphincter was retained when not involved in the disease.

11. From Rehn's clinic, Liermann¹¹ reports 2 cases, 1 operated on July, 1897, in which the rectum and uterus were both removed, 17 cm. of the former, and in the other case, operated on January, 1898, the rectum alone was excised. Both patients recovered and both had sphincteric control.

Thus we find the operation of vaginal proctectomy advancing in the direction of the peritoneum and sigmoid, without any definite plan as to a vaginal celiotomy for the removal of carcinoma of the first portion of the rectum or lower portion of the sigmoid.

Anatomy.—A few details of the anatomy of the sigmoid and rectum may be considered here as they are important in the performance of this operation. The normal position of the sigmoid is in the pelvis and not in the left iliac fossa as is generally supposed. It be-

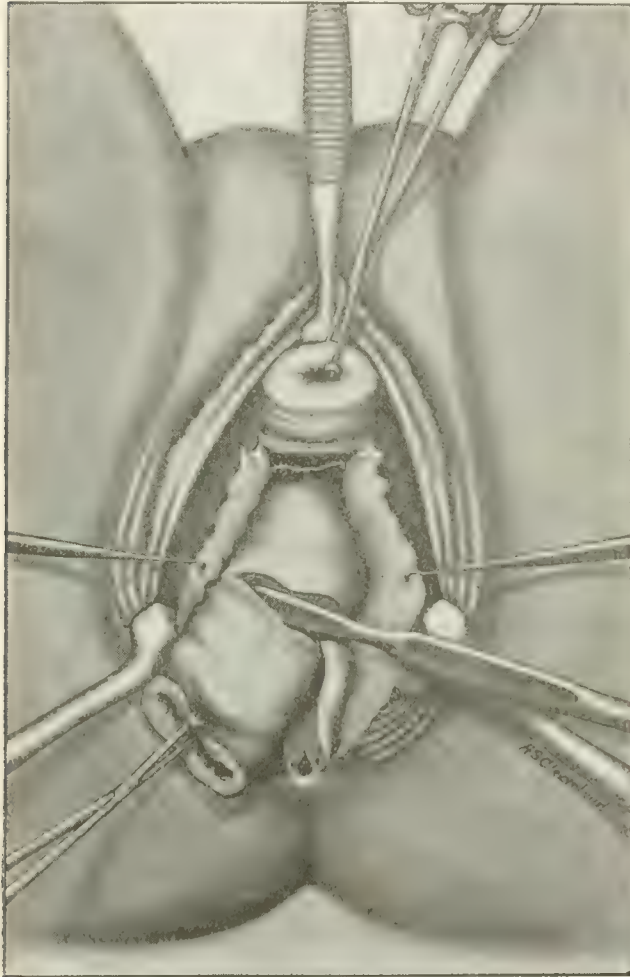


FIG. 5.

gins at the outer border of the left psoas muscle, just above the brim of the pelvis, crosses the muscle at a right angle, descends vertically along the left pelvic wall sometimes as low as the floor of the pelvis, then passes horizontally to the right pelvic wall and occasionally upward into the right iliac fossa, where I have encountered it in operating for appendicitis. From here, after sharply flexing upon itself, it passes to the left as far as the median line, where it becomes the rectum and descends to the anus. It is supported by a mesosigmoid, whose line of attachment crosses the left psoas muscle, curves upward, passes over the bifurcation of the common iliac vessel and then passes downward on the left side of the pelvis to the median line.

It will be seen from the attachments of the mesosigmoid that this portion of the bowel can be reached and resected from below. The mesentery measures from $1\frac{1}{2}$ to $3\frac{1}{2}$ inches in length, thus permitting great freedom

of motion in the pelvis, which is necessary in the performance of one of its great functions; that of guarding against the extension of pelvic infections.

The sigmoid may rotate on its axis in a scroll-like manner and be completely surrounded by its mesentery, this being possible because of the length of the latter. It occasionally becomes adherent in this position and produces the train of symptoms known as ileus. These symptoms are produced in the presence of the above condition, when the bowel becomes over-distended and forms a sharp kink. I have operated upon two cases where the obstruction was caused by this type of adhesion.

The rectum is usually described as having three distinct portions, but more correctly there are but two. The first portion begins at the third piece of the sacrum and extends to the tip of the coccyx. There is no mesorectum and it is covered by peritoneum only at its upper part on the anterior surface. It is $3\frac{1}{2}$ inches long,

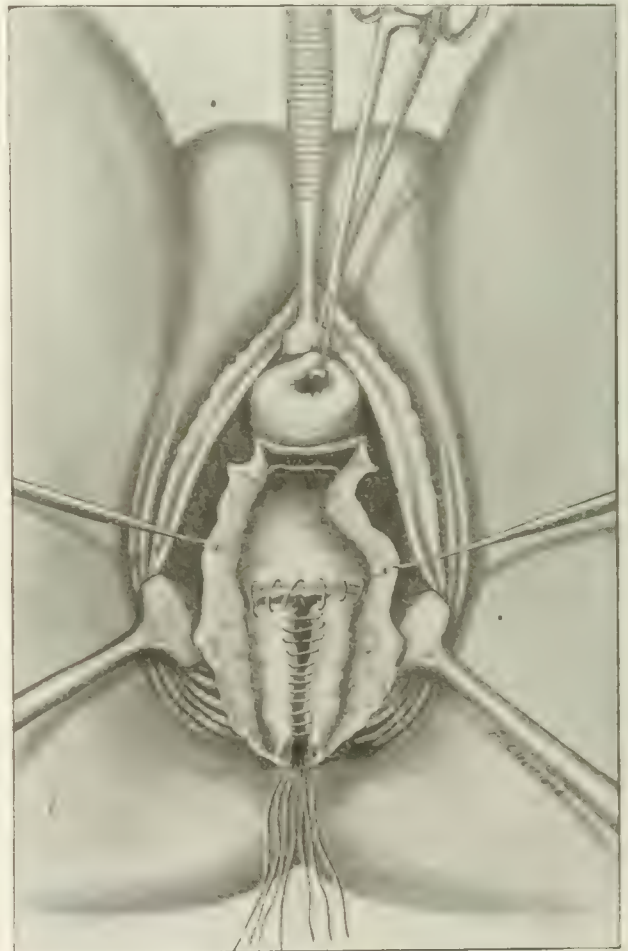


FIG. 6.

and behind is in relation with the sacrum and coccyx, whose curves it follows. In front it is in relation with the trigon of the bladder and seminal vesicles in the male, and in the female with the vagina and cervix uteri. The peritoneum in the male comes to within 3 inches of the anus. I found on the male cadaver that 11 inches of rectum and sigmoid could be resected through a median and lateral perineal incision. The second portion, formerly described as the third, is $1\frac{1}{2}$ inches long, and extends from the tip of the coccyx to

the anus. Below it is surrounded by the external sphincter, and above, about 1 inch from the anus, by the internal sphincter, which is half an inch broad.

CASE 1.—Referred to me by Col. Nicholas Senn (then in the service at Chattanooga), Mrs. M. W. S., aged 36, occupation, housewife. Admitted to Mercy Hospital July 12, 1898.

Present illness: Ten or 12 months ago, patient began complaining of indefinite pain in the lower abdomen and upper portion of the vagina. About 6 months ago she first noticed bloody and mucous discharges from the rectum, and the feces assumed a ribbon shape. The diagnosis of "bleeding piles" was made. Examination revealed a malignant tumor of the first and second portions of the rectum, for the removal of which operation was advised. The patient was very fleshy, and the perineal, hemorrhoidal, and vaginal veins were enormously distended. Extent of disease shown in Fig. 1.

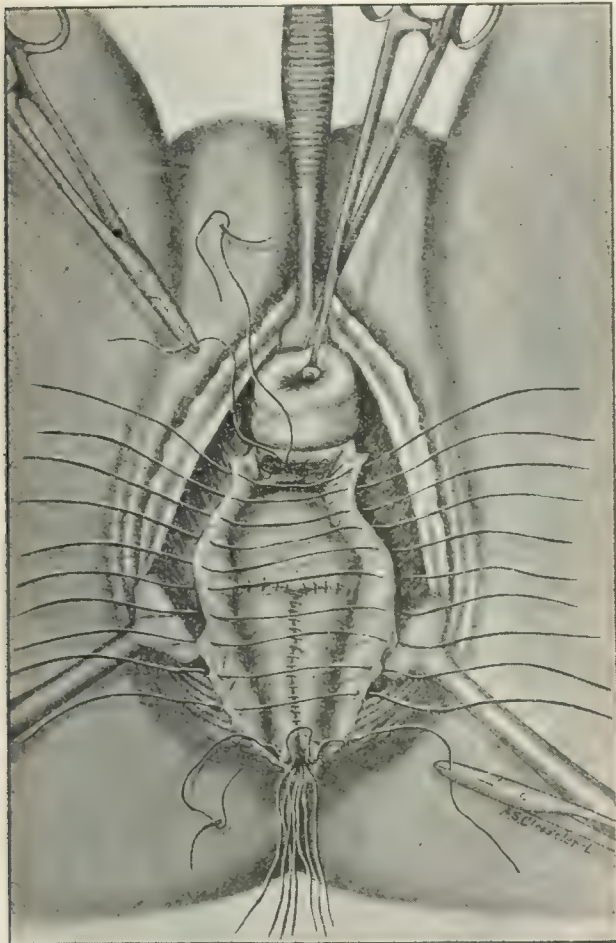


Fig. 7.

Operation, July 16, 1898. Lithotomy position. The vagina was dilated with broad speculæ, the cervix draw down, and the culdesac opened by a transverse incision similar to that used in vaginal hysterectomy. Large laparotomy sponges were now passed into the peritoneal cavity to displace the intestines out of the field of operation. The tumor was carefully examined, as well as the rectoperitoneal lymph-glands, which latter did not appear to be involved in the disease. The tumor extended upward almost to the brim of the pelvis. The rectovaginal septum was now divided down to the rectum by a vertical incision in the middle line, extending from the postcervical opening, and including the sphincter ani. (Fig. 2.) The hemorrhage, which was quite profuse from the dilated veins, was controlled by compresses and forceps. The posterior vaginal wall was now dissected laterally from its attachments to the rectum; lateral and anterior retractors were placed in position, and a large field

for operation exposed. (Fig. 3.) The sigmoid could be handled throughout its entire extent, and brought well down without the slightest difficulty. With scissors the anterior rectal wall, including the sphincter, was divided up to the lower border of the tumor, and the anal segment of the rectum separated from that just above it by a complete transverse incision one inch below the lower limit of the tumor, the incision extending into the postrectal connective tissue. (Fig. 4.) The proximal end of the rectum was grasped with vulsellum forceps, closing it completely and, by the use of curved scissors separated from its coccygeal and postrectal attachments, upward to the promontory of the sacrum, thus freeing and mobilizing it. (Fig. 5.) The hemorrhage during this part of the operation was easily controlled. The mesosigmoid was now loosened sufficiently to allow the healthy portion of the bowel to come well down. The rectum was amputated above the upper border of the tumor growth, and the sigmoid and sphincteric segment of the rectum united end-to-end by silk sutures. These sutures were passed from within outward, thereby causing all the knots to be on the inside of the bowel; the ends were left long to facilitate removal. The incision in the anterior rectal wall was closed with silk sutures, introduced in the same manner as those last described, and the ends of the divided sphincter were united by buried sutures of catgut. (Fig. 6.) The laparotomy sponges were removed from the peritoneal cavity and the peritoneum on the floor of the pelvis closed with a continuous catgut suture. The vaginal wall was sutured to the cervix, closing the transverse incision, and the edges of the vertical cut united in the central raphe with silk-worm-gut sutures. (Fig. 7.) A large rubber drainage tube, one inch in diameter, was inserted into the rectum and sutured in place.

When the patient was returned to her room the pulse-rate was 86 and temperature 97.6°. The highest temperature and pulse-rate occurred 28 hours after operation, when the former registered 100° and the latter 101 per minute. Convalescence was uneventful. After removal of the rectal tube it was noticed that there was a slight fecal discharge through the vagina when the bowels were loose. This sinus was operated upon a short time later, and the patient discharged, cured, September 1.

Pathological report on specimen of rectal tumor, July 20, 1898, by Dr. W. A. Evans, was as follows: "The tumor is malignant, a cylindrical-celled carcinoma. There is a piling up of the epithelia in the mucosa, and the submucosa is occupied by epithelial cells. The muscularis mucosae cannot be recognized. The epithelium shows abundant traces of its glandular antecedents. In places the invasion of the muscular coats by the epithelial cells is evident, and there are also to be seen in this layer areas of round-celled infiltration, showing an inflammatory process."

August 17, 1899, I received a letter from the husband of this patient, stating that she had suffered considerably since March from a strictured condition of the rectum and prolapse of the uterus, the latter organ seeming to press upon the former. After a few dilations with the bougie and tampon the obstruction disappeared and the uterus remained in position. In a still later letter the patient states that the stricture has again recurred. At the present time I have not had an opportunity to examine her, but expect to do so in the near future.

CASE 2.—Mrs. D. B., aged 67 years; housewife. Admitted to West Side Hospital May 22, 1899.

Present illness: Three years ago the patient began to have severe "diarrhea," which persisted for 6 months. The passages were frequent, often 20 a day, liquid in character, and accompanied by tenesmus. After 6 months some improvement took place, but during the next year she had frequent similar attacks. For the past 18 months she has passed considerable blood and mucus from the bowels and the stools have been very frequent. Gripping pains in the abdomen and tenesmus have been very severe during the same length of time. Has lost 40 pounds in weight during the past 1½ years.

Previous history: Patient had usual diseases of childhood. The menopause occurred 15 years ago; has had 10 children, all living and well. Family history: Mother died of "cancer of the stomach." Otherwise negative. Examination of patient: Somewhat emaciated. Heart, lungs, and abdomen negative. Rectum: Hard, ulcerated tumor is found on

digital examination, involving the first and second portions.

Operation, May 30, 1899: An operation exactly similar to that described in Case 1 was performed. Time of operation, 1 hour and 15 minutes. Bowel-movement through the rectal tube, which was inserted at the completion of the operation, occurred in 12 hours. The vaginal packing was removed in 72 hours. On the fifth day a slight fecal discharge through the vaginal wound was noted. On the twelfth day the rectal tube was removed. Stitches were removed on the fourteenth day after operation, and on the fifteenth day the patient sat up and had a natural, voluntary bowel-movement. There



FIG. 8.—1. Glandular tissue in mucosa. 2. S. mucosa.

was still some fecal discharge into the vagina at this time. On the twenty-ninth day following operation, as the fecal discharge continued, it was decided to close the rectovaginal fistula by operation. The edges of the fistula were freshened and approximated by means of interrupted sutures of silk-worm-gut. Tube inserted into rectum and retained in place by a suture. After second operation, convalescence was uneventful and patient was discharged from the hospital, with all wounds entirely healed, July 17, 1899.

Dr. A. W. Chandler, of Compton, Ill., who referred the case to me, states that at the present time there is no evidence of recurrence of the disease, the patient is in excellent general health and has full control of the bowels. The rectovaginal fistula has remained closed.

CASE 3.—Mrs. E., age 40 years, housewife, admitted to the Mercy Hospital January 24, 1899. Present illness: For some time patient has complained of slight irritation and pain in rectum during defecation. The general health is good. Examination of the patient reveals an ulcerated area with raised slightly indurated borders, situated on the posterior rectal wall, about 2 inches above the sphincter ani.

Operation, January 26, 1899. The sphincter was dilated, ulcer brought down with vulsellum forceps and excised. The edges of defect united by means of silkworm-gut sutures, perforated shot being used for retention. Patient was discharged from the hospital, February 18, 1899, improved. Examination of tumor showed it to be a simple adenoma.

Readmitted to Mercy Hospital May 4, 1900, suffering from recurrence of the symptoms mentioned above. Examination of the rectum showed an ulcer, situated on the posterior wall about 1½ inches above the internal sphincter, apparently involving the mucous coat only.

Operation, May 5, 1900. Sphincter dilated, ulcer drawn down and excised by cutting well outside its borders. Edges of rectal wall drawn together with catgut sutures. A gauze drain was left in rectum. Patient discharged May 20, 1900.

Admitted to Mercy Hospital for the third time September 11, 1900, complaining of the same symptoms as before, with some bloody discharge from the rectum. Examination showed an indurated mass involving the posterior wall of the rectum at site of former operation and extending upward.

Operation September 12, 1900. The diseased portion was resected after the method described in Case 1. No unpleasant symptoms followed the operation, except a rise in temperature which took place 36 hours later and persisted from 100° to 101.5° until September 22. A slight fecal discharge into the vagina was noted several days after operation, but at no time became profuse. Almost immediately there was sphincteric control, weak at first, but gradually growing stronger during convalescence, until date of discharge, November 5, when it was almost complete. Recto-vaginal fistula had closed when patient left hospital.

Microscopic examination of specimen shows it to be composed principally of adenomatous tissue (Fig. 8), with beginning proliferation of epithelial cells in the deeper layers of the rectal wall. (Fig. 9.) Carcinoma.

CASE 4.—Mrs. K. P., age 31 years, housewife. Admitted to Cook County Hospital October 16, 1900. Present illness: About 7 years ago patient was first troubled with constipation, which has gradually grown worse until the present time, compelling her to use cathartics and enemata daily. Has considerable pain on defecation. Has never passed blood from bowels. Two years ago, after confinement, patient had "childbed fever" which kept her in bed for nearly 4 months. After this she experienced bearing-down pains in the pelvis and back, aggravated whenever she assumed the erect position. States that her "womb seems to fall" and has noticed a portion of the cervix protruding from the vulva.

Previous history: Measles in childhood. Rheumatism about 8 years ago, sick for 1 year. Never had severe diarrhea nor dysentery. Knows of nothing that might have caused her constipation. Denies all venereal infection. Began to menstruate at sixteenth year, always regular, flows about 4 days at each period. Two children, first about 16 years ago, second about 2 years ago, after which patient had the fever. One miscarriage about 5 years ago, no trouble following.

Habits: Uses liquors and morphin. Family history: Negative. Examination: Heart, lungs, and abdomen negative. Vaginal: Uterus prolapsed, anterior, posterior and lateral vaginal walls bulging into vagina, and entire uterus low and poorly supported. An old laceration of the perineum causes the lax vaginal outlet and is evidently responsible for the displacement. Rectum: About 2½ inches above anus is an

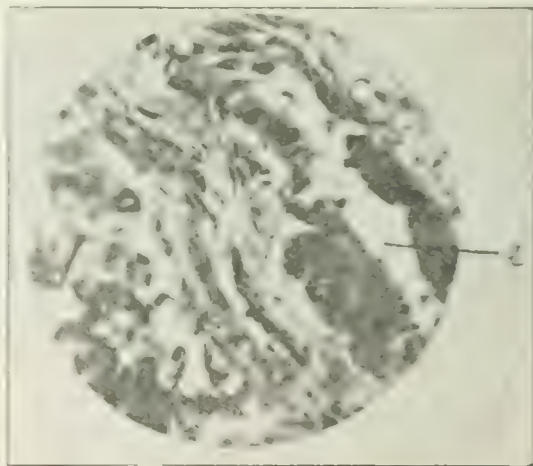


FIG. 9.—1. Small arteries in rectal intima. 2. Dense fibrous tissue. 3. Area of round cell proliferation.

annular stricture hard and movable; cicatricial tissue completely surrounds the rectum and the opening admits only the finger tip; the surface is not ulcerated.

Operation, November 10, 1900. Stricture removed by resecting rectum through vagina and opening the peritoneal cavity. Sphincter was retained and showed firm contraction at completion of the operation.

At the present date, January 11, 1901, there is partial failure of the perineal union, but an excellent end-to-end approximation of the bowel. The perineum will be repaired by the ordinary method.

CASE 5.—Miss N. E., age 26 years. Occupation, Clerk.

Single. Admitted to Cook County Hospital, December 3, 1900.

Present Illness. Three and one-half years ago patient fell from a bicycle, severely bruising the muscles over the left ischial tuberosity and causing an abscess near the rectum, which ruptured spontaneously. It remained an open sore for two weeks, then the wound healed, but subsequently a second abscess in the same situation had to be opened by a physician. After this a small opening, the size of a pin-head, remained for seven months, at the end of which time an operation was performed and the sinus was incised and drained. Wound healed in five weeks. One year later a yellowish discharge began to flow from the old wound; other openings at some distance from the anus were formed. Previous illnesses: As a child had infectious diseases. Six years ago erysipelas. Back was injured by being shut up in folding bed five years ago. Menstruation began at 13 years, always normal, until one year ago when it became scanty. Denies all venereal infection and gives no history of syphilis.

Examination: Skin over left ischial tuberosity is perforated with a dozen or more fine openings leading into sinuses which communicate freely. Skin is indurated and thickened but almost painless on pressure. Sinuses do not extend deeply into muscular tissue. The clinical appearance is that of lupus. Rectal examination: Reveals a narrow circular stricture of the rectum about $2\frac{1}{2}$ or 3 inches from the anal opening. Above the stricture there is an ulceration extending

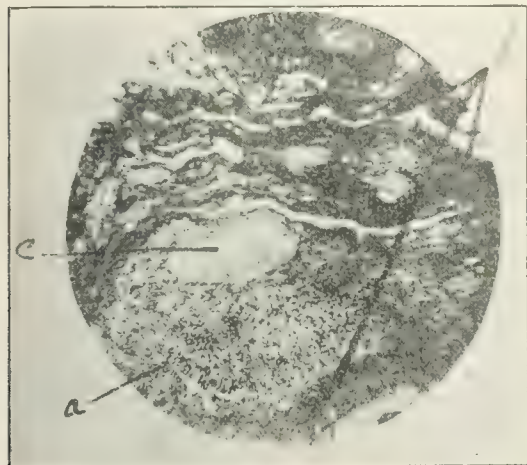


FIG. 10.—a. Small artery-proliferating intima. b. Dense fibrous tissue. c. Areas of round-cell proliferation.

upward $2\frac{1}{2}$ inches. The stricture is movable. Vaginal examination negative. Back: Several vertebrae in the lower dorsal region project, though there is no tenderness or evidence of inflammatory processes. Lungs and heart negative. No tubercle bacilli found in the sputum.

Operation: December 14, 1900. Rectum resected through the vagina by the method described under Case 1, $2\frac{1}{2}$ inches removed. Peritoneum closed. Postrectal drainage.

Examination of patient, January 17, 1901. For past four days patient has had complete control of the sphincter. Previous to that it was partial. Rectovaginal septum and perineal body have united, leaving no fistulous communications. Rectal tube, which was inserted at the time of operation, was removed after eighteen days and the sutures have been taken out since. Sphincter contracts on the finger when inserted into the rectum, but not with normal vigor. Skin lesion which was present over the buttocks before operation, has materially improved. Microscopic examination of the tissue removed it as follows: The mucous membrane, where present above stricture, is of about normal thickness. The tissue producing the stricture is composed principally of dense fibrous bands, with scattered areas of small round-celled infiltration. No epithelioid or giant cells found and there is an entire absence of caseous degeneration. Endarteritis obliterans is a prominent feature throughout the sections, which would lead us to suspect that the process was syphilitic rather than tubercular. (See Fig. 10.)

Conclusions.—The advantages offered by the vaginal route are:

1. The sacrum and posterior bony wall of the pelvis are not disturbed.

2. The field of operation is as extensive and the anatomical parts as accessible as in the transsacral operations.

3. The peritoneal cavity is opened in both the vaginal and sacral operations, and in neither is it a source of great danger.

4. The diseased tissue is more accessible for inspection and the extent to which the operation may be carried in an upward direction is as great, if not greater, than by the sacral route.

5. The peritoneum may be drained freely through the vagina.

6. A perfect end-to-end approximation, either by suture or by the use of the button, may be secured. The preferable method of uniting the two ends is by interrupted sutures of silk, because as there is no peritoneum on the sphincteric segment, failure of union with the button is to be feared.

7. The sphincter is retained and the perineal body is restored. There is diminished action of the levator ani muscle.

8. When the operation is complete, the parts are practically in their normal positions.

I have performed the same operation on the male cadaver and find that by splitting the sphincter directly through the median line, anteriorly and posteriorly, cutting back to the coccyx and opening the rectovesical fold of the peritoneum, practically the same field for operation can be obtained as in the female. Several inches of the bowel can be excised and end-to-end union secured. Either anteproctaeal or postproctaeal drainage may be used. The cut ends of the sphincter are united anteriorly and posteriorly. The lateral nerve-supply on either side is not disturbed.

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AMPUTATION OF BOTH FEET UNDER SPINAL ANESTHESIA WITH COCAIN.*

By AUGUSTUS C. BEHLE, M.D.,

of Salt Lake City, Utah.

MR. PRESIDENT AND GENTLEMEN:—I wish to report to you this evening a case of amputation of both feet in which I used a subarachnoid injection of cocain for anesthesia. My patient, Mr. H. A. Woodmansee, on New Year's Day of this year, was thrown from his horse while returning from the mountains where he had been locating some mining claims. It was about 2 A.M. and the night intensely cold, there being 4 or 5 feet of snow on the ground. Mr. Woodmansee was rendered unconscious by his fall and does not remember how long he remained in the snow. When he regained consciousness he did not know where he was and wandered

* Read before the Salt Lake County Medical Society, February 11, 1901.

around until daylight, finally reaching Ophir. His shoes were then removed by cutting them to pieces. The feet were immersed for 4 hours in snow water, followed by rubbing with olive oil, from 11 P.M. until 5 A.M. He was then taken to Tooele, where he remained under the care of a physician until the following day. Being removed to this city he was placed under my care; I advised him to go to St. Mark's Hospital. Both feet were badly discolored and cold. One foot was covered with blebs which were filled with a bloody serum; the legs half way up to the knees were intensely red, hot, swollen, and tender. The patient was poorly nourished and intensely nervous from the exhaustion and exposure. Sustaining the strength of the patient, attention to the partly frozen tissue, and avoiding general sepsis by preventing a moist decomposing gangrene, was the treatment instituted for the next three weeks. The line of demarcation being well shown at the end of this period and the patient realizing that he could not save his feet, we decided upon amputation.

In selected cases I have been using local and regional anesthesia in minor and major surgery in place of general anesthesia. The immediate deleterious results of a general anesthetic are only too common in our routine use of these agents. Of the remote results we know too little. I believe that many chronic inflammatory lesions of both lungs and kidneys could be avoided by the judicious choice of anesthetic agents. The latest form of regional anesthesia is the subarachnoid injection of cocain solution.

This method has had the careful attention of our scientists for the past few months in a practical way. "It has been weighed in the balance," and, in my opinion, has not been found wanting. While I am not here to advocate its use in every case where it can be used, I firmly believe that now we have a new procedure that will prove a boon to suffering humanity. A skilled anesthetist is a necessary factor in every major surgical operation, if you wish to give your patient the care that is necessary to avoid his succumbing from the anesthetic itself. Gentlemen, picture to yourselves a country practitioner amputating a leg with one eye on the knife and the other on the relative or friend giving the anesthetic under his direction. Probably he will have to leave his knife and pull out the retracted tongue of the patient, then wash his hands again—of course he will not forget this in his haste to resume his work. On the other hand, think of the same practitioner with his hands sterilized, inserting a needle into the lumbar subarachnoid space, injecting a little solution, withdrawing his needle and then proceeding with his amputation with his hands remaining unsoiled. No fear or worry that the patient will not regain his consciousness. When Dr. Leonard Corning announced his discovery of this mode of anesthesia in 1885, little attention was paid to it, as he did not make a practical use of this method in surgical work. In 1899, A. Bier, of Kiel, used the subarachnoid injection of cocain by means of Quincke's lumbar puncture upon his assistant, Hildebrand, and in turn was himself anesthetized by this method. Following this, Tuffier took up this work and made the method popular. Experimenting for some time with minor surgical cases, he began to do major surgical operations under this anesthesia. Before the section on surgery at the International Medical Congress at Paris, in August, 1900, many major operations were reported, and this mode of anesthesia and operations following were demonstrated. Reports

have followed each other rapidly, some writers advising the use of this form of anesthesia in every case where it can be used, others advising its use in selected cases. One of the most interesting reports that I have seen is from the pen of S. Marx, who studied its action in relieving the pain of labor. As he expresses it, "to see the parturient woman under the influence of cocain, lie quietly in bed, feeling only some indescribable sensation, but without pain; bearing down when told to, and giving birth to her child without her knowledge, and only cognizant of the fact when the cry of the newborn was heard," would astonish any one of us as it did him.

To avoid the shock and depressing effects of general anesthesia and having had experience in performing the lumbar puncture for diagnostic purposes, I determined to use this method of anesthesia on my patient. Stating the case to him he readily consented, as he feared the general anesthesia more than the operation itself. I injected 15 minims of a sterile 2% solution of cocain into the lumbar subarachnoid space and in two minutes had a profound anesthesia of all tissues below the tenth rib; the anesthesia lasting almost 2 hours. Assisted by Dr. Landenberger, I rapidly amputated the limbs, the patient being back in bed some time before the anesthesia subsided. I am pleased to state very little shock followed the operation. None of the sequelae, such as nausea, vomiting and headache, which some surgeons have reported after the use of this method, were observed. My patient took a little whisky and strychnia by mouth about half an hour after the operation and began to take nourishment immediately. He was prepared the same as for general anesthesia by having empty bowels and stomach, which may account for the lack of headache and nausea in my case. I wished to be prepared for ether or chloroform anesthesia in case the regional anesthesia was not satisfactory. The rise of temperature after the operation was very slight, being only a fraction above 99° F. My patient made a rapid recovery, the stumps healing by primary intention. He was discharged from the hospital on the fifteenth day after the operation and the stumps could be handled with very little pain to the patient. I cannot see how anything more could be desired.

SARCOMA OF THE RIBS.

By C. C. WARDEN, Ph.B., M.D.,

of Nashville, Tenn.

Professor of Anatomy and Operative Surgery in the Medical Department of the University of Nashville.

T. B., aged 28, civil engineer. Previous health good until a year and a half before the present illness when he was sick for two weeks with malaria. In June, 1899, he had an attack of intercostal neuralgia on the left side. From this attack he recovered fairly well, but within a month another and more severe attack came on. During August there were repeated paroxysms of neuralgia in the same region, and in September he had three attacks of "renal colic," all on the same side.

Early in October sciatica developed on the right side. The seizure was very severe and the patient was taken to Hot Springs in search of relief. He returned after a fortnight, unimproved. There was extreme pain and tenderness along the right sciatic and popliteal nerves with numbness in the heel and some anesthesia in the leg. The temperature and pulse were normal.

Pain now made itself felt in the scalp and neck. In the middle of November sciatica set in on the left side and for a

week the man suffered with paroxysms of agonizing pain, when suddenly the sciatica in the right side disappeared, never to return. Late in the month a firm, immovable tumor-like mass was made out over the eighth, ninth, and tenth ribs on the left. There was no pain, tenderness or redness and the overlying skin was freely movable. Careful questioning now elicited the statement that an injury in this region was received from a fall during a game of tennis nearly two years ago.

In December the patient complained of failing sight in his right eye. Emaciation and loss of strength now became progressive. The abdomen became distended and tympan-

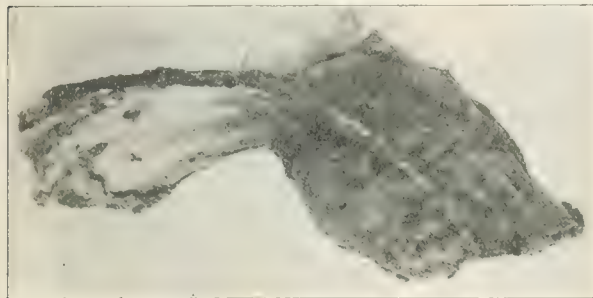


FIG. 1.—The primary sarcomatous growth on the ribs.

itic. There was no pain, but some tenderness and rigidity were observed in the right iliac fossa.

The patient's condition prompted the suggestion of an exploratory operation, which was accepted.

The abdomen was opened on December 14. The viscera everywhere within sight and touch were enormously thickened, grumous and friable. No attempt at further procedure was made. The patient died the following day.

The autopsy showed the following conditions: Numerous hemorrhagic spots of small size covered the abdomen in irregular distribution. On the left side of the thorax was a moderately firm mass elliptical in outline, covering portions of the eighth, ninth and tenth ribs at their middle third. The right eye protruded prominently and was divergent. The tissues of the scalp over the occiput were thickened. On raising the scalp the tissues covering an area an inch or more in diameter resembled a superficial abscess, exuding on pressure a thick white substance. The thickened margins of the supposed abscess were closely adherent to the bone, while the center was soft and communicated with carious, spongy bone. On the surface of the dura directly beneath the carious bone was a mass two inches in diameter and a half an inch thick, semisolid and grayish white in color. The dura was smooth and free on its internal surface. The brain was normal. Beneath the periosteal covering of the right orbital roof was a softened mass similar in color and consistence to that in the dura. A chain of enlarged mediastinal glands covered the anterior aspect of the pericardium, identical in appearance, when incised, with the growth in the dura mater. The heart showed on the anterior surface a grayish-white, slightly elevated spot, three quarters of an inch in diameter, dipping a third of an inch into the muscle. A few small atheromatous patches occupied the first two inches of the aortic lining.

In the left side of the thorax, covering the middle portions of the eighth, ninth, and tenth ribs, was an ovoid mass the size of a child's head, adherent throughout to the visceral layer of pleura. The tumor, together with portions of the ribs to which it was attached, was removed for further examination. The bronchial glands were enlarged.

The peritoneum was thickened and fibrous. The omentum, free from adhesions, was an enormously thickened, mottled, grumous-looking mass, presenting here and there whitish areas resembling small abscesses. Many of the omental veins were thrombosed. The mesentery was greatly thickened and some of its glands were as large as walnuts. The proximal portion of the ileum presented a firm mass, about an inch in length, involving one half of the circumference of the gut and located on the side of its mesenteric attachment. This growth involved all the coats of the bowel and projected a half-inch into the lumen, showing on sec-

tion a pinkish-white color. Further toward the paroximal extremity of the small intestine was a portion sharply curved on itself, uniformly thickened and infiltrated. On one side, near the mesenteric border, the tissues were completely disorganized down to the mucosa where the necrosis terminated in a yellow patch about the size of a lentil.

The cecum was uniformly $\frac{3}{4}$ of an inch thick, grayish white on section and deeply injected on its mucous surface. There were no evidences of recent or old ulceration. The appendix was 5 inches long and sharply kinked from thickening. Two obliterating strictures were found in it, the dilated lumen between the constrictions being filled with a translucent jelly.

The liver, gallbladder and ducts and the stomach were normal. The pancreas was enlarged and softened almost to disintegration. The external appearance of the spleen suggested the presence in its center of a spherical body like a tennis ball. (Fig. 2.) On section the pulp at the periphery was normal in appearance. The center of the organ was filled by a spherical mass two inches and more in diameter, soft, grayish white with pinkish and hemorrhagic areas here and there. (Fig. 3.) The kidneys were enlarged and firm, with capsules slightly thickened and adherent. On section the cortices presented a congested appearance and the contrast between cortices and pyramids was less marked than normal. Numerous grayish-white masses of sizes varying from bird shot to buck shot were irregularly scattered through both organs.

The spinal canal and pelvic contents were not examined. Cultures taken from the softened portions of the growths in the dura, orbit and elsewhere produced but one variety of organism, the *Bacillus coli communis*.

Microscopical examination of the tumor on the ribs and the various disseminations in the viscera showed small round-celled sarcoma. (Fig. 4.)

The gross specimen of the tumor on the ribs was of considerable interest. (Fig. 1.) The length was $4\frac{1}{2}$ inches, breadth $3\frac{1}{2}$ inches, the third diameter measuring $2\frac{3}{4}$ inches. Fully two thirds of the mass occupied the internal surface, the plane of the ribs passing through the outer third of the growth. The mass was semisolid and on section presented a grayish-white appearance marbled with areas of a delicate pink. The center was red and hemorrhagic. The growth was of the periosteal variety.

A review of the literature pertaining to this interesting pathological condition gives for analysis a total of

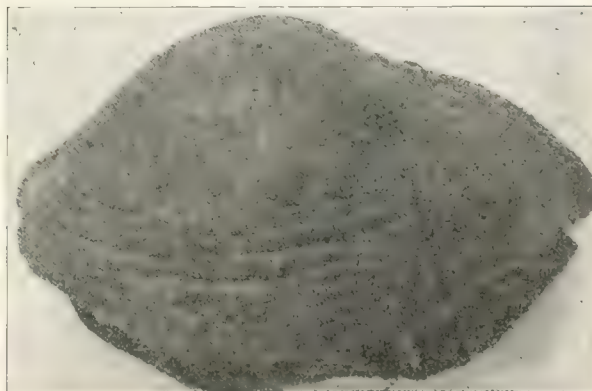


FIG. 2.—Spleen, showing central location of the spherical mass.

73 cases, including the one herewith reported. The cases are so few in number that the task of sifting out cross-references and identifying those twice and thrice reported is no idle one. This review is intended to embrace only cases of the type implied in the title. Consequently all tumors of the sternum, spine and soft parts have been excluded, together with all types of tumor other than sarcoma. All doubtful cases have been omitted. Gay's case⁴ proves to be a chondroma and is not included. Out of the total number of cases

65 came to operation. By far the ablest reviews of the operative treatment of tumors in the chest-wall are those of Campe,¹ Gerulanos,² and Parham³ of New Orleans. Parham's valuable monograph discusses fully all cases of resection for tumors of all types growing from the bony wall of the chest. Some of König's cases, reported by Campe, should be added to his series. Of the 8 inoperable cases one recovered. The total mortality is 48%. In operable cases a slight improvement is observed, there being 28 instances of recovery,

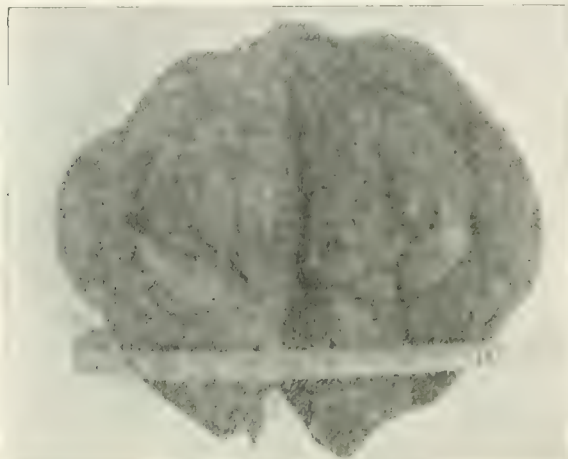


FIG. 3.—Spleen laid open.

or a mortality of 38.3%. If we add to the list of deaths following operation the doubtful cases and those the result of which is not given the death-rate rises again to 46.7%. It will be safe to say that this figure is not excessive, since many of the patients reported cured by operation were not kept under observation for a length of time sufficient to exclude the possibility of recurrence. Five cases in the series give clear histories of recurrence, 3 of which were subjected to secondary operation, 2 died and 1 recovered. Fully $\frac{2}{3}$ of the patients were males. In two instances the sex is not given. The youngest male was 10 years old and the oldest 66. The extremes of age in females are 10 and 45. No cases appear during the first decade of life or after the sixth. Fully $\frac{1}{2}$ of the cases occur between the ages of 20 and 30 and over $\frac{2}{3}$ between 10 and 30. The relation of injury to the morbid process is difficult to trace, and the results of its investigation are somewhat disappointing. Gross says that trauma is an assignable cause of malignant disease in $\frac{1}{2}$ the cases. Dennis lays stress upon traumatism as being a distinct causative factor in sarcoma. There is a clear record of injury in 16 cases only, or 22%. A majority of the writers do not mention the subject. It is probable that this percentage index is far too low. The trivial nature of many a forgotten injury is responsible. Blows and falls upon the chest are causes most frequently noted, and fracture of the ribs comes last of all.

For the sake of convenience the conclusions noted above are arranged in the following table:

Whole number of cases, 73.
Operable cases, 65.
Inoperable cases, 8.
Total deaths, 35. Mortality, 48%.
Deaths in operable cases, 28. Mortality, 38.3%, including doubtful cases, 4, and result not given, 2. Mortality, 46.7%.
Traumatism, 16—22%.
Males, 47—64.3%. Youngest, 10; oldest, 66.

Females, 24, 32.8%. Youngest, 10; oldest, 45.

Sex not given, 2.

Ages, first decade, none.

" second decade, 2—21%.

" third decade, 25—48%.

" fourth decade, 7—13.5%.

" fifth decade, 6—11.5%.

" sixth decade, 2—3.8%.

" seventh decade, none.

Gurlt⁴ gives statistics obtained from the General Hospital and Rudolph Institution of Vienna covering 49 cases of sarcoma of thorax, ribs, and sternum, of which 19 were males, 21 were females, and 9 unknown. A note says that the data for this class are very unsatisfactory, as in many cases it is not known whether the soft parts or the bones or both were involved. No attempt was made to separate the cases into classes, and it is also stated that 5 of the General Hospital cases were in all probability carcinoma. The whole series is accordingly eliminated.

My thanks are due to Dr. W. G. Ewing for many privileges in connection with the case above reported, and to Dr. Larkin Smith for the accompanying illustrations.

Since the foregoing review was written the history of another case has reached me. The patient was under the care of Drs. C. S. and S. S. Briggs, of Nashville, and it is through the unfailing courtesy of these gentlemen that I am permitted to report it.

Mrs. R., Huntsville, Ala., aged 35, multipara, youngest child 6 years old. No abortions or miscarriages. General health good. Presented a hard, fairly smooth tumor, sessile and firmly attached to the ribs, situated in the upper left pectoral or subclavicular space, extending half way to the

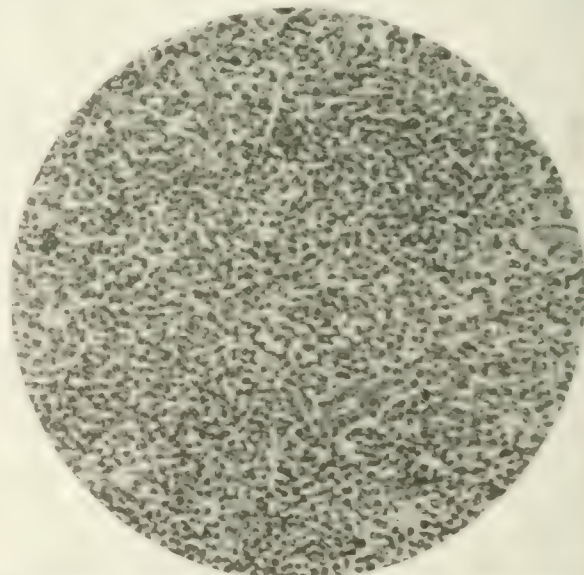


FIG. 4.—Photomicrograph of metastasis in the kidney. Indistinct remnants of tubules may be seen here and there.

nipple below and overlapping the clavicle above. The inner margin reached the sternum and the outer border was lost in the axillary space. There was no perceptible glandular involvement. The left arm and hand were edematous and the seat of dull pain. The tumor was first noticed in February, 1900. It was painless and gave no trouble until the swelling in the arm appeared. She gave no history of injury. X-ray examination resulted negatively as no light penetrated that side. There were no chest symptoms. Heart-sounds were normal, but there was some pulsation in the jugulars. Operation early in November, 1900. Three ounces of A. C. E. mixture were used.

A curved incision was made over the tumor and carried through the pectoral muscles, exposing the neoplasm. After much effort the lower and inner sides were freed, then the upper side. The growth was found to spring from the periosteum of the first, second and third ribs. In freeing the outer portion the brachial plexus, axillary artery and vein were exposed. The vein was involved and would have required resection. The tumor tissue was cut through to relieve the vein and the growth removed. The intercostal muscles were infiltrated and there was evidently more growth inside the thorax. The wound was closed with wormgut sutures, and a large rubber tube was used for drainage. The sutures were removed on the seventh day, the wound having healed well. The patient was dismissed on the eleventh day. There can be but one outcome eventually in the case.

Microscopical examination showed the growth to be a sarcoma undergoing myxomatous change.

Another case has been reported by Whipple and Webber.⁶

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CONGENITAL UMBILICAL HERNIA: REPORT OF A CASE, AND TABLE OF CASES HITHERTO REPORTED.¹

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My attention was called to this subject by a case which occurred in the practice of Dr. Geo. E. McKean, and was operated upon by Dr. F. W. Robbins.

The child, a boy weighing about 8 pounds, had been born at 3 o'clock on the morning of July 16, 1899, and at 11 o'clock of the same day I was met by Dr. McKean at the house of the parents. The only exception to the boy's apparently perfect development was the presence in the umbilical region of a tumor of dark red or purplish color, which at its upper part took on a grayish appearance, suggestive of the tissue of the cord. The circumference of the tumor was 30 cm. and that of the pedicle, taken externally, was 19.5 cm., and the protrusion from what would have been the normal abdominal surface was between 5 and 6 cm. The walls were thin, and, except where the grayish appearance mentioned was present, there was a decided transparency and at first the coils of intestine could be seen. Later this had become clouded by the drying of the outer covering of the sac. When first the child was delivered, this outer layer was smooth and glistening like the surface of the cord itself, and the area thus left uncovered by skin, almost equal to that of the whole tumor. The skin rose perhaps 0.5 cm. upon the pedicle, and at the lower border this cutaneous margin rose to form an apron of about 3 cm. width. The attachment of the cord was somewhat toward the left of the median line, and slightly above the center. Its structures were spread out over the surface after running a little distance toward the base of the pedicle where its proper termination seemed to be sought.

The intestines, plainly visible, could be largely if not completely reduced without seriously affecting the child's breathing or circulation; but underneath the upper grayish portion of the sac the character of the contents was less easily determined and reduction was impossible. This portion was presumably liver, and so it proved on subsequent section of the sac.

In the afternoon of the same day Dr. Robbins saw the case, and the conditions were recognized as presenting little or no hope for the reduction of the hernia, if, indeed, there were any for saving the life of the child, under expectant treatment. The presence of adhesions already sufficient to prevent reduction was suggestive of peritonitis, which must follow, if it were not already present, when the outer surface of the hernia should become gangrenous, and allow the further protrusion of the peritoneum and absolute evisceration. The intraabdominal pressure, it was recognized, would be considerable when the contents of so large a sac were emptied into the cavity; but the reduction of so large a proportion of the hernial contents, and the hope that by means of the apron of skin mentioned, it would be possible to bring together the tissues so as to close over the defect when the edges should be vivified, decided the matter in favor of an attempt to perform the laparotomy. It was impossible to proceed to the operation until the following morning, and the child, when this was done, was 30 hours old. After preparation and under chloroform anesthesia, the hernia was again examined and reduction still found impossible to complete. The incision into the sac was in the median line through the lower thinner portion, the contents being found as above described. Even the stomach and spleen appeared at the hernial opening. This opening through the neck of the sac was about 4.5 by 5.5 cm., and the liver, which had filled in its upper part, making a definite estimate of its size impossible before section, was tied to the inner wall of the sac by broad adhesions. Another previously uncertain factor, the intraabdominal pressure, was the final obstacle which determined the necessity of withdrawing from the operation. So long as the external opening was left large enough even for examination, the eventration was almost uncontrollable, and it was finally decided that it would be a needless proceeding to attempt the resection, as it had

¹ Read before the Detroit Medical Society, October 31, 1900.

been planned, before suturing. The wound-edges were brought together, and an antiseptic dressing applied. The child recovered, took nourishment, and had a number of movements of the bowels before the peritonitis developed, which was the inevitable end of the picture. The outer membrane, of course, became gangrenous, but the wound itself made marked progress in the matter of granulation in the 4 days before death. No autopsy was obtained.

It was not possible to determine any other case of arrested development in the parents or relatives. The mother, aged 26, was a primipara and had had a favorable term of pregnancy with no unusual disturbance, physical or mental. Syphilis was not an element in the case. It is, perhaps, worth noting that, on April 12, 1900, after three weeks of albuminuria, rapid pulse, and marked weakness, the mother bore her second child dead, at seven months.

In general this class of cases has presented a prospect anything but favorable to the practitioner and even to the skilled surgeon under whose observation it has come. Up to the coming of antiseptic practice there was little to do but wait and hope. The expectant treatment had, with a few exceptions, been the only method adopted up to 1882; aside from this the most common being some manner of ligature applied to the sac after reduction, although two or three cases of successful laparotomy followed by suturing had been recorded before this date.

Lindfors, whose table of cases reported as cured previous to 1882 (Part I of the writer's table), is accepted as authoritative, includes 34 such cures. Of these cases he cites two as having had the radical operation, strictly speaking. They were Bérard's case, about 1836 (No. 9), and that known as the Ferrara case (No. 13), imperfectly reported but briefly referred to by Cruveilhier. One other, that of Treves (No. 35 of the writer's table), is mentioned by Lindfors but not included in his table because the child died shortly after what Treves claimed was a really successful treatment. The last case (No. 36) is one to which Treves refers in the report of his own case and there seems to be no reason why it, at least, should not be included. Lindfors himself probably did the first successful operation by laparotomy and suturing under antiseptic conditions; and so he believed that a new era in treatment and a new series of cases should be considered as beginning with his own. His first table takes account only of those cases reported cured up to the time he began his work, and the results he found may be briefly summarized as follows:

Cases of successful treatment.....	34
Cases under purely expectant treatment.....	22
Cases treated by simple circular ligature of the sac after reduction.....	6
Cases with simple ligature combined with a purse- string suture (No. 5).....	1
Cases with simple ligature after opening the sac to separate adhesions of the liver (No. 19).....	1
Cases with percutaneous ligature (Nos. 33 and 34)	2
Cases with laparotomy, freshening of wound- edges, and suturing (Nos. 9 and 13).....	2

The expectant treatment in this earlier period consisted of some form of protective dressing to aid primarily in the reduction and support of the tumor, and further, it was the aim to prevent the gangrene of the outer membrane and the mucous tissue before the granulations had enclosed the underlying peritoneum. In more recent years some few cases have still to be left to this treatment, and in the light of a more careful aseptic technic such cases should not be considered destitute of hope with respect to life. As regards the ultimate perfect cure of the hernia, of course less can be expected. It is to be the aim,

in this treatment, to avoid irritation at all hazards. Measures that cause a too hasty desiccation, as well as anything that would tend to macerate the coverings, are to be avoided. The normal mummification of the cord should be considered the due course of this process, and a strict asepsis is to be maintained.

Operative treatment may be said to have been begun when the reduction of the hernial contents was followed by a simple circular ligature, which aimed to cause sufficient adhesion of the neck of the sac to aid in bridging across the defect. Another step was taken when a purse-string suture was thrown around the neck of the hernia, and, finally, this method reached its climax in the so-called percutaneous ligature, usually described as Breus' operation. In this measure the particular added feature was a clamp provisionally applied to the pedicle after reduction, which should maintain the latter, while two needles upon the same thread were passed about 1 cm. apart immediately below it. The thread or ligature was then cut at each of the needles and thus three separate ligatures formed, and these each contained, when tied, its own portion of the neck of the sac. Breus claimed especial advantage for his operation in only a limited class of cases, viz., those where not too wide a defect existed in the abdominal wall, and where the skin rose far enough upon the tumor to furnish a cutaneous ring upon which to apply the clamp and through which to pass the ligatures. It could be applied only in cases, too, where the contents of the sac were completely reducible, or exceptionally where a small loop of intestine remained adherent which could be separated and reduced by incision of the sac after the clamp was applied. In one of Breus' cases he found a persistent adherent diverticulum of Meckel which he included in the ligature and carefully tied with the other tissues. This author claims for his operation a very satisfactory manner of healing and a firm cicatrix, but the critics have largely admitted the claim that the method holds open the possibility of setting up a peritonitis by taking up small portions of only partially reduced intestine. Fleischmann, from Breisky's clinic in Prague, reported that the vermiform appendix was caught upon the needle. Breus in reply says "this rare misfortune is not difficult to avoid if the sac is opened and examined" after the clamp is applied and before the ligatures are passed. He certainly accomplished two very satisfactory results and in another the wound conditions were essentially perfect. A practical point he offers in favor of the method is the possibility of carrying it out on short notice, under conditions unfavorable for elaborate preparation and the skilled assistance needed for laparotomy and suturing. It is needless to add that this operation must be carried out under conditions as rigidly aseptic as though the greater surface were exposed. It is not maintained as the perfect operation, but historically it is interesting, and, practically, may be useful.

In Bérard's case we see a foreshadowing of the practice of Lindfors and that which is considered proper for all favorable cases today. That his case recovered may be due to an unusual tolerance on the part of his patient; but to Bérard must be given the credit for approaching in a rational manner the treatment of this condition at a time when the weight of opinion was against him. Oken, in 1810, is said to have suggested the idea of radical operation, but no claim is made that he knew of any case where it had been successfully performed. Sömering in 1811, Malgaigne in 1840, and, even as late as 1880, König and Vogel are quoted as

RECORDED CASES OF HERNIA FUNICULI UMBILICALIS.

I.—LINFORDS' TABLE OF CASES REPORTED CURED, PREVIOUS TO 1882. (*Volkmann's Sammlung Klinischer Vorträge, N. F., No. 10, 1882.*)

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
1	Storch.	Therap. und prakt. Abhandlungen von Kindkrht., Eisenach, 1751.	Male.	Large as a medium-sized apple. Cord attachment, central.	Repression and compressing bandage.	Healed after 6 weeks.	The meconium could be seen through the coverings in the intestine. Compression maintained by means of strips of plaster in form of a cross. Child was living 14 years later.
2	Lobstein.	Buchholz: Dissertation de hepatomphalocele, 1768.	Male.	Hernia, 3 inches in diameter. Contained liver.	Simple protective dressing.	Healed after 4 weeks.	On the third day the outer membrane was cast off. Child died some time later of whooping-cough.
3	Herold.	Starke: Archiv für Geburtshilfe, Jena, 1787.	Male.	As large as a coffee-cup. Cord attached at the lower segment.	Simple protective dressing.	Healed, but time not given.	Dressing at first consisted of lead-water compresses; later, of linen covered with cerate.
4	Hey.	Pract. Observations in Surg., London, 1801.	Male.	As large as a hen's egg.	Compressing bandage.	Healing in 15 days. Cord came away on eighth.	Dressing consisted of several star-shaped pieces of plaster laid one upon another, and over this a bandage with a crescent-like filling in one end.
5	Hamilton, Cooper.	Case XV in Cooper's Anat. and Surgical Treatment of Inguinal and Umbilical Hernia, Vol. II.	Female.	Coils of intestine.	Ligature and suturæ circumvolutæ.	Healed after some days.	After hernia was reduced and sac ligated, edges of hernial opening were brought together by transfexion with silver pins, around which thin strips of adhesive plaster were wound. Case sometimes cited under name of A. Cooper.
6	Schneider.	Allgemeine med. Annalen, Altenburg, 1819.	...	Size of a closed fist.	Reduction and compressing bandage.	Healed after 11 days.	Several compresses over one another and bandage applied over all.
7	Ribke.	Rust's Magazin f. die gesamte Heilkunde, 1820.	Female.	Hernia, 2 inches in diameter. Motion of intestines visible through membranes.	Simple protective dressing.	Healed after 4 weeks. On second day, opacity of membranes; on third, beginning desquamation. Underlying granulations.	Reduction not attempted. Sought to protect hernia from all pressure. Cloth wound around it, and a loosely-applied bandage over it. Child died a year later of "dentition fever," and autopsy showed a separation of $2\frac{1}{4}$ inches between the musculi recti
8	Müller.	Rust's Magazin, 1823.	...	As large as a closed fist and with narrow neck.	Reduction and ligature.	Healed after 3 weeks.	
9	Bérard.	Schmidt's Jahrbücher, 1836; and Jour. des connaissances medic. et dict. de médecine, 1840.	...	Adhesion of intestine to sac.	Radical operation.	...	Sac incised. Adhesion separated. Bowel reduced. Skin-edges approximated with sutures.
10	P. G. Cederskjöld.	Förlossningskonst, Stockholm 1839, Vol. III, p. 162.	Male.	Hernia, 1 inch in diameter.	Ligature.	Healed after 3 weeks.	
11	Bal (in Tiel, Holland).	Archiv. gen. d. med. Also, Mag. d. ausl. Litter. d. ges. Heilkunde, Hamburg, 1830.	Female.	Largest known umbilical cord hernia, 7 inches (rhenish) in diameter. Contained "most of the abdominal viscera."	Reduction, ligature, and protective dressing.	Healed in 10 weeks.	When the ligature was applied, the area uncovered by skin measured 2 inches in diameter. Covered with lint dipped in red wine and over this a bandage. On third day, when the swelling had relaxed, a new ligature above the first was applied and the skin drawn together with adhesive plaster. On fifth day, latter was renewed. Then the outer membrane, at the edge, began to desquamate. Some pus came forth and granulations showed beneath it. Later, when more of the membrane was shed and the purulent discharge was very free, the dressing was changed to compresses, soaked in a decoction of willow-bark with alum.
12	Panarelli.	Cruveilhier: In Cooper's "Pathologie generale," Vol. I, p. 604, 1849.	...	When reduction was effected, child had an attack of syncope.	Simple protective dressing.	Healing, but time not given.	Over the hernia the omentum of an animal just killed was laid. Sometimes referred to as Cruveilhier's case.
13	House-Surgeon in Hospital in Ferrara.	Referred to by Cruveilhier in "Pathologie generale."	...	...	Radical operation.	Healing, but time not given.	First case reported where wound-edges were freshened before suturing. This treatment is not countenanced by Cruveilhier.
14	Reguin.	Gaz. med. de Paris, October, 1832.	Male.	As large as a closed fist. Attachment of cord, central.	Simple protective dressing.	Healed after more than 50 days.	After hernia was reduced, child became quiet. Dressing consisted of cerate plaster spread with almond-oil, and over this a flannel bandage.
15	Stoltz.	Bulletin de Therapeutique, T. 53.	Male.	Small hernia, projecting 4 cm. Diameter, 7 mm.	Simple protective dressing.	On thirteenth day, cord fell away, together with the outer membrane. Layer of granulations beneath healing on fourth day.	Child showed no discomfort from pressure on sac. Immediately after healing, bilateral inguinal hernia appeared. Child died 3 months later; cause unknown.
16	Goyrand.	Annales de chirurg., 1844.	...	...	Simple protective dressing.	Healing.	Child lived $2\frac{1}{4}$ months, and wound nearly healed, when death occurred from intercurrent affection.
17	Getto.	Orlac refers to this case as occurring in 1860. Also, Linford, in Centralbl. f. Gyn., 1884, No. 30.	Male.	As large as half an apple.	Simple protective dressing.	Healing after 7 weeks. Was seen again after 17 years.	Dyspnea caused by pressure upon the sac. Also, in nursing. Dressing. Pieces of linen covered with oil, and over this a bandage.
18	Thelu.	Jour. de Chirurg. de Malgaigne, 1864.	Female.	Circumference of hernia, 24 cm. Opening 3 cm in diameter.	Compressing bandage.	Healing in 27 days.	On the tenth day convulsions, which soon ceased.
19	Pochhammer.	Casper's Wochenschrift, 1846.	...	Large as a goose's egg. Liver in the hernia and adherent.	Radical operation. Incision of sac. Separation of liver. Reduction. Ligature.	Healing, but time not stated.	Ceatrix, size of a dollar and visible so that a protrusion of size of fist remained.
20	Herrgott.	In Debout's Memoire, communicated in 1860. (From year 1846.)	...	As large as half an ordinary apple. Cord attached at the right side.	Simple protective dressing.	Healing, but time not stated.	Often cited as Deibert's case.

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
21	Reutermann.	Hygiea, 1861, p. 747.	Male.	As large as a child's head. Contained intestines and part of liver. Skin spread upward 1 inch on the hernia.	Reduction and ligature.	Healing.	Operation 14 hours after birth.
22	Margariteau.	First in communication to Bulletin de Therapeutique, 1855. (From year 1847.)	Male.	Size of large hen's egg.	Simple protective dressing.	On eighteenth day, cord came away. Recovery after somewhat more than one month.	Dressing: Cerate-lint and bandage. Patient was seen again after 13 years.
23	Kraemer.	Zeitschrift f. ration. Med., 1853.	Female	As large as a closed fist. Liver adherent in the sac. Cord attached below and at left.	Compressing bandage.	On seventh day, cord came away. On the sixteenth, healed.	Dressing: Long adhesive plaster strips over a piece of linen smeared with cerate. Died of eclampsia 3 weeks after healing. Autopsy showed 2½ inches separation between musculi recti.
24	Thudichum.	Vierteljahrsschrift f. prakt. Heilkunde, 1853.	Male.	Circumference, 16 cm.; 2½ cm. high.	Reduction and ligature.	Healing in 36 days.	
25	Rose.	Monatsschrift f. Geburtskunde, 1868. Lindfors: Centrbl. f. Gyn., 1881, No. 30.	.....	As large as a child's head. Liver in sac. Irreducible on account of adhesions.	Simple protective dressing.	Vain attempt at reduction by another surgeon. Afterward, again expectant treatment.	On sixteenth day wound cleared up, and in twelfth week was healed. Dressing: Zinc ointment and bandage; afterward, solution of silver nitrate. Child died of diarrhea 3 weeks after healing. Autopsy: Separation of almost 6 cm. between musculi recti. Cicatrix 2½ cm. broad from the peritoneum, to which the liver also was firmly adherent, it was not to be separated.
26	Guersant.	Mentioned by Orliac, 1877. (From year 1860.)	Male.	As large as half an apple. Opening measured 6 cm.	Simple protective dressing.	On ninth day, cord and outer membrane came away.	Cerate-linen and bandage.
27	Raymondaud.	Published in "Bulletin de la Soc. de Med. de la Haute-vienne," 1868. (From year 1861.)	Female	Stellate. Circumference, 24 cm. Opening, 3 cm. Cord inserted centrally.	Compressing bandage.	Healed on thirty-ninth day.	Dressing: Cotton tampon and disk of cork with bandage. After one day, pressure symptoms compelled the removal of the cork disk. No bathing. On sixth day, the gangrenous remains of the outer membrane were removed and fresh granulations found covering the inner one.
28	Cooper, Forster.	In Holmes' Surgical Diseases of Children, 1869.	.....	Rather large hernia.	Simple protective dressing.	Healed.	
29	Chamorro.	Amfitreato anatomico Español, 1875.	.....	.....	Simple protective dressing.	On sixth day, cord came away. Healing, but time not stated.	The course was "interrupted by an attempt at operation." Local phlebitis. Fecal vomiting. Soor. Improvement and recovery.
30	B. Angers.	First published in Orliac's Thesis, 1877. Also, Lindfors' article in Centrbl. f. Gyn., 1884, No. 30.	Female	As large as an orange. Liver in the sac.	Simple protective dressing.	On sixteenth day, cord came away. Healing only after 11 weeks.	Compresses with "vin aromatique" and bandage.
31	Fear.	Brit. Med. Jour., 1878.	.....	.....	Ligature.	Healing, but time not stated.	
32	Th. Bryant.	Pract. of Surg., third edition, 1879.	.....	Large hernia, containing liver.	Simple protective dressing.	Healed.	The serosa granulated, formed a cicatrix, and thus gradually pressed the hernial contents back.
33	Th. Bryant.	Pract. of Surg., 1879. (Operated upon July, 1876.)	Male.	Large as a hen's egg. Contained cecum.	Reduction and percutaneous ligature.	Healed.	The boy was living 2 years later.
34	C. Breus.	Wiener med. Wochenschrift, 1881. Also, Samml. u. klin. Vorträge, 1893, No. 77.	Female	Size of a hen's egg. Contained only coils of intestine. Opening, 3 cm. in diameter.	Reduction and percutaneous ligature.	Healed.	Operation, 20 hours after birth. After reduction, temporary closing of hernial opening by means of forceps, followed by percutaneous ligature and removal of sac with Paquin's thermocautery. Antiseptic dressing.
35	Treves.	London Lancet, 1881, I, 323 [Mentioned by Lindfors, but not included in his table as cured.]	Male.	In base of cord, swelling size of bantam's egg. Almost absolutely irreducible. Opening, size of adult thumb. Contents 2 inches of ileum, whole of cecum, and vermiform appendix. Cecum largely adherent. Firmly strangulated.	Radical operation. At first incision along the whole length of tumor in median line. Abdominal opening enlarged. Gas in intestine relieved by puncture with hypodermic needle. Reduction. Harelip-plins, including peritoneum. Silk, through skin only.	Recovery in 7 days, wound healed, but died after 3 weeks from diarrhea, followed by convulsions. Had left hospital cured.	Seven day after birth. Operation refused, but granted next day, when peritonitis and exhaustion were advanced. No movement of bowels. Vomiting. Operation under chloroform, 60 hours after birth. Improvement began within 12 hours. Copious movement of bowels. Took nourishment next day. No vomiting. Pils removed at 36 hours. Wound supported by strapping. Examination, day before death, showed scar firm and well healed, appearance like normal umbilicus. Operation was without antiseptic precautions.
36	Visik (Malaga).	Idem, 1873, I, 829. [Not mentioned by Lindfors.]	.....	Size of hen's egg. Very thin and transparent. Opening, size of a pencil. When seen, sac was ruptured, and evisceration included cecum and appendix, ascending and transverse colon and greater part of small intestine.	Reduction, with difficulty. Skin-edges secured by temporary clamp and sutured with wire.	Wound closed top day. At end of 5 weeks, patient strong and healthy.	Wound healed by granulation, which for a time was excessive, and the fungous growth was treated.

II.—LINDFORS' TABLE OF CASES OF HERNIA FUNICULI UMBILICALIS, 1882-1891. *Uppsala's Stenbäck klin. Vorträge, N. F., No. 53, 1891.*

S.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
1	A. O. Lindfors.	Hygiea, Stockholm, Jan., 1882; Nord. Med. Archiv, IV, 1883; Centrbl. für Chirurgie, 1882, No. 49; Centrbl. für Gynäk., 1884, No. 30; Centrbl. für Gynäk., 1889, No. 28; Samml. klin. Vorträge, 1893, N. F., No. 63.	Male.	Hernia, size of child's head. Hernial opening, 5 cm. in diameter. Insertion of cord below and at left. Contents, intestine.	Laparotomy and suturing, antiseptic. Simple radical operation.	Progressive healing. Superficial sutures removed, seventh day. Deep, tenth day. Firm, deep union. Superficial suppuration. Union complete twenty-eighth day.	Under anesthesia and under thymol spray. Reduction. Excision of sac and cord. Sutures—one row deep, one superficial.
2	Krukenberg.	Archiv für Gynäk., 1882, II, XV; Centrbl. für Gynäk., 1883, No. 1.	.....	Liver and omentum adherent in the sac. Hernial opening, 3.5 cm. in diameter.	Laparotomy and suturing. Simple radical operation. Antiseptic.	Healed in 30 days.	Incision of sac. Adhesions broken. Reduction. Skin-edges freshened. Compress. Salicylic acid.
3	Ronaldson.	Tr. Edin. Obst. Soc., 1882-1883, VIII, 101.	Male.	Large hernia, with adhesions.	Radical operation.	Cure.	Incision of sac. Adhesions separated. Reduction. Suture.
4	Breisky, Fleischmann.	Prager med. Wochenschrift, 1882; Centrbl. für Gynäk., 1883.	Male.	Size of walnut. Only intestines.	Percutaneous ligature; excision of sac; cautery.	Death.	Vermiform appendix was caught in the ligature and tied.
5	Pagenstecher.	Bulletin gen. de Therapeutique, 1883; Virchow-Hirsch Jahrbücher, 1883.	.....	Strangulated.	Radical operation. Antiseptic.	Cure.	Incision of ring. Reduction. Suture of wound.
6	Felsenreich.	Wiener med. Presse, 1883; Lindfors, Centrbl. f. Gyn., 1889, No. 28.	.....	Size of lemon. Skin defect, 8.4 cm. Contents, intestines and edge of liver.	Radical operation. Excision of sac. Skin-edges vivified. Sutures. Iodoform compresses.	Cure.	Operation at age of 2 days. Primary healing.
7	Goodlee.	Med. Times and Gaz., 1883.	.....	Contents, small intestine and cecum.	Radical operation. Reduction. Freshening. Sutures.	Died, 3 days after operation.	Child was first seen at 2 days old. For 14 days, expectant treatment. Already peritonitis before operation. Reduction difficult. Cecum adherent.
8	Soudèn.	Hygiea, 1883, 146; Lindfors, Centrbl. für Gyn., 1889, No. 28.	.....	Large as a common potato. Intestine only. Cord, central. Hernial opening, 1 cm. in diameter.	Ligature. Bandage with gentle compression.	Cure (time not stated). Cord came away on tenth day.	After reduction, the empty sac was closely wound with strips of adhesive plaster. Over this a gently-compressing bandage.
9	C. W. Robinson.	Lancet, 1883; Virchow-Hirsch Jahrbücher, 1883.	Male.	Intestines only. No adhesions.	Radical operation.	Death after 2 hours.	Operated upon the day after birth.
10	Harries.	Lancet, 1886, II, 773.	.....	Size of hen's egg. Adhesions.	Radical operation. Sutures circumvoluted.	Cure.	Child only a few hours old at time of operation.
11	S. v. Hofsten.	Hygiea, 1886.	Female	Size of goose's egg. Intestines and liver.	Simple protective bandage.	Death.	Ten days old when first seen. Died next day, of peritonitis.
12	Caldwell.	Trans. Gyn. Soc. of Chicago, 1886; Centrbl. für Gynäk., 1887, No. 2.	.....	Circumference of hernia, 10 inches.	Herniotomy. Reduction. Freshening. Sutures.	Cure.	On sixth day, fecal discharge from wound. Later, fistula healed.
13	Olshausen.	Archiv für Gynäk., 1887, XXIX.	Female	Hernial opening 4.5 cm. wide.	Modified radical operation. Extraperitoneal.	Cure.	Amnion and Wharton's jelly removed, but peritoneum left intact. Incision through skin alongside hernial opening. Sutured over the infolded peritoneum. Hemorrhage. Healing, but not primary. Granulation filled in lower third of wound.
14	Fleischmann.	Prager med. Wochenschr., 1887; Centrbl. für Gynäk., 1887.	Female	Large.	Simple protective bandage.	Cure.	The defect in the abdominal wall was too great to bring the sutures together. Dressing of cotton covered with boric acid and vaselin.
15	Reuter.	Geburtsh. Gesellschaft von Hamburg; Centrbl. für Gynäk., 1887.	Male.	Abdominal opening 4.5 cm. Already peritonitis.	Herniotomy. Reduction. Separation of adherent liver. Skin-edges freshened. Sutures.	Cure.	.....
16	Stypinski.	Gaz. lekaraska, Bd. VI, 8; Centrbl. für Gynäk., 1887, No. 13.	Male.	Circumference, 12 inches. Longitudinal diameter, 5 inches.	Compression and bandage.	Death, in 4 weeks.	Heart was visible and palpable among intestines in the sac. Defect too great for operation.
17	Robertson.	Glasgow Med. Jour., 1887; Centrbl. für Gyn., 1887, No. 47.	.....	Large as a child's head. Hernial opening size of a dollar.	Simple protective bandage.	Death, on ninth day.	Great dilation of duodenum. Small intestine opening directly out at anus. Colon wanting.
18	Piperno.	Sperimentale, Dec., 1887; Centrbl. für Gynäk., 1888, No. 28.	Male.	Defect, 5 cm. long.	Radical operation. Reduction, difficult. Freshening. Sutures.	Death, on second day.	Operation without preparation and without skilled assistance, in unheated room, in farm-house. Directly after suturing, bowels underwent eversion.
19	Dunlap.	Jour. American Med. Assoc., 1888; Centrbl. für Gynäk., 1888, No. 43.	.....	Very large. Intestines in the sac.	Radical operation. Freshening. Sutures.	Cure.	Child an hour old. Healing by primary union.
20	Dohrn, Eckerlein.	Zeitschr. für Geburtsh. und Gynäk., 1888, XV, 2.	Female	Size of hen's egg. Patient had six fingers on each hand.	Modified radical operation. Extraperitoneal.	Cure.	Five hours after birth, operation according to Olshausen's method. Carbolic acid used during operation. Healing, secondary. Afterward, protrusion of umbilicus. Died after 6 weeks, from pneumonia.
21	Phenomenoff, Stolypinsky.	Diary of Kazan (Russia) Med Soc., VIII, 1888; Centrbl. für Gynäk., 1889, No. 11; Annals of Surgery, 1888.	.....	Size of goose's egg	Radical operation. Freshening. Sutures.	Cure.	One hour after birth, operation under chloroform. Only boiled water, by way of prevention. Hernial opening enlarged. Considerable hemorrhage. A portion of the intestine adhered so firmly that a part of the peritoneum of the sac was dropped into abdominal cavity with hernia. Primary union.
	Auvard.	Revue de Gynecol., Paris, 1888; Centrbl. für Gynäk., 1888, No. 28.	Male.	Fecal fistula.	Simple protective bandage.	Death.	.....

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
23	Barton.	Medical News, 1889.	...	Size of closed fist; 2 inches in diameter.	Radical operation.	Cure.	Operation 23 hours after birth. Already peritonitis.
24	Theims.	Frauenarzt, Berlin, 1889, Vol. X, 277.	...	Large and adherent.	Radical operation.	Cure.	
25	Macdonald.	Ann. Jour. Obst., 1890.	Female	Size of an orange.	Radical operation. Suture circumvolutae.	Cure.	Child very strong 2 months later.
26	Baum, Colla.	Centrbl. für Gynäk., 1890, No. 21.	Female	Pear-shaped tumor with pedicle. Contents, only liver. Strangulated. Irreducible.	Radical operation. Reduction. Suture.	Death, 7 hours later.	Operation 15 hours after birth. Chloroform anesthesia. Salivary and antiseptic. Adhesions of liver. Hernia opening scarcely the size of little finger. Opened upward.
27	Lauderer.	Centrbl. für Gynäk., 1890, No. 31.	Male.	Contents: Small intestine, part of stomach, transverse colon, and omentum. Adhesions to stomach.	Radical operation.	Cure.	Anesthesia. Operation 15 hours after birth.
28	Larabrie.	Archiv. gen. de med., 1891; Centrbl. für Chirurgie, 1891, No. 52.	Male.	Hernia sac ruptured. Contents, intestine.	Radical operation.	Cure.	Relief of constriction, upward. Adhesions dissolved. Reduction. Excision of sac. Sutures. Operation 7 hours after birth.
29	Salmon.	Gaz. des Hôpit., 1891, No. 132.	Male.	Size of an orange. Contents: Bloody ascitic fluid, greater part of liver, and cord of omentum size of little finger.	Simple incision of sac. Freshening of wound-edges. Deep and superficial sutures.	Cure, after 14 days.	Cord of omentum tied off and excised. Reduction of liver. Chloroform anesthesia. Bore a gauze dressing. Two sutures cut through, and suppurred a little.
30	Hinkinson.	New York Med. Jour., 1891; Centrbl. für Chirurg., 1892, No. 8.	...	Length of hernia, 12 cm. width, 6 cm. Contents, part of liver and small intestine.	Simple incision of sac. Reduction. Sutures.	Cure.	Child recovered in spite of the fact that, when the wound was dressed the first time, the sutures came out. Repeated under anesthesia.
31	Runge.	Archiv für Gynäkologie, 1891; Centrbl. für Gyn., 1892.	Female	Size of lemon. Liver and intestines.	Simple incision of sac. Reduction. Sutures.	Healed in 20 days.	Broad adhesions with liver. Silver sutures.

III.—CASES TABULATED BY BERGER, OCCURRING UP TO 1893. (*Revue de Chirurgie, October, 1893.*)

32	D'Arcy, Power.	Trans. Path. Soc. of London, 1888, XXXIX, 108.	...	Transparent sac. Contents, a foot of small intestine.	Incision of sac. Reduction. Sutures.	Death, after 3 days.	Peritonitis. Reduction impossible without operation.
33	Jean (de Maubeuge).	Routier: Bulletin et Mem. de la Soc. de Chirurgie, 1891, N. S., XVII, 17.	...	Rupture of sac. Protrusion of ileum and cecum.	Reduction. Expectant treatment.	Cure.	Vomiting, fecal, due to chilling.
34	Manoury (Chartres).	Salmon: Gaz. des Hôpitaux, 1891, No. 132.	Male.	Size of mandarin. Transparent at base. Contents: The liver, a band of omentum, and some ascitic fluid.	Radical operation. Liver red. and lig. and superficial sutures. Omentum excised.	Cure, after 5 days.	No antiseptic precaution taken during 24 hours after birth. Operation between twenty-fourth and thirtieth hour. Antiseptic. Two sutures cut and suppurred slightly.
35	Kaltenbach.	O. Patz: Inaugural Dissertation, Halle, 1891, p. 32.	Male.	Size of closed fist. With pedicle. Intestinal adhesions.	Radical operation. Incision of sac. Excision. Separation of adhesions. Reduction. Suture.	Cure.	Operation, 11 hours after birth. Anesthesia, chloroform.
36	W. Hogue (Charleston).	Henry Marcy: Anatom. and Surg. Treatment of Hernia, New York, 1892, p. 193.	Male.	Opening, 2 inches. Tumor, descending to pubis.	Expectant. Support by adhesive bandage.	Cure, after 6 weeks.	
37	Henry O. Marcy.	Idem, p. 194.	Male.	Tumor, radius 2 inches. Contents: Part of liver and spleen.	Olshausen's operation.	Cure.	Operation 2 days after birth. Chloroform. Partial failure of union and suppuration. Small protuberance when child cries.
38	Angelo Nannotti.	Morgagni, 1892, XXXIV, 515.	Male.	Size of head of fetus at term. Sac torn opening, 3 cm. in diameter. Contents: Large and small intestine.	Hermolacramotomy. Incision in linea alba. Excision of sac. Reduction. Deep and superficial sutures.	Cure, after 10 days.	Operation immediately after birth.
39	Samuel C. Benedict.	Med. Record, N. Y., 1892, XLI, 262.	...	Contents: Spleen, part of liver, and intestines.	Raised amnion and Wharton's jelly, saving peritonitis. Free skin from both sides and draw over opening.	Cure.	Chloroform. Operation 48 hours after birth. Dependent on sutures and ligatures. Wound dressed with gauze. Peritonitis of part of wound. Wound dressing was removed. Small protuberance remained when child cried.
40	Carl Breus.	Sammlung klin. Vorträge, 1893, No. 77, p. 726.	...	Size of an orange. Sac. With difficulty reduced. Opening a good 7 cm. in diameter. Contents: Intestine and liver.	Percutaneous ligature. Very difficult. Impossible to satisfactorily apply the forceps to walls of the opening.	Death.	Operation under chloroform 8 hours after birth. Wound extensively opened with scissors. Not from peritonitis. Caustic put used as in Breus's first case—Table I, No. 4.
41	Carl Breus.	Idem, p. 727.	...	Protrusion 8 cm. With redness. Incompletely reduced. When touched a diver tingling of Meckel.	Percutaneous ligature. Excision of the diverticulum taken up by the ligature.	Cure, after 14 days.	Operation under chloroform 7 hours after birth. No distension. Chloroform norm and smooth after 9 months.

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
42	P. Berger.	Revue de Chirurgie, 1893, p. 798.	Female	Size of hen's egg. Contents: Small intestine, cecum, and with transverse colon adherent.	Hernio-laparotomy. Incision in linea alba. Reduction. Sutured in three layers.	Cure, after 10 days.	Operation under chloroform, 28 hours after birth. Iodoform dressing had been used. Primary union.
43	P. Berger.	Revue de Chirurgie, 1893, p. 802.	Female	Size of large walnut. Contained small intestine and adherent cecum.	Operation as for No. 42.	Cure.	Operation under chloroform, 3 days after birth. No antiseptic preparation had been taken meantime. Peritonitis had already begun before operation. Cure, 18 days after removal of sutures. Union by first intention.

IV.—REMAINING CASES IN HALLET'S TABLE. (*Revue de Gynécologie, June, 1900.*)

44	Bruss	Centbl. für Gynäk., 1884, No. 30, p. 478; Thèse de Vienne.	Male.	Size of lemon. Contents: Intestine and part of liver. Abdominal opening, 8 cm. by 4 cm. Membranes very tense.	Radical operation.	Cure.	Operation 7 hours after birth. Primary healing. Sutures removed, ninth day.
45	Gluck.	Berliner klin. Wochenschr., Jan. 19, 1885.	.....	Signs of peritonitis. Strangulation, due to an accessory mesenteric fold bound to diverticulum of Meckel and passing over intestine.	Radical operation. Resection of diverticulum and of the mesenteric fold.	Death.	Child born at 7 months. Died in 30 hours, of peritonitis.
46	Duchamp.	Loire Medical, Nov. 17, 1887; Thèse de Vienne.	.....	Size of walnut. Thin, transparent sac. Reduction easy. Just as operation was to begin, sac suddenly burst and intestine poured out en masse.	Diverticulum tied as far as possible from intestine with silk thread, to hold it outside the ring. Its middle part was then fixed at the level of the umbilical ring.	Death.	When sac burst, small intestine appeared and cecum, with its appendix, the sigmoid flexure, and a diverticulum of Meckel, of 2 cm. in length, adherent to hernial sac by its extremity.
47	Klaussner.	Münch. med. Wochenschrift, 1889, No. 3.	Male.	Size of an apple. Irreducible. Short pedicle of 1 cm. thickness. Hernia 5 cm. in diameter. Easily strangulated. Tumor tense.	Radical operation. Coils of intestine, inflamed and covered with exudate.	Cure.	No anesthetic. Age, 1 day. Died later, of diarrhea. Postmortem, umbilicus closed. No adhesions to side of intestine.
48	Péan.	Cliniques Chirurgicales, VIII, 717.	.....	Size of head of child 2 months old. Coverings adherent to liver and intestine.	Radical operation. Resection of suspending ligament of liver. Separation of large and small intestine, and afterward a removal by piecemeal of Wharton's jelly. Reduction difficult.	Result unknown, but it does not seem that a favorable result could have followed.	Anesthesia difficult. Child 6 hours old and very much depressed after operation.
49	Rosenblum.	Altona, 1891, p. 8. (Quoted by Cahier.)	.....	Umbilical hernia with persistent omphalo-mesenteric duct.	Radical operation.	Cure.	
50	Bordeau.	Limousin Médicale, 1891, p. 148; Thèse de Vienne.	Male.	Size of an orange. With pedicle. Partly reducible. Contents: Part of small intestine and cecum with appendix closely adherent to the sac.	Radical operation. Cleansing with bichlorid solution. Intestines came out en masse and more extensive laparotomy necessary to reduce them.	Death.	Child 2 days old. Already peritonitis at operation. Its extension caused death 18 hours after operation.
51	Vanderloel.	Jour. de médecine de Bruxelles, 1892.	.....	Size of fist. Contents: Liver and other viscera.	Reduction. Suture of the ring with catgut.	Cure.	Operation some hours after birth.
52	Warren.	Lancet, 1893, II, 1332.	.....	Large. Opaque. Diameter, 6.5 cm. Contained entire liver.	Radical operation.	Cure.	Operation when 34 hours old. Anesthetic, ether.
53	Warren.	Idem.	.....	Pear-shaped. Length, 7 inches. Contained nearly all the small intestine.	Radical operation.	Cure.	Child at first very much depressed, but ultimately recovered.
54	Dolinski.	Centbl. für Gynäk., 1893, No. 40.	.....	Size of an apple.	Radical operation.	Cure.	
55	L. Hecht.	Münch. med. Wochenschr., 1894, No. 51, p. 1687.	.....	Of small size. Membranes mammated.	Antiseptic dressing.	Cure.	Child first seen at 3 days of age. Cure by gradulation.
56	Gener.	Centbl. für Gynäk., 1894, No. 42.	.....	Size of an apple.	Antiseptic dressing.	Cure, in 4 weeks.	Abdominal walls grew together. Umbilical ring had diameter of a lead-pencil.
57	Bardeleben, Rettig.	Rettig: Inaugural Dissert., Berlin, 1894.	.....	Size of walnut. Contents: Appendix, large part of small intestine and its mesentery. Partly irreducible.	Radical operation.	Death.	Age at operation, 2 days. Died 5 hours afterward. Operation without anesthesia and lasted one-half hour. Postmortem: Adhesive peritonitis and punctiform hemorrhagic foci in the peritoneum.
58	Poppelmann.	Inaugural Dissert., Marburg, 1894.	.....	.....	Sutures through skin and amnion.	Cure.	

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
59	Timmer.	Genotschler bowerd. d. Natur. gener., 1896.	...	Loops of intestine and adherent liver in the sac.	Radical operation.	Cure.	Age, 17 hours.
60	Arndt.	Archiv für Gynäk., 1896.	...	Size of small walnut.	Radical operation.	Death.	Protrusion of small intestine outside of hernia. Age, 16 hours.
61	Arndt.	Centrbl. für Gynäk., 1896, No. 24.	Female	Umbilical hernia with hernia of heart. Absence of anterior part of diaphragm at level of sternum. Liver and intestines.	Radical operation.	Death.	Age at operation, 7 hours. Death from compression of the heart.
62	James Harvey, Raymond.	Medical Record, September 19, 1896, p. 425.	...	Hernia, large and firm. Contained entire liver. Absolutely irreducible.	Radical operation.	Death.	Died shortly after operation. Child weighed 2 k. 41, and the liver 113 g.
63	N. P. Marjantschik.	Annalen der Russ. Chirurgie, 1896, Hft. 3. Centrbl. für Chirurgie, 1896, No. 42; Centrbl. für Gynäk., 1896, No. 13.	Female	Size of lemon. Amnion dry and friable, and partly broken open. In places peritoneum also torn.	Excision of sac. Wound-edges freshened. Sutures through the whole wall.	Death on 5th day.	After operation, cognac by mouth and rectum to overcome depression. Postoperative peritonitis and gastritis, the latter due to cognac; fetal spleen, left lobe of liver twice the size of the right, and a tongue-shaped lobe behind.
64	Buist.	Brit. Med. Journal, 1896.	...	Opening 6 cm. in diameter. Cecum and liver adherent.	Radical operation.	Death.	Age 7 days. Died the following day. From birth to operation a corn and dressing had been used. Part of the time a pad of cork also used.
65	O. Piering.	Prager med. Wochenschr., 1896, No. 31.	...	Walls of hernia unusually thick. Sac ruptured in labor. Eventration of large and small intestine and mesentery, except duodenum and rectum.	Radical operation.	Cure.	Laparotomy. Reduction impossible. Hernial opening would scarcely admit the little finger. Anesthetic, chloroform, well borne.
66	Knauer.	Centrbl. für Gynäk., 1897, No. 2.	Male.	Size of mandarin. Cecum and small intestine.	Radical operation.	Cure.	At first, an attempt to employ Olshausen's method, but reduction impossible, owing to adhesions.
67	Girard.	Correspond. für Schw. Aerzte, 1897, No. 13.	Male.	Size of small fist. Contents: Part of left lobe of liver, and coils of small intestine. Great part of liver visible. Solidly adherent to sac.	Radical operation.	Cure.	Age 36 hours. Liver separated only with great difficulty. Much parenchymatous hemorrhage. Died some weeks after leaving hospital. Phlegmon of scrotum.
68	Girard.	Idem, 1897, No. 13.	Female	Size of fist. Bad color and odor of envelopes. Contents: Large part of small intestine, and all of left lobe of liver.	Radical operation. Intestine reduced. Lobe of liver resected from sac. Excised gallbladder after tying cystic duct.	Death after 36 hours.	Age 2½ days. Child debilitated.
69	E. Patry.	Revue Medicale de la Suisse Romande, 1896, No. 7, p. 354.	Female	Hepatocoele.	Attempted to suture edges of resected membrane over liver when reduced, but sutures did not hold, the membrane being too friable. Vivified skin edges and sutured abdominal walls <i>en bloc</i> .	Cure completed at end of 6 months.	Age of child, some hours. After operation intense icterus for 6 days, without decoloration of stools. Child, after recovery, was robust. Hernia, size of pigeon's egg, persisted appearing only when child cried. Evident on percussion. Ring allowed passage of two fingers. Bandage maintains reduction.
70	Boise.	Am. Jour. Obst., 1897, p. 223.	...	Hernial opening nearly as large as silver dollar. Contents: Intestine. Reducible. Soft and compressible.	Radical operation. Excision of sac. Suture fascia with silk and skin with catgut.	Cure after 3 weeks.	Operation on child at age of 7 hours. Anesthesia, not profound, with chloroform.
71	Church.	N. Y. Med. Jour., Jan., 1897.	...	Contained colon. Reduction impossible.	...	Death after 36 hours.	
72	A. MacCosh.	Idem., Feb., 1897.	Male.	Size of an orange. Color, purple. Contents: Intestine. Partly irreducible.	Radical operation.	Death after 2 days.	Operation 5 days after birth. Chloroform anesthesia only at moment of reduction. Liver covered with exudate. Parenchymatous hemorrhage. Drainage of wound.
73	Rogier.	Thèse de Paris, 1898, p. 79.	Male.	Size of an orange. With pedicle. Contents: Intestine adherent. Agglutination by peritonitis.	Radical operation.	Death.	Operation second day. Died same day.
74	Hildebrant.	P. Busch Inaugural Dissert., Berlin, 1889.	...	Size of an orange. Contents: Intestine. Irreducible.	Radical operation.	Cure.	Age at operation, 8 hours. Remnant of diverticulum of Meckel, a cord coming out to be inserted in the sac.
75	Porak.	Presse Medicale, Dec. 30, 1899.	...	Size of a plum. Contents: Intestine and part of lower border of liver.	Radical operation.	Cure.	Operation one hour after birth. Slight protrusion on coughing or crying remained.

NO.	SURGEON.	REFERENCE.	SEX.	DESCRIPTION.	TREATMENT.	COURSE.	REMARKS.
76	Monti.	Arch. für Kindhkd., 1899, Bd. xxvii, 412.	...	Circumference, 34 cm. Contents: Liver, spleen, pancreas, stomach, small intestine, large intestine, except descending colon.	Moist dressing.	Death.	Died from peritonitis on the fourth day. Coils of intestine bound by vascularized membranous deposit. Liver very adherent.
77	Monti.	Idem.	Male.	Small, containing intestinal coils.	Antiseptic dressing.	Death.	Died eighth day in collapse. Presented abdomino-pelvic fissure, exstrophy of bladder, anal atresia, and spina bifida.
78	Czyzewicz.	Wiener med. Wochenschr., Feb., 1899.	...	Half size of an orange. Opening very large. Contained intestine.	Protective dressing.	Death after 3 weeks.	After separation of cord, wound commenced to granulate.
79	Czyzewicz.	Idem.	...	Large tumor, inclosing intestine.	Protective dressing.	Death.	Died after some hours. Symptoms of peritonitis.
80	Bylicki.	Idem.	Male.	Size of an apple. Contained intestine. Opening large.	Protective dressing.	Cure.	Seen again after 10 years. At level of umbilicus a radiating cicatrix of size of 4 kreutzer piece. No separation.
81	Baracz.	Idem.	Male.	Opening 10 cm. by 8 cm. Contents: Liver, stomach, and small intestine.	Radical operation.	Death.	Age at operation, a few hours. Hernial sac excised. Intestines reduced under unclean linen. Reduction difficult. Sutures very tight. Died after some hours.
82	Schramm.	Idem.	Female	Size of a goose's egg. Opening, 3 cm. Contained small intestine.	Antiseptic dressing.	Cure.	Seen again 7 years later. At level of umbilicus, radiating scar. No separation.
83	Schramm.	Idem.	Female	Size of an apple. Op'g., scarcely 4 mm. Contents: Small intestine, cecum, and ascending colon.	Radical operation.	Death.	At first wound progressed normally. Wound almost healed. Erysipelas, sixth day. Death on eighth day.
84	Coley.	Medical Record, November 4, 1899.	...	Size of large orange. Organs adherent in sac. Irreducible.	Extraperitoneal operation, with drainage.	Cure.	Operation under chloroform 22 hours after birth; lasted 30 minutes. Two months later, slight protrusion.
85	Coley.	Medical Record, November 4, 1899.	...	Large as a child's head. Contents: Liquid, liver, part of large and part of small intestine.	Radical operation.	Healed.	Incision of sac allowed about 250 gm. of straw-colored fluid to flow out. Reduction impossible on account of extensive eventration. Three weeks later child was still living.
86	Hallet.	Revue de Gynecol. June, 1900.	Female	Size of fist. Opening narrow. Contents: Small intestine, with diverticulum of Meckel, adherent, and cecum, with its appendix. Irreducible.	Radical operation.	Cure.	Child's age, 2 hours. Chloroform. Resection of appendix and of diverticulum. Seen again 5 months later, showed radiating scar without separation.

V.—CASES NOT IN ANY OF THE PREVIOUS TABLES, BUT COLLECTED BY THE AUTHOR OF THE ACCOMPANYING REPORT.

87	Hackney.	Medical and Surgical Reporter, Philadelphia, 1887, vol. 56.	...	Hernial tumor, size of adult fist. Opening 2 inches in diameter. Transparent coverings, through which could be seen large and small intestines.	No attempt at reduction nor operation.	Died in 3 days.	Bowels moved. Child took nourishment. Died of general peritonitis.
88	K. Hedman.	Finska Läkarsällsk. Handlingar, December, 1897; Gaz. Hebdomadaire de Med. et de Chirurg., Mar. 20, 1898, Tome iii, No. 23, N. S.	...	Contained liver and small intestine, which could be seen through the transparent wall.	Reduction. Resection of sac. Suture of abdominal walls.	Cure.	Child weighed 3,600 gm. Anesthetic, chloroform. Presented no other abnormality. Adhesions of liver to sac wall. Body cavity relatively small.
89	von Habs.	Med. Gesellschaft zu Magdeburg; Münch. med. Woch., 1898, Bd. 45, No. 11, p. 346.	...	Entire liver in the hernial sac. Irreducible.	Radical operation. Excision of sac. Liver reduced. Urachus closed by a suture. Suture of abdominal wall by layers.	Death in 4 days.	Died from exhaustion. Wound conditions found normal. No other abnormality except patency of urachus, discovered during operation to have persisted.
90	.....	Described in the accompanying report.	Male.	Circumference, 30 cm. Grayish above, and purplish and more transparent below. Cord at left and slightly above middle. Contents: Part of liver, part of small and large intestine. Hernial opening between 4.5 cm. and 5.5 cm.	Radical operation attempted but unsuccessful owing to impossibility of controlling eventration. Sutures.	Death after 4 days.	Operation under chloroform at age of 30 hours. Healthy, and presented otherwise no abnormality. Adhesion of liver to sac wall. Body cavity relatively small.

giving little encouragement in a majority of cases and accepting death as inevitable.

Lindfors confines his use of the term "radical operation," to that of abdominal section together with freshening of the cutaneous edges and suturing, although the completed operation of Breus involves an opening of the abdomen. Strictly speaking the operation by Pochhammer, 1846 (No. 19), became a radical operation by reason of his opening the sac to relieve adhesions of the liver, although he applied only simple ligature to close the hernial opening.

Lindfors' second table, accompanying his article in 1893, brought together 31 cases of congenital umbilical hernia, *reported whether cured or not*, all before 1891. He had repeatedly written on the subject and in 1889 his table contained 13 cases up to that date since 1882. In 1890 Macdonald, of Albany, N. Y., published a table, including his own case, which embraced 19 operative cases, and 12 treated expectantly. Berger, reporting 2 cases operated upon by himself, added those which had been reported previous to 1893. Schramm added a number of cases in a paper with a table published in Vienna in 1899; and, finally, Hallet, from Paris, published in June of the present year a table in which he includes such cases as he has gathered from the literature since 1893, and this last is the most satisfactory statement of the subject yet made.

In adding the case I have reported herewith, I wish also to submit those other cases which have come to my notice in the literature of the subject. The table as prepared by the writer comprises 90 cases, the treatment of which, with results, may be summarized as follows:

Radical operation: Laparotomy, freshening wound-edges and suturing.....	44
Healed.....	42 (= 95.6%)
Died.....	21
Result unknown.....	1
Simple ligature.....	1
Healed.....	1
Percutaneous ligature.....	3
Healed.....	1
Died.....	2
(Including Breus' first case, and Bryant's second case, Nos. 33 and 34 in Table 1, cases healed 3, = 60%)	
Extraperitoneal operation of Olshausen.....	5
Healed.....	5 (= 100%)
Total operative cases.....	73
Healed.....	49 (= 67%)
Died.....	23
Result unknown.....	1
Expectant treatment.....	15
Healed.....	7 (= 47%)
Died.....	8
Treatment, unknown or impossible.....	2
Died.....	2
Total (1882-1900).....	90

In this summary perhaps the most striking fact is the percentage of cases healed after operation by Olshausen's method, and of this it is proper to enter a word of explanation, as well as some detailing of the method, before proceeding to discuss the ordinary radical operation. Olshausen's report appeared in 1887, and he described his procedure as having the particular advantage of avoiding the opening of the peritoneal cavity. He made first an oval incision through the skin near the edge of the defect at the base of the tumor and carried it down only to the peritoneum. The edge of skin toward the defect, together with the outer membranous covering of the hernia, was separated from the under-

lying sac of peritoneum. Even the interposed mucous tissue, or Wharton's jelly, is removed, until the peritoneum is as free as possible from all adherent tissue. It is then gathered into folds by a few stitches to obliterate the cavity and the whole is dropped into the abdominal wound and the edges and, if possible, the deeper tissues drawn together over the opening and sutured with silk. In Benedict's case (No. 39) this last closing was effected by silver pins and figure-of-eight sutures, but with no particular advantage.

This operation is admitted to be applicable to those cases where a large hernial opening makes the eventration less easy to control, and critics have generally limited its special recommendation to these cases. At best the treatment by Olshausen's method has proved itself a means for lessening the probability of death from peritonitis, besides making a smaller cicatrix than would result from expectant treatment. In these cases it saves the life of the patient, but can scarcely be said to have cured the hernia. In nearly every one reported, the course of the case was that of failure of union, suppuration, and finally a cicatrix which after healing and contraction were complete, admitted of limited protrusion of the bowel. It may be granted that even this is a gain in that class of cases to which it has been said the operation should be confined.

Lindfors recommended the following technic: After complete anesthesia under chloroform the hernia is reduced if possible; the sac is then opened; adhesions separated and reduction completed. The sac is then excised and the skin-edges vivified, the umbilical vessels tied and separate rows of deep and superficial sutures passed. His most particular provision, that in regard to antiseptics, becomes to us, in the form of asepsis, a matter of course. He dissects around large adhesions, such as are frequently found to bind down the liver, in order to avoid excessive hemorrhage, allowing the excess of tissue to be reduced with the organ. Where necessary the hernial orifice may be enlarged along the linea alba to make reduction possible. The diverticulum of Meckel or the vermiform appendix may be removed in the manner ordinarily adopted.

In Hallet's conclusions on the subject, he says: "Intervention should be as early as possible after birth; waiting endangers the membranes from gangrene and peritonitis; and radical operation is always the most rational if we have the means and assistance at hand." In his analysis of the cases where the time after birth before operation is given in the reports, he supports the above statement by the following summary:

In 58 cases operated upon within 36 hours after birth, 15 deaths.....	= 26%
In 7 cases, within 48 hours, 3 deaths.....	= 43%
In 2 cases on third day, 1 death.....	= 50%
In 4 cases after third day, 4 deaths.....	= 100%

This scale of percentages surely bears testimony to the value of prompt and radical action.

Finally, it is to be observed that a rational treatment of congenital umbilical hernia is based upon two ideas the acceptance of which is comparatively recent and whose absence gave the condition its former hopeless prospect. These two things are aseptic practice in surgery and a better understanding of embryological development.

Journal on Sea-Sickness.—A unique publication has recently been started in Paris, entitled *Le Journal de Mal-de-Mer*. It is devoted entirely to the subject of sea-sickness.

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Surgical Interference in Gastric Ulcer.—Some idea of the steady advance of surgery into fields formerly considered essentially medical can be had by reading the excellent results recently reported as obtained from the surgical treatment of gastric ulcer by a number of different surgeons. We recently reported in the JOURNAL an interesting case by Dr. Wharton and Dr. Musser. Dr. Mayo Robson in a clinical lecture reported in the *British Medical Journal*, February 2, and abstracted in this JOURNAL, February 23, shows the wonderful decrease that has been brought about in the mortality of this condition by surgical intervention, not only in cases of perforation and of gastrorrhagia, which threaten to be fatal, but in the chronic cases as well. Robson's own mortality in operations for gastric ulcer is below 5%, which includes those done for hemorrhage and perforation. When one considers that the mortality rate of gastric ulcer medically treated is variously stated as from 20% to 50%, the great saving of life by surgical interference is very apparent. Of course no one would suppose that the mortality of all operations done for gastric ulcer and its complications would be found to be as low as that of Mr. Robson, who has had a very extensive experience in this particular branch of surgical work; but, there is no reason to suppose that with greater experience and improvement in technic, the surgical treatment of this condition may not become more universally employed and yield in the hands of others the good results shown by Robson. When one considers the immediate and remote dangers of ulcer of the stomach; namely, perforation with general peritonitis or subphrenic abscess; hemorrhage, which may prove fatal; stenosis of the pylorus; hour-glass contraction, and dilatation, then it would seem that if surgery offers a safeguard against these dangers, it should be called to the patient's aid. A patient with a chronic gastric ulcer which has refused to respond to treatment, is hardly as safe as one with an irreducible hernia. Undoubtedly medical treatment should take first rank in the treatment of ulcer of the stomach, and should be carefully carried out for a reasonable time, but, in cases which prove obstinate, which bleed repeatedly, or which recur after apparent healing, then surgery, it has been shown, can accomplish a great deal. The particular surgical operation that has to be done upon the stomach will depend upon the condition and situation of the ulcer. Where the ulcer is large and situated

at the pylorus, Robson has found gastroenterostomy to be more successful than pyloroplasty or pylorotomy, although in certain cases these operations are to be preferred. A great improvement in the method of performing gastroenterostomy is the attachment of the bowel to the posterior instead of to the anterior wall of the stomach. The latter is easier of accomplishment, but it does not give the physiological rest to the stomach that the posterior operation affords, and where a button is used to make the anastomosis there is much less likelihood of its finding its way into the stomach instead of into the bowel. The question now to be decided, since surgical interference has won its place in the treatment of gastric ulcer, is the time at which it is best to resort to surgical operation. Its absolute necessity in cases of perforation and of pyloric stenosis is unquestioned, and as regards the other cases, we can probably not do better than follow the advice of Mr. Robson, who thinks that cases of gastric ulcer which do not yield to careful medical treatment, which show a tendency to bleed, and which recur, should be operated upon. The safety of the operation of gastroenterostomy in the hands of experienced surgeons is shown by the fact that in his last 20 cases, Robson has not had a single bad or fatal result.

The Antiseptic Treatment of Enteric Fever.

It is now generally admitted that enteric fever is a self-limited disease, running its course in uncomplicated cases in from 21 to 28 days. The specific bacterium, the bacillus of Eberth, is conceded to be the exciting cause. It is not our purpose to inquire minutely into the pathology and the course of the specific bacteria after they have once found their way into a susceptible organism. After a period of incubation varying between two and three weeks (average 18 days) the characteristic phenomena of the disease are produced. It is quite necessary to bear this in mind when reflecting upon a treatment which has for its purpose the rendering of the intestinal tract antiseptic. Supposing this were possible (it is well known that under normal circumstances the bowel cannot be cleared of bacteria, which under many conditions may take on virulence), what effect would such a treatment have upon the specific bacteria which were present during the period of incubation and which had already produced their toxins, which after their absorption had

given rise to many of the symptoms of the disease, such as the dilated pupil, the dry throat, the diarrhea, the fever, etc.? How can a so-called antiseptic treatment, at least three weeks after the effects have been produced, control such manifestations?

The bacillus of Eberth is found in the evacuations some time between the tenth and sixteenth day of the disease. It is found in the spleen, the liver, the bone marrow, the blood, etc. While so-called intestinal antiseptics may serve a useful purpose in the control of some of the abdominal symptoms which may become unduly prominent, such as the diarrhea, tympanites, etc., they cannot under any circumstances favorably influence or *abort a self-limited disease*, in which a long period of incubation has allowed the bacteria and their toxins to produce these harmful effects.

Our only hope of a scientific treatment, which will contain all the essentials of an antiseptic and abortive treatment, rests upon an antitoxin serum.

Problems in Fermentation by Yeast.—According to the *Revue Scientifique*, the subject of the fermentation of sugar by the action of the yeast-plant has recently been investigated, with some interesting results. The subject has interest for physicians, because, as will be seen, it tends to throw light on some allied problems in bacteriology. The fermentation of sugar, as is usually taught, is caused by a low vegetable organism, known as the yeast-plant. This plant takes in the sugar and gives off carbonic acid and alcohol. In 1897, Büchner, a German investigator, announced that fermentation was not dependent on the actual presence of the growing yeast-plant, but that the process was maintained just as well by a liquid extract, which he had made from the yeast-plant itself. This extract is called a zymose. More recently some English experimenters have gone over this ground, in order to determine whether the fermentation caused by this zymose is identical with that caused by the yeast-plant itself; and especially whether the usual products—alcohol and carbonic acid—are obtained in the same proportions, and whether the amount of sugar transformed is in exact proportion with the quantities of these substances produced. They have found that the proportion between the alcohol and carbonic acid varies greatly, and that the exact proportion between the amount of sugar that disappears and the quantities of carbonic acid and alcohol that are produced is not maintained. In other words, a large quantity of sugar disappears and is not accounted for. This would seem to show that the yeast-extract, artificially produced, is not so potent as the yeast-plant itself, and that its potency is only maintained for a while. This whole process, as can be readily perceived, is analogous to what occurs in the case of many pathogenic bacteria. These minute organisms probably act by producing toxins, which are analogous to the yeast-extract, and these toxins become

gradually reduced in strength. By taking advantage of these facts pathologists are able to obtain a preventive serum.

Impositions on Medical Witnesses.—Since the recent remarkable utterance of one of the judges of the Philadelphia bench, which was referred to in these columns on February 9, many physicians have expressed their opinions to us about their treatment by lawyers when called as witnesses in court. Some of these opinions have been favorable to the legal profession, while others have been decidedly the reverse. Some physicians claim that medical witnesses are greatly imposed upon by the lawyers, particularly in cases of civil suits for damages. The gist of these complaints is about as follows: The physician receives a subpoena, which sets forth that, laying aside all his routine duties, he is to appear before the court at a certain hour of a certain day as witness in a certain case. This case is placed on the court calendar for that day in company with several others. The physician leaves his work, and goes to the court-room at the appointed hour and stays there until noon, when a recess is declared for an hour or two and he, as a witness, is excused for that length of time. At two o'clock the court reassembles and the physician is obliged to remain in the court-room for two or three hours more listening to the wearisome details of cases that do not concern him. This may be repeated for several days, until the case is so far behind that it cannot be reached at that term of court, and the witness is excused until the next term. A physician is very likely to think that he has just cause for complaint when required to waste almost an entire day listening to the arguments of learned counsel in cases that do not interest him. We are personally aware of an accident case that has been in the hands of a lawyer since 1895, in which the medical witness has been summoned twice a year for three years, and which is not yet settled. Some lawyers (not all) seem to have no consideration for physicians, especially for the younger ones, in this matter. If the lawyer in charge of the case would always arrange with his medical witness (as is often really done) for the accommodation of both, that when the case is actually called for trial the witness should be telephoned for, the latter could get to court and give his testimony in ample time. It always takes time, usually more than one-half hour, to call a jury, to administer the oath, to state the case to the court, and to examine the plaintiff, and in that time of preliminaries the physician can reach the court-room from almost any part of the city. In addition to the element of waste of time there is the question of compensation. The witness fee is entirely inadequate to compensate a physician for a day's work. Of course, in the case of a man engaged as an expert witness the fees are fixed by private agreement, but even in these cases there is no reason why an expert should be asked to waste his time in court.

While some of these complaints are just, there is, it must be freely conceded, another side to this question. Some members of the bar are exceedingly courteous and careful in endeavoring to put expert witnesses to as little inconvenience as possible. Of this we have frequently had agreeable personal experience. Lawyers claim that they themselves are even more frequently than physicians, the victims of the law's delays. They too have to waste valuable time in court. The truth is that there are many kinds of lawyers, just as there are many kinds of doctors, and all are not equally considerate of other men's rights. In this era of the telephone we think there is less excuse than formerly for robbing a doctor of his time, and we are sure that among the better class of lawyers there is no disposition to do so.

Physicians and Temperance.—The National Woman's Christian Temperance Union is out in a circular to physicians, and especially to the editors of medical journals, appealing for aid in its crusade against the use of alcoholic drinks. The authors of this circular claim that their most effective allies are those physicians who do not prescribe alcoholic liquors, but allow alcohol a very limited sphere of usefulness, or none at all, in the practice of medicine. They state in effect that they are endeavoring to do missionary work in the cause of total abstinence by using the teachings of such physicians, and they evidently want to make it appear that the medical profession as such must become a sort of auxiliary of the W. C. T. U. if the evils of liquor drinking are ever to be fully abated. There is indeed in the tone of the circular a little suggestion of a disposition to prescribe to the medical profession what it shall prescribe (or not prescribe) in the way of alcoholic stimulants.

We think the day is probably far distant when the medical profession as a body will be willing to subscribe to all the dicta that underlie the crusade against drink. As a profession it allows to its individual members a wide latitude, both of opinion and of practice, in the matter of the use of alcohol. As a profession, moreover, if it has a prejudice on any one subject, it is against the enforcing of the extreme views of individuals upon people in general, and against taking its cue from outside sources as to what it shall prescribe in the treatment of disease. The whole question of alcohol—its use, its abuse, its control, its place in medicine—is too vast for discussion within the limits of a circular or an editorial; but we are willing to say that the medical profession is certainly more fully alive to this question, and better acquainted with some of its details, than any other body of men in the world, and yet as a profession it would not endorse many of the things that are both said and done by the advocates of prohibition. Science has not yet demonstrated that alcohol is an unmixed evil, and that it has no place in the treatment of disease. Any attempt to misrepresent

the medical profession on this subject, or to try to make it appear that it has formed any unnatural alliances with outside crusading organizations, is at least somewhat premature.

Influenza as a Cause of Appendicitis.—That the poison, or germ, of influenza sometimes expends its force upon the intestine, is a well-known fact. Intestinal catarrh, with or without bloody discharges, has been observed in epidemics of grip, and has been claimed by good observers to be one of the effects of the disease. From this conception of an intestinal catarrh it is but a step to the conception of an appendicitis due to the same cause—the grip. This idea has been held and advanced by some clinicians, and is in accord with the idea that appendicitis is in fact always an infectious disease rather than the result of a trauma by a foreign body. We have always regarded this idea as still a theoretical one, and are not aware of any statistics that go to prove that appendicitis is more prevalent during or just after an epidemic of grip than at other times. A cablegram now announces as a piece of news that M. Lucas Championniere has just demonstrated to the French Academy of Medicine that one of the chief causes of appendicitis is the grip. For a piece of news, coming all the way from Paris, this sounds rather stale in the ears of American physicians.

As in the case of every medical announcement that sifts through the newspapers, this report from Paris is tangled up with a lot of sensational and incredible nonsense. One statement is to the effect that a well-known Philadelphia surgeon had said that at least one-third of Philadelphia's population have had appendicitis due to grip and to the eating of meat. As this would give about 400,000 cases of appendicitis in this city, the size of this canard can easily be estimated. It is clearly in the domain and within the capacity of the city editor to criticise such science, and to edit such cablegrams before they reach the press.

Endophlebitis.—In a recent interesting paper, read before the Pathological Society of Philadelphia, Dr. Arthur V. Meigs has described a new instance of this somewhat rare affection. He says that diseases of the veins have been by no means exhaustively studied. The word itself, while not new, cannot be said to be in common use. It is adopted in this connection in distinction from the ordinary phlebitis, so often used in medicine to describe the disease commonly called "milk-leg" and other similar inflammations of the veins. The endophlebitis of Meigs corresponds almost exactly to the affection known as endarteritis, and the term serves to call attention to the similarity of the disease in the two kinds of bloodvessels. In Dr. Meigs' case, that of a male adult, the veins in some places appeared as nearly solid cords instead of being thin-walled tubes, as is natural. There was much thicken-

ing of the intima, but the muscular coat was the more affected, while in the adventitia there was no evidence of disease. The intima was composed of fibrous tissue and presented the appearance commonly seen in diseased arteries. On the other hand the muscular coat, which occupied two-thirds of the entire thickness of the vessel wall, was unlike anything usually described in diseased bloodvessels. This thickening of the muscular coat was evidently caused by an overgrowth of fibrous tissue; hence it was not an hypertrophy, and instead of reinforcing the muscular coat had the effect of destroying it.

These changes are described minutely by the author in his paper, and should be studied in the original to be fully appreciated. The patient in whom they occurred was an Italian stone-mason, 25 years of age, who had had syphilitic infection $1\frac{1}{2}$ years previously; otherwise he was in good health and had been a man of fairly good habits. He was admitted to the hospital with an attack of vomiting and diarrhea, with pain in the epigastrium and with precordial distress. The heart's action was slow and exceedingly irregular, but there was no evidence of hypertrophy or valvular disease. There was some stiffening of the radial arteries, but the most noteworthy changes were in the veins. A small vein, for instance, extending across the dorsum of the foot was felt and seen to be distinctly thickened. Its unnatural thickness and hardness could easily be distinguished by passing the finger back and forth across it. It felt like a minute cord, instead of almost disappearing when compressed as a healthy vein does. This vein was excised and was the object of microscopic study, to which reference has been made. The patient presented no evidence of kidney disease, but he had not entirely recovered from his cardiac symptoms at the end of two months when he left the hospital.

In describing the nature of these changes, Dr. Meigs supposes that most observers would attribute this change to syphilis, and he also thinks that this etiology is probable. Syphilis undoubtedly produces vascular disease, as is well known, but its effects have mostly been described in the arteries; and changes in the veins, such as those described, are certainly not commonly reported. This observer thinks, however, that it would be a mistake to believe that syphilis is the only cause of such changes. He has been a careful and systematic student of diseases of the vascular system and has observed similar changes in the veins of persons suffering with other disease. He calls attention to the fact that diseases of the veins have by no means been so thoroughly studied as diseases of the arteries, and that it is probable that the veins are much more subject to disease than is commonly supposed. The case upon which he bases his observations was unique from the fact that the specimen was taken from the living subject.

Leukocytosis.—The doctrine of phagocytosis, heralded by Metschnikoff, the principle of chemiotaxis, advanced by Pfeffer, and the researches of Buchner, Deny, Martin Hahn, Goldscheider and Jacob, Löwy and Richter, and others upon the bactericidal and antitoxic secretions of the leukocytes, are all of interest when dealing with the problem of leukocytosis. Virchow suggested the term "leukocytosis" as meaning a transient increase in the number of white corpuscles in the blood. In our opinion Cabot's comprehensive definition is well worthy of general acceptance at the present time, "an increase in the number of leukocytes in the peripheral blood over the number normal in the individual case, this increase never involving a diminution in the polymorphonuclear varieties, but generally a marked absolute and relative gain over the number previously present." Although within the last decade much valuable statistical material has been collected, yet we are far from possessing anything like a comprehensive knowledge of leukocytosis in varied pathological states. As a striking example we might refer to constant leukopenia present in enteric fever and the value of repeated blood-counts through the course of this disease which will indicate the subnormal range in a given case. Thus the onset of beginning peritonitis from perforation might be overlooked from the blood-count alone if but a single observation showed an apparently normal or slightly increased count, whereas if such a count was one of a series the contrast would be suggestive of an inflammatory complication. Thus, again, in cases of malignant disease which should give rise to a leukocytosis we frequently have a modifying factor which complicates the clinical blood picture. We refer to starvation, which may occasion a hypoleukocytosis in esophageal cancer with obstruction. With such a complication the blood-count is modified by the two diverse factors. In our present state of knowledge we have no measures at our command to differentiate by the blood-count alone inflammatory or infectious from malignant diseases. The condition of temporary concentration due to the sudden loss of fluid from the body through excessive sweating, profuse diarrhea or other allied conditions often gives rise to an increase in the number of colorless corpuscles which may be a source of error. We shall not attempt to point out the various errors arising from faulty technic which are patent to the experienced hematologist, but it may be mentioned that the researches of Chantemesse and Ray have showed us that in their observations the number of leukocytes, when the blood is taken from the cold finger is less by 50% than in a count made from the warm finger.

It will require extended study and the compilation of accurate statistics to unravel the many-sided question of physiological leukocytosis. The many circumstances giving rise to the increase in the white corpuscles

show the constant association of this change with systemic disturbances and its consequent importance. The simplicity of the method of determination should stimulate us to more constant and careful observation. The value of leukocytosis as a clinical index is comparable in a measure to that afforded by the range of temperature. The classical observations of Wunderlich established for us the value of the clinical thermometer and threw much light upon that which was hidden and obscure. Is it too much to hope that the thorough study of leukocytosis may afford us a guide of equal value?

Death of Professor Pettenkofer.—The news of the death of the illustrious bacteriologist and hygienist, Professor v. Pettenkofer, will be received by the scientific world with deepest regrets. The *Frankfurter Zeitung* states that Dr. Pettenkofer, who was a diabetic, had infected himself with a knife with which he opened an abscess on his neck. Like his deceased brother he was constantly fearing mental derangement, and during a spell of melancholia shot himself during the night in his apartments at the royal residence. A man of profound learning, indefatigable energy and strength of character, he gained the admiration of all with whom he came in contact. He was instrumental in elevating the subject of hygiene, and he endeared himself to the inhabitants of Munich by his scientific devotion to all matters pertaining to the public health. At the age of 83, beloved, respected and preeminent, Pettenkofer passed away, leaving an indelible impression for future generations.

Pistol Shots.—Hough gives the results of experiments made by him to show the marks produced by pistol shots at various distances. He used white blotting-paper, which he considered took about the same amount of powder-mark as the human skin. He found that it is not possible to determine with absolute accuracy from the mark alone what is the caliber of the weapon used or the distance from which it is fired. If the mark is a smut without tattoo, the shot was fired at a distance not over 6 inches; if the mark consists of a tattoo with distinct smut at the center, then the distance was not over 2 feet; if the mark consists of a bullet-hole alone, the range was not less than 4 to 6 feet, if a 22-caliber was used; 7 to 9 if a 32, and 9 to 12 if a 38 or 41.

Scarlet Fever.—Prof. Gibert (*Revue Medico-Pharmaceutique*, Jan. 15, 1901) divides scarlet fever into normal cases, not necessarily free from danger, and abnormal or complicated cases. The former are usually seen, with angina, fever, eruption, desquamation of the tongue, followed by desquamation of the body, taking in all about 6 weeks. The abnormal cases may be abortive, as is so common in France, severe, or hemorrhagic, though this is rare. Among the complications are severe angina, albuminuria, edema, etc. The eruption settles the diagnosis. The prognosis should always be guarded. Isolation in bed, sponging, should the fever persist, and milk diet constitute the main treatment. All cases should be reported. And, finally, disinfection must be carefully done. [M.O.]

Reviews.

A Manual of Medicine. Edited by W. H. ALLCHIN, M.D. Lond., F.R.C.P.F.R.S. Ed. Volume II. New York and London: The Macmillan Company. Price, \$2.00 a volume, in cloth.

The second and concluding volume of this manual of medicine sustains the excellence of the first. The subjects have been treated ably and as briefly as is consistent with thoroughness. The editor has moulded the work with painstaking care, and we have failed to note the frequently observed discrepancies in books of similar character in which the various contributors at times conflict. The fact that the work is in two volumes may militate somewhat against its general adoption by students, but this inconvenience is more than compensated by its satisfactory character. This volume, from the pens of thirteen contributors, deals with diseases caused by parasites, those produced by poisons introduced into the body, the poisons produced by perversion of general nutrition as uremia, diseases of the blood, diabetes, gout, chronic rheumatism, osteomalacia, rickets, leontiasis ossea, otitis deformans, akromegaly and rickets. This in general serves as an outline of the contents. [T.I.C.]

Die Therapie beim engen Becken. Die Indikationsstellung zu operativen Eingriffen unter Zugrundelegung der in den Jahren 1891-99 an der Universitäts-Frauenklinik in Leipzig (Geheimrath Prof. Dr. Zweifel) beobachteten Geburten beim engen Becken. Von Dr. B. KRONIG, Privatdocent in Leipzig. Leipzig: Published by Arthur Georgi. 1901.

The author in this little brochure of 213 pages has given a comprehensive description of the treatment of contracted pelvis which is largely based upon statistics taken from Dr. Zweifel's Women's Clinic in the University at Leipzig. The text is enriched by numerous tables of labors in primipara and multipara, and the subject is so grouped as to be rendered easily accessible for purposes of reference. The author illustrates the different portions of the work with descriptive cases, and from the point of view of the management of this obstetric complication, he considers the various operations of prophylactic version, craniotomy, the induction of premature labor, symphysiotomy and Cesarean section. A large list of authors and their contributions to the subject, the conclusions of which he has employed in his work, adds considerably to the value of the book, which should find a place in the library of all obstetricians. [W.A.N.D.]

Diseases of the Heart; Their Diagnosis and Treatment. BY ALBERT ABRAMS, A.M., M.D., Consulting Physician for Diseases of the Chest, Mt. Zion Hospital and the French Hospital, San Francisco. Illustrated. Pp. 172. Chicago: G. P. Engelhard & Co. Price, \$1.00 net.

Condensation of so important and extensive a subject as "diseases of the heart" is a task so difficult that we feel some hesitancy in expressing criticism of the work of Abrams, which would be obvious in a more elaborate treatise. In the description of chronic adhesive pericarditis we fail to find mention of Broadbent's sign. On page 54 the author states the following: "Mitral Stenosis—Pulse small, irregular, with increased frequency." On page 119, in dealing with the description of mitral stenosis, he informs us that "the pulse is smaller in volume than normal, but regular." In the discussion of mitral stenosis he makes the following statement (on page 118): "The brunt of the burden is borne by the right auricle and ventricle which become hypertrophied." Again, on page 36, we find the following: "In mitral obstruction it is the left auricle which primarily hypertrophies to overcome the narrowed mitral orifice. Later the right ventricle hypertrophies." Such contradictory statements cannot fail to impair the value of the work. The illustrations appear crude and typographical errors are also found. We feel that the brevity of the work and the errors would greatly mar its usefulness as a work for students. [F.J.K.]

International Clinics. Edited by HENRY W. CATTELL, A.M., M.D. Philadelphia, U. S. A. Volume IV. Tenth Series 1901. Philadelphia: Published by Messrs. J. B. Lippincott & Co. Price, \$2.00 a volume in cloth.

This volume of *International Clinics* contains several noteworthy contributions and, as a whole, is of unusual excellence. We might mention especially Professor B. Grassi's contribution upon "Mosquitoes and the Prophylaxis of Malaria," "Massage in Ranaud's Disease," by Douglas Graham, and the "Role of the Blastomycetes or Ferments in the Etiology of Cancer," by Roncali. John B. Deaver reports several interesting operations including the Kraske operation for carcinoma of the rectum and neurectasy of the sciatic nerve.

One-third of this volume is devoted to a monograph (by the editor) which deals with the etiology and morbid anatomy of various diseases. The letter T is reached in this portion of the entire monograph. It is designed to aid students "who are about to pass examination in medicine and pathology and as a work of ready reference for those interested in these subjects."

We cannot accept the value of such a work in the *International Clinics*, even if it were done to our entire satisfaction, but in the present instance the average quiz compend would supply the student with far better material than is found in this monograph. There is scarcely a classification which is satisfactory, and many are woefully behind our present knowledge upon their respective subjects. We may criticise at random. Under pernicious anemia, for instance, in the description of blood-changes it is stated that there is an increase of "neutrophilic whites." The term so used is a poor one. Polynuclear or polymorphonuclear neutrophils are far preferable. Leukocytes are diminished in number. There is a relative increase or absolute increase in the lymphocytes and a small percentage of myelocytes are present in pernicious anemia. No mention is made of the presence of megaloblasts which are of great diagnostic value. In discussing the blood in the anemias no mention is made of the gross appearance of the blood which is important. Lloyd Jones' theory is not mentioned under the etiology of chlorosis. The etiology of malaria is disposed of with a statement that it is "a true hematozoon." In the definition of diabetes the continuous presence of sugar is not regarded as noteworthy of mention. It seems unfortunate to mar the value of the *International Clinics* with such a monograph. We grant that the editor had a task of unusual difficulty confronting him, but we believe it to have been an entirely gratuitous one. [T.L.C.]

Prophylactic Measures against the Pest.—In the report by Prof. v. Ermengem (*Revue Medico Pharmaceutique*, Jan. 15, 1901) upon the pest epidemic in Glasgow, August, 1900, he says: The pest probably entered upon a ship from a foreign port, which showed no suspicious signs upon reaching quarantine. It is not known whether persons or merchandise brought in the infection. The epidemic was not widespread, perhaps because the rats were not affected. Nor were the cases, on the whole, severe. The diagnosis was not difficult in severe, or bubonic cases. Bacteriologic examination was indispensable in pest pneumonia and in mild cases. Anti-pest serum furnished encouraging, but not positive results. Where isolation, disinfection, etc., are well carried out, such an epidemic is soon limited. [M.O.]

Contribution to the Clinical Study of Osseous and Osteoarticular Tuberculosis in Old People.—Moret (*Gaz. Heb. de Méd. et de Chirurg.*, Feb. 3, 1901, 48me Année, No. 10; Paris Thesis, 1900 1901, No. 31) out of 3,925 patients has found 178 cases of osseous and osteoarticular tuberculosis. The course of the disease appears to be chronic and its evolution slow. The prognosis is, however, rendered more grave by the always menacing possibility of a propagation to another organ. The gravity of the disease is still further dependent upon the localization of the affection. The seat of the disease, according to the order of frequency, is as follows: Foot, ribs, knee, sternum, wrist, hand, vertebral column. While conservative treatment is the rule in children, in old people, on the other hand, economic operations should be advised. [J.M.S.]

Correspondence.

THE INFLUENCE OF HEREDITY.

By JOHN K. MITCHELL, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

THE error in the example under the above editorial heading in your last number is a small one—but somewhat vitiates the result. A gelding you say has never won the Derby. This might argue for the superiority of "entire" horses and mares were it not that the reason why a gelding has never won the race is that a gelding has never tried to. The conditions of the race limit it to "colts and fillies."

Another statement there made is of more moment. "Mares have won races far less frequently than stallions." Having regard to the comparative numbers of the two sexes in training, I doubt if this is true. But if it refers only to the Derby a glance at the list of entries for any year will suggest a good reason. Counting up the first year's record which I chance upon I find that of 22 starters for the Derby that season, but 2 were mares.

For general purposes of hard and steady work every horseman will tell you a mare will outwork and outlast a stallion or a gelding, whether the work is for a day or a year.

SALINE INFUSIONS IN THE TREATMENT OF PNEUMONIA.

By CLARENCE A. PENROSE, M.D.,
of Baltimore, Md.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In your February 16 number an article by Dr. James K. Crook appeared entitled "Recent Progress in the Treatment of Acute Lobar Pneumonia." I was much surprised at the little emphasis the doctor gives to saline infusions in the treatment of this disease, and felt that if a wrong impression were given to the medical profession it should be corrected.

Salt infusion is almost a routine treatment in desperate cases at the Johns Hopkins Hospital and has been employed in a number of cases of pneumonia, with most favorable results, by our best local physicians in their private practice. As I had the honor of inaugurating this treatment of pneumonia while on the staff of Dr. Osler, and published the first work on this matter (*Johns Hopkins Hospital Bulletin*, July, 1899), about one year after my first case, it is surprising that Dr. Crook seems unaware of that article and of recent favorable comments on this method in other journals.

All articles published since mine seem to omit what I consider to be a very striking point in the effect of salt-infusion in pneumonia, i.e., its marked action as a respiratory stimulant, proved by Dr. Hunt's work on dogs in Dr. Howell's laboratory, and its favoring the absorption of oxygen, probably for this reason.

Since my first case, infused February 14, 1898, and published later with two others, I have had the opportunity of seeing saline infusions further tested and have probably employed this method more in private work than anyone. This additional experience only confirms me more and more in my opinion, that such infusions are most valuable in the treatment of pneumonias of severe grade, when employed by one conversant with the method, and who understands the significance of the second pulmonic heart-sound. As stated in my article, bleeding is often a most necessary adjunct to infusion and sometimes it is imperative. I take the

liberty of sending you a reprint of my article, which I scarcely think Dr. Crook should overlook.

QUEEN VICTORIA AND THE USE OF CHLOROFORM IN OBSTETRICAL PRACTICE.

By J. C. REEVE, M.D.,
of Dayton, O.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN all the notices of the late Queen Victoria, her noble life, and her influence for good, I have failed to find a single word in regard to the importance of her example in accepting chloroform during labor, until the article in your issue of February 9. In that article, due appreciation of her influence in promoting the use of anesthetics in obstetrical practice is expressed. May I be permitted to call attention to the fact that this has already been done, and several years ago, in our medical literature. In Vol. I, of Hirst's *American System of Obstetrics*, 1888, article "On the Use of Anesthetics in Labor," I have tried to give due expression to the importance of the Queen's action in this matter, and appreciations of its great influence in promoting the use of anesthetics in labor. The date was 1853, but a very few years after chloroform was first used for surgical anesthesia, and when the *Lancet*, then the leading medical journal of the world, commenting on the administration, said: "In no case could it be justifiable to administer chloroform in a perfectly ordinary labor." In that article I close by saying: "The illustrious sovereign, whose reign has seen so many notable achievements, may congratulate herself upon a personal participation in the greatest one of the age, or of any age, so far as the suffering of her sex is concerned. In all time to come homage is due her for this service as the woman, rather than as the Queen."

A QUESTION OF ORIGINALITY.

By D. T. SMITH, M.D.,
of Louisville, Ky.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I SEND you today a copy of the *American Practitioner and News*, of July 10, 1886, containing an article by myself, reprinted from the *Southern Pharmacist* of February, 1884. The article was read to the Orleans Parish Medical Society in October, 1883, and shortly afterward submitted to Dr. Rudolph Matas, then the editor of the *New Orleans Medical Journal*, for publication, and he told me he would give it the leading place in his next issue. In the meantime the *Journal* passed into the hands of a coterie of physicians, and when Dr. Matas submitted my paper they unanimously voted it too visionary and fanciful for a scientific journal and rejected it. In the succeeding February it was published in the *Southern Pharmacist*, a small pharmaceutical publication conducted by Ferdinand Larcas, Ph.D. It is useless to say how long these views had been held in a more or less crude form, but I may say that at that time I had never heard of Metschnikoff nor his doctrine, which as far as I know at the date of the rejection of my article had not been published in America. His observations, I believe, began in 1892. The article contains a number of errors too glaring now to need pointing out, but as a speculation so largely borne out by observations that have added another name to the immortals, I may be excused the selfish desire to have it appear in the columns of the PHILADELPHIA MEDICAL JOURNAL.

The article as read and first published was entitled, "The Role of the Leukocyte, or the Philosophy of Fever," and is here given.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

New Editor.—Francis R. Packard, of Philadelphia, has been made editor of the *American Journal of Medical Science*, vice Dr. Alfred Stengel, resigned.

The Maternity Hospital.—The twenty-seventh annual report of the Maternity Hospital, Tenth and Fitzwater streets, which has just been published, states that there were 90 applicants during the year, of whom 51 free and 5 pay-patients were treated.

Anatomy Prizes.—At the annual competitive examination just held at the Philadelphia School of Anatomy, Eighteenth and Buttonwood streets, by Professor W. Wallace Fritz, M.D., D.D.S., the first prize was awarded to Dr. Arthur Fritz, of Australia, for the best paper on anatomy and surgery. The second prize was awarded to Dr. Agnes W. Howes, of New York, for the best practical anatomical work. A large number of students received honorable mention.

Pennsylvania Hospital.—A committee consisting of John B. Garrett and John Story Jenks, of the board of managers, Dr. John B. Chapin, superintendent of the Pennsylvania Hospital for the Insane, and Dr. Thomas G. Morton, president of the medical staff, was appointed to make arrangements for the commemoration, early in June, of the one hundred and fiftieth anniversary of the founding of the Pennsylvania Hospital. Dr. Francis Olcott Allen, Jr., who graduated last year from the University of Pennsylvania, was appointed a resident physician of the hospital.

Vital Statistics of Philadelphia for the week ended February 23, 1901:

Total mortality	517
	CASES. DEATHS.
Inflammation of appendix 1, bladder 2, brain 21, bronchi 12, heart 1, kidneys 26, larynx 1, lungs 74, peritoneum 8, pleura 2, stomach and bowels 19	167
Inanition 20, marasmus 10, debility 4	34
Tuberculosis of lungs	64
Apoplexy 16, paralysis 6	22
Heart—disease of 41, fatty degeneration of 4, Uremia 12, diabetes 2, Bright's disease 5	45
Carcinoma of breast 3, stomach 4, uterus 3	19
Convulsions	10
Diphtheria	18
Brain—abscess of 2, dropsy of 1, softening of 2	59
Typhoid fever	11
Old age	5
Alcoholism	54
Cyanosis	6
Scarlet fever	22
Influenza 12, asthma 3, anemia 1, aneurysm of aorta 1, burns and scalds 3, casualties 11, congestion of lungs 3, cirrhosis of the liver 9, tuberculosis of the bowels 1, membranous croup 3, diarrhea 1, drowned 2, dropsy 4, epilepsy 1, erysipelas 1, fistula 1, gallstones 1, gangrene 1, hemorrhage from nose 1, hernia 3, jaundice 1, obstruction of the bowels 2, poisoning 1, rheumatism 1, arterial sclerosis 1, surgical shock 1, septicemia 4, sore mouth 1, suffocation 1, syphilis 1, teething 1, brain tumor 3, ovarian 1, ulceration of stomach 1, whooping-cough 3	53
	86

Neurological Society.—The stated meeting, held February 25, was opened by Drs. WILLIAM H. TELLER and F. X. DEBECUM, who exhibited **A case of astereognosis**. This condition was the result of an injury by a blow on the head, which caused a depressed fracture and a large subdural hemorrhage in the parietal lobule posterior to the fissure of Rolando. Astereognosis of the right hand is complete, the patient, a colored man, 30 years of age, being unable to recognize by the sense of touch any object placed in that hand. There is also tactile hypesthesia over the whole of the right side, this condition being more marked as the extremities are reached. Ability to locate simultaneously two impressions is lost and there is also a diminution of the faculty of locating a single impression.

Drs. GEORGE L. WALTON and WALTER E. PAUL, of Boston, by

invitation, read an admirable paper entitled **Astereognosis, with illustrative cases.** The value of this condition in differentiating hysteria from organic disease was pointed out. Among the points of difference is the fact that in astereognosis the patient cannot touch a certain point on the affected hand with the well hand without groping when the eyes are closed. In hysteria this is not present. Astereognosis occurs in both cortical and central lesions and cannot alone differentiate between these locations. In none of the cases seen by these observers has pain or temperature sense been lost when the lesion was in the Rolandic areas. In one case the paralysis was limited to one foot. This furnished an opportunity to compare results with those obtained in the hands. Tests with normal subjects showed that the foot gave little reliability in distinguishing the size of objects which are round or square, but can distinguish long objects. In the case of astereognosis mentioned, designated points could be located apparently as well as by the hand. The results of locating lesions by this method brings up the question of the advisability of surgical interference in cerebral disease. An occasional success indicates that the patient should be given the benefit of the chance when the lesion is local and near the cortex. Experiments on animals will be of little value in advancing the knowledge of astereognosis as the faculties concerned are not well enough developed. Control experiments on human subjects are of great value. In cases of hemiplegia without astereognosis the chances are in favor of a capsular lesion. A safe working plan is that when astereognosis only is present the lesion is at a point in the central parietal lobule. DR. DERCUM thinks it is justifiable to speak of a sensory and a motor astereognosis. DR. BURR said that it was wrong to speak of the stereognostic sense. Faculty is a better term. He believes that there is a part of the posterior parietal lobule which stores up, so to speak, the memory of things felt as other parts do the memory of things seen. The term stereognosis is a more accurate expression than is astereognosis. The subject was further discussed by DRs. LLOYD, SPILLER, and WALTON. Following the meeting a reception was tendered Drs. Walton and Paul at the University Club.

College of Physicians—Section on Gynecology.—The meeting of February 21 was opened by DR. JOHN B. SHOBER, who read a paper on **Varicocele of the broad ligament.** The etiology, symptoms, diagnosis, and treatment were considered and a case reported. The treatment adopted was simple ligation of the veins of both broad ligaments. The condition of the patient after 16 months is fully as bad as before operation. Catgut ligatures were used, which is believed to be largely responsible for the failure to cure. Dr. Shober also exhibited a specimen removed from a patient having primary tuberculosis of the fallopian tubes. Operation revealed general adhesions, a monolocular cyst of the right ovary, double pyosalpinx, and a large fibroid of the uterus.

DR. WILMER KRUSEN reported a case of **Ovariectomy in the eightieth year.** Cysts of both ovaries were removed, the patient making a good recovery. An interesting point was the slow growth of the cysts, a tumor having first been observed 26 years before operation.

DR. H. D. BEYER reported **The occurrence of fibroid tumors in 4 sisters, their mother, and grandmother, a maternal aunt, and 2 third cousins.** DR. E. E. MONTGOMERY believes there is no hereditary tendency to fibroids of the uterus. DR. J. G. CLARK thinks that the cases reported were only a coincidence, as is the case with any growth of the genital tract. He now pays but little attention to the family history in cases of suspected malignant disease.

DR. JOHN B. DEEVER read a paper entitled **Three dangerous operations—Repair of a lacerated cervix, dilatation, and curettement.** The paper was directed mainly to general practitioners and dealt with the indications for these operations and their danger when not done under proper aseptic precautions. Lacerations of the cervix had better be let alone unless there are special indications for treatment. A family history of malignant disease is an indication for operation at once. Washing out the uterus and packing with gauze are to be done only in infected cases. Curettement should be used only in carefully selected cases. The moral effect of the operation is nothing, and the effect

of operations *per se* should be relegated to the realms of Christian science. The reliability of the examination of curetted material in cases of suspected malignant disease is doubtful. Dilatation of the cervix or curettement should never be done in a physician's office. They should only be done after careful disinfection of the patient, and the operator and assistants should wear rubber gloves. Operations should be confined to surgeons and not be a prerogative of general practitioners. DR. MONTGOMERY stated that he considered it a crime for physicians to dilate or curet a uterus in their office. He does not permit such a patient to be up in less than a week. Digital examination in suspected malignant disease is preferred to microscopic examination of scrapings. The hereditary tendency of cancer of the uterus is questioned. DR. BARTON COOKE HIRST has had a satisfactory experience with the examination of scrapings by expert pathologists. Few men are competent to give authoritative opinions on such tissues, but when such men are employed the results are satisfactory. Dr. Hirst has been observing the results of operations upon the cervix until he is convinced that primary operation for a lacerated cervix is not warranted. At the end of 2 weeks a certain success may be attained. In institutions this time should be selected, the woman thus convalescing from the puerperium and the operation at the same time. DR. J. G. CLARK finds microscopic examination of curetted material to be of great value. The diagnosis of such material, however, is almost a special line of pathology, as many men who are, generally speaking, first-class pathologists will make mistakes in these instances. Dilatation of the cervix is a very dangerous procedure in old cases of gonorrheal infection. Patients with gonorrheal history should be most carefully studied before the operation is resorted to. DR. DEEVER has obtained distinct history of heredity in some cases of cancer. He takes exceptions to the statements that douching of the uterus is advisable after ordinary operations upon the cervix. He believes that fluid can be thus conveyed to the fallopian tubes.

DR. JOHN H. GIVIN reported a case of **infectious fever resulting in premature labor, peritonitis, and death.** The etiology of the case is obscure. Symptoms were indefinite, and operation at no time seemed to be indicated.

DR. J. M. BALDY read a paper on **Results in treatment of cancer of the cervix and the unreliability of statistics of the same.** The reports of 40 to 80% of cures are misleading and contrary to facts. They are published before a sufficient time has elapsed, or refer only to selected cases operated upon, the great majority of cases seen being refused operation as hopeless. Statistics of Germans are especially unreliable. Most cases of cancer of the cervix die, whatever be done for them. The hope of the future is a more careful clinical study of the symptoms and earlier diagnosis. In medical schools and textbooks too much stress is put upon laboratory diagnosis. Clinical manifestations must be studied, especially by country practitioners, that they may send cases for operation earlier. DR. DEEVER stated that very radical surgery was advisable only in cases seen early. The same rule holds good in these cases as in cancer of the breast—when the surrounding glands are involved the case is hopeless. In cancer of the breast, when the glands under the clavicle are involved, the removal of the entire growth is impossible. DR. E. P. DAVIS believes that a microscopic examination should be made in cases of incomplete abortion and the so-called molar pregnancies. DR. J. G. CLARK considers the statistics of German writers as generally very reliable.

NEW JERSEY.

Appointed Railroad Surgeon.—Dr. Paul M. McCray, surgeon at the Cooper Hospital, has been appointed surgeon and physician to the Pennsylvania Railroad Company, to succeed Dr. Dowling Benjamin.

NEW YORK.

New Pavilion at Eye and Ear Infirmary.—The new Platt Pavilion, for the isolation and treatment of cases of contagious ophthalmia, has just been opened at the New York Eye and Ear Infirmary. The building was erected to the memory of the late James N. Platt, and presented to the institution.

Professional Secrecy.—A bill has been introduced into the New York legislature to include nurses within the scope of sections 884 and 886 of the code of civil procedure, placing them in the same position as physicians, regarding revealing information obtained from patients while serving in a confidential and professional capacity.

New York Skin and Cancer Hospital.—The Governors of the New York Skin and Cancer Hospital announce the following course of clinical lectures on Syphilis by members of the Visiting and Consulting Staffs, on Wednesday, at 4.15 P.M.:

March 6.—Syphilis as a Disease: Modes of Infection: Extra-Genital Syphilis, by L. Duncan Bulkley, M.D.

March 13.—Skin Manifestations of Syphilis, by L. Duncan Bulkley, M.D.

March 20.—Infantile Syphilis, by A. Jacobi, M.D.

March 27.—Syphilis of the Mouth, Nose, Throat, and Larynx, by D. Bryson Delavan, M.D.

April 3.—Syphilis of the Eye and Ear, by David Webster, M.D.

April 10.—Syphilis of the Nervous System, by Edward D. Fisher, M.D.

April 17.—Syphilis of Internal Organs, by Edward G. Janeway, M.D.

April 24.—Syphilis of the Bones, and Surgical Relations of Syphilis, by Willy Meyer, M.D.

May 1.—Synopsis, Conclusions, and Treatment of Syphilis, by L. Duncan Bulkley, M.D.

NEW ENGLAND.

New England Baptist Hospital.—The New England Baptist Hospital has bought a piece of land in Roxbury, where it already occupies 35,862 square feet.

Appointments.—F. W. Spalding, M.D., has been appointed visiting ophthalmologist to the Long Island Hospital, Boston Harbor. John J. Magrath, M.D., has been appointed attending surgeon to the Harlem, N. Y., Hospital.

Acute Infectious Diseases in Boston.—For the week ending at noon, February 20, 1901, there were reported to the Board of Health, of Boston, the following cases of acute infectious diseases: diphtheria 105, scarlatina 31, measles 48, typhoid fever 4.

Dr. Samuel Camp.—The death of Dr. Samuel Camp, the oldest physician and surgeon in Southern Berkshire, Mass., occurred February 24. He was 72 years of age, and a native of Winsted, Ct. He graduated in 1851 from the University of New York. He served during the Civil War as surgeon of the 27th Massachusetts regiment, and from 1877 to 1892 was Medical Examiner for Southern Berkshire. He was a member of the Massachusetts and Berkshire medical societies.

CHICAGO AND WESTERN STATES.

Oakland Medical College.—The new building of the Oakland Medical College will be ready for students by September 1, 1901.

Compulsory Inoculation.—The Council of Sioux City has passed an ordinance compelling the inoculation with antitoxin of all members of families in which there is a case of diphtheria.

Professor William Pleen Dead.—Dr. William Pleen, professor of physical diagnosis, at Hamline University, and one of the best known physicians of Minneapolis, died February 21, from pneumonia.

Value of Antitoxin.—It has been estimated by the Health Department of Chicago that 4,500 lives have been saved in that city during the last 5 years by the use of antitoxin in the treatment of diphtheria.

Mendota Insane Asylum.—The state board of control elected Dr. E. L. Bullard of Waukesha, to succeed Dr. W. B. Lyman, of Eau Claire, as superintendent of the Mendota Insane Asylum, which position Dr. Lyman resigned some time ago.

Omaha Medical Society.—The following officers were elected: Dr. Bryon B. Davis, president; Drs. Gertrude Cusaden and Rufus D. Mason, vice-presidents; Dr. Joseph M. Aikin, secretary; Dr. Millard Langfeld, treasurer, and Drs. Harry M. McClanahan, Benjamin F. Crummer and Andrew B. Somers, board of censors.

Smallpox in Wisconsin.—The village of Salem is the seat of a smallpox sensation and it is stated that over 700 people employed in the harvest have been exposed to smallpox. The village is used by ice companies for cutting ice on the lakes and a few days ago a laborer was taken ill with what was supposed to be influenza. It is claimed, however, that the man had a well developed case of smallpox before leaving the village. Cases are further reported at Tomahawk, Manitowoc and Neenah.

Bacteria in Library Books.—Dr. F. A. Kuflewski, chairman of the special committee appointed by the public library board of Chicago to consider the advisability of sterilizing the books in the library for the purpose of preventing the spread of disease, recommends that some system be adopted for freeing the pages of the volumes from bacteria. He said that all of the 50 books examined by him during the investigation were found to be more or less infected. He said there was no doubt that disease was spread by the books, and advised that a system of sterilizing the volumes by the dry process be adopted immediately.

Dr. Smith Dead.—Dr. Mayo G. Smith, the companion and friend of Mark Twain and inspiration of the novelist's "Doctor," "Innocents Abroad," is dead at Colorado Springs. Dr. Smith was born in Newburyport, Mass., August 19, 1816. He was one of the first graduates of Oberlin College, and was an intimate friend of Horace Greeley, starting life as a preacher and later as the reporter employed by Greeley on the *Tribune*. He went to California in 1849, joined the regular army; later became rich and traveled with Mark Twain. He was master and part owner of the first ship that sailed from San Francisco to Australia. Dr. Smith was the author of two works on ether and chloroform from experiments he conducted. For several years he gave his attention to medicine, and later was associated with Morse, in completing the telegraph and constructing the first line between Washington and Baltimore.

Meeting of the Chicago Pathological Society, February 11, 1901, Dr. L. Hektoen, President.

DR. THOMAS R. CROWDER described three cases of osseous stylohyoid arch. The stylohyoid arch is a constant structure in the higher vertebrates. In many, as the horse, cow and sheep, it is completely bony; in man it is largely ligamentous. Developmental defects with more or less ossification are not infrequently found, but complete bony arch is rare. The three cases presented were not recognized before death. The anomaly is to be looked upon as a developmental defect and not as an ossification of the stylohyoid ligament once developed in the normal way. It has no clinical significance beyond the possibility of fracture—an unlikely accident.

D. F. G. HARRIS reported a case of blastomycetic dermatitis in a woman 78 years old. The growth was located on the gluteal region and commenced four years ago as a pimple, which became a roughened area of intense itching and later became apparently denuded. The growth was 11 centimeters long by about 6 centimeters wide, having an elevated border bearing flattened papillomatous outgrowths which overhung the floor, the latter being covered with villous-like epithelial projections interspersed with areas of ulceration. The entire growth was movable on the underlying tissues; there were no secondary growths on any part of the body, nor were there any evidence of syphilitic infection. Microscopic examination showed a hyperplasia of the rete mucosum which grew down into the corium in branching, coral-like projections. In these epithelial downgrowths were miliary abscesses containing the blastomycetic organisms which were present in groups of 3 or more. Many of them were in the process of budding. There were no cultures made from this case on account of the diagnosis not having been made clinically. In the discussion of Dr. Harris' paper, DR. LIEBERTHAL referred to a case recently observed, in which a provisional diagnosis of syphilis was made, where the blastomyces were found in

sections. He still held to his original diagnosis. H. T. RICKETS said that the histology of blastomycetic dermatitis is a specific one and entirely different from that of tuberculosis and syphilis. H. G. ANTHONY spoke of the points of difference between blastomycetic dermatitis and the syphilitic and tubercular lesions resembling it. L. LOEB called attention to the fact that blastomycetic dermatitis has not been produced experimentally. W. E. COATES compared blastomycetic dermatitis to certain diseases in plants. He considers the organisms observed in the skin lesions as spores of fungi.

F. G. HARRIS stated that his case was treated with iodids for 3 weeks without any improvement.

DR. LE COUNT demonstrated diffuse secondary carcinoma confined to the lymph-channels of both lungs of a man who died from carcinoma of the stomach while in the service of Dr. Kramps at the St. Elizabeth Hospital; the condition was correctly diagnosed during life. At the necropsy the usual large metastatic tumor nodules were found in the liver together with an extensive involvement of the peripancreatic, retroperitoneal, peribronchial and peritracheal lymph-glands; the adrenals were the seat of a very extensive carcinomatous growth; there were small tumors in the outer parts of both kidneys. The primary tumor from which all these metastatic growths arose was located near the pylorus and showed no features other than are often observed in gastric carcinomata. The lungs were alike in appearance; both possessed very extensive subpleural, linear, branching and tortuous carcinomatous growths in the lymph-channels as well as tumor masses in the lymph-channels of the deeper parts of the lungs. There were no nodular growths in the lungs as are observed in consequence of the embolism of tumor-cells. The lungs were fresh, no microscopic examination having been made, but the gross appearance supported in all its details the opinion that a retrograde lymphatic metastasis had occurred in these channels from the lymph-glands at the roots of the lungs.

MARTIN H. FISHER reported the results obtained from a study of the toxic effects of formaldehyde and its aqueous solution, formalin. The inhalation of formaldehyde is accompanied by marked inflammatory changes throughout the respiratory system. Dyspnea, depression of temperature, tachycardia, weak pulse, and vomiting follow the introduction of formalin into the stomach. Sudden death may result. The severity of the symptoms and the degree of histologic disturbance bear no relation to the strength or quantity of the injected formalin. The gastritis is characterized by intense congestion, necrosis, and leukocytic infiltration. Intraperitoneal injections produce a fibrinohemorrhagic peritonitis of varying intensity according to the strength of the solution. The peritonitis following chronic formalin poisoning, produced by injecting small amounts of dilute formalin intraperitoneally, is accompanied by great connective-tissue proliferation and a striking eosinophilia. Subcutaneous formalin injections produce marked exudation and leukocytic infiltration. The introduction of formalin into the conjunctival sac is followed by an iritis, which, when a single drop of the concentrated chemical is used, may be sufficient to permanently injure the eye. In whatever way formalin is introduced into the body, certain systemic changes result. Degenerative changes and focal necroses are found in the liver and kidneys. The leukocytic infiltration following the introduction of formalin is characterized by the eosinophiles appearing first; these are followed by the other polymorphs; last of all appear the mononuclears. It is believed that differences in osmotic pressure are to be held accountable for the exudation. The death of the cell is accounted for in two ways: (1) By disturbances in osmotic pressure, and (2) by a deleterious chemical action—probably the reducing power of formaldehyde.

SOUTHERN STATES.

Dr. John B. Haden has recently been elected lecturer on ophthalmology, otology, rhinology, and laryngology, in the medical department of the University of Texas.

Baltimore County Medical Association.—The February meeting of the Baltimore County Medical Association was held, February 21, at the Baltimore Medical College. The officers are: Dr. H. Burton Stevenson, president; Dr. R. C. Massenburg, corresponding secretary; Dr. H. S.

Jarrett, treasurer. Addresses were made by Drs. L. M. Allen, L. Gibbons Smart, H. B. Stevenson, and B. F. Bussy.

Annual Meeting of the Association of Medical Officers of the Army and Navy of the Confederacy.—The annual meeting of this association will be held in Memphis, Tenn., in connection with the annual reunion of the United Confederate Veterans, May 28-30, 1901. Any further information desired will be cheerfully furnished by Drs. Malone or Elcan, of Memphis, or Dr. Deering J. Roberts, secretary of the association, of Nashville, Tenn. It is stated that considerable preparation is under way in Memphis for this meeting.

Richmond (Va.) Notes.—The next annual meeting of the Tri-State Medical Association, embracing Virginia, North and South Carolina, will be held in Richmond, February 26, 27, and 28.

The State Board of Health at its recent meeting elected Dr. R. W. Martin, of Lynchburg, president, and Dr. P. A. Irving, of Richmond, secretary.

For the past week there were reported to the city health office 3 cases of diphtheria, 1 of scarlet fever and 5 of smallpox. Influenza is decidedly on the decrease.

CANADA.

(From Our Special Correspondent.)

The extent of leprosy in Canada is shown in the last annual report of the Minister of Agriculture. In this appears a sub-report from the medical superintendent of the Lazaretto at Tracadie, N. B., Dr. A. C. Smith, for the 12 months ending the 31st of October, 1900. There are today 20 inmates at the Lazaretto, 13 males and 7 females. Their ages range from 19 to 64 years; and 7 of the inmates may be classified as being in the first stage, 12 in the second, and 1 in the final stage of the malady. There were 4 deaths during the past year; and 8 new cases were admitted from the surrounding districts in New Brunswick. During the year Dr. Smith, having received favorable reports from foreign leper institutions on the use of chaulmoogra oil and creolin, made several trials on the less advanced cases with encouraging results. This, however, is not the only place where leprosy exists in Canada. On Darcy Island, off the coast of British Columbia, there are confined 5 lepers—all Chinese males. One is maintained by the province of British Columbia, and 1 each by the municipalities of Victoria, Vancouver, Nanaimo and Kamloops.

The latest news from the Yukon shows that the citizens of Dawson have been experiencing some pretty severe weather and much sickness. On January 9 the thermometer stood at 50.5 below zero, and on January 15 at 68.5 below. For 9 days the average minimum temperature was 60 below. This intense cold in the Yukon valley was accompanied by the regular dense white mist peculiar to that country. During the cold spell an epidemic of rabies broke out among the dogs of the town, and most of them had to be impounded to preserve the citizens from being bitten. Typhoid and pneumonia have been very prevalent for the past two months; and a complication of the two, "typho-pneumonia," has also been prevalent and has proved very fatal. It is said that the pneumonia appears first, developing in the usual way; then at the time the crisis should occur, abdominal troubles with other marked symptoms of typhoid set in, resulting in fatal collapse. Consequently, during those two months the death-rate has been very high, and several well-known and popular citizens have succumbed to the fatal complication.

Christian Scientists, both in the province of Ontario and British Columbia, have come in recently for very severe condemnation at the hands of two coroners' juries. At Peterboro, Ont., a death occurred recently from typhoid fever under treatment by these people; and in returning their verdict on the investigation into the cause of death in this case, the coroner's jury expressed their opinion that for the safety of society, further legislation is necessary, and stated that it was time the provincial parliament gave this matter their serious consideration. They further expressed their strongest detestation and condemnation of the practice. The other case was that of a child of tender years, a resident

of Victoria, B. C., whose death was due to asphyxiation from laryngeal diphtheria. In this verdict the jury deliberately stated that the "Christian Scientists" who treated, or rather maltreated, the little boy, "did unlawfully kill and slay the said child." These two verdicts are indeed healthy indications that the public in Canada are awakening to the dangers of permitting these dangerous people prosecuting their practices upon deluded and helpless victims. The intelligence of these two juries is to be commended in thus endeavoring to preserve the health of the community from utter disregard of isolation in communicable diseases.

War on the white plague may now be expected to be pushed in a vigorous and systematic manner in the Dominion of Canada. In response to a call of the Governor-General, Lord Minto, a large number of prominent citizens and a great many of the most eminent medical men in Canada met in conference in the city of Ottawa on the 14th and 15th of February and formed and perfected organization for the prosecution of this most important work. Several resolutions of importance were submitted for discussion during the progress of the convention, in the main calling upon the central government and the governments of the respective provinces to render aid to municipalities or groups of municipalities to provide for the erection and maintenance of suitable sanatoria for consumptives. Amongst others taking part in this conference were Sir William Hingston, Dr. T. G. Reddick, M.P., and Professor Adams, of Montreal; Sir James Grant, Ottawa; Dr. Fred. Montizambert, Director-General of Public Health at Ottawa; Dr. P. H. Bryce, Toronto, and Dr. H. H. Chown, president of the Canadian Medical Association, Winnipeg. A constitution was adopted and the name of the Association decided on was the Canadian Association for the Prevention of Tuberculosis. Branches will be formed immediately in those provinces where similar associations do not already exist. Honorary life patrons will pay \$1,000; honorary life members, \$50, and yearly members, \$1.00. The Earl of Minto was elected honorary president, and Sir James Grant, president.

The National Sanitarium Association is handing around its third annual report. Five years ago Mr. W. J. Gage, of Toronto, contributed \$25,000 for this work. A little later on Mr. Hart A. Massey, since deceased, contributed another \$25,000; the association was at once formed, a splendid site of 50 acres at Gravenhurst, in the Muskoka region, selected; a charter obtained from the Dominion Parliament in 1896, and the result was that a spacious administration building and three cottages were opened in the summer of 1897. A free department for the poor will soon be completed. During the three years since the Sanitarium opened it has received 371 patients, of whom 47 are still in the establishment. It has discharged as apparently cured 57 cases, and with disease arrested 95 cases, while 78 others have been discharged with marked improvement. The report of the Medical Superintendent, Dr. E. C. Ashton, for the year ending October 1, shows that 48 were in residence at the end of 1899; admitted during the year, 141; total treated during the year, 189; 47 remained in the institution at the end of the year, thus leaving 142 to be reported on. Of these one patient was twice admitted, leaving 141. Of these 24 were discharged apparently cured; 40 with disease arrested; 32 with marked improvement; 27 unimproved; 16 failed and 2 died. The sites of the pulmonary lesions shows that the apex of the right lung only was affected in 47; the base in 1; general, 18; left lung apex, 4; base, 1; general, 13; both lungs—both apices, 46; both bases, 3; right apex and left base, 6; left apex and right base, 5; and general infection, 3. Of laryngeal tuberculosis, 1 was apparently cured, 3 much improved, 2 stationary, and 2 failed. Patients remaining one month or under, 18; 14 of these gained in weight, 2 lost and 2 neither gained nor lost. Patients remaining from two to three months, 51; gained in weight, 31; lost, 8; and neither gained nor lost, 12. Patients remaining over three months, 72; gained in weight, 59; lost, 6; and neither gained nor lost, 7. It is considered that with a longer stay in the institution even better results can be obtained.

Hospital Burned.—News has been received from Victoria, B. C., that the hospital attached to Tokio University was burned on January 29 and that 21 patients were burned to death, 10 patients and 11 nurses injured.

MISCELLANY.

Miners' Hospital.—Arrangements have been made to erect a handsome hospital at Sclocan, B. C., at a cost of \$5,000. Dr. Farin, of Nelson, has been appointed superintendent.

Condemns the Indelible Pencil.—A Chicago physician has protested against the use of the indelible pencil, which he charges has been the cause of innumerable sore lips and fingers. The doctor says the coloring matter in the indelible pencil is of the same nature as that which caused the death of Senator Cushman K. Davis, of Minnesota, in whose case the dye was in the stockings.

Obituary.—DR. HENRY F. BATCHELDER, at Danvers, Mass.—DR. I. N. BOWSER, at Millersville, Pa., on February 24.—DR. PIERCE B. FAGIN, at Santa Cruz, Cal., on February 23, aged 82 years.—DR. S. A. MERCER GIVEN, at Clifton, Pa., on February 23, aged 41 years.—DR. WILLIAM BOOZE, at Carthage, Ill., on February 20, aged 73 years.—DR. GEORGE L. KIRBY, at Raleigh, N. C., on February 19.—DR. B. F. LONG-STREET, at Cincinnati, O., on February 21, aged 51 years.—DR. J. H. RENNER, at Lagro, Ind., on February 21, aged 70 years.—DR. DANIEL HANDEL, at Onawa, Ia., on February 19.—DR. C. E. GISSY, at Breese, Ill., on February 21.—DR. ABBOTT HODGMAN, of New York City, on February 26, aged 69 years.—DR. CHARLES P. AMET, at Waukegan, Ill., on February 25, aged 88 years.—DR. L. T. BRITTINGHAM, at Hannibal, Mo., on February 24, aged 80 years.—DR. E. T. TIDWELL, at Camden, Ark., on February 25.—DR. THOMAS O'REILLY, at St. Louis, Mo., on February 24, aged 74 years.

Health Reports.—The following cases of smallpox, cholera, yellow fever and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended February 23, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
CALIFORNIA:	Los Angeles . . . Feb. 2-9 . . .	1	
"	San Francisco . . . Feb. 2-9 . . .	7	
FLORIDA:	Jacksonville . . . Feb. 9-16 . . .	5	
ILLINOIS:	Chicago . . . Feb. 9-16 . . .	14	
KANSAS:	Wichita . . . Feb. 9-16 . . .	9	
LOUISIANA:	New Orleans . . . Feb. 9-16 . . .	4	
MICHIGAN:	Manistee . . . Feb. 9-16 . . .	3	
MINNESOTA:	St. Paul . . . Jan. 26-Feb. 9 . . .	8	
N. HAMPSHIRE:	Manchester . . . Feb. 9-16 . . .	1	
NEW YORK:	New York . . . Feb. 9-16 . . .	25	6
OHIO:	Ashtabula . . . Feb. 9-16 . . .	3	
"	Cleveland . . . Feb. 9-16 . . .	48	
"	Youngstown . . . Feb. 9-16 . . .	1	
PENNSYLVANIA:	Allegheny City . . . Feb. 9-16 . . .	3	
"	Erie . . . Feb. 9-16 . . .	1	
SOUTH CAROLINA:	Greenville . . . Feb. 9-16 . . .	1	
TENNESSEE:	Memphis . . . Feb. 9-16 . . .	19	1
"	Nashville . . . Feb. 9-16 . . .	9	
WISCONSIN:	Green Bay . . . Feb. 10-17 . . .	1	
"	Milwaukee . . . Feb. 9-16 . . .	1	

SMALLPOX—FOREIGN.

BELGIUM:	Antwerp . . . Jan. 19-26 . . .	1	
ENGLAND:	Bradford . . . Jan. 6-13 . . .	15	2
ITALY:	Naples . . . Jan. 20-30 . . .	26	2
		Officially rep'd	
MEXICO:	Mexico . . . Jan. 27-Feb. 3 . . .	1	
RUSSIA:	St. Petersburg . . . Jan. 19-26 . . .	8	1
"	Odessa . . . Jan. 19-26 . . .	13	8
SCOTLAND:	Glasgow . . . Jan. 25-Feb. 3 . . .	34	
STRAITS SETTLEMENTS:	Singapore . . . Dec. 22-29 . . .	1	

YELLOW FEVER.

CUBA:	Havana . . . Feb. 2-9 . . .	3	1
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PLAGUE—FOREIGN.

CHINA:	Hongkong . . . Jan. 5-12 . . .	2	
JAPAN:	Formosa . . . Jan. 1-16 . . .	28	22
STRAITS SETTLEMENTS:	Singapore . . . Dec. 22-29 . . .	16	

Disposal of Booth's Body.—At the monthly dinner of the Medical-Legal Society, Dr. George L. Porter, of Bridgeport, read a paper entitled "Reminiscences of the Assassination of President Lincoln," and, according to the *Washington Post*, said the following in the course of his address:

"I was in medical charge in Washington after the murder of Lincoln, and had unequalled opportunities for observation.

The descriptions of the disposition of Booth's body are most inaccurate.

"The body was taken to Washington, identified by many persons, and afterward taken in a rowboat to the Washington Arsenal, and in the dead of night, in the presence of the military storekeeper, four enlisted men, and myself, the only commissioned, was hidden in a place so secret that never, to this day, has it been correctly described. We were requested by Secretary Stanton to keep silent, and no man during these 35 years has yet told. I believe the body was finally given to the family under agreement never to mark by mound or monument where it should be placed."

Changes in the Medical Corps of the U. S. Army, for the week ended February 23, 1901:

KENDALL, Major WILLIAM P., surgeon, is relieved from further duty in the division of the Philippines, and will proceed to Fort Slocum, to relieve Captain Charles M. Gandy, assistant surgeon.

GANDY, Captain CHARLES M., assistant surgeon, will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.

BELL, JOSEPH L., acting assistant surgeon, will proceed to Fort Cook for duty.

GREENLEAF, Colonel CHARLES R., assistant surgeon-general, is relieved from duty in the division of the Philippines, to take effect June 1, and will then proceed to San Francisco, Cal., and report to the commanding general, department of California, for duty as chief surgeon of that department.

JACKSON, FREDERICK C., acting assistant surgeon, now at San Francisco, Cal., will report to the commanding general, department of California, for assignment to temporary duty in that department.

GILHULEY, JOHN J., acting assistant surgeon, will proceed from Bridgeport, Conn., to Governors Island, N. Y., and report in person to the commanding general, department of the East, for assignment to temporary duty.

REED, Major WALTER, surgeon, is detailed as a member of the board of Medical officers appointed February 2, to meet at the Army Medical Museum building, for the examination of candidates for admission to the medical corps of the Army.

MOSELEY, Major EDWARD B., surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and upon the expiration of the leave of absence granted him December 8, will proceed to Fort Sheridan for duty, to relieve Major George W. Adair, surgeon.

ADAIR, Major GEORGE W., surgeon, will proceed to Manila, P. I., where he will report for assignment to duty.

PENROSE, Major GEORGE H., surgeon, will upon the expiration of such leave of absence as may have been granted him by the commanding general, department of California, report to that officer for assignment to duty.

WILLIAMS, ALLIE W., acting assistant surgeon, is assigned to duty at Fort Columbus.

HORNE, WILLIS S., acting assistant surgeon, is assigned to duty at Fort Sam Houston.

CABLE, GEORGE L., acting assistant surgeon, is granted leave of absence for 20 days.

WILLIAMS, ADRIAN D., acting assistant surgeon, upon relief by First Lieutenant Weston P. Chamberlain, assistant surgeon, will proceed to Fort Greble, for temporary duty.

CHAMBERLAIN, First Lieutenant WESTON P., upon expiration of his leave of absence, will proceed to Fort Adams for duty.

BACHE, Colonel DALAS, assistant surgeon, is granted leave of absence for 3 months from about March 1, on surgeon's certificate.

The following-named dental surgeons will proceed from Washington, D. C., to Philadelphia, Pa., on business pertaining to the medical department: JOHN S. MARSHALL, ROBERT T. OLIVER, and ROBERT W. MORGAN.

COX, SHELBY G., hospital steward, Army General Hospital, Presidio, will be sent to Fort Crook for duty.

McKEE, JOHN, hospital steward, San Juan, P. R., is transferred to the Army General Hospital, Washington Barracks, for duty.

BAILEY, GUY G., acting assistant surgeon, leave of absence granted January 31 is further extended 10 days.

BAMBERGER, RAYMOND S., hospital steward, (appointed February 18, from private, hospital corps), San Juan, P. R., is assigned to duty at his present station.

Changes in the Medical Corps of the U. S. Navy, for the week ended February 23, 1901:

HOLCOMBE, R. C., assistant surgeon, detached from the "Glacier," and ordered to duty with detachment of marines at Pollok, P. I.

ROSS, J. W., surgeon, U. S. N., retired, by special order, department of Cuba, Feb. 15, 1901, to report to the chief sanitary officer, city of Havana, for duty.

Changes in the U. S. Marine-Hospital Service, for the week ended February 21, 1901:

GARDNER, C. H., passed assistant surgeon, granted leave of absence for 7 days.

KALLOCH, P. C., surgeon, granted leave of absence for 3 days from February 17.

SAWTELLE, H. W., surgeon, granted leave of absence for 30 days from February 20.

foreign News and Notes.

GREAT BRITAIN.

Appropriation to Combat the Plague.—The London county council has decided to spend £50,000 as a precautionary measure against the bubonic plague in London.

Presentation to Professor Schäfer.—A silver bowl and platters have been presented to Professor Schäfer, Jodrell professor of physiology at University College, by his colleagues and his pupils. They have also subscribed funds for the endowment of a Schäfer medal to be awarded for research in physiology.

CONTINENTAL EUROPE.

Obituary.—DR. JULIUS LAHMANN, hygienist, at Copenhagen.—DR. W. PASCHUTIN, at Petersburg.

Moscow.—Dr. P. A. Minakow was appointed extraordinary professor of jurisprudence at the University at Moscow.

Heidelberg.—Dr. Braus, demonstrator of comparative anatomy in Würzburg, has been appointed extraordinary professor at Heidelberg.

Medical Inspector.—Dr. Brendan MacCarthy has been appointed medical inspector under the Local Government Board for Ireland.

Professor Leopold Weiss, the well-known ophthalmologist and extraordinary professor at the University at Heidelberg, died at Mannheim, aged 52 years.

Suicide of Professor Pettenkofer.—A private telegram to the *Frankfurter Zeitung* states: "The renowned hygienist and President of the Academy of Sciences, Professor Pettenkofer, shot himself during the night at his lodgings in the Royal residence. Professor Pettenkofer was a diabetic. Recently he became infected by cutting an abscess from which he was suffering, with an unclean knife. He was 83 years of age." A later authentic dispatch states: "Professor Pettenkofer suffered from an abscess in the neck, and had been melancholic for some time. He feared psychical disturbances similar to his deceased brother; he obtained a revolver and shot himself in the temple during the night, while in bed."

Modern Pathology of Puerperal Sepsis.—A. Bass (*Centralblatt für die Grenzgebiete der Medizin und Chirurgie*, Vol. 3, No. 22, November 22, 1900) comes to the following conclusions: 1. The uterine cavity of healthy pregnant and parturient women that have not been meddled with is free from pathogenic organisms; this is likewise true in most cases of healthy women during the puerperium. 2. The question as to whether the vagina of the healthy pregnant, parturient and puerperant women that have neither been examined nor douched, is or is not free from pathogenic organisms cannot as yet be positively answered, notwithstanding that a series of observations seems to indicate the affirmative. 3. Autoinfection can only be considered when every probability of an external infection has been excluded; even then autoinfection contrary to Ahlfeld, is very rare. 4. The following bacteria have been shown to be the cause of puerperal sepsis: *Streptococcus pyogenes*, *Staphylococcus pyogenes aureus* and *albus*, *Bacillus coli communis*, *pneumococcus*, *typhus*, and *diphtheria bacilli*, and various obligate anaerobes, especially the *Bacillus aerogenes capsulatus* and the *Vibrio septique*. 5. The portal of infection is generally the endometrium (the placental area) where the bacteria not only directly enter, but may also gain access by means of their own surface growth. 6. The infection occurs either by the lymph- or blood-channels, rarely by both simultaneously. 7. A certain clinical differentiation in regard to the various forms of bacteria cannot yet be given; nevertheless the anaerobic infections are milder. 8. The blood-examination, with the exception of an eventual bacteremia and the findings of Kaminer (still requiring more substantiation), offers nothing characteristic for puerperal sepsis. 9. Antibodies are probably not formed in the blood in this condition; at least this has not been proved. [M.R.D.]

The Latest Literature.

British Medical Journal.

February 9, 1901. [No. 2093.]

1. A Clinical Lecture on a Case of Chronic Cancer of the Face. F. T. PAUL.
2. On Ringworm Infection in Man and Animals. J. L. BUNCH.
3. Remarks on Finsen's Light-Treatment of Lupus and Rodent Ulcer. MALCOLM MORRIS and S. ERNEST DORE.
4. A Preliminary Communication on the Treatment of Rodent Ulcer by the X-rays. JAMES H. SEQUEIRA.
5. An Address on the Need of Bacteriological and Pathological Laboratories in Dublin. SIR GEORGE DUFFEY.
6. The Surgical Treatment of Migraine. WALTER WHITEHEAD.
7. A Note on the Results Obtained by the Antityphoid Inoculations in the 15th Hussars, Meerut, India. A. E. WRIGHT.
8. On the Treatment of Superficial Syphilitic Gummata. RODERICK MACLAREN.

1.—Paul exhibits a patient, aged 43 years, suffering from an extensive inoperable cancer of the face. He had operated 8 years previously upon this patient for a rodent ulcer of the face which had resulted from an injury to the skin of the cheek when the patient was 19 years old. He thinks the present epithelioma started in the scar following the former operation. The appearances and histories of rodent ulcer and epithelioma, as well as their pathology, are carefully contrasted. [J.H.G.]

2.—Bunch reports the case of a girl, aged 3½ years, who presented a small, ringed patch on the right forearm, just above the wrist, and a second patch on the right shoulder. Microscopic examination of scrapings from these patches shows chains of large, squarish spores both inside and outside the hairs, and, in preparations treated with 6.8% liquor potassae solution, a segmented coarse mycelium which terminated in a fringe above the bulb, in the intrafollicular portion of the hair shaft, and outside the hair in the root sheath and in the connective tissue of the follicle. Cultures from minute portions of the affected hairs and from the scales grown on French proof agar showed a network of coarse aerial hyphae, radiating from the center, white in color, and terminating at the edge in tapering, somewhat pointed, processes. The child's father was a coachman and there was a horse in his stable that had been certified by a veterinary surgeon to have ringworm. There were two patches on the horse, one on the neck and one on the head, both of which were scaly, and covered with broken and twisted hairs, but which showed no sign of vesiculation. Microscopic examination of scrapings from these patches gave the same results that were obtained from the hairs of the child and cultures on the same medium proved to be almost identical with those obtained from the diseased areas of the child's skin. A second case of ringworm in man due to infection from animals was in the person of an hostler, aged 19 years, who presented a circular, scaly patch on the right side of the neck. Examination of scales from the lesion showed a network of abundant, fine, branching, irregularly septate mycelia, and mycelial threads could be made out running chiefly in the direction of the long axis of the hair. A diagnosis of microsporon was advanced until cultures had been made and then the opinion as to the character of the organism was confirmed. The hostler had been looking after a young horse with some pimples on his nose, and, on going to the mews, the author found that the animal had some indistinctly ringed vesicles above the right nostril, the hairs around which appeared to be irregular and broken. Cultures gave a rapidly-growing, white, downy mass, similar to that obtained from the lesion of the patient. In a third patient, a boy, aged 3 years, with kerion of the scalp, cultures showed alternate concentric rings of white and brown growth, with a delicate filiform border and a central raised prominence. Hairs from a terrier with which the child had often played proved to be infiltrated with typical microsporon, and cultures from these hairs resembled closely those obtained from the child's scalp. A fourth patient was a child, 4 weeks old,

who had a well-marked patch of tinea circinata on the left cheek. Cultures made from the patch gave a somewhat coarse growth of radiating, aerial hyphae, of a dull whitish color. A cat in the house, with which the child had played, had a patch on the neck from which the hairs had almost all come out. Cultures showed the same organism, with some cultural peculiarities that were probably due to difference in the medium employed. The fifth patient was a youth, aged 16 years, who had several well-marked patches of tinea circinata on the left arm and trunk. A large-spored trichophyton was found both within and without the hairs of the lesions, which, on cultivation, gave a somewhat coarse, white growth, very similar to that already described by other observers as being derived from the cat. From a patch on the patient's cat, which had been noticed to be mangy, a very similar culture was obtained. The sixth patient was a boy, aged 9 years, who presented 2 more or less circinate, smooth, almost bald patches on the scalp. Cultures gave an irregularly plicated growth, somewhat powdery, with a tendency to crack on the surface. Hairs from a cat in the house also contained an endothrix fungus. Cultures from these lesions on the cat proved to be very similar to those obtained from the boy. The seventh case was that of a girl, aged 13 years, with a patch of tinea circinata on the forearm. Cultures gave a dull, opaque, whitish growth, spreading somewhat irregularly from the center, and with a faviform appearance. The child had a pet canary, whose feathers had been coming out in patches and microscopic examination of these feathers showed an invasion by a fungus similar to that already demonstrated in the patient. Cultures from the bird, too, were faviform in appearance, and only differed in that the spreading edge was slightly more thickened. The eighth example was a case of ringworm of the beard in a man aged 29 years. Cultures gave a whitish, downy growth with a central prominence, and a fine striated edge, but in many of the original tube inoculations the growths were contaminated by staphylococci, and it was only with difficulty that a pure culture was obtained. The patient, who was a farm laborer, stated that one of the calves had ringworm. Hairs of these animals contained an endoethrix fungus, somewhat closely packed, so that the chain formation was not very evident. Cultures from these hairs gave a white aerial growth with a striated edge. The number of cases of ringworm in man having an animal origin must always be a very small percentage of the whole, and it must be remembered that one such case in a child is capable of serving as a source of infection to many more. Valuable though microscopic examination is for diagnosis, greater reliance must always be placed upon cultures. [J.M.S.]

3.—Morris and Dore have used electric light rays in the treatment of lupus vulgaris and rodent ulcer after the method of Finsen. They give some practical points concerning the technic. These points bear upon current, intensity of light, the focus, screens and pressure. The reaction varies in intensity according to the idiosyncrasy of the patient, but largely depends upon the intensity of the light at the time of exposure. Lupus vulgaris is the disease most benefited by this treatment and, although it has a marked effect upon rodent ulcer and other diseases, the bactericidal theory of its mode of action is not thereby disproved, although it negatives the supposition that it is specific for the tubercle bacillus alone. Apparently, however, there is some chemical or nutritional effect upon the tissues also to be taken into account. In all the cases treated by the authors the improvement has been marked and uniform, though in some cases very slow. In several cases of lupus vulgaris one application has been sufficient to cause the disappearance of a small isolated superficial nodule for the time. In an extensive case involving both sides of the face, a year with intervals of rest may be given as a rough indication of the duration of the treatment. The use of pyrogallie acid ointment, though not necessary for the success of the treatment, will, in cases where there is great thickening of the skin, considerably lessen its duration. In the case of an extensive rodent ulcer, in which the typical hard edge was in part absent, the effect of a single application was apparently to stimulate healing of the part to which the light was applied and was followed by rapid growth of healthy epithelium from the surrounding skin. In cases in which there was no ulceration, reddening and perhaps slight excoriation of the skin resulted from a

few applications and the growth gradually became softer, and finally disappeared without obvious breaking down of tissue. In small ulcers entirely surrounded by an indurated rolled edge, there was no visible effect at first, but after several continuous applications the discharge increased, and an inflammatory reaction occurred; at the same time the induration gradually became less marked, until a simple, punched-out ulcer with soft edge remained. On cessation of the treatment, healing took place with great rapidity as soon as the inflammation had subsided. In lupus erythematosus the effect has been marked, although not so certain as in lupus vulgaris. Although several cases have been treated in which the inner or outer canthi or lids were involved, there has not been any deleterious effect upon the eye itself. In one case in which the skin of the nose was treated, improvement took place in the mucous membrane, and the sensation of smell was said to have greatly improved. There are certain conditions that make a case unfavorable for treatment; these are scarring, pigmentation, great vascularity, great depth below the surface, the situation of the disease near the eye, on the eyelid, or on the mucous membranes, and great extent of the lesions. Notes of 6 cases are given. [J.M.S.]

4.—Sequeira has treated 12 cases of rodent ulcer by x-rays. The immediate result of the treatment is all that can be wished for, and the author feels justified in recommending the use of the x-rays, at least in those cases of rodent ulcer in which complete removal by the knife is impracticable. [J.M.S.]

6.—Whitehead recommends the use of the seton in the treatment of troublesome cases of migraine, and reports most satisfactory results from its employment. [J.H.G.]

7.—The effects of antityphoid inoculations in the 15th Hussars have been encouraging. The incidence of typhoid fever in the inoculated was represented by 0.55% and the mortality by 0.27%; while the incidence in the uninoculated was 6.14% and the death-rate 3.35%. [J.M.S.]

8.—Maclaren recommends the careful and thorough excision of superficial gummata, when they do not respond to a fair trial of mercury applied locally to the surface affected and by inunctions, or to increasing doses of potassium iodid. Very extensive dissection of fascia, sometimes extending down between the muscles, is necessary, but his results have been very satisfactory from this treatment. [J.H.G.]

Lancet.

February 9, 1901. [No. 4041.]

1. An Address on Gastric Hemorrhage and Its Surgical Treatment. A. W. MAYO ROBSON.
2. The Baillie Lectures on Considerations Touching the Pathology and Relations on Diabetes. W. HOWSHIP DICKINSON.
3. Three Lectures on the Surgery of Pregnancy and Labor Complicated with Tumors. J. BLAND-SUTTON.
4. A Plea for the More Careful Study of the Symptoms of Perforation in Typhoid Fever, with a View to Early Operation. WILLIAM OSLER.
5. Observations Based on the Probable Mode of Formation of Urinary Stone, Relative to Its Recurrence and Prevention. REGINALD HARRISON.
6. On a Case of Myasthenia Gravis; Pseudo-paralytica; Death; Necropsy; Remarks. LEONARD R. GUTHRIE.
7. Ptomaine Poisoning on Perforation. E. KEMPTON BROWN.
8. A Case of Cerebellar Hemorrhage Presenting Well-Marked Early Cervical Opisthotonos and Kernig's Sign. WILLIAM THYNE.
9. A Case of Pelvic Sarcoma with Chylous Ascites; Abdominal Section and Drainage; Patient well four and a half Years after Operation. ARNOLD W. W. LEA.
10. Reflections on Therapeutics. HARRY CAMPBELL.

1.—Robson calls attention to the fact that gastric ulcer occurs in 5% of the community and that the mortality of this condition is from 10% to 50%. As soon as gastric ulcer is diagnosed the patient should be informed of the serious nature and the necessity of careful treatment, rest in bed, and long-continued care in diet. Robson's mortality from surgical treatment in this condition is about 5%. Probably 7% represents the mortality in all cases of gastrorrhagia.

Vicarious hematemesis at the menstrual period and post-operative hematemesis usually respond to medical treatment. But surgical intervention not infrequently is to be considered in these cases, though its results have not been satisfactory. It is difficult to account for postoperative hematemesis, injury of the omentum, general anesthesia, and sepsis have all been suggested as causes, and yet cases occur where none of these conditions exist. Robson thinks that the occurrence is dependent upon a reflex nervous influence. Recurrent venous hemorrhage, Robson thinks, will be most likely to be benefited by surgical treatment. The arterial bleeding is most responsible for the fatal cases, and may arise from small arterioles or from the larger vessels. It is impossible to tell the size of the vessel bleeding either from the amount of blood lost or from the length of the survival. The only help in such a case would be the diagnosis of the situation of the ulcer. Treatment should always be medical at first in cases of acute hematemesis, but if, after a few hours of medical treatment properly carried out, the bleeding is not arrested, or if, being arrested, it recurs, a surgical consultation should be had, with the idea of opening the stomach. In cases of recurring hemorrhage, Robson advises operation, even during the course of the bleeding. Technic: It is undesirable to wash out the stomach before operating on a bleeding ulcer. After the abdomen is opened, the stomach may be emptied by pressing the contents into the bowel. Frequently a puckering of the surface or thickening of the coats will indicate the site of the ulcer. Examination of the posterior wall is difficult, but if a slit be made in the omentum, two fingers can be pushed through it and the posterior wall invaginated. When no ulcer can be found in the stomach, the duodenum should be carefully examined. If an ulcer is present, it should be excised and its edges sutured. The cautery may be used, if excision is impracticable. Robson does not think that ligation of the main arteries of the stomach, as has been suggested, is advisable. When the pylorus is adherent, he thinks it advisable to do a gastroenterostomy, but if the pylorus be extensively ulcerated and free from adhesions, pylorotomy can be done. When the bleeding is general, and not from any vessel which can be ligated, gastroenterostomy by securing complete physiological rest would seem to offer the best chance for success. Robson strongly recommends the posterior operation, his last 20 gastroenterostomies done in this way having recovered without any untoward symptoms. Robson reports 5 cases operated upon for hematemesis. [J.H.G.]

2.—Dickinson delivered the second lecture on Considerations touching the pathology and relations of diabetes, on December 12, 1900. Reference is made to the liver as the organ which is concerned in the formation of glycogen. He gives the theory of Bernard stating that he believes the conversion of glycogen into sugar takes place in the liver, the latter substance then finding its way into the circulation. The opinion of Pavy is also mentioned, who believes that the liver produces glycogen in order to prevent the passage of sugar into the circulation. Both observers agree that in diabetes mellitus the blood is overloaded with sugar. Upon theoretical ground the author mentions that the excess is due either to improper removal or excessive introduction of sugar into the blood. As very large quantities are poured out with the urine (as much as 2 pounds per day) the idea of abundant introduction seems to be sustained. As a provisional theory Dickinson maintains that the morbid influence of the brain upon the liver (in the most common form of diabetes) is the important factor associated with this disease. The pathological change in the brain appears rather of an irritative nature than a paralytic condition. Some of the diseases of the pancreas must not be overlooked in the consideration of the etiology of this disease, but, as he has previously stated, the pancreas produces the less common form of diabetes. The author mentions that complete removal of the pancreas is followed by fatal glycosuria, while partial removal of the gland fails to produce this condition. After complete removal of the pancreas, followed by implantation of the portion of the gland into some part of the body, glycosuria does not develop. That diseased conditions of the brain are more frequently the cause of diabetes mellitus than pathological changes of the pancreas, should at the present time be upheld. In the treatment of diabetes the chief object is to control the existing symptoms.

The cause is beyond our reach. Much is accomplished by withholding sugar and starch from the food, especially in the mild cases; but it appears that in the more severe forms the nitrogenous principles of the blood are broken up into urea and sugar, therefore depriving the system of nourishment. He states that proper dieting, as a rule, is followed by good results, with very few exceptions. A full list of the articles included in the diet are not mentioned, reference only being made to the more important ones. Care must be taken not to institute the rigid restriction of the diet too suddenly. The patient should be encouraged to partake freely of water. Oncoming coma is sometimes prevented by the injection of aqueous solution into the veins. As to the medicinal treatment, he does not use opium, but recommends strychnia, sometimes in combination with tartrate of potash or phosphate of soda. Certain mineral waters, especially Carlsbad, are frequently of value in the treatment. [F. J. K.]

3.—Bland-Sutton in his first lecture on the surgery of pregnancy and labor complicated with tumors remarks that when an ovarian tumor occupies the pelvis and offers mechanical impediment to delivery, the fetus almost invariably dies and the following accidents may happen: (1) Rupture of the cyst; (2) rupture of the uterus; (3) rupture of the vagina; (4) excursion of the tumor into the rectum. Rupture of the uterus, he believes, is a somewhat exceptional accident under these conditions, while rupture of the vagina is an unusual accident when it occurs as a result of the efforts of the uterus alone. One case has been observed and recorded in which an ovarian dermoid obstructing labor had been pressed into the rectum and the wall of the bowel had become invaginated and the tumor, invested by the bowel, had been excluded through the anus. The common way in which nature overcomes the difficulty is by rupture of the cyst; if the fluid be sterile the results are not necessarily harmful, but when the tumor has thick walls and contains dermoid material the effects are often very grave. Today the choice of treatment of this condition lies between two methods: 1. In the early stage to push the tumor out of the pelvis and allow labor to be completed, and subsequently to perform ovariectomy. 2. To perform ovariectomy at once and then to accelerate labor by the use of forceps. It is now a well-attested fact that ovariectomy can be successfully performed even while labor is in progress, and that the operation in no way interferes with the contraction of the uterus. Single and even double ovariectomy can be successfully performed in the puerperium without in any way interfering with either the involution of the uterus or lactation. Therefore, it cannot be too strongly urged that when a puerperal woman known to possess an ovarian tumor exhibits unfavorable symptoms ovariectomy should be resorted to without delay. [W. A. N. D.]

4.—Osler makes a plea for more careful study of the symptoms of perforation in typhoid fever with a view to early operation. He mentions that the mortality of enteric fever is from 7% to 14%. Of the fatal cases 50% of the deaths are due to asthenia, 25% to perforation and 25% to hemorrhage and other accidents. Of the deaths which are due to perforation, he states that with early operation after an early diagnosis between 30% and 40% may be saved. Out of 11 cases operated upon in the Johns Hopkins Hospital since January 1, 1900, 5 recovered. The classical description of perforation as we see it is really the picture of the consecutive peritonitis. He gives a schedule with the view of aiding the resident physicians and house physicians in the study of early symptoms and signs of perforation in enteric fever. In this schedule he calls attention to pain, that we should be careful to note its onset and its locality; the state of the abdomen, its contour, the respiratory movements; the signs which are to be noted upon palpation, percussion and auscultation; and the data which may be gained by an examination of the rectum. The stools and the urine should also be carefully studied. The general condition of the patient is next referred to. Under this heading attention is directed to the facies, the pulse, the temperature, the respiration, hiccup and vomiting. The author next calls our notice to the constant leukopenia, and that it is of importance to note any rise in the number of leukocytes. He states that sudden pain is perhaps the most constant symptom of perforation, and concludes by stating that in a doubtful case of perforation the patient should be given the benefit of the

doubt and operation be performed. A surgical colleague should always be called as soon as this condition is suspected. [F. J. K.]

5.—Of 101 cases of litholapaxy, Harrison had a mortality of 6, and a recurrence of the stone to some degree in 23 cases. In most of the recurrent cases the patients suffered from enlargement of the prostate gland, or had pouched bladders, and were accustomed to use the catheter. Harrison thinks that these conditions are very often responsible for recurrences. Recurrence, however, does take place in people who do not suffer from any disease of the prostate or the bladder itself. In many of these the recurrence may be due to a passage of a stone from the kidney and this is as apt to occur after lithotomy as after lithotripsy. Great stress is laid upon the after-treatment of the bladder in cases of litholapaxy. This should be carried out after the patient passes from the hands of the surgeon into those of his regular medical adviser. So long as the urine remains abnormal or unexpectedly becomes so, as indicated by the appearance, smell, or microscopic examination, the bladder should be carefully attended to until such states are either explained or removed. Irrigation of the bladder should be regularly kept up, so long as the condition of the urine indicates that it is necessary. For this purpose boric acid or potassium permanganate may be used, two to four pints being used at a sitting. The catheter should be a large one so that any small particles may come away. When the bladder is sacculated it is well occasionally to wash out with the evacuator as after stone crushing. When the mucous membrane remains relaxed and spongy, as is evident from an excess of mucus in the urine, Harrison recommends that a solution of nitrate of silver (1 grain to 12 ounces) should be thrown into the bladder after irrigation. He thinks it a mistake to use nitrate of silver in the stronger solutions. Raney's theory of the formation of a stone by molecular coalescence is next discussed in detail. Harrison doubts the efficacy of drugs and waters to dissolve stone, but thinks that a number of these are useful to prevent the formation of a stone and a recurrence after removal. Hard waters produce an excessive amount of mucus in the urine and are hence condemned. Among the drugs mentioned as preventives are turpentine, sandal and copaiba. Boric acid, also, is highly recommended because of its antiseptic qualities. Erotropin possesses to a marked degree the valuable power of clearing the urine and keeping it so. The solution of nitrate of silver prevents molecular coalescence and hence lessens the tendency to the formation of stone. Harrison's paper is illustrated by the report of 6 cases. [J. H. G.]

6.—Guthrie reports a case of myasthenia gravis. The patient, a female, aged 23, a waitress by occupation, was admitted January 26, 1900, to the Hospital for Epilepsy and Paralysis, Regent's Park, London. The only point of interest in the family history is that an aunt suffered from epilepsy, and a sister of the patient had an attack of chorea. The present illness began very gradually a number of months before admission to the hospital. The first symptom was difficulty in speaking, owing to spasm of the jaw, as the patient says. This symptom was more pronounced towards the end of the day. The difficulty of speaking gradually increased and was followed by difficulty in swallowing. She had considerable trouble in swallowing liquids and solids. Upon admission it was noticed that there was paresis of the orbicularis oris and palpebrarum, also of the tongue, soft palate, and probably of the pharynx. She could not close her eyes and could not whistle. Ocular movements were not disturbed. The pupillary reaction was normal and there was no restriction of the field of vision. Speech was indistinct and deglutition was rendered difficult. The symptoms always increased in severity towards the end of the day. Only after exertion was actual loss of muscular power apparent. The reflexes, both tendon and superficial, were normal. There was no disturbance of sensation. With regard to the myasthenic reaction, the right biceps ceased to react to faradism in about one minute, while the left biceps required about a minute and a half. The patient gradually improved and in three months was sent home. The treatment consisted in rest and the administration of liquor strychninae. The patient was in fair health until June 15, 1900, when she suffered a severe relapse. All of the symptoms returned with increased severity. There were also weakness of the muscles of the neck and marked general fatigue. It became im-

possible for her to swallow liquids, and she was therefore fed with nutrient enemata. Death occurred on July 16, probably due to respiratory failure and gradual exhaustion. The post-mortem examination gave no clue as to the cause of this condition, and was as a whole negative. The author states that he believes that myasthenia gravis is due to a toxin which is probably elaborated within the body. He gives the theory of its origin in the muscles, but states that Dr. Bramwell, by an ingenious experiment, has shown that this is not the seat of origin. He also mentions that the origin may be due to disturbances of suprarenal bodies, or the poison may be formed within the spleen. He then gives the diagnosis of this disease, and mentions that out of 60 cases, 24 proved fatal. Complete recovery may follow. The author then gives a careful review of the points to be considered in the differential diagnosis between myasthenia gravis and hysteria, bulbar paralysis, diphtheritic paralysis, Landry's paralysis, multiple neuritis, and postinfluenzal neuroses. He mentions that the most important indication in the treatment is complete rest of body and mind. Drugs have proved useless in the management of this disease. [F.J.K.]

7.—Brown in an article entitled **ptomaine poisoning or perforation**, states that on November 19, 1900, he was called to see a woman, 27 years of age, who was in a state of unconsciousness, the eyes were open, pupils dilated, irregular movements of the eyeballs, and the temperature was 103° F. in the axilla. Upon examination the abdomen was found to be tympanitic. After an hour the temperature rose to 105° and the pulse was 140 per minute. In a short time she developed rigors and the temperature fell to 90° F. The extremities were cold, the skin was clammy, and the patient developed hallucinations with general nervous prostration, diarrhea and vomiting. Eighty six hours after the onset of the disease death occurred. From the history as ascertained from her friends, it was learned that she had partaken of 2 beef sausages 2 days before the onset of the illness. Three other persons partook of these sausages and 2 of them developed diarrhea and vomiting. The post-mortem examination revealed an exudation of lymph in the peritoneal cavity and the serous lining, the small intestines were intensely inflamed. The petechiae and ecchymoses were found in the duodenum and stomach, and the gastric mucosa was acutely inflamed. He states that the points of interest in this case are the sudden onset, high temperature, absence of muscular weakness and inflammation of the serous coat of the small intestine without apparent inflammation of the mucous coat. [F.J.K.]

8.—Thyne reports a case of **cerebellar hemorrhage presenting well-marked cervical opisthotonos and Kernig's sign** occurring in a man, 20 years of age. The patient gives an epileptic history, and was suddenly taken ill after partaking of a hearty meal. The onset was marked by vomiting. Six hours afterwards, there was marked retraction of the head, and the patient suffered from severe frontal headache. Kernig's sign was present. There was no motor paralysis, and convulsions and twitchings were absent. Tendon reflexes were exaggerated. Consciousness was not impaired. Upon postmortem examination, a subarachnoid serous effusion was found, also a thin layer of coagulated blood over the right occipital lobe extending down to the cerebellum, and the fourth ventricle contained a blood-clot. The lateral left lobe of the cerebellum was the seat of small hemorrhages. No evidence of meningitis was found. The author states that the case is of interest, because cervical opisthotonos and Kernig's sign were due to cerebellar hemorrhage, and not to meningitis. [F.J.K.]

9.—Lea records a case of **pelvic sarcoma with chylous ascites**, in which, after abdominal section and drainage, the tumor ceased to grow, and, 4½ years later, had shown no tendency to increase in size. The lacteal obstruction also disappeared, and the chylous ascites failed to reappear. Lea offers no explanation as to this remarkable occurrence, which has occasionally been noted by other operators. [W.A.N.D.]

New York Medical Journal.

February 23, 1901. [Vol. Lxxiii, No. 8.]

1. State Care of the Insane. HENRY WALDO COE.
2. The Normal Declinations of the Retinal Meridians. GEORGE T. STEVENS.

3. The Relations of Scurvy to Recent Methods of Artificial Feeding. J. P. CROZIER GRIFFITH.
4. The Pathology of Intra-uterine Death. NEIL MACPHATTER.
5. A Simple and Accurate Method of Substitute Infant Feeding. HENRY DWIGHT CHAPIN.
6. A Clinical Report of the Use of Chloretone as a Hypnotic. A. A. STEVENS.

1.—Henry Waldo Coe discusses the **State care of the Insane** and deprecates the present method of crowding together insane patients as well as the system which the limits of State appropriations force upon those having charge of these patients. He believes that the appointments of physicians should be by merit and not influenced by politics. His idea is that the chief physician of an asylum should have the appointment of his assistants as well as full discretionary power in the management of the institution. He believes that the ideal method of treatment would be the **cottage-plan**. This would necessarily imply an increase in the number of attendants, yet the result of such treatment would certainly be more favorable to restoration of mental health in many cases. The care of the insane is a great burden upon the State, but the percentages of recovery under a liberal and thoroughly modern system would compensate for the additional expense. [T.L.C.]

2.—Stevens defines "normal declinations of the retinal meridians" as a deviation of the vertical, horizontal, or any given meridian of the eye from the corresponding meridian of external space when the line of regard of the eye is directed parallel to the median plane and in the horizontal plane, the head being exactly erect or, more technically, in the primary position. The definition is illustrated by an accompanying diagram. He employs the term "anomalous" in designating a normal declination in contradistinction to that resulting from paralysis, paresis, or insufficiency of one or more ocular muscles. Among the instruments employed for determining declinations there are mentioned the "clinoscope," and the "lens clinoscope." One of the first results obtained by the employment of the clinoscope after it had been shown that normally there existed for the vertical meridian a leaning out of about 1½° (while the horizontal meridian was supposed to exactly coincide with the real horizon), was the demonstration of the fact that when either of the meridians leaned that the position of the vertical and horizontal meridian leaned in corresponding directions and to an equal amount. Correction of declination is followed in a large number of cases by the relief of hyperphoria. He associates a number of symptoms which appeared to result from hyperphoria, with declination. The symptoms are, locally, dryness and smarting of the eyelids, with the sensation in them of "grit," as well as chronic hyperemia of the lids. Supraorbital pain is frequently complained of and careful observation in these cases will show, that while one brow is arched the other one is flattened against the eye-ball. Stevens emphasizes the fact that this supraorbital pain is not due to reflex disturbance, but is an expression of the muscular tension beneath in the effort to elevate or depress the brow. This is substantiated by the subsidence of the symptom upon the relief of declination. Variations in the contour of the brows and the declinations of the meridians are in relation to each other. The author calls attention to the amblyopia which is sometimes found in apparently healthy eyes without squint, and which is dependent on declination. When refractive errors exist or errors in muscular adjustment, the correction of these disturbances probably gives relief by lessening the difficulty in the management of the declination. Correction of declination can only be accomplished by **surgical intervention**. Operative procedures are peritenotomy, circumtraction (vertical or lateral) and extendo-contraction. By the latter operation a change in the direction of the meridians of two to three degrees or even more may be accomplished. The operation is described in detail, with accompanying illustrations of the instruments employed in its technic. [M.E.D.]

3.—J. P. Crozier Griffith reports **16 cases of infantile scurvy** under his care during the last 18 months. A study of these cases supports the generally accepted view that the **patented foods** often produce **infantile scurvy**, and some of them show that recovery may follow the withdrawal of these foods without other treatment. Griffith remarks that the cause of this action of these foods is in

doubt. It may be that they are so commonly derived from, or contain starch, or that they are deficient in certain ingredients. Two of his cases throw suspicion on barley water. These cases indicate also that the sterilization of milk has an undoubted power to produce scurvy, but it is a less prominent factor than the patented foods. It is seen that scurvy can readily develop on a diet of milk which is not long heated, or which is even raw. It is interesting to note that in some of his cases fruit juice may be given, and improvement noted, without any change in the food whatever. He concludes that, whereas there are classes of foods which are particularly apt to produce scurvy in infants, yet the individual element is remarkably present in this disease. [T.L.C.]

4.—Will be abstracted when concluded.

5.—Henry Dwight Chapin presents a simple, accurate method of substitute infant feeding. In preparing the infant food, it is necessary to have the milk bottled at the dairy, and kept at low temperature. He then dips off from 9 to 16 ounces from the top of the bottle, and then sets aside the milk bottle to avoid confusion. He advises this method rather than using a syphon. He then prepares dextrinized gruel in the following manner: Beat into a smooth, thin paste with a little cold water two heaping tablespoonfuls of wheat or barley flour; and a quart of boiling water, and boil the gruel for about 15 minutes. It is then cooled, and a preparation of diastase is added. He recommends that an aqueous solution of diastase be prepared at home by soaking malted barley grains in cold water. The gruel is stirred and kept warm until it becomes thin and watery. Dilute the top milk taken from the original bottle with the digested gruel and add sugar. The food for a young infant should contain from $\frac{1}{3}$ to $\frac{1}{2}$ of the 9 ounces of top milk. The food for an older infant should contain $\frac{1}{3}$ to $\frac{2}{3}$ of the 16 ounces of top milk. Sugar is added to make up for the amount lost in the dilution. He recommends that when the milk cannot be kept below 60° F., it will have to be pasteurized. When there is vomiting of food, the digested gruel may be fed temporarily, and a top milk, poorer in fat, used for making up the next feeding. [T.L.C.]

6.—A. A. Stevens has used chloretone in 50 cases, in which sleeplessness was an important symptom. Chloretone is trichlor tertiary butyl alcohol, a compound formed by the addition of caustic potash, with equal weights of chloroform and acetone. It possesses valuable hypnotic and local anesthetic properties. Stevens concludes that in chloretone we have a safe hypnotic of moderate power, which rarely gives rise to unpleasant after-effects, but of which a toleration is quite rapidly acquired. The drug is especially adapted for use in cases of insomnia unattended with pain, high fever, or pronounced nervous excitement. The dose is from 10 to 20 grains. It may be conveniently administered in the form of powders or compressed tablets. [T.L.C.]

Medical Record.

February 23, 1901. [Vol. 59, No. 8.]

1. The Necessity for a More Careful Investigation as to the Cause of Outbreaks of Infectious Diseases. ALVAH H. DOTY.
2. A Method of Fixation for Loose Kidneys. ROBERT T. MORRIS.
3. Convulsions with Scarlet Fever, and the Report of a Very Severe Case with Perfect Recovery, and Important Deductions from the Treatment. HERMAN E. HAYD.

1.—Alvah H. Doty, of New York, discusses the necessity for a more careful investigation as to the cause of outbreaks of infectious diseases. Dr. Doty's wide experience as Health Officer of the Port of New York qualifies him to speak with authority upon this subject. In the first place he states that the theory of contagion from clothing worn by well persons is in the vast majority of cases found to be unsupported. Experience teaches that epidemics are most frequently carried by mild, ambulant, or convalescent cases, thence the necessity of the recognition of such cases. Upon the discovery of a case of infectious disease it is the first and most important duty of the health officer to ascertain, if possible, its origin. When the physician is called to such a

case, he should at once require that all the clothing of the infectious case be brought together; not one article should be missing. This material should be subjected to a thorough and immediate disinfection, and steam should be used for this purpose. In marine sanitation the crews and passengers from an infected port should go through a most rigid examination. For the past 3 years Doty has required that all of the passengers and crews arriving on vessels from infected ports shall have their temperature taken before being released from quarantine. Many cases of yellow fever and other contagious diseases have been detected in this manner. [T.L.C.]

2.—Robert T. Morris details a method of fixation for loose kidneys. In this operation a flap of capsule, including the larger part of the mesial surface of the kidney, is incised with a scalpel and the flap of capsule then stripped up from the parenchyma, but remaining attached to the convex border of the kidney. The flap of capsule is drawn through a slit in the psoas muscle or the quadratus. This brings the parenchyma also in contact with the psoas or quadratus fascia, where it forms a firm connective tissue attachment. The operation avoids the necessity of passing sutures through the parenchyma of the kidney. [T.L.C.]

3.—Herman E. Hayd reports a case of scarlet fever with severe convulsions, followed by recovery. Copious clinical notes of his case are given, and the writer concludes with the following deductions: Convulsions may occur when least expected, and every case of scarlet fever should be closely watched for many weeks. The frequent examination of the urine should include the calculation for urea. Mere specific gravity is not a sufficient index as to the amount of urea eliminated. Albumin need not be present, or only a trace may be found, yet convulsions may occur. The increase in the albumin will generally be noted after the convulsions occur. Milk is the ideal food, but if it cannot be well digested, the author advises that no food should be administered for days by the stomach, simply an abundance of water and the patient nourished by nutrient enemata. In any severe case of convulsions very small amounts of nourishment should be given at one time and the urea equivalent must be determined. He recommends hypodermoclysis to the amount of from 2 to 3 pints. Enteroclysis is advised, with the water at a temperature of 80°, once or twice in 24 hours, if much fever be present. Strychnin, digitalin, and brandy are recommended as heart stimulants. [T.L.C.]

Medical News.

February 23, 1901. [Vol. lxxviii, No. 8.]

1. The Value and Accuracy of the Röntgen Method of Diagnosis in Cases of Fracture. CHARLES LESTER LEONARD.
2. Pararyngeal Adenoids and Hypertrophied Tonsils. J. H. WOODWARD.
3. The Sustaining Treatment of Typhoid Fever, with Special Reference to the Use of Hypnotics. A. H. BUCKMASTER.

1.—Leonard calls attention to the various conditions in which the Röntgen ray is useful for diagnosis, and says that (1) many fractures that were considered rare exist in a much greater proportion than was suspected; that the functional loss which was supposed to result from a traumatism or sprain, and was termed traumatic arthritis, or a bad sprain, is often in reality the result of an undetected fracture which it is impossible to diagnose by other methods of examination. The Röntgen ray is useful for (2) detecting unsuspected fractures and multiple fractures when only one was suspected; (3) exact line of the fracture; (4) to guard against the production of deformities, such as overlapping and shortening in oblique fractures; in transverse fractures, angular deformities; in spinal fractures, a rotation of one fragment on the other, while in fractures involving joints a restriction of motion may result from malposition of the fragments, or the interference of motion due to excessive callous formation; (5) accurate information is obtained without manipulation; (6) to render the exact coaptation of the fragments more certain and easier or determine the impossibility of complete reduction without operative interference; (7) accuracy of the setting and the efficiency of the fixation apparatus or other methods of treatment. [T.M.T.]

2.—Woodward divided the symptomatology of pharyngeal adenoids into: 1. Symptoms common to all adenoids, viz., hyperplasia of the lymphoid tissue in the vault of the pharynx, chronic congestion of the submucous bloodvessels of the inferior turbinated body; a more or less profuse, mucopurulent discharge. 2. Symptoms dependent upon the size of the adenoid, viz., alteration of the voice, as if the patient was suffering from a cold in the head; mouth breathing; snoring and choking in sleep; general malnutrition; deafness; chronic headache and mental dulness. 3. Occasional accessory symptoms including asthmatic seizures; habit (facial) chorea; epileptiform attacks. To these may be added the state of deaf-mutism as one of the consequences of adenoids in infancy, for adenoid vegetations occur in the earliest months of infancy. Adenoid vegetations are very rarely seen in persons over 20 years, and retrogressive changes of the hyperplasia take place during adolescence if left alone, although this is not the advised course. There seems to be no doubt that the most effectual treatment is their removal, although in special cases the application of tincture of iodine and nitrate of silver may be sufficient. The author also gives the following symptoms of hypertrophy of the faucial tonsils; alteration of the voice in which the tone is muffled as if patient were holding something in his mouth; snoring and choking in sleep; excessive secretion of mucus in the throat; frequent attacks of acute catarrhal inflammation in the throat and follicular tonsillitis; chronic enlargement of cervical lymphatic glands; mouth breathing; deafness; general malnutrition. This condition is generally found before the age of puberty, especially between the ages of 3 to 10 years. The treatment depends upon the degree of hypertrophy and the symptoms present. If marked they should be removed, even if the tonsils are not markedly enlarged, during period of quiescence or reduced in size by the application of acute cautery or astringent alteratives. [T.M.T.]

3.—Buckman sums up his treatment of typhoid fever with special reference to the use of hypnotics, and his advice to physicians is as follows: 1. Ascertain how much food is necessary, and whether patient has had enough food, water and fresh air in the 24 hours. 2. Do not allow the patient to wear himself out by continued high temperature or by lack of sleep. The amount of sleep in the 24 hours should be recorded. 3. Examine the urine frequently, and ascertain the daily quantity; also keep posted as to movements of bowels and condition of skin. [T.M.T.]

Boston Medical and Surgical Journal.

February 21, 1901. [Vol. cxliv, No. 8.]

1. U. S. Army Pathological Laboratories in the Philippine Islands. JOS. J. CURRY.
2. Dysenteric Diseases of the Philippine Islands, with Special Reference to the Ameba Coli as a Causative Agent in Tropical Dysentery. JOS. J. CURRY.
3. Uterine Fibroids. HOMER GAGE.
4. Dysbasia Intermittens Angiosclerotica (Intermittent Lameness of Vascular Origin). JAS. J. PUTNAM.

2.—Dysentery is responsible for the highest mortality among our troops in service in the East, but even this statement does not give any adequate idea of the gravity of the disease. Dysentery in the **Philippine Islands** is responsible for more permanent disabilities than all the rest of the diseases combined. A complete permanent recovery in the islands is the exception to the rule. There were 132 deaths from dysentery at the First Reserve Hospital up to June 1, 1900. Ninety-eight of these cases of dysentery came to post-mortem. Of these, 66 were found to be amebic dysentery, 20 acute dysentery, and 12 subacute dysentery. In the great majority of cases among our troops there was a history of drinking polluted or uncertain water. Malaria is the most frequent complication of dysentery in the Philippine Islands. Typhoid fever and amebic dysentery combined occurred twice and acute lobar pneumonia occurred once in this series of 66 cases of amebic dysentery. There were 2 cases of active and quite extensive pulmonary tuberculosis. As will be seen from reference to the classification of the 98 cases autopsied, amebic dysentery is the most common type,

and it is responsible for many more deaths than all the other types combined. Whether the ameba coli is primary or secondary, we have the strongest evidence that it is certainly a very important etiologic factor. In several of the cases of acute dysentery that came to autopsy a bacillus apparently identical with that described by Shiga and by Flexner was found in culture. [J.M.S.]

4.—Putnam reports the case of a man who suffered from **dysbasia intermittens angiosclerotica**, first described by Charcot, in 1854. The patient was an active and able business man, a gentleman of 70, with a remarkably good record for soundness of constitution, temperance of habits, and freedom from disease and exposure. He was without signs of nephritis, diabetes, cardiac, or arterial disease, unless an attack of sudden giddiness in which he was once precipitated forcibly and suddenly from his chair to the floor was due to a cerebral lesion of arterial origin. The symptoms of chief interest in the present connection first showed themselves, 2 months before the author's examination, in the form of an intense sense of muscular fatigue in the legs, amounting almost to pain, which recurred every time the patient walked more than $\frac{1}{2}$ -mile, but quickly passed away with repose. Since then this condition has remained substantially unchanged. The pain is usually felt first in the calf, generally that of the left leg before that of the right, and then spreads upward, omitting the knees and centering in the neighborhood of the hips. The patient then feels, although a man of great resolution, as if he must stop, and that if he went on his joints would grow rigid and he could not move. After a rest, or on waking in the morning, he feels perfectly fresh and "as well as ever in his life." Mental work causes no fatigue, and he is singularly free from neuro-rasthenic symptoms of all sorts. The treatment consisted of galvanism, which was carried through the length of the limb with the foot resting in a tub of warm water. Then faradism was used in a similar manner. Finally, a deep vessel was obtained so that the legs could be immersed up to the knees in water, and this was charged with solutions of artificial Nauheim salts of increasing strength, the temperature of the water being at the same time lowered, day by day, or week by week. Good cutaneous reactions were secured, but the most that can be said for the success of the treatment is that the patient grew no worse during the time of its use. The author believes that a vascular spasm is perhaps the best explanation of the pathology of the disease. [J.M.S.]

Journal of the American Medical Association.

February 23, 1901. [Vol. xxvi, No. 8.]

1. The Bacterial Toxins. VICTOR C. VAUGHN and THOMAS B. COOLEY.
2. The True Role of Drugs in the Management of Consumption. SOLOMON SOLIS COHEN.
3. The Importance of an Early Diagnosis of Tuberculosis. A. MANSFIELD HOLMES.
4. Three Cases Illustrating Cerebral Complications of Otitis Media Suppurativa. CHARLES W. RICHARDSON.
5. Suppurative Tympano-Mastoiditis in Children. HERMAN KNAPP.
6. Some Observations in Mastoid Operations. A. W. CALHOUN.
7. Differential Diagnosis between Chickenpox and Smallpox. HERMAN SPALDING.
8. Misstatements of Antivivisection. Correspondence with American Humane Association. W. W. KEEN.
9. Anastomosis of the Ureters with the Intestine. A Historical and Experimental Research. REUBEN PETERSON.

1.—Vaughn and Cooley, in an article outlining the **nature and action of the bacterial toxins**, present the following theory: That specific poisons constitute a part of bacterial cells, and are formed within the microorganism itself. They also state that the pathogenic principles of a given bacterium are dependent upon the diffusibility of the toxin, the character of the poison in the cell, and the permeability of the cell wall. The authors mention that they gained little information from the literature upon this subject; they, however, refer to the researches of Buchner and Pfeiffer. The

authors have carried on a number of experiments with the bacillus coli communis, and have reached the following conclusions: The colon bacillus, in a virulent form, contains a toxin within the cell. This poison is fatal to guineapigs, weighing from 200 to 300 grams in the dose of 1 milligram. Aqueous extracts of this microorganism grown upon agar are inert. The bacillus possesses a great resistance to heat, dilute acids, and alkalies. Artificial gastric juice will digest the cell-wall, but does not alter the toxin. When the poison is obtained in this manner, it was found to be insoluble, or but slightly soluble in dilute acids, but more readily soluble in dilute alkalies, and slightly soluble in water. The toxin gave the ordinary proteid reactions, and finally it was found that the toxin was not destroyed by boiling. [F. J. K.]

2.—In an article on the **management of consumptives** by S. Solis-Cohen the author states that drugs play a secondary part, and that the disease is curable as a result of the natural power of recovery. He carefully outlines the hygienic management. He gives the progress of pulmonary tuberculosis, dividing the disease into a primary stage, a secondary or bacillary stage and a tertiary stage. In the final stage various microorganisms, principally streptococci and staphylococci, produce degenerative changes and markedly influence and modify the course of the disease. He mentions the important drugs which are to be used as nervines, digestants, hematinics, eliminants, and those acting upon the circulation. He outlines the uses of the iodine group, and the creosote group. He then mentions the drugs which influence the cough, the fever, night-sweats, diarrhea, outlines the treatment of hemorrhage and states the uses of inhalants. He concludes by saying that hygienic and nutritional measures are to be preferred to the use of drugs. [F. J. K.]

3.—Holmes, in an article on the importance of early diagnosis of tuberculosis, classifies the disease into three stages: (1) The pretubercular stage, which is associated with a weakened state of the system and therefore furnishes a congenial soil for the tubercle bacillus; (2) the stage of tubercular formation; and (3) the stage of destructive tissue changes. The cog-wheel respiration he believes is an important sign in the recognition of early tuberculosis. He also refers to the value of observing the temperature, and he believes that a subnormal temperature is one of the earliest signs. The value of finding the bacillus in the sputum, from the standpoint of diagnosis and future treatment, is overestimated, as it only appears with breaking down of tissue. The tuberculin test is mentioned as being of value in the early stages of the disease. [F. J. K.]

4.—Richardson's first case is one of **sinus thrombosis** in a man 60 years of age. In this case the mastoid antrum was found filled with a nasty, offensive pus which was thoroughly cleaned out. The sinus was then exposed throughout its whole length and its walls found to be gangrenous. The vessel was opened and found filled with broken-down blood clot which was removed until circulation was restored from above. The jugular vein was then exposed in the neck; it was collapsed and contained some organized blood clot. The vessel was ligated and removed. The patient was in an intensely septic condition before operation and died of sepsis 26 hours after operation. The second case is one of **infective thrombosis** in a man aged 25. This patient had all the symptoms of mastoid disease and also had a cellulitis of the cervical tissues below the mastoid. The ordinary mastoid operation greatly relieved this condition; the patient's temperature became normal and remained so for several days. In about 2 weeks, however, the temperature began to rise and pus formation showed itself in the anterior temporal region. This was freely liberated by incision, the pus being found between the temporal fascia and the periosteum and showing direct communication with the mastoid cells. At one point just above and in front of the zygoma there was a carious perforation of the outer table. Upon careful exploration of this condition it was found that the patient was suffering from a decided case of osteomyelitis, the probe passing readily for some distance between the outer and inner tables of the skull. A large portion of the outer table was removed. The patient did well for four or five days when his temperature again rose, due to a collection of pus in the occipital region, but subsided again upon free opening. About a week later the patient had sweat, chill and a rise of

temperature, with evidence of involvement of the sigmoid sinus. The sinus was exposed, found to be filled with broken-down clot which was removed until a return circulation was had from below, but no return circulation could be obtained in the other direction, although exploration was carried nearly as far back as the torcular. The patient improved a great deal after this operation, the temperature falling, his general condition appearing better, but within a few days symptoms of extension of the infection returned and the patient died. No autopsy could be obtained. Case number three is that of a man aged 63 years, who had suffered for some weeks with a **suppurating ear** and who later developed symptoms of **cerebral abscess** involving the speech center. The mastoid cells were not found involved at the operation and an exploration of the temporosphenoidal lobe through a trephine opening, made one inch above the external auditory meatus, revealed no abscess, although it was felt sure at the time of the operation that such was present. The patient died and at the postmortem a small abscess about the size of a hickory nut was discovered on the mesial side of the uncinate convolution. Richardson thinks that in his exploration the probe must have passed through this abscess cavity, but that the pus was too thick to flow. In cases of **sigmoid thrombosis** prompt operation is urged as soon as the diagnosis is made. Richardson urges the careful consideration by the general practitioner of symptoms indicative of extension of the disease to the sinus. The occurrence of a chill, a high temperature and a sweat are symptoms of extreme gravity and should suggest involvement of the sinus. In operations for this condition he thinks that ligation of the jugular vein should be done, even though a return circulation may be had. Richardson thinks that one of the early symptoms of **cerebral abscess** from disease of the ear is an alteration in the general demeanor of the patient, such as irritability, moroseness and attacks of semihysteria. To these should be added also some form of aphasia. [J. H. G.]

5.—Knapp shows the most frequent age for **suppurative tympanomastoiditis** to be the early years of life, particularly the first year. He gives as a cause for this the short and patulous eustachian tube at this age, and the fact of the great prevalence of diseases, particularly adenoids, in the nasopharynx of children. The short and patulous tube also explains the quick and permanent disappearance of abscesses of the middle ear in children. In operations upon the mastoids of children it is recommended that the incision be made carefully, and layer by layer, because of the soft condition of the bone at this age. [J. H. G.]

6.—Calhoun discusses **disease of the mastoid cells** as it occurs in the South. He does not think that middle ear suppurations are as prevalent in the South as in the colder climates. During the past winter he has observed the disease to be of a mild type and unusually free from cerebral and other complications. He has found it as frequent in adults as in children, but very seldom in the negro race. He also calls attention to the possibility of serious mastoid disease without marked outward symptoms, and also to the occasional occurrence of mastoid disease without apparent middle ear involvement. He has not found it necessary in the treatment of these cases to pursue the radical measures of Stacke. [J. H. G.]

7.—In an article by Spalding the **differential diagnosis between chickenpox and smallpox is given**. The author states that he has seen a number of cases of chickenpox in adults and he gives the report of a case which occurred in a male 22 years of age. The eruption in this case appeared first on the body and then on the face, limbs and hands. There were no prodromal symptoms. The eruption consisted of vesicles which later developed into pustules or dried scabs. The eruption was very superficial. He mentions that the most experienced diagnostician may sometimes be puzzled in the diagnosis of varicella from variola. There appear 3 illustrations showing the character of the eruption in chickenpox, also 3 showing the eruption in smallpox. He believes that the eruption in smallpox always involves the cutis vera, while in chickenpox the lesion involves only the outer layer of the skin. He emphasizes the importance of the prodromes which occur even in the mild cases of variola, and they are absent in varicella. [F. J. K.]

8.—See PHILADELPHIA MEDICAL JOURNAL, Feb. 23, 1901.

9.—To be treated editorially later.

Annals of Surgery.

January 1, 1901. [Vol. xxxiii, No. 1.]

1. Ventral Hernia Following Abdominal Section. B. BRINDLEY EADS.
2. On Traumatic Keloid of the Median Nerve, with Observations upon Absorption of Silk Sutures. OTTO G. I. KILIANI.
3. An Intestine Holder. Devised for Facilitating the End-to-End Suture of Intestine. EDWARD H. LEE.
4. Laryngectomy under Eucaïne Anesthesia, with Remarks on the Technic of the Operation. GWILYM G. DAVIS.
5. Double Ureter. Report of a Nephrectomy Done upon a Young Child with this Condition Present. JOHN EDWARD SUMMERS, JR.

1.—In ventral hernia following abdominal section Eads thinks that at least 15% of all cases of laparotomy if examined five or more years afterward will present evidences of hernia. Coley has pointed out that relapses after operation for ventral hernia take place in more than one half of the cases. Eads discusses the anatomy of the abdominal wall in detail, laying particular stress upon the nerve-supply of the muscles. If a nerve supplying muscle is severed the muscle loses its contractility, it becomes wasted and weakened and the intraabdominal pressure produces stretching, and finally hernia. Close suturing and accurate approximate of like structures will not prevent this, nor will prolonged stay in bed. "Intact, innervated muscular fiber is the only safeguard against hernia." He urges that all muscular section should be made parallel with the nerves if possible. The vertical incision over the rectus with separation of the muscular fibers, so highly recommended, is a failure because the inner portion of the muscle is deprived of its motor nerve-supply. Incision to the left of the rectus muscle parallel to and a little below the costal arch gives ready access to the cardiac end of the stomach and permits a separation of the fibers of the internal oblique and of the motor nerves, besides giving a sphincteric action to the wound. The great advantage of the McBurney incision for appendicitis is that it permits the separation of the nerve fibers instead of their division. The author suggests a lower incision than that of McBurney, slightly concave with the concavity upwards. Incision in the linea semilunaris is condemned because of the resulting paralysis from the division of the nerves supplying the rectus. An incision through the rectus is but little better. In making an incision in the median line he insists that it shall be accurately placed between the two recti muscles. Incision through the umbilicus should be carried to the left in order to avoid the suspensory ligament of the liver. In discussing the treatment of ventral hernia he says it is necessary to excise the redundant and atrophic tissues, bringing into the wound-area as much muscular fiber as possible. [J.H.G.]

2.—Kiliani reports a case of division of the median nerve by glass. The nerve was sutured 3 or 4 weeks after the accident, small bulbi being excised from the distal and central end. The wound did not heal primarily, and there was no improvement in symptoms. Six weeks later, when he first saw the case, a good-sized neurofibroma was found which interrupted completely the conduction of the nerve. The tumor was again excised, nerve ends sutured with catgut, primary union followed with immediate restoration of sensation, and very soon that of power. Three months after this operation the scar on the skin showed a keloid, and a small tumor was felt in the nerve. One year after the operation the tumor had disappeared and the hand was useful for all practical purposes. Kiliani has been unable to find a case cited where neurofibroma with no indication of sarcomatous degeneration had occurred after extirpation. He believes the growth of the nerve can be properly called a keloid. At the second operation he found the silk suture employed at the first operation undergoing absorption as is shown by the microscopic sections which illustrate his article. [J.H.G.]

3.—Lee describes and illustrates the use of a new intestinal anastomosis appliance. It is a metal instrument adjusted to fit any size of intestine, and when the anastomosis is completed it is made to fold upon itself and can be withdrawn through a very small opening. The illustrations explain its use. [J.H.G.]

4.—Davis reports the case of a man, 46 years of age, suffer-

ing from a carcinoma of the larynx, with no glandular involvement and in which he performed a total laryngectomy with eucaïne anesthesia. No preliminary tracheotomy was done. The patient but once winced with pain and then when the superior laryngeal nerves were divided. The growth caused considerable stenosis and respiration was difficult. The trachea was divided and brought forward, and then the larynx removed by careful dissection and the wound closed without drainage. Patient had no shock. Seventy-five minims of a 1% solution of eucaïne B were used during the operation. On the third day patient could speak in a whisper and was able to swallow small amounts of liquid. His temperature rose, he had considerable cough, and he died on the sixth day. Postmortem examination showed intense congestion of tracheal and bronchial mucous membrane as well as of kidneys, liver, and spleen. The wound above trachea healed primarily. About the tracheal opening were a few drops of pus. Streptococcus growths were obtained from the various organs. Davis thinks the main objection to local anesthesia is that it prolongs the operation. The Trendelenburg position was not found necessary in the operation. The subsequent coughing produced considerable irritation about the tracheal opening and necessitated the cutting of some of the sutures. Davis thinks this a great objection to the mode of operating, and attributes to it the infection in his case. He agrees with Delaven that preliminary tracheotomy is a better procedure. He thinks the leaving of an esophageal tube in the wound is probably unnecessary, and that the upper wound can be completely closed. [J.H.G.]

5.—Summers discusses first the several varieties of anomalous ureters and then reports the following case: A child, aged 2½ years, suffered from a tumor of left kidney, which could be easily palpated. The urine contained tubercle bacilli. Nephrectomy was done, and it was found that the organ possessed two ureters, proceeding from separate pelves. The upper tube was the larger, and the seat of tubercular disease, while the lower and smaller was normal. He thinks that the ureters opened into the bladder separately, or else both would have been diseased. The patient recovered from operation, and when last heard from was in good condition. He remarks on the difficulty of using a segregator in ureteral catheterization in such a case. [J.H.G.]

Scottish Medical and Surgical Journal.

February, 1901. [Vol. viii, No. 2.]

1. The Relation of Dentistry to Medical Education. W. H. WILLIAMSON.
2. The Prognosis and Treatment of Pulmonary Phthisis. ALEXANDER JAMES.
3. A Short Note on Bilharzia Hematobia, with Reports of Three Cases. DAVID WALLACE.
4. The Bacillus Coli Communis in Relation to Cystitis. KENNETH M. DOUGLAS.
5. A Curious Case of Disordered Cerebral Circulation. PHILIP G. BORROWMAN.
6. A Case of Pseudohypertrophic Muscular Paralysis. GEO. ROSE.
7. A Clinical Note on a Case of Eclampsia at the Sixth Month. MICHAEL DEWAR.

1.—Every practitioner of medicine must have some dental knowledge. For in spite of the fact that there are specialists for each separate part of the body, every physician should know the correlation of the different parts, no matter what specialty he practises. Especially since the development of bacteriology, do we realize how splendid an incubator the mouth makes. Even malignant endocarditis may come from defective teeth. Williamson suggests a short dental course for medical students. The student should be taught how to examine the teeth, to find cause for neuralgia. To show the lack of this knowledge in older physicians, he reports a number of cases. The student should also be able to recognize the milk teeth, and to differentiate them from the permanent teeth. He should, besides, know enough to advise a visit to the dentist when necessary; or to say whether a tooth should be extracted or not. To help to make this clear to students, Williamson suggests the use of dental models in the dissecting room. Besides, every stu-

dent should have practical experience in extracting teeth, and a knowledge of the correct instrument to be used in every case. And the students should know how to administer nitrous oxid gas. With such an education the result will be a hearty cooperation between dentist and doctor, followed by the amelioration, or, better still, the prevention of dental decay. [M.O.]

2.—In this article James discusses the **prognosis and treatment of phthisis**. The prognosis depends upon 5 things: The family history, not only the occurrence of tuberculosis, but also of other constitutional diseases; the conditions which have led to the development of the disease; the general condition of the patient; the amount of lung tissue involved; and the complications, such as laryngeal or enteric tuberculosis, etc. The main object in the treatment is to put the patient far from civilization, where air is pure, where freedom of movement, of body, and of lungs is absolute, where sunlight is abundant. Yet those with very extensive lung disease, those with very slight recuperative power, and those who cannot leave home, will not be benefited by this primitive living. For these James advises the sanatorium as the best place for treatment, at least until the patient has learned how he should live. The correct food, cold bathing, menthol, or codein for the cough, morphin for hemoptysis, quinin, antipyrin, etc., and ice for the fever, and cod-liver oil, form the most necessary modes of treatment. [M.O.]

3.—Wallace reports 3 cases of this rare affection. The first case, a man of 21, went to South Africa 4 years ago. Two years later he had **hematuria** which has continued since. Treatment has been of no avail. The second case, a South African of 21 years, too, had had **hematuria** for 9 years. He relates that all the boys at school passed red urine. At 15 he had renal colic. Upon diluents and salol, he improved. The third case was a native of Natal, also 21. He had no symptoms but **hematuria**. In all 3 cases, **ova of the bilharzia hematobia** were found in the clots in the urine. They were absent when the urine was clear. Only youths and young adults were affected. Salol alone seems to do good. [M.O.]

4.—After a review of the literature, Douglas sets forth the method pursued by him in investigating **cystitis**. Cultures were made at once, either after catheterization with a sterilized catheter, or from the last urine to flow, collected in a sterilized test-tube. Of the 20 cases of cystitis examined, only 3 occurred in women. Pure cultures of the bacillus coli communis were obtained in 12 cases, associated with other microbes in 2 cases. In 3 cases the staphylococcus grew alone, in 2 cases the tubercle bacillus alone. After a description of his experiments upon animals and an account of the characteristics of these colon bacilli, he concludes that the bacillus coli communis is met with in the great bulk of cases of cystitis, and is apparently the cause of the disease; that the microorganism may be present in the bladder for long periods of time without causing cystitis; that it may supplant other microbes, rather than be the initiating cause of the cystitis; that its marked polymorphism and pathogenicity account for the conflicting opinions regarding its identity and rôle in cystitis, and that no one reaction enables it to be certainly recognized, but that cultivation upon several media is needful. [M.O.]

5.—Borrowman reports the case of a boy, aged 9 years, who had measles and pertussis a year previous. With other boys he had for some weeks practised standing upon his head, in which position he could stay about a half hour. Headache and vomiting occurred, followed by 6 weeks of almost constant sleeping. Whenever he tried to sit up, he felt tired, and lay down at once. The muscles of the arms and legs had wasted considerably. His heart's action was very feeble. Under digitalis he improved immediately, and recovered wholly in four weeks. Borrowman considers the condition due to passive congestion from the inverted position, and not to tubercular meningitis, the only other possible explanation of this strange case. [M.O.]

6.—After a short exposition of the subject, Rose reports a case of **pseudohypertrophic muscular paralysis**, in a boy of 9½ years. Two years ago he began to be lazy. Then he had difficulty in rising, and soon became helpless. Lordosis was marked when he attempted to stand, and he could not stand alone, even with his feet wide apart. His method of rising from the floor is beautifully shown by

photographs. There were great muscular weakness; enlargement of the muscles of the calf, etc., with wasting of the muscles of the trunk, etc.; loss of the kneejerk, with diminution of other reflexes, and hyperesthesia to pain. Sections of the biceps and gastrocnemius show a great increase in the connective tissue, while the muscle fibers appear to be comparatively healthy. [M.O.]

7.—Dewar reports a case of **eclampsia** in a woman aged 28, in whom convulsions occurred without warning, at the sixth month of pregnancy. Ten convulsions occurred. There was no albumin in the urine. Four days later she had 7 more convulsions, and albumin was found in the urine. Three more convulsions followed 4 days later. Chloral and the bromids were given. Edema and varicose veins existed in both legs. Three months later the baby was born at term in excellent condition. At this time albumin was absent from the urine. As there was no cause or suspicion of epilepsy, he believes the case to have been **true puerperal eclampsia**. [M.O.]

Berliner klinische Wochenschrift.

January 14, 1901. [38. Jahrg., No. 2.]

1. Diphtheria. TH. ESCHERICH.
2. Gallstones. RIEDEL.
3. The X rays in Practical Medicine. H. KÜMMELL.
4. The Modern Efforts at Colonization and the Adaptability of Europeans to the Tropics. F. HUEPPE.
5. Concerning Succussion of the Kidneys. S. GOLDFLAM.

1.—The author extensively reviews the history of **diphtheria** from the time of Aretæus and Aëtius to the present century. Each epoch of diphtheria is considered and, especially, the researches of Bretonneau. The facts upon which the etiological significance of the diphtheria bacillus is based, are the following: 1. The constant presence and the great quantity of bacilli in all true cases of diphtheria (Bretonneau). 2. The absence of the bacillus on the mucous membrane of healthy individuals. 3. The specific pathogenic influence upon animals. 4. The production of the characteristic paralysis caused by the toxin of the bacillus. The older authors seem to have neglected the toxic effect of diphtheria upon the circulatory apparatus. Of great historical note is that epoch in medicine during which the characteristic symptoms of diphtheritic nephritis, its pathological anatomy, and the degenerative changes in the peripheral and central nervous system as well as in the muscles were established. The greatest transformation, however, took place in the therapy of diphtheria. The results obtained in the past 6 years show the astounding reduction of mortality due to the introduction of antitoxin. [M.R.D.]

2.—Will be abstracted when completed.

3.—Kümmell describes the **value of the x-rays** in practical medicine. In addition to their value for the detection of foreign bodies they have become of special service in military surgery. Pathological dilatation of the esophagus and stomach may be detected by the Röntgen rays. Both dilatation and stenosis may be made apparent by inserting into the organ either in bulk or in gelatine capsules some metal salt like bismuth, which on account of its impermeability to the x-rays reveals the existing conditions. Sounds may be also employed in connection with the x-rays in dilatation of the esophagus, as well as in gastric dilatation if the sound lies against the wall of the esophagus or the greater curvature. Foreign bodies in the intestinal tract may also be located by means of the x-rays as well as Murphy buttons and foreign bodies introduced for therapeutic purposes. The x-rays are of value when there are suspected pathological concretions, although up to the present time gallstones have been detected but twice by this means. Vesical calculi can generally be easily detected by the x-rays. The facility with which these foreign bodies can be detected varies according to the chemical constituency of the concretion. Concretions composed of urates and oxalates are less translucent than phosphatic calculi. Both incrustated as well as non-incrustated bodies, hairpins, etc., are easily demonstrable by means of the Röntgen rays. Considerable progress in the detection of renal calculi has also been made, and here also the thickness of the soft parts as well as the translu-

gency of the concretion renders its detection more or less difficult. The triumphant success of the x-rays in medicine is well known to have been due to the detection of **fractures, luxations, and diseases of bone.** Röntgen-rays have been of great value in diagnosing and treating congenital luxations of the hip. The differential diagnosis between congenital luxation and coxa vara is presented in an interesting manner by the x-rays. Syphilitic, tuberculous and osteomyelitic thickening and deposits in the large and small long bones are not difficult to recognize by means of the x-rays, and it is interesting to observe how under treatment a tibia that before medication appeared as a narrow shadow upon the radiograph, gradually increases in volume. Similarly, small pathological changes, such as tuberculous deposits, may also be diagnosed. Among the tumor-formations large, broad osteosarcomata are characteristically portrayed by the x-rays. Nothing of account has yet been attained in detecting other tumors of the body by this means, as the contrast of individual tissues is not sufficient to be of diagnostic value externally. The shadows of the liver and kidney as well as the convolutions of the fetal gut may be plainly seen, but less so in the adult. Fecal masses are easily recognized. Chemical substances introduced from without for therapeutic or diagnostic purposes, especially the iodine compounds, can also be plainly seen. Iodoform-glycerin injected into tuberculous joints remains there for a long time and is absorbed slowly. Here the Röntgen picture teaches us that it is not necessary to leave a great amount of this mixture in a joint, as small quantities being also slowly absorbed, fully meet the therapeutic requirements. Iodoform-glycerin injected into fistulous tracts is of diagnostic value in that it penetrates to the bone and permeates extensive sinuses. Characteristic results have been obtained in the recognition of myositis ossificans. **Arteriosclerotic changes** in the bloodvessels yield very plain x-ray pictures. Considerable progress has been made in observing the intrathoracic changes. The author states that the dilated lungs of emphysema, and the lungs in pleurisy and empyema were plainly seen by the x-rays and a pneumothorax which clinically could not be established with certainty was diagnosed without a doubt by means of the Röntgen picture. Lung cavities are easily detected. Peribronchial changes appear as sharply defined nodules of variable size. The shadows of the heart, aorta, and aneurysms as well as mediastinal tumors have repeatedly been employed for diagnostic purposes. The employment of the x-rays for therapeutic purposes has yielded excellent results in the treatment of **lupus.** It is to the treatment of skin diseases that the therapeutic efficiency of the x rays has been principally confined. Other skin diseases that have been successfully treated by this means are chronic eczema, vascular nevus, hypertrichosis, favus, and sycosis. Considerable has been attained since 5 years by this epoch-making discovery of Röntgen, but much more will be required during the present century. [M.R.D.]

5.—Goldflam in addition to bimanual examination and ballottement also employs the following method: While the patient stands with the body bent forward and exposed, the examiner places the ulnar side of the clenched fist against the lumbar region and performs a series of mild thrusts, which in the healthy individual are absolutely painless but which give rise to pain of more or less intensity in certain renal affections. In nephritis there is no pain, but on the other hand there is in nephrolithiasis, pyelitis, tuberculosis, abscess, tumors of the kidney, in short all those conditions which require surgical treatment. The author states that he considers this method of procedure of use, but only as an accessory to the other important methods of examination. [M.R.D.]

Deutsche medicinische Wochenschrift.

January 17, 1901. [27. Jahrg., No. 3.]

1. Remarks on Tuberculosis of the Female Genitals and Peritoneum. A. SIPPEL.
2. Vaginal and Abdominal Section in Tubercular Peritonitis. G. BAUMGART.
3. A Case of Hydrocephalus with Recovery. H. NEUMANN.
4. A New Sensitive Test for Sugar. E. RIEGLAR.
5. Contribution to the Study of the Renal Function. L. LIPMAN-WULF.

3.—Neumann reports the case of a child 5 months old that was brought to the clinic with marked hydrocephalus. The increase in the size of the head had apparently occurred chiefly within 3 weeks. There was a distinct history of syphilis. It was therefore a very satisfactory case for treatment, both because it was syphilitic and because the hydrocephalus was of very recent occurrence. It was put upon potassium iodid in large doses (taking in 9 months nearly 2½ ounces). There was rapid improvement after the first few days of treatment, and the improvement continued. At the end of 9 months the child seemed practically well. Somewhat over a year after the treatment was begun it was reported that the child's general development, both physical and psychic, seemed perfectly normal, and the head showed no abnormalities. [D.L.E.]

4.—The test recommended is to take about 20 drops of urine in a test tube, add a small amount (about 1/10 gram) of pure hydrochlorid of phenylhydrazin, about 1/2 gram of crystallized sodium acetate, 2 cc. of water. Heat over a flame until it boils, then add 10 cc. of a 10% sodium hydrate solution, inverting the tube five or six times and standing aside. After a few seconds there should be a striking reddish violet color. The color should be looked for by holding the test tube up to the light and the whole fluid should be colored, not merely the deposit upon the bottom of the tube. It is essential that the color should appear within 5 minutes, as some color is seen in normal urines after a longer time. [D.L.E.]

5.—Lipman-Wulf makes some rather desultory remarks concerning his work with methylene-blue as an index to the functional activity of the kidneys. He tested various animals with methylene-blue and found that the excretion began within 1/2 hour to 6 hours, and lasted from 24 to 52 hours, and in one case even 100 hours. There was no definite relation between the excretion of the dye itself and of the chromogen. With compensatory hypertrophy of one kidney it was evident that the excretion began very rapidly. In a woman, from whom one kidney had been removed, he found that the dye appeared in the urine during the first half hour, and the excretion lasted for 96 hours. As to the conditions in nephritis, Bard has stated that there are two varieties of disturbance. In one, with interstitial nephritis, the dye is slowly excreted, while in parenchymatous nephritis the dye passes abnormally readily. Lipman-Wulf made some experiments upon animals chiefly by the injection of cantharidin and other kidney poisons, and found that the dye was rather rapidly excreted, but that chromogen was still found in the urine as long as 70 hours after the injection, and in some cases the dye itself was not excreted as rapidly as is normal. These results did not, therefore, confirm the statements of Bard. It is quite possible that there are certain portions of the kidney parenchyma which have the specific function of excreting the coloring matter, and that, therefore, disease of these portions of the kidney will cause characteristic changes in the excretion. He attempted to determine some characteristic functions of various portions of the kidney by administering mixtures of dyes, and then observing the color seen in subsequent sections of the kidney, but had no satisfactory results. He thinks that this method may, however, lead to better results through its more extensive use. [D.L.E.]

January 24, 1901. [27. Jahrg., No. 4]

1. Instruction in the History of Medicine and the Modern Scheme of Medical Examination. E. BRAATZ.
2. A New Form of Hemoglobinuria. L. MICHAELIS.
3. A Case of Bence Jones Albuminuria in Myeloma of the Ribs. KAISCHER.
4. Ligation of the Injured Coronary Artery. PAGENSTECHER.
5. A Method for Simultaneously Staining Dried Blood Preparations with Eosin and Methylene blue. E. A. V. WILLEBRAND.
6. Disinfection of the Hands. G. J. MÜLLER.

2.—The case which gave rise to the present report was that of a woman of 41, who had extrauterine pregnancy with rupture, free hemorrhage into the peritoneal cavity, collapse, and a rapid reduction of the hemoglobin to 25%. The urine for 2 days contained a marked amount of hemoglobin; 5 days afterward she had another severe attack of hemoglobinuria, which lasted for 4 days. The main point in the case

that after a large effusion of blood in the peritoneal cavity, 2 attacks of hemoglobinuria occurred. It was, therefore, a "posthemorrhagic hemoglobinuria." The possible explanations of its occurrence are mere absorption of the hemoglobin in unchanged form and its excretion as such, and, on the other hand, the production of a hemolysin through the absorption of the blood, this hemolysin causing actual solution of the patient's own blood-corpuscles and thus producing hemoglobinemia and hemoglobinuria. The first suggestion seems improbable. If it were correct one would expect hemoglobinuria frequently after hemorrhage, but it is extremely rare, indeed almost unobserved. The second possibility is accepted as being the most probable cause. The explanation given is this: Normally hemolysins are not active because they are combined with antihemolysins in the red blood-corpuscles or elsewhere. It is quite possible that if they became free in solution they would become active in any person. In the case reported there was a large abdominal effusion of blood which was very rapidly absorbed. It seemed probable, therefore, that much hemolysin was rapidly dissolved out, and that the organism was unable to provide quickly enough a sufficient amount of antihemolysin and some solution of the blood-corpuscles took place in this way. [D.L.E.]

3.—The case reported was that of a woman, 67 years old, who had pains about the thorax and disturbance of breathing, with increase of these disturbances, cough, loss of strength, and other indefinite symptoms, which were at first thought to be hysterical. Subsequently she came under Kalischer's observation, and it was found that she had marked tenderness over the ribs with some nodosities of the ribs, and that the urine contained considerable amounts of albumose (Bence Jones bodies). A diagnosis of myeloma of the ribs was therefore given, and a fatal prognosis established. The symptoms increased, and the patient died about a year and a half after the beginning of her pain. The postmortem examination showed that the ribs were filled with a substance which looked much like a semifluid splenic pulp, the spongy and compact bony substance had almost completely vanished, the bony tissue of the ribs consisting of a very thin shell, scarcely thicker than paper. The ribs were broken in several places, they showed numerous swellings, and could be readily broken to pieces. The humerus of one side was also examined, but showed scarcely any changes in the marrow. The case was, therefore, one of myeloma of the ribs. Microscopic examination showed that it was a hyperplasia of the marrow of lymphoid character. The marrow of the humerus showed practically normal conditions. The case ran a fairly typical course for this disease, and the urinary conditions were characteristic, consisting chiefly in precipitation upon gentle heating, solution of the precipitate upon more active heating, and a redeposit of the precipitate upon cooling. No Bence Jones bodies were found in the marrow or in the ribs or humerus. The amount of albumose in the urine was about 0.55%. According to the recent work of Magnus Levy this substance is midway between an albumose and an albumin. It is a striking fact that it has been observed only with great rarity in cases of pernicious anemia or leukemia with marked involvement of the bone marrow. In a case of leukemia and one of pernicious anemia which Kalischer observed recently, the Bence Jones substance was not present in the urine. It is also striking that myeloma may be present for a long time and may involve a large amount of bone marrow without causing any marked blood change. The nervous symptoms frequently seen in these cases may be due to the general reduction of health that comes with the condition, they may be due to actual pressure of growths, or they may be due to organic lesions of the nervous system. Sometimes there are paralytic symptoms which are explained by organic changes in the nervous system. [D.L.E.]

5.—The method recommended is based upon the fact that if one adds to a mixture of eosin and methylene-blue an alkali, the staining result will chiefly be due to methylene-blue, while with the addition of acid the eosin stain becomes more marked and may be made to become the controlling stain if enough acid is added. The mixture recommended is as follows: 0.5% eosin-solution in 70% alcohol, and an equal amount of concentrated watery solution of methylene-blue. This mixture ordinarily causes a deep blue stain. After this a dilute (1%) acetic acid is added, drop by drop, and the mixture tested; after each addition of acid it will be found

that the resulting stain shows more and more of the eosin element, until after the addition of about 10 to 15 drops of acid to 50 cc. of the stain the staining result finally becomes a satisfactory mixture of the eosin and methylene-blue, affects and does well for staining the nuclei, the granules of the leukocytes, and the protoplasm simultaneously. [D.L.E.]

Wiener klinische Wochenschrift.

January 17, 1901. [14. Jahrg., No. 3.]

1. The Relation Between the Nose and the Female Sexual Organs. ARTHUR SCHIFF.
2. A Case of Unilateral Hypertrophy of the Breast. BERNARD ENGLÄNDER.
3. Remarks upon Phosphorus in the Treatment of Rachitis. MONTI.

1.—Schiff first quotes from Fließ's work upon this subject, in which he calls **two areas upon the mucous membrane of the nostrils** (the anterior part of the lower turbinate, and the tuberculum septi), "genital spots," since they become hyperemic during menstruation. Besides, in cases of dysmenorrhea, he says that cocaine the lower turbinate causes the hypogastric pain, and cocaine the tuberculum causes the lumbar pain, to disappear. Further, should this be so, the dysmenorrhea can be permanently cured by cauterizing the "genital spots." Not only is this true in nervous dysmenorrhea, but in many of those cases associated with disease of the sexual organs, also. In pure mechanical dysmenorrhea, however, associated with stenosis of the cervix uteri, antelexion, etc., this is not the case. Schiff tested this in 47 cases, in 34 of which two drops of a 20% solution of cocaine upon these genital spots caused the pain of dysmenorrhea to disappear temporarily, not only once, but whenever applied. Nine of the 13 negative cases showed gynecological conditions. His tests numbered over 200. They were carefully made, suggestion being excluded. When water was used, and not cocaine, the pain persisted. By using other anesthetics (weaker cocaine solutions, suprarenal, etc.) he shows that this is due to anesthesia of the "genital spots." In 12 out of 17 cases of dysmenorrhea cauterizing the genital spots was followed by permanent recovery. Further experiments showed plainly the close connection between the hypogastric pain and the mucous membrane over the lower turbinated bone. [M.O.]

2.—Engländer reports a very rare case, a woman of 33, whose **right breast** was much hypertrophied. In her mother, also, the right breast was much larger than the left. During two pregnancies her breast grew much larger. Yet she had not enough milk for her second child. She refused operation, in spite of the huge size of her breast. A detailed review of the literature is given. [M.O.]

3.—After a detailed exposition of the subject, Monti says that **phosphorus** was first used for rachitis in 1838, and in 1863 Trousseau's prescription was widely circulated. Wegner's experiments do not show how rickets occurs, nor that it can be cured by phosphorus. Clinically, phosphorus has not prevented the progress of rachitis, nor has it caused the slightest improvement. Nor does phosphorus act any better with cod-liver oil, as it cannot be proved how much phosphorus exists in each dose, nor whether the phosphorus does not soon become phosphoric acid. Monti agrees with Zweifel that no specific action of unoxidized metallic phosphorus has been proved either experimentally or clinically. [M.O.]

Archiv für Pathologische Anatomie und Physiologie und für klinische Medizin.

[Band 162, Heft 3.]

18. New Methods, Found by Experimentation, for the Recognition and Treatment of Diseases Produced by Autointoxication. F. BLUM.
19. The Morphology of Milk. M. COHN.
20. The Fibrinous Inflammations of the Intestines and of the Serous Membranes. HERXHEIMER.
21. The Influence of Chemical Materials Upon the Process of the Crystallization of Hemoglobin. S. VON STEIN.

22. Sarcoma of the Ileocecal Region. BLAUDEL.
23. The Histology of Acute Suppurative Peritonitis. O. WALBAUM.
24. Further Investigations Upon the Influence of Sterilized Air Upon Animals. J. KAJINITZIN.
25. Lipochrom of the Nerve Cells. ROSIN and B. VON FENYVESSY.
26. Brief Communications. (1) Connective Tissues, Membranes and Lymph Spaces; Correspondence Between R. KRAUSE and R. VIRCHOW. (2) A Case of Atheroma of the Heart Valves in a Girl of 15. A. BRION. (3) The Idea and Nature of Anaplasia. HANSEMANN.

18.—Blum has performed a series of experiments upon the thyroid gland, that appear to modify our views of the physiology of this organ considerably, and to indicate to some extent, new methods of research and treatment. A large number of dogs were sacrificed, so large a number in fact that Blum believes that accidental features are practically eliminated. It was found that of those animals that were fed, during the preliminary period and after the experiment, exclusively upon meat, 96% died, the great majority from tetany. The remaining 4% were immune to the results of thyreo priva, and also to all other forms of poison that are elaborated from the food. In the animals which were fed exclusively upon milk for a considerable period before the operation, and with the same substance after the operation, the mortality was only about 60%. A curious fact was, that if after they remained healthy upon the milk diet for a considerable time the animals were given meat, they exhibited all the symptoms of loss of thyroid. If the animals were kept upon a mixture of milk, bread and meat they remained perfectly well. Therefore the extractive materials in meat are certainly not concerned in the poison that is produced. Blum therefore believes that a poison is manufactured in the gastrointestinal tract from the essential constituents of the meat that is consumed. As a considerable proportion of animals died on milk diet it is reasonable to suppose that the same poison is produced from it that is produced from meat, but that in the majority of cases the quantity is considerably less. He calls this poison "enterotoxin." It is rather difficult to explain, however, why suckling puppies invariably died after the removal of the thyroid, although they were always nourished exclusively upon milk. All the animals that survived apparently did so largely as a result of the production in their blood serum of some antitoxic substance; for, if blood serum obtained from them is injected into animals manifesting a severe form of thyroid cachexia, it is often possible to preserve the latter for some time. The function of the thyroid gland appears from these studies to be the neutralization of toxic substances circulating in the body. From these it manufactures the thyreo toxalbumin, a substance that has a considerable affinity for iodine, although this element has nothing to do with the essential functions of the thyroid glands, as is proved by its total absence in the thyroid glands of very young animals. The thyreo toxalbumin is itself, under certain circumstances, toxic, although many animals either possess a natural immunity to it or are capable of acquiring it. Such animals, however, do not possess an immunity to enterotoxin alone. The symptoms of thyreo priva, therefore, are not due so much to an autointoxication as to an overwhelming of the system with the poisonous substances produced in the intestinal tract, and in cases of this condition, in order to diminish this poison as much as possible, a milk diet is apparently indicated. [J.S.]

19.—Cohn having had his suspicions aroused regarding the nature of the colostrum bodies in milk by the fact that they manifest ameboid movements when upon the warm stage, has endeavored to determine this point by microchemical reactions, that is to say, he stained them with Ehrlich's triacid stain, and determined that they possess neutrophilic granules. They differ from leukocytes chiefly in their size, and in the possession of numerous fat granules, however as the result of careful studies upon the milk of women in the process of weaning, he found that the fat granules were simply present in the protoplasm as the result of imbibition, and that when they disappeared the leukocytes resumed their normal appearance. The nuclei of the colostrum-cells resembled in all respects the nuclei of the polymorphonuclear leukocytes. It is difficult to explain why at

certain periods during lactation, particularly the very beginning, the colostrum cells should be present in such great excess. We can explain this either by supposing greater congestion at these periods, or the presence of the products of bacterial metamorphosis at the orifices of the glands, or the secretion of some chemotactic substance from the blood. Cohn believes that during gestation a certain amount of secretion collects in the glands, which, after parturition is stimulated by the greater activity of the bloodstream, and manifests then its chemotactic qualities. In some cases it has been observed that after the ninth day there may be an increased secretion of colostrum-cells. Tais, Cohn believes to be the result of a partial aplasia or insufficiency of the glandular tissue. It has been observed in support of this that the number of colostrum-cells diminished as the quantity of milk increased. In some cases there is unilateral secretion of colostrum cells, which can be explained by partial insufficiency of the glandular tissue on that side. Cohn also discusses some very interesting features of lactation, which however, cannot properly be considered in an abstract. [J.S.]

20.—Herxheimer has made a series of studies upon the fibrinous inflammations of the pleura and intestine. The method employed was staining by various methods, but chiefly Weigert's fibrin method, of pleura contents, postmortem material in Göttingen. The object was to determine the part which the endothelial cells take in the inflammatory process. By staining the elastica he was able to determine that they lay beneath the fibrinous layer, and formed a continuous layer, covering also the portions upon which no fibrinous exudate existed. Under exceptional circumstances a few cells were found on the outside of the exudate, or mixed with the fibrin. This may be regarded as accidental. Many of these endothelial-cells were swollen and showed distinct signs of proliferation similar to the changes described as the result of irritation by foreign bodies. Above the cells, clefts were not infrequently found, but these did not represent lymph spaces because they were not lined by endothelium. The signs of proliferation consisted in swelling of the cells, formation of giant cells, karyokinesis, and the arrangement of the cells in several superposed layers. In no instance did they show any signs of conversion into connective tissues. The explanation for the proliferation was, the formation of clefts that needed covering, the replacement of discarded cells, or the action of an irritant. Investigations upon the intestine were made chiefly for the purpose of determining the presence of true fibrin. This was found in a variety of cases, and always most pronounced in the submucosa. In one case, however, diagnosed as a pseudo-membranous enteritis following pyemia, no fibrin was found and the membrane present determined to be due to the numerous emboli of micrococci. Nevertheless, Herxheimer concludes that fibrin formation is an important element in intestinal disease. [J.S.]

21.—Von Stein has carried out an interesting series of experiments with the object of determining what effect various chemical solutions have upon the formation of crystals from hemoglobin. The method was as follows: Blood was obtained from guinea-pigs, rapidly defibrinated, and a drop placed upon a slide and then, by a rather delicate manipulation, covered with a film of Canada balsam. At the end of 24 hours it was examined, and the crystallization was usually complete. Various saline solutions were added to the drop before covering, and their influence upon crystallization observed. Distilled water in small proportions made the crystals smaller and paler, and when 2 to 3 drops of water were added to the blood they failed to form. Solutions of sodium chlorid caused at first blunting of the edges of the crystals, smaller crystals, and finally complete disappearance of them. Similar results were obtained from potassium chloride, sodium sulphate, potassium chlorate, ammonium sulphate. Hydrogen sulphide prevented the formation of crystals; carbon monoxide gave rise to the formation of blunt tetrahedrons of blood red color; nitrous oxide did not interfere with the formation of the crystals, and anhydrous sulphurous acid prevented it entirely.

22.—Blauel reports 2 cases of sarcoma of the intestine. The first, a man of 33, at the age of 26 commenced to have gastric disturbances which lasted 3 or 4 years. At the age of 31 he had a severe inflammation of the appendix. Four or 5 weeks later he noticed a tumor the size of a pigeon's egg in the right iliac region. This gradually in-

creased in size. Later it reached the size of a child's head. The patient had an eruption of blisters all over the body, that suppurated. The tumor from this time increased rapidly in size, and soon occupied the larger portion of the abdominal cavity. It became infected with the colon bacillus; was incised, and a large portion of necrotic tissue removed. The patient died from exhaustion. At the autopsy the abdominal organs were found much displaced, and the tumor, which was larger than an ordinary man's head, involved the cecum and the commencing portion of the ascending colon, the walls of which formed a rigid tube. Microscopically it was a small round cell sarcoma. The second patient, a woman of 66, had suffered for about 6 months with pain in the right side of the abdomen. At an operation a tumor was found in the ileocecal region that had formed dense adhesions with the right adnexa. The patient died of thrombosis and decubitus. At the autopsy a small round-cell sarcoma of the cecum and ileocecal valve was found. Blauel calls attention to the extreme rarity of sarcoma in this region. They are all apparently of the same historical construction, and in the majority of cases arise from the serous coat; as a result, a common symptom is the absence of the ordinary signs of intestinal obstruction. [J.S.]

23.—Walbaum has undertaken a series of investigations upon 45 cases of **purulent peritonitis**, in order to determine how much of the actual wall of the intestine was affected by the inflammatory process, and what changes occurred in the ganglion cells of the intestinal plexus. He found in nearly all cases that the muscular coat escapes, but that there is an infiltration around the bloodvessel walls, and round cells in any cases extend into the submucous tissues. The bloodvessels passing through the muscular coat also showed perivascular infiltration. The cellular proliferation affects chiefly the connective tissue cells. There is often fibrinous exudate in the intestinal wall. The ganglion cells of the intestinal plexus were fixed with a 2% formalin solution, and then stained, either with osmic acid or with osmic acid and hemotoxin. Even in normal cells a few fine fat drops could be found; but in the pathological cells these were often considerably increased. The absence of the nucleus is not necessarily a pathological sign. Many of the cells were vacuolated or showed hydropic degeneration. Chromatolysis of the nucleus was not infrequent. He concludes therefore, that the inflammatory process extends into the intestinal wall and causes alteration in the protoplasm and nuclei of the ganglion cells. [J.S.]

24.—(See editorial.)

25.—Rosin and von Fenyvessy have already shown by means of osmic acid, that **granular pigment in the ganglion cells of the nerve system** is probably fat. The discovery of the micro-chemical reaction with sudan III, however, have impelled them to undertake a new series of investigations in order to determine as positively as possible, that their previous statement was correct. The sections were placed in formalin, cut on the freezing microtome and placed for 24 hours in a saturated solution of sudan III in 80% alcohol, and then mounted in glycerin. The granular pigment stained an intense scarlet. Certain peculiar bodies in the adventitia of the bloodvessels also stained a deep scarlet, and the myelin sheaths a pale red. In the sections treated with absolute alcohol and ether the pigment completely disappeared, proving its true fatty nature.

26.—1. Krause having written to Virchow inquiring whether he agreed with the principle set forth by Gegenbaur, that the various tissues arise from individual embryonal layers, and that the endothelium represent layers of connective tissue cells, received from Virchow an answer in which he insists upon the doctrine of metaplasia, and states that in endothelioma, cells with epithelial characteristics may occur. 2. Brion reports an interesting case of extensive **atheroma occurring in a girl 15 years of age**, who had had successive attacks of articular rheumatism for 10 years. The mitral valve was stenosed, the aortic valve insufficient, and in the posterior mitral leaflets there was a cavity containing an emulsion of fat with some calcium crystals, and a few compound granular cells. It represented therefore, an atheromatous degeneration. The color of the fluid was white instead of yellow. The interesting features are that the atheromatous process occurred in the interior of the valve, and in a girl of 15 years. 3. Hansemann defends his hypothesis of **anaplasia** against the criticisms of Beneke. He

maintains that although it is only an hypothesis, it explains a great many facts that, in the present state of our knowledge, cannot be better elucidated. [J.S.]

Revue de Médecine.

January 10, 1901. [21me Année, No. 2.]

1. The Course of Gravid Nephritis. E. GAUCHER and E. SERGENT.
2. The Regulation of Cardiac Movements by Systematic Exercise. FERNAND LAGRANGE.
3. Two Cases of Primitive Progressive Myopathy. L. SPILLMANN.
4. Study of the Localization of Symptoms in Sydenham's Chorea. G. ODDO.
5. Contribution to the Study of the Tendon Reflexes in Typhoid Fever. P. REMLINGER.
6. Traumatic Diabetes, Revealed by Anginoid Symptoms; with Some Reflections upon Traumatic Diabetes. P. VERGELY.
7. Purulent Hygroma Due to Gonococcus Infection. V. GRIFFON and L. NATTAN-LARRIER.

1.—E. Gaucher has shown in previous papers that all the toxic forms of **nephritis**, toxic infectious and autotoxic, while primitively epithelial often become of the chronic intestinal form. This author, in conjunction with E. Sergent, now undertakes to prove that gravid nephritis becomes also chronic intestinal nephritis presenting especially the *bruit de galop*, and the identical anatomical lesions. Gravid nephritis becomes identical to those forms of nephritis caused by slow and prolonged intoxication and should be classed with them. A few carefully studied cases are cited. [T.L.C.]

2.—Lagrange points out the necessity of carefully studying each particular case of **cardiac trouble** and regulating any systematic exercise upon the principle that the cardiac action is the resultant not of a single but of many forces, all of which must be taken into account. The article (not complete in this number) discusses with judgment the possibilities of helping certain cardiac cases and explains the rationale of the method. The effect of massage upon engorged veins is familiar to all and the effect also, upon the arterial system in the free circulation through the sluggish part, which must beneficially influence cardiac action. In cases of complete paralysis of one side, for instance, the systematic exercise of the well side will greatly assist in adjusting the circulation to the changed conditions. The influence of groups of muscles and their antagonists and the possibility of favorably changing the arterial tension are discussed. The value of deep, regular breathing upon the circulation is not underestimated, and the keynote of moderation in all systematic exercises to bring about a favorable result with the least effort is insisted upon. [T.L.C.]

3.—Spillmann reports 2 cases of **primary, progressive myopathy** in girl children of 9 and 7 years of age respectively. The cases present some interesting features. In the second case the atrophy began in the muscles of the calves, then invaded the thighs, lumbar region and trunk. In this case the atrophy was arrested at this level, but in Case 1 the muscles of the upper extremities were also affected, the face alone being exempt. These 2 cases resemble the type described by Leyden, Möbius, and Eichhorst. There seemed to be no hereditary tendency in these cases. In testing the electric contractility of the muscles, the excitability to the galvanic current was found diminished in both cases, but in the first case there was an abolition of faradic excitability in the extensors of both arms. This absence of faradic excitability of muscles which is present generally in lesions of the peripheral nervous system shows how great the difficulty is of separating these myopathies from amyotrophic conditions due to lesions in the medulla. [T.L.C.]

4.—Oddo in a paper (incomplete in the present number) has made an elaborate study of the **localization of the symptoms in Sydenham's chorea**. He summarizes the opinions as to the localization of the choreic movements. The movements are rarely general at the onset. They begin in the upper extremity, or the face; or rarely, in the lower extremity. They spread over the corresponding half of the body and finally attack the opposite side. Pure hemichorea is very rare. In Oddo's study of 144 cases, the onset was

general in 25 cases only. It was hemilateral in 111 cases of his series. Considering the disease at its height, Oddo found hemichorea in 24 cases; general symptoms with predominance of hemilateral symptoms were seen in 91 cases; symmetric general involvement was present in 29 cases. [T.L.C.]

5.—In a valuable contribution to the study of the **tendon reflexes in typhoid fever** Remlinger has found that in 32 cases out of 100 they are exaggerated; in 22 out of 100 they undergo no change; they are diminished in 17 cases out of 100, and abolished in 29 out of 100. There does not seem to be any constant relation between the type of the fever and the state of the reflexes. At times it appeared that exaggeration was present in grave cases, especially the **ataxic** and **ataxo-dynamic** forms. The preservation of the normal reflexes was noted especially in the benign cases and these with pronounced gastric symptoms. During the course of convalescence a marked tendency to exaggeration of the reflexes was observed. The epileptoid trembling of the feet was found in 20 cases out of 100, but it was less frequent than the exaggeration of the patellar reflex. It is often unilateral and often coincides with exaggerated tendon reflexes but it was observed at times in cases of normal, diminished or even absent reflexes. This tremulousness was observed especially after repeated percussion of the patellar tendon. He points out that this condition does not seem to manifest itself at the drop of the temperature, but often coincides with profuse sweats and polyuria and appears to deserve notice as a true critical phenomenon. The percussion of the tendon of Achilles sometimes provokes in typhoid fever an epileptoid trembling of the foot, which the author terms **Achilleian** to distinguish it from the ankle-clonus proper. He found at times a dissociation between the patellar reflex and the trepidation elicited from the tendon of Achilles. The epileptoid trembling of the knee is not rare in typhoid fever. It is found to be bilateral and always accompanies an increased knee-jerk. The author observed no single case of dissociation. The contralateral patellar-reflex (crossed reflex), the vertical shaking of the foot and toes elicited by percussion of the patellar tendon, is one of the rare, but extremely interesting, phenomena of typhoid fever. This movement is most marked in the limb percussed, but a decided movement of extension is also seen in the opposite leg. The cutaneous reflexes of typhoid fever present no particularly interesting changes. Only the plantar cutaneous reflex has been studied. The dissociation between the exaggeration of the tendon reflexes and the epileptoid trembling does not appear to be explicable upon the ground of the localization of the hyper-excitability of the medullary center of ankle-clonus; by the physiological abolition of the tendon reflexes; or, finally, by the cortical origin of the epileptoid trembling and the medullary origin of patellar reflex. That the tendon reflexes are true reflexes, the contralateral patellar reflex proves conclusively. Explanation of the epileptoid trembling is simple, if we regard them as simple idiomuscular contractions. [T.L.C.]

6.—Vergely reports the case of a woman, aged 68 years, of good family history, who sustained a fall upon the chest and abdomen. The injury was slight and no traces were present on examination. Some 3 years before the accident she had lost her husband and the shock had proven a great one to her nervous system. Some hours after the fall the symptoms of **angina pectoris** set in. This condition was relieved and was soon followed by polyuria and great thirst. Passive congestion of the lungs also developed. Sugar was present in considerable quantity and the nervous symptoms increased in severity. There were no indications of glycosuria before the accident, although the urine was not examined. The heart, upon examination, presented no gross lesions, but the arteries were somewhat sclerosed. Vergely gives an excellent resumé of the literature of traumatic diabetes and gives copious bibliography. Vergely concludes indirect traumatism often induces diabetes in predisposed persons. The onset of unusual nervous symptoms following trauma of this nature should lead us to expect traumatic diabetes and the urine should be examined carefully. Anginoid attacks are common in diabetes and also demand careful investigation as to the possibility of the presence of this disease. [T.L.C.]

7.—Griffon and Nattan-Larrier report from Dieulafoy's clinic a rare case of **hygroma**, purulent in nature, in which the presence of **gonococci** was established definitely. The

patient, a woman of 40 years, entered the hospital with agonizing pain in the lower extremities; a tumefaction was present in the region of left hip. It was found by careful, repeated examinations that the swelling was located between the fascia lata and the great trochanter. Fluctuation was soon observed and exploratory puncture performed. The material withdrawn was thick and purulent, and examination by cultivation revealed the presence of the gonococcus in pure culture. [T.L.C.]

La Semaine Médicale.

January 9, 1901.

1. General Review: The Action of Yeasts Introduced into the Digestive Tract. P. NOTÉCOURT.
2. Practical Surgery: Technic of the Operation of Empyema. MAURICE CAZIN.

1.—Attention has lately been recalled to former observations dealing with the **action of yeasts** introduced into the **digestive tract**. The view is held by many that the yeasts possess favorable action upon certain conditions and serve as valuable therapeutic agents. Notécourt has reviewed the experimental work done upon the subject. Many difficulties arise in the prosecution of the investigations, but there is a certain unanimity of opinion upon many points. It has been determined that the best range of temperature for their development is between 30° C. and 35° C., but fermentation is still possible at 45° C., so that the body-temperature is satisfactory for their action. The saliva is found to have no unfavorable influence. However, the action of the gastric juice presents a double problem. It must be determined whether the gastric juice destroys the yeasts and secondly whether they are able to produce fermentation in the presence of the gastric juice. The alkalinity of the stomach contents after a meal is no bar to the action of fermentation which we know can proceed in an alkaline medium. It has been determined that the gastric juice has an unfavorable action upon the yeasts, but not to the point of preventing the passage of a certain proportion of the yeasts, still active, into the intestine. When the yeasts reach the intestines we have to consider besides the alkalinity above referred to, the action of the bile, pancreatic secretion, and the microorganisms present in the contents. It has been proven that the presence of the bile greatly retards the action of many forms of yeasts; the action of the intestinal juices and pancreatic juice is not as certain. Effects of microorganism have not been systematically studied, but it has been found generally that the vitality of yeasts is not sensibly affected by their presence. The yeasts are able to supply the necessary oxygen for their existence by deriving it from the sugars. It is to be remembered that oxygen may be found free in the stomach. It is found necessary, in order to provide the most advantageous medium for the development of yeasts in the digestive tract, to give a liberal supply of sugar with the yeasts. After ingestion of yeasts it is found that the motor activity of the stomach is decreased, that the production of hydrochloric acid is retarded, but that pepsin is present in sufficient quantities. The effect of yeast upon the intestinal contents with special reference to the utilization of sugar is of importance in diabetes for the reason that in the presence of the yeasts, a patient may partake of liberal hydrocarbon diet without increase of the glycosuria. Certain yeasts are found to act unfavorably upon certain microorganisms (in experiments performed *in vitro*), to have no effect upon others, and to even increase the activity of the microorganisms in a few, as, for instance, the bacillus pyocyaneus. Notécourt and others claim a decided lessening of certain **toxins**, especially of **diphtheria**, when yeasts have been given. Large quantities of yeast (witnessed in beer poisoning) produce diarrhea, vomiting, fever, and coma. This is probably due to the evolution of carbonic acid gas and the poisonous effects of this gas. In animals abdominal distention and asphyxia are observed. Among the diseases attributed to the effects of alcoholic fermentation are dilatation of the stomach, acute gastrointestinal catarrh, chronic gastritis and anthrax. Yeasts have been used therapeutically in furunculosis, with or without diabetes, in enteroptosis, in gastrointestinal disorders of infants and in the infectious fevers. The results have been unsatisfactory in

many cases. The necessity arises for experimentation as to which varieties of yeasts are to be employed and the precise rationale of the action. [T.L.C.]

2.—Maurice Cazin contributes a paper upon the technic of the operation of empyema. He advocates the use of local anesthesia and employs a 2% solution of cocaine in a syringe of 2 grams capacity. Perfect local anesthesia is obtained in fifteen minutes. In limited encysted effusions the area of dullness itself will give us the point of election for operation. In general effusion the polleurotomy should be performed at the posterior axillary line at the ninth interspace. The technic of the operation follows. The writer points out the importance of free drainage and recommends flushing the pleural cavity, with aseptic or mild antiseptic solutions, except in the case of gangrene of the pleura. [T.L.C.]

January 16, 1901.

1. Potain,—Obituary Tribute. P. TEISSIER.
2. On the Semeiological Value of the Variations in Timbre and Intensity of Abnormal Heart-Sounds, and the Influence of the Ventricular Elasticity on the Closure of the Mitral Orifice. POTAIN.

2.—Potain in one of the last works of his pen, discusses the semeiological value of the variations of timbre and intensity of abnormal cardiac bruits, with especial reference to the part played by the ventricular elasticity and the closure of the mitral orifice. He briefly narrates the well-established fact that valvular lesions give rise to bruits which serve us as guides of the precise valvular defects present, and mentions the part played in the modification of these murmurs by the varied states of the superimposed lung. The valvular closure is produced by the systole of the ventricles, directly for the auriculoventricular valves and indirectly for the sigmoidal, and the fall and shock of the sigmoidal is caused by the arterial pressure which acts upon their superior surfaces, and this arterial pressure being the work of the ventricular systole it is always this systole which brings about the closure of the orifices and the valvular sounds, and by the intensity of this ventricular systole is determined the intensity of the bruit. Potain calls attention to the accessory causes not generally taken into account which may modify the bruits. The first mitral sound especially is modified by the cushion of blood as well as by the superimposed lung interposed between the heart and the chest-wall. It is generally laid down that hypertrophied states of the ventricular wall attenuate the sounds, while simple dilation augments them. Potain, however, shows that there are manifold variations of this rule; for the augmentations or diminutions are often transitory and cannot be attributed to constant organic changes. Again, the blood-wave in the vessels is often strong, while the valvular sounds appear weak and this is a curious alteration which the state of the ventricle will not explain. Potain seeks the cause in the modification of the mechanism of valvular closure. He holds that the closure of the mitral valves is determined by the elasticity of the ventricle, which fact accounts for the variation in intensity of the first sound, and he further suggests that an analogous explanation may be given for alterations of the second sound. [T.L.C.]

January 23, 1901.

1. Thoracic Pain in Peritonitis Following Perforation of the Stomach. M. J. L. FAURE.

1.—Faure has observed the symptom of thoracic pain in the peritonitis followed by perforation of the stomach. In his first case the pain was at first of sharp, violent character, and confined to the stomach, then radiating to a point below the left shoulder. The patient presented signs of abdominal distention with general abdominal tenderness, but no appreciable point of maximum intensity. Laparotomy was performed, and the lesser cavity filled with pus, which appeared to come from the region of the appendix. Free drainage was established, and the patient died 5 hours after operation. At postmortem a perforation of the stomach was found. In his second case, sharp pain from a similar condition was felt between the shoulders. Autopsy following the operation which showed the presence of a general peritonitis, confirmed the diagnosis of perforation from gastric ulcer. Faure

concludes that acute morbid conditions of the abdominal viscera and, in particular, perforation of the stomach are often accompanied by thoracic pain, either dorsal, scapular, or intrascapular. In cases of general peritonitis of undetermined origin, the recognition of this symptom is of the greatest importance. We should make the most careful inquiries as to the existence of this pain at any time during the disease. Such knowledge would indicate the point of election for the surgical incision. [T.L.C.]

Révue de Chirurgie.

January, 1901. [21me Année, No. 1.]

1. Ligation of the Abdominal Aorta. P. TILLAUX and P. RICHE.
2. The Treatment of Infected Wounds. OSCAR BLOCH.
3. The Study of Osteomalacia. G. GAYET and L. M. BONNET.
4. Phlebitis of the Left Leg with Appendicitis. EUGENE VILLARD and PAUL VIGNARD.
5. Ectokelostomy. VITRAC.
6. Some Remarks Upon a Case of Obturator Hernia. PIERRE FREDET.

2.—Only since Lister, have infected wounds been well treated. Naturally in every case the best result would be union by first intention, though union by second intention is often the best result obtained. All wounds contain microbes, yet infected wounds often heal by first intention. To prevent the growth of microbes in retained secretions, **antisepsis and drainage** are necessary. Bloch recommends the use of carbolic acid as an antiseptic. Dressings applied should always be **sterile**, and **drainage** should always be **adequate**. After being dressed, wounds must be kept immobile. The only general treatment advised is the use of the salicylates, with stimulants when necessary. The use of Marmorek's antistreptococcic serum, while probably innocuous, has not yet been proved so. Therefore Bloch does not advocate its use. [M.O.]

4.—After mentioning the occurrence of pleurisy, hepatitis, and psoriasis with **appendicitis**, Villard and Vignard have recently observed two cases complicated with **phlebitis of the left leg**. The first case occurred in a man aged 26 years. Three months before he had had his first attack of appendicitis. The second attack lasted 5 days, after which he was operated, the appendix, which was very long, being removed. On the day following the operation he complained of pain in the left leg. The next day dyspnea and fever began, followed, a day later, by the appearance of a marked phlebitis. Cough with bloody expectoration followed. Soon all the signs of a pulmonary infarct were found. The second case was very grave, with purulent appendicitis and phlebitis of the left leg following operation. Two other cases are also reported. Of these four cases 2 died. There would be nothing extraordinary in thrombosis of the right femoral vein. But it occurs more frequently on the left side, which is explained as a distant manifestation of the general infection, appendicitis. It is evidently metastasis through the circulation. Its occurrence as a complication in appendicitis makes the prognosis unfavorable. Its treatment is the same as for ordinary phlebitis. [M.O.]

5.—Ectokelostomy is an operation by which the sac of a hernia is kept open with drainage, the whole being displaced through a counter-opening in the abdominal wall, the hernia being then cured radically. Vitrac has performed ectokelostomy twice in women aged 54 and 84 years. Both had **strangulated femoral hernia**, and both recovered with excellent results. Cocain was used for one, the other, however, was done without any anesthetic. Vitrac describes the technic of the operation, dividing it into 6 steps; opening the hernial sac, and freeing it from all adhesions; making an incision into the abdominal wall, through which the hernial sac, after being freed from the anterior abdominal wall, is drawn; placing a drainage tube in the sac, protruding through the abdominal wound; performing the operation for the radical cure; and finally removing the drainage tube. By this method, all exudate in the peritoneal cavity is well drained off, and at the same time the drainage does not interfere with the radical cure of the hernia. Eight illustrations explain the technic of the operation. [M.O.]

6.—This **obturator hernia** was not discovered until

after death, upon the cadaver. No clinical history is known. After a detailed description of this hernia, Fredet concludes that obturator hernia may have a double sac. If this is the case, they are produced inside of the umbilical artery. The outer sac is supplied by the prevesical fascia. This explains the anatomic connection between the bladder and the hernia. The possibility of the production of the hernia inside the umbilical artery presupposes the presence of an artery, sometimes permeable, above and outside the neck of the hernia. The hernial sac, when in the subpubic canal, may cause painful, paralytic phenomena in the sphere of the obturator nerve; which phenomena decrease when the hernia emerges from the subpubic canal; yet the external obturator nerve may stop the hernia, so that it move behind the external obturator muscle. [M.O.]

Archives de Médecine des Enfants.

January, 1901. [Vol. iv, No. 1.]

1. Lithemia in Children. JULES COMBY.
2. Leukocytosis in Pneumonia and in Diphtheria. P. HEIM.
3. Empyema in Children. BÉZY and BAUBY.

1.—The symptoms of lithemia in children are so varied that they are not diagnosed positively without study, especially with reference to ancestry. For the children of gouty parents have a decided tendency toward the lithemic diathesis. After quoting cases reported by Ratchford and Whitney, Comby details 15 case-histories showing the many different symptoms found in lithemic children. He then classifies the symptoms under 7 headings, considering the most important **periodic headache**, and **cyclic vomiting**. The symptoms suggest a grave auto-intoxication, but the history of gout in the parents soon leads to the diagnosis of lithemia. The urine shows high specific gravity, with an excess of urea and uric acid. Hygiene, exercise, regular meals with little meat, and alkaline waters constitute the main treatment. [M.O.]

2.—The leukocytosis in croupous pneumonia and diphtheria in children depends upon the virulence of the microbes and their toxins, and the reaction of the organism to them. From 19 cases of croupous pneumonia, in which Heim counted the leukocytes, the result was a constant increase of the leukocytes up to one or two days before the crisis, when they fell suddenly again to normal. When lysis occurred rarely, the leukocytes decreased gradually also. Hypoleukocytosis is always a serious prognostic sign, though not necessarily fatal. All the cases showed a great increase in the neutrophilic polynuclears, with a relative decrease in the lymphocytes. **Eosinophiles are absent in croupous pneumonia**, only appearing a day before the crisis. This will help to differentiate croupous pneumonia, meningitis, pleurisy, and tubercular pneumonia, in which diseases the eosinophiles are abundant. In diphtheria the leukocytosis may be extreme, Heim having seen 28,080 in one case. The leukocytes increase very rapidly, even before the membrane appears. Then they decrease gradually. If complications exist, the leukocytosis persists. Injections of antidiatheritic serum decrease it, but it rises again later. If the leukocytes do not decrease in number after a serum injection, enough serum has not been given. The polynuclear leukocytes are increased, with a proportionate decrease in the lymphocytes. Eosinophiles are very few in pure diphtheria, but are seen if the throat condition is due to streptococcus. If the polynuclear neutrophils remain above 50% the day after the serum injection, the prognosis is grave. [M.O.]

3.—Bézy and Bauby report 3 cases of empyema in children. The first case occurred in a boy of 4, who had a sudden attack of dyspnea, following a few weeks after pneumonia. As there was distinct movable dullness on the left side, he was tapped, two liters of pus, which showed pneumococci, being removed. A week later he was again tapped and a liter of pus removed. Operation followed, with drainage, and he recovered in another week. The second case, a boy of 9, had empyema on the left side following typhoid fever. He was tapped and operated on at once. The yellow pus contained streptococci and colon bacilli. He also recovered. The third case, a boy of 30 months, had had diarrhea for over two months when dullness was noted upon the apex of the right lung. When ready to tap him, he vomited a

cupful of pus which contained streptococci, staphylococci, and colon bacilli. He continued to expectorate pus, but recovered gradually in two months more. These histories are discussed in full. [M.O.]

Journal de Médecine de Bordeaux.

February 3, 1901. [31me Année, No. 5.]

1. A Case of Penetrating Gunshot Wound of the Abdomen. M. HASSLER.
2. Subdural Serous Cysts Following Cranial Injury. F. VILLAR.
3. Mercurial Injections in Syphilis. A. GUÉRIN.

1.—The patient, a native bugler of the Fourreau-Lamy expedition in Africa, received his first wound in the right leg, and his second, upon the same day, in the abdomen. The wound was dressed at once, and he was taken to camp in a canoe. He was kept at rest for 23 days. Then, as camp was moved, he started, mounted upon an ox, which method of locomotion caused him so much pain that he got down and walked, supporting himself upon his gun. **Six weeks later he reached Bordeaux.** A probe was introduced into the fistula, which had existed since he had been shot, and the bullet was found. No skiagraphs were made. He was thin and anemic; otherwise, however, in good condition. The bullet, weighing 20 grams, was extracted with difficulty. The intestines were not opened, the entire fistulous tract being dissected out. He recovered in 6 weeks and left for his African home. This case was of great interest, because the bullet had a steel casing; because its deformity showed that it had already struck once and had then been deflected; and because calcareous particles and bits of clothing were found in the abdominal fistula. [M.O.]

3.—Guérin describes the different preparations of mercury which can be given hypodermically. He also details the doses and the technic of the injections. The soluble salts of mercury, the biniodid, benzoate, and bichlorid can be given in fractional doses, or calomel may be employed, though it may cause intense reaction at the seat of injection. **Guérin advises the administration of mercury in subcutaneous injections as a routine practice.** [M.O.]

February 10, 1901. [31me Année, No. 6.]

1. Unrecognized Cases of Whooping-cough. R. SAINT PHILIPPE.
2. Subdural Serous Cysts Following Cranial Injuries. F. VILLAR.
3. The Leukocytes in Cases of Cancer. AUCHÉ and VAILLANT.
4. A Foreign Body in the Rectum. A. FRAIKIN.

1.—Saint-Philippe says that pertussis may exist without the spasmodic cough, or the typical whoop. Sneezing may take its place, often. Râles are generally heard, and nasopharyngeal catarrh may be present, with adenoids. On account of its extreme contagion, and its ubiquity, he advises that every child with a longstanding cough be carefully watched. Children who expectorate are generally far advanced in whooping-cough. If pertussis be present, scratching the trachea will elicit a typical paroxysm. For the treatment, and to prevent the severe sequela, especially, minute scrutiny of all suspicious cases must be routinely practised. [M.O.]

2.—Villar details 2 cases of traumatic epilepsy, the attacks having occurred for the first time 14 and 4 years after the cranial injury. In both cases subdural serous cysts were found. They were caused by the traumatism, years before, which had set up hemorrhagic meningitis, the results of which these circumscribed serous cysts at the point of hemorrhage. The only treatment is trephining, with the evacuation of the cysts. In neither case was there a return of symptoms after operation. [M.O.]

3.—Leukocytosis is an acknowledged fact in cancer. Four cases are reported, the first, epithelioma of the tongue, gave 19,964 leukocytes; the second, scirrhus cancer of the stomach, showed 16,740 leukocytes; the third, rodent ulcer of the face of 7 years' duration, 5,890 leukocytes; and the fourth, a tumor of the abdomen, of unknown character, showed 21,700 leukocytes. The blood-examination in the third case, the rodent ulcer, showed the blood to be normal

in all respects. In the first 2 cases, the leukocytes were markedly increased in number, with a relative increase in the polynuclear leukocytes, and the lymphocytes. The count of the leukocytes in the last case suggests that the tumor may be cancerous, from the evident leukocytosis. [M.O.]

4.—Fraikin reports the case of a farmer, from whose rectum he extracted a brush-handle, without causing him any pain at all. After dilating the sphincter, with the patient in the knee-chest position, he caught one end of the wooden handle with difficulty, and slowly withdrew it. The farmer said that it had entered when he fell upon it from a ladder. He had had no symptoms, but the foreign body was easily felt through the skin. [M.O.]

Journal des Praticiens.

February 2, 1901. [15me Année, No. 5.]

1. Intravenous Injections of Normal Salt-Solution in Puerperal Hemorrhage. CHARLES MAYGRIER.
2. Post-Influenza Polyneuritis. BRETON.

1.—Maygrier gives detailed histories of 15 cases of hemorrhage treated by normal salt-solution injected intravenously, 7 of whom recovered. The other 8 died. In 7 cases, hemorrhage was due to vicious insertion of the placenta, to abortion, and to premature detachment of the placenta, each, in 2 cases; and it occurred with child-birth in 4 cases. The amount injected varied from 700 to 2000 grams. In many cases, subcutaneous injections were given besides. The indication for the injection is the severe anemia, the lowered general condition. Maygrier advises intravenous injections when subcutaneous injections have on effect, or when death seems imminent. They should even be repeated if necessary. [M.O.]

2.—Breton reports a case of polyneuritis in a chambermaid, aged 27 years, who was always nervous and excitable. She had had a distinct attack of hysteria some years previous. The polyneuritis appeared 3 months after an attack of influenza, and lasted 2 months. During the influenza, paralysis of the legs existed, but then disappeared. The neuritis affected both arms and legs. The left side was most involved. But the sphincters were at no time affected, and the muscular atrophy was slight. [M.O.]

Il Policlinico.

(Sezione Pratica.)

November 24, 1900. [Anno vii, Fasc. 4.]

1. Transactions of Congresses.
2. Contribution to the Study of the Rhythmical Shocks Imparted to the Head in Patients Suffering from Aneurysm. G. COCORULLO.
3. Contribution to the Diagnosis of Measles. G. MORANO.

1.—D'Urso (Italian Surgical Association, Rome, October, 1900) gave an account of experimental researches on the pathogenesis of hydronephrosis carried out on rabbits and dogs by ligature of the ureter. Rosa showed a case in which he had sutured with complete success a brachial artery wounded longitudinally during venesection by a phlebotomist. Bagi reported on 6 cases of tubercular peritonitis cured by the iodo-iodurate injections of Durante. Each injection contained from 1 to 2 cgr. of iodine, and from 22 to 90 injections were required to complete the cure in the different cases. Jaja described 4 cases of vesical exstrophy and 1 of epispadias treated by grafting the ureters into the rectum. The anal sphincters retained the urine well for 4 to 5 hours at a stretch. It was not found possible, however, to avoid ascending renal infection. Betagh presented 2 cases of papilloma of the urinary bladder diagnosed by aspiration of the vesical contents through a metal catheter. Diagnosis by the cystoscope was impossible owing to the turbidity of the urine from blood. Rizzo, arguing from the results of experiments on dogs, recommended the ligature of the spermatic vessels in cases of enlarged prostate, in place of division of the vas deferens. Pascale, from anatomical observations and experiments, drew the conclusion that in cases of hysterectomy for fibromyomata of the uterus, the ovaries, having already lost their function, may be removed in most cases without doing harm. In young women, however, he would leave them. At the Obstetrical and Gynecological Congress

(Naples, October 20-23) Pestalozza related 2 cases in which there was a recurrence of extrauterine pregnancy in the same patient, in 1 case for a second time. This recurrence is comparatively frequent in such cases, 108 of which he had collected from the literature of the subject. Clivio and Ferrari spoke on the subject of hematocele. [G.S.B.]

2.—Cocorullo describes a case of subclavian aneurysm exhibiting this phenomenon. The patient, a man 36 years of age, showed signs and symptoms pointing as was thought to aneurysm of the innominate artery, namely, asynchronism of the two radial pulses, an area of dulness higher up and more to the right than that usually associated with aneurysm of the aortic arch, and a double rhythmical movement of the head, vertical and rotatory. The autopsy revealed a dissecting aneurysm of the right subclavian and first part of the axillary arteries, proving that such rhythmical movements of the head are not peculiar, as is generally supposed, to aneurysms of the arch of the aorta. As to the cause of the movements, this varies according to the situation of the pulsating sac. In aneurysm of the arch they are due in part to the downward push given to the right bronchus and the backward push to the trachea (nodding movement); in that of the large intrathoracic vessels they result from the jar to the costal attachments of the scalene muscles and the clavicular attachment of the sterno cleido-mastoid (lateral rotatory movement). [G.S.B.]

3.—A short account of a series of cases of measles in which Koplik's sign was looked for. Of 15 infected persons, 10 (66%) showed the characteristic marks on the mucous membrane of the cheeks, from 2 to 4 days before the appearance of the general eruption. [G.S.B.]

December 1, 1900. [Anno vii, Fasc. 5.]

1. Why Was There an Increased Mortality from Diphtheria Among Children in Rome During the Present Year? L. M. SPOLVERINI.
2. On the Discovery of the Method of Rendering Animal Vaccine Bacteriologically Pure. T. R. DORIA.

1.—A study of the period extending from July 1, 1895, to May 31, 1900, shows that the introduction of the serum treatment of diphtheria into Rome reduced the case mortality of that disease from 60 or 70% to about 16%. At this latter figure the death-rate remained almost stationary during the first four years under consideration, when suddenly a sharp rise took place not only in the death-rate, which increased to over 28%, but also in the number of cases of diphtheria. The causes of this increase are to be sought in (1) previous illnesses predisposing to infection; (2) the localization of the infection; (3) the association with the bacillus of Löffler of other bacteria; (4) complications, especially intercurrent affections; and (5) the method of treatment. The predisposing disease in the present instance was measles, as is clearly shown in the statistical tables given, which also exhibit the marked effect it had upon the rate of mortality. Owing probably to the same cause there was an unusual percentage of laryngeal cases with a mortality of 34%. In the mixed infections (with streptococci, staphylococci, pneumococci, etc.) the mortality reached 40%. Of acute intercurrent affections, which, owing to measles, were twice as numerous as in previous years, the most deadly was bronchopneumonia (with a mortality of 70%). Anti-diphtheritic serum was employed exclusively in the treatment of all the hospital cases, but nevertheless the percentage of deaths was high, owing to delay in bringing patients to hospital and the consequent loss of time in commencing the injections. When administered on the first day of the attack, the beneficial effect of the serum is unfailing, but after the third day it has little or no power to influence the course of the disease. [G.S.B.]

2.—In the report by the *Lancet* commissioners on the conservation of vaccine lymph, April 28, 1900, it was stated that the merit of this discovery of the best method was due to Copeman, Chambon, and Saint Yves-Menard. By Doria this honor is claimed for Professor Leoni, formerly Director of the Vaccine Institute of Rome, who was the first to demonstrate that vaccine virus in the fresh state is contaminated by germs, and that these germs disappear in vaccine virus preserved with glycerin under certain conditions of temperature, after 3 or 4 weeks. Leoni's experiments determining this important fact were made, it is stated, in 1889. [G.S.B.]

Practical Therapeutics.

Smokers' Gingivitis:—

R.—Salol 1 part.
Tinct. catechu 4 parts.
Spr. menth. pip 120 parts.

M. ft. lotio. S. Teaspoonful in half a glass of tepid water as a mouth-wash.—*Indian Medical Journal, Calcutta.*

Digitalis and its Derivatives.—J. P. Arnold and H. C. Wood, Jr., *Amer. Jour. Med. Sci.*, Aug., 1900, found that:

1. Digitalin and digitoxin each represent the full circulatory powers of digitalis.

2. Digitalis, digitalin and digitoxin stimulate the cardio-inhibitory mechanism, both centrally and peripherally. In larger doses they paralyze the intrinsic cardioinhibitory apparatus.

3. They all cause a rise of blood-pressure by stimulating the heart and constricting the bloodvessels.

4. Very large doses paralyze the heart-muscle of the mammal, the organ stopping in the diastole.

5. Digitalin of Merck is a stable compound, 1 gram of it being equivalent to about 70 cubic centimeters (18 drams) of tincture of digitalis.

6. Digitoxin is not to be recommended for human medication on account of its irritant action, which makes it liable to upset the stomach when given by the mouth, or to cause abscesses when given hypodermically, and on account of its insolubility, which renders it slowly absorbed and irregularly eliminated, having a marked tendency to cumulative action.

Ointment for External Hemorrhoids.—

R.—Chrysarobin 15 grains.
Iodoform 5 grains.
Ext. belladonna 10 grains.
Vaselin 4 drams.

M. Ft. unguentum. Sig. Apply locally night and morning, first cleansing the parts well with water.—*New York State Journal of Medicine.*

Use and Abuse of Potassium Iodide in Ophthalmic Practice.—Dr. Albert Rufus Baker (*The Journal American Medical Association*, November 17, 1900) comes to the following conclusions:

1. Iodide of potassium should generally be administered in rapidly increasing doses until from 1 to 500 grains are given daily.

2. The drug should always be given after eating, and well diluted with water.

3. Frequent hot baths are essential to the best results in the use of the remedy.

4. Not infrequently large doses will be tolerated when smaller ones can not be well taken.

5. The use of the large dose is not limited to syphilitic cases.

6. Large doses are indicated in optic neuritis, ocular paralysis, choroiditis, serous iritis and in relapsing iritis, cyclitis and interstitial keratitis.

7. It is contraindicated in gray atrophy of the optic nerve and in most cases of postneuritic origin.

8. Albumin in the urine, generally speaking, is a contraindication for large doses of iodide.

9. Young children do not take the iodide kindly and it should be administered cautiously.

10. The remedy is of doubtful value in early syphilitic iritis.

11. Large doses are of doubtful utility in the removal of postoperative exudates, but should be given further trial.

Diuretic in Cardiac and Renal Dropsy.—

R.—Fl. ex. jalap. } of each 4 drams.
Fl. ext. squills. }
Fl. ext. jaborandi 1 ounce.
Fl. ext. digitalis 30 drops.
Nitrate of potash 5 drams.
Angelica wine 2 ounces.

Sig.—A teaspoonful every 3 hours

—*Med. Cycl. of Pract. Med.*

To Preserve Cocain.—

R.—Cocain hydrochl 4 grains.
Acid salicylici ½ grain.
Aqua destil 3 drams.

—*Jour. de Med. de Paris.*

The Therapeutic and Diagnostic Employment of Suprarenal Preparations in the Upper Respiratory Cavities.—

Mosse (*Die Therapie der Gegenwart*, 1900, No. 12) has employed suprarenal extract in various cases of nose and throat diseases. Immediately upon application of the remedy a local anemia takes place which lasts but a few hours. While the practical value of the remedy in these diseases is only a limited one as far as therapeutics are concerned, it is, however, of some diagnostic importance. For this purpose it can be used in conjunction with probes instead of cocain, wherever it is to be determined whether the disease of the nasal mucous membrane is due to hyperemia or to increase of tissue.

Early Cough and Fever in Pneumonia.—

R.—Potassium citrate 6 drams.
Spirit nitrous ether 4 drams.
Camphorated tincture opium 4 drams.
Solution potassium citrate, to make 6 ounces.

Dessertspoonful every 3 hours.

—*HUGHES (St. Louis Clinic.)*

The Treatment of the Paroxysmal Stage of Whooping-cough.—

Godson (*British Medical Journal*, November 3, 1900), as the result of a collective investigation, found that in the treatment of whooping-cough the drugs commonly employed and chiefly depended upon were antipyrin, belladonna, bromides, carbolic acid, creosote, and opium, while as accessory and occasionally useful drugs chloral hydrate, quinin and butyl-chloral-hydrate were mentioned. The antispasmodics are always combined with expectorants, of which the alkalies are the greatest favorites. Inhalants appear to be in general use, the ones referred to being carbolic acid, creosote, bromoform, and chloroform. None of the answers that were received were enthusiastic except from those who had used creosote. The simplest and best method of administration is to sprinkle the drug on a cloth, and hang the cloth in the sickroom or nursery to dry. The method of treatment that the author has found most satisfactory is the following: Commence at once with the continuous inhalation of creosote. Clear the lungs of bronchitis as much as possible before using any special internal antispasmodic remedies. In bronchopneumonia, however, belladonna appears at once to do good. In all cases, if or when the chest is fairly clear, and the circulation is good, antipyrin may be given in suitable doses. Expectorants should be combined with the antipyrin. Good air, warm clothing, sunlight, and wholesome food are necessary in all cases.

To Remove Cerumen.—Dr. Godart, of Lyons, recommends for the removal of pluglets of ear wax:

R.—Pure carbonate of sodium... 1.00.
Glycerin 20 c.c.
Distilled water 20 c.c.

A few drops are inserted several times a day, followed by injections of water.

Dyspepsia.—Sir T. Lauder Brunton, in the *Clinical Journal*, emphasizes the following points in instructing patients troubled with dyspepsia:

1. Eat slowly, masticate and insalivate thoroughly. And, if necessary, follow Sir Andrew Clarke's rule—count the bites.

2. Take the solids and liquids separately, so as not to dilute the gastric juice nor weaken the digestive ability of the stomach.

3. If necessary, let the patient take his farinaceous food and the proteids at different meals.

4. The best fluid is hot water, taken early in the morning and an hour or two before lunch and dinner.

a. Alkalies before meals stimulate secretion of gastric juice.

b. Acids before meals check acid secretions of the stomach.

c. Where the food remains in the stomach an unusual length of time lavage should be resorted to.

Original Articles.

THREE DANGEROUS OPERATIONS.

Repair of Lacerated Cervix, Curettement and Rapid Dilatation of the Cervix.

By JOHN B. DEEVER, M.D.,

of Philadelphia.

Surgeon-in-Chief to the German Hospital.

THIS paper is intended as a protest against the indiscriminate use and abuse of three operations in surgery, which in themselves are excellent procedures and capable of accomplishing much good and the relief of suffering. We cannot, therefore, condemn the operations, but, as is very often the case, they are performed without due deliberation and knowledge of the indications and contraindications.

Curettement, rapid dilatation or divulsion of the cervical canal and repair of a lacerated cervix call for mature judgment and skill for their instigation and performance. It would be difficult to say from which one of the three the greatest amount of harm has accrued, probably from curettement, although divulsion is very frequently followed by untoward symptoms.

A lacerated cervix in women who have born children is so common that it may be considered as more of a normal than pathological condition. In the absence of special indications, such a cervix had better be let alone, for to operate under these circumstances subjects the patient to useless risks without a commensurate reward.

If, however, a lacerated cervix be extensive enough to permit gapping of the edges and consequent exposure of the cervical mucous membrane to injury, or if ulceration be present, or if the scar-tissue is hard and in excessive amount, or if any of these conditions give rise to subinvolution or marked reflex symptoms, then operation is indicated. If, in addition to any of the above conditions, there is a history of hereditary tendencies toward malignancy, we have the strongest indication for operation. A patient with a family history of carcinoma presenting the above conditions should, in my opinion, be operated upon at the earliest possible moment, and this should be repeated after subsequent labors if the cervix be again torn, as it is likely to be.

As strong as these indications are for operative interference, we are not justified in instituting them unless there is freedom from all pelvic inflammatory processes or their results. Salpingitis, pyosalpinx or adhesions offer strong contraindications.

Under these circumstances, abdominal section for the correction of the intraabdominal trouble should follow immediately the repairing of the lacerated cervix. If the cicatricial tissue in a lacerated cervix involve the supravaginal cervix, it may be sometimes impossible to remove it entirely except by high amputation of the cervix with freeing of the bladder and rectum; if under these circumstances there is a history of a hereditary tendency to malignancy, or if the patient be near or undergoing the menopause, vaginal hysterectomy may be considered the more rational procedure.

In the presence of endometritis, great care must be exercised to prepare the endometrium if this be possible prior to the narrowing of the cervical canal, so as to provide adequate drainage, or in other words, to decrease the discharge so that the new and narrow canal will carry it off.

Equally as important is it to carry out every aseptic detail during the operation and antiseptic preparation of the field of operation in any one of the three operations under discussion, as it is in any in the realm of surgery.

That these operations are capable of converting a latent salpingitis into an active one, every abdominal surgeon of experience can testify. It can be brought about in one of several ways; first and most important, by the introduction of sepsis through instruments or intrauterine douching, or the spread of sepsis from an infected uterine cavity, or by the breaking up of peri-uterine adhesions, liberating septic foci which have been imprisoned.

Adhesions can be torn by bringing the uterus down to the vulvar orifice; the tenaculum should only be used to steady the uterus and not to make traction during dilatation or repairing of the cervix.

Washing out the uterus, except in septic conditions, also plugging the uterine cavity with iodoform gauze, I regard as vicious practices, which in themselves are too often capable of exciting inflammation in the fallopian tubes. Even in septic conditions of the interior of the uterus, the intrauterine douche should be very carefully done and the packing introduced for the purpose of drainage and not to its exclusion. Curettement of the uterine canal is a dangerous operation and one which calls for great delicacy of touch and the most rigid observance of aseptic and antiseptic details. The indications for its performance are positive, although one should never forget the contraindications.

The indications are for the correction of septic conditions of the cavity of the uterus, both acute and chronic. In the acute form of endometritis, which is post-puerperal infection as a rule, we curet with propriety; to remove retained foreign matter, we must beware of the great danger of uterine perforation, an accident which can and does happen with the most startling ease. In chronic endometritis curettement, the persistence of the disease and the constant danger of tubal infection and peritonitis, or lymphatic infection and peritonitis, makes it an operation of wisdom in many cases. We should, however, have in mind the likelihood of the lightening up of a latent salpingitis, or latent sepsis in some other locality and be prepared to complete the operation by removal of the foci of pelvic inflammation.

If the discharge arising from an endometritis shows the presence of gonococci, curettement is positively contraindicated, for it is certain that such a procedure will most probably lighten up an active gonorrhea which shows marked tendency to spreading and consequent tubal involvement.

When the indications for curettement are established, then the operation should be done with an intelligent thoroughness which will leave no portion of the cavity untouched by the curet. The so-called moral effect of an operation accomplishing good, I think is bosh; certainly any improvement is but temporary. Again I think the supposed curative effect of operations *per se* should be relegated to the absurd dogmas of the Christian Scientists. If the surgeon by logical reasoning cannot arrive at the conclusion to operate in a given case, then he had better let it alone; an operation should be attempted only to remove an existing pathological condition, and not one which is simply supposed to exist, or which might exist.

There is a doubt in my mind as to the reliability of

the information derived from an examination of specimens curetted from a uterine canal in which malignant changes are suspected. It is very difficult to make a positive diagnosis, oftentimes, between chronic benign lesions of the uterine mucous membrane and early malignant changes; and then the specimens are necessarily small and fragmentary and interfere with a satisfactory examination.

The advantage of such knowledge, when reliable, is inestimable, but nevertheless it can only serve as an adjunct to the clinical diagnosis and must of necessity play a secondary part. The ability to make a diagnosis from a curetted specimen is only acquired by a highly specialized training of brain, eye and fingers.

In advanced carcinoma of the cervix, where other and more radical measures are impossible, curettement followed by the application of the cautery is indicated and will lessen the patient's discomfort.

Flexion of the uterus combined with endometritis in the absence of adhesions indicates dilatation followed by curettement.

Dilatation of the cervical canal is an operation which offers a fruitful field for the ambitious surgeon. It is devoid of cutting and is practically bloodless and therefore appeals to a patient. If it was not so dangerous and inefficient, I might be induced to sanction it and perform it more often than I do. Recently America's greatest gynecologist said to me that a dilatation of a cervix caused him greater anxiety for the first days following an operation than would a bad pus section or hysterectomy.

Slow dilatation by sponge tents, even though protected by a sterilized rubber cot, or by gauze or sponge packing, offer, no advantages over divulsion and is attended by much greater risks of sepsis. I would especially condemn the attempts, and I say attempts advisedly, to dilatation in the physician's office, as it is a most dangerous and useless practice. Divulsion should never be done except under complete anesthesia and with the most rigid observance of aseptic and antiseptic precautions. Antiseptic preparation of the vagina is as important here as it is for a vaginal hysterectomy; the vulva should be shaved, and the vulva and vagina after preparation should be protected by iodoform or sterile gauze. The operator and all assistants and nurses should wear sterile rubber gloves.

Dilatation is indicated in dysmenorrhea due to cervical stenosis, as a preliminary step to curettement when there is a displacement of the uterus which is not adherent, and when there is an absence of pelvic or tubal inflammation, either active or latent.

Divulsion for stenosis of the cervix is at best an unsatisfactory measure, as it frequently fails to meet and overcome the condition. It is often necessary to repeat the operation several times before relief is afforded. After the first divulsion, in addition to the stenosis, we have the rigid scar-tissue to deal with, and here it is comparatively easy to lacerate the cervix.

Frequently relief is not experienced at the first menstrual period following the operation, so that we should not be too hasty in repeating the measure, but should wait until the evidence of failure is positive.

Dilatation as a method for the correction of flexions of the uterus must be classed among the surgical failures. I have never been able to satisfy myself that it has accomplished the slightest bit of good.

Upon the recognition of one condition, an infantile uterus in a woman suffering from dysmenorrhea will

or should demonstrate the futility of attempting to restore a cervical canal by dilatation in an organ which is congenitally defective. Operation under such circumstances is always attended by failure, because the source of the trouble is the result of the abnormality of the uterus itself or in conjunction with its adnexa. This is also true of the other congenital malformations of the uterus, viz., the bicornate uterus, etc.

We have tried to point out the various dangers and possible contingencies which may arise in the performance of these three operations, and in a general way to show the methods to overcome them and to carry the procedures to a successful issue.

For the sake of emphasis, allow me to run over the points again.

First of all, the antiseptic preparation of the field of operation; the vulva should be shaved and prepared by soap and water, permanganate of potash and oxalic acid, bichloride of mercury, and carbolic acid solution, and protected by a pad of sterile gauze. The vagina by the use of soap and water, bichloride, and carbolic solution and iodoform gauze packing. During the operation every rule of aseptic detail must be adhered to; sterile instruments and gauze, linen, blankets, etc., and hands protected by sterile rubber gloves.

I am a firm believer in rubber gloves, because they not only diminish the risk of infection, but they protect the surgeon; you cannot boil the hands, but you can boil gloves, and thus be sure of the only absolutely reliable method of sterilization. If it be necessary to simultaneously perform a vaginal operation and abdominal section, it is very easy to change gloves and thus be sure of sterility.

This leads me to a renewed warning in regard to operations on the cervix or its canal in the presence of a latent or active inflammation or adhesions binding the uterus down. As has been said, it is the part of wisdom to correct both conditions at the same time.

By the repeated performance of surgical operations, and the consequent attention to aseptic precautions, one develops a habit of being surgically clean, and it seems to be a fair proposition that such a habit will insure a greater degree of success than can be expected by the estimable gentlemen of our profession who operate occasionally, and who are in constant contact with those diseases which have a special predilection toward sepsis and septic infection. I would therefore advise that these three operations should be confined to the realm of surgery, and not be classed as work which is the duty and prerogative of the general practitioner of medicine.

ON THE DESIRABILITY OF COMBINED OPERATIONS IN PELVIC AND ABDOMINAL SURGERY.¹

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TWENTY-FIVE years ago, when pelvic surgery was yet in its swaddling clothes and the *terra incognita abdominalis* was just opening up new fields to the adventurous, all operations along the sexual tract were viewed with

¹ Transactions of Third Pan-American Medical Congress, Havana, February 4-8, 1901.

interest, while an abdominal section was recognized as an event of no little importance.

The advent of Listerism and the subsequent evolution of aseptic surgery revolutionized methods and rendered undertakings possible which, theretofore, had hardly entered into the wildest speculations of the ultra-radical, until today, from the accumulated experience of the past, nearly every part and organ of the body may be invaded with greater or less impunity. In reviewing the history of the development of abdomino-pelvic surgery during the quarter century just closed, however, while one cannot but be filled with admiration at the great advancement made and the wonderful results accomplished in this particular line of work, the question naturally intrudes itself, Have the achievements of the immediate past led to an overboldness of action, and has enthusiasm and the confidence begotten of fancied security in anesthesia, asepticism and technic betrayed into the overlooking or ignoring of the best interests of the afflicted individual?

The patient resorts to the surgeon with one object in view, the relief of somatic suffering or inconvenience, and expects from him honest dealing in the accomplishment of this end. Does the surgeon, therefore, fulfil his duty to the patient if he but partially effects the service which he is expected to render?

There is, I feel sure, no one of experience but will answer these questions in the negative and point to facts for corroborating evidence. Assuming then, that the surgeon undertakes only that which he is authorized to do for the patient's good, in his endeavor to bring about the results desired, how much is he justified in attempting, and how may he determine the limit at which safety ends and danger begins to assert itself; the point where benefit shades into positive injury?

Among gynecological patients it is usual to find not one, but a number of abnormal conditions or defects present, each of which has a definite bearing on the individual's health and comfort, and demands a distinct operation for its relief or cure. Shall these various conditions be attacked successively at the same sitting, shall the different operations be performed at intervals, or shall certain parts be restored while others are left untouched? Clinical experience and pathology have taught that the best results cannot be awaited from the attempted restoration of one surgically diseased part when lesions of associated structures are allowed to continue undisturbed; in other words, in associated morbid conditions, the harmony and adjustment of all the disordered elements must be collectively reestablished in order to bring about the perfect restoration of the individual defect. Obviously, then, if we are to effectuate the charge placed upon us by the patient, the combined operations indicated must be carried out in order to fulfil the requirements of the case, and this is, I believe, the practice of most operators at the present time.

By the unfamiliar, however, the performance of several operations at the same sitting is often looked upon with astonishment and doubt, and frequently censured as unwarrantable, the onus, in the event of untoward result, being visited upon the surgeon.

In order that this question may be definitely settled by weight of authority, so seemingly unimportant a subject is brought to the attention of this congress.

In summing up the evidence in favor of combined operations it may be said, experience has demonstrated on the one hand, that several operations performed at

the same sitting do not compromise the life of the patient to any appreciable degree; that the extra time, within reasonable limits, required for the execution of the various procedures does not necessarily augment the dangers to be anticipated from any surgical act; that repair in the individual parts involved goes on as uninterruptedly and successfully and that convalescence is as rapid and satisfactory as when but a single uncomplicated operation is performed. While, on the other hand, following the passing of the ordeal, the patient's mind remains tranquil and undisturbed by the dread of possible future treatment and the fear of the anesthetic, convalescence is not retarded by the presence of morbid structures or conditions left behind, and recovery is not partial but total and complete.

In the opinion of the writer, therefore, in every instance, whatever is necessary should be done, whether the conditions lie within the pelvis, the abdomen, or both; and the limit of execution should be gauged only by the general condition of the patient, her behavior under the anesthetic, and the inherent dangers of the operations to be performed. These, together with experience, skilful operating, strict asepticism and watchful care of the patient, are the *sine qua non* of success.

URINARY HYPERACIDITY.

A Consideration of Cases with Symptoms Suggestive of Cystitis, But With No Infection, Due to This Cause.

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of Baltimore, Md.

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It is of course a well-known fact that certain symptoms of cystitis are found in a variety of other conditions in which there is no vesical infection. Thus, increased frequency of micturition either alone or associated with somewhat burning, slightly painful micturition is noted during the use of a number of drugs, such as copaiba, cubebs, camphor, salicylic acid, cantharides in small doses (large doses bring about acute cystitis), etc., etc., and also during the course of many fevers due perhaps to the noxious substances eliminated, perhaps to the increased concentration of the urine. There is also a well-recognized series of cases in which the symptoms are distinctly referable to certain pathological conditions in the organs and tissues adjacent to the bladder. Thus, a marked relaxation of the vaginal outlet, the presence of large uterine myomata or ovarian cystomata, a condition of pelvic peritonitis due to a variety of conditions with the formation of adhesions between other organs and the bladder, these and other conditions tend to produce an irritated or congested condition of the bladder which in its turn is productive of somewhat frequent and occasionally painful micturition, often associated with the presence of a few pus or red blood-cells in the urine.

The cause of the urinary symptoms, however, in all these cases is easily recognizable and the symptoms may be abated by proper attention to the causative agents; thus in the former series of cases the condition disappears with the cessation of the special form of medication, while in the second series of cases the removal of the offending tumor, the separation of adhesions, the lifting up of the relaxed outlet, or the

removal of a protruding uterine polyp will cause a complete cessation of the symptoms.

There is, however, another class of cases in which no definite cause for the suggestive symptoms other than a general neurasthenic or neuropathic tendency can be given, and it is in reference to a certain class of cases of this nature that this communication will treat. In these cases the vesical irritability is produced by a distinct hyperacidity of the urine, and so far as I know this is the first communication in which this has been shown beyond a doubt to be the etiological factor in the production of such a condition. In connection with my bacteriological study of the infections of the bladder, I was frequently struck by the fact that many of the symptoms of cystitis, frequent burning micturition often associated with the presence of a few pus or red blood-cells in the urine, was found in a certain class of cases where a study of the urine demonstrated that there was no infection present. In testing the reaction of the urine in the first of these cases that was presented to my observation, it was noted that the blue litmus was colored an extremely bright red. It was therefore regarded as possible that the symptoms might be directly referable to an increase of the acid or the acid salts in the urine; this hyperacidity in turn producing a distinct irritation of the vesical mucous membrane and the symptoms already mentioned. To determine this definitely, I have made a quantitative determination of the total acidity of the urine in all cases presenting such a symptom-complex without any definitely assignable cause. The method I have employed has been the titration of 10 ccm. of the freshly catheterized urine with a one-tenth normal solution of sodium hydroxid, phenol-phthalein being used as an indicator. Although this method is not quite so exact as the more complicated one of Freund, where the estimation is based upon the quantitative determination of the acid phosphates present, nevertheless it is comparatively quite exact and furnishes us with a fairly accurate criterion of the total quantity of acids and of acid salts present in a given quantity of urine.

A series of normal cases was also taken to determine the average acidity of normal urine which we have designated as 10. Since the inception of these estimations, 9 cases have been met with, in all of which the symptoms were distinctly referable to a hyperacid condition of the urine. All these cases presented the characteristic symptom-complex, although the symptoms were much more marked in some cases than in others; all complained of frequent, painful burning micturition of greater or less extent; in the more marked cases quite sufficient to absolutely simulate a true cystitis and frequently to have deceived the attending physician into believing it to be of such a nature.

A cystoscopic examination in all the cases in which it was made showed a marked injection and hyperemia of the trigonal area in the bladder, in some cases of a maximum degree, and sometimes in these cases associated with a lesser hyperemia of the mucous membrane adjacent to that of the trigonum; these latter cases were those in which the symptoms so completely simulated those of a true cystitis.

The urine always contained pus cells, usually in very small number, although occasionally quite a considerable number were present, a few red blood-cells and some bladder epithelial cells; cultures of the urine were always sterile. In many of the cases the upper portion of the urethral mucous membrane was injected.

The acidity of the urine in these cases, determined by the method described above, and upon the basis of 10 as the normal acidity, was respectively 27.5, 30, 20, 31, 30, 49, 21, 31, 29; that is, in all these cases the acidity was at least twice, and in one, nearly five times as great as normal. It was also a noteworthy fact that the gravity of the symptoms, the degree of the injection of the trigonum, and the number of pus and red blood-cells present in the urine stood in direct relationship to the degree of the acidity. Thus in those cases in which the acidity was 49, 31, 31, and 29, the symptoms were such as to distinctly simulate a true acute cystitis of an infectious nature; the frequency of micturition was so great as to necessitate urination every 1 to 3 hours during the night, and $\frac{1}{2}$ to 3 hours during the day, while the painful and burning sensation in these cases was very marked. In several of the cases, the patients definitely localized their pain in the trigonal area of the bladder, and in the upper portion of the urethra. Four of this series of cases had been definitely diagnosed by their physicians as cases of cystitis, and had been sent so us for treatment for that condition. There was no local pelvic trouble whatever in any of these cases.

Although the increased acidity seemed to be the undoubted local cause of the condition, the cases were carefully considered to see whether some general cause could not be found which in turn could account for the hyperacidity. Obviously because of the chronic character of these conditions, peculiarities of diet could not be regarded as a cause, and this was also shown by the very slight effect that different varieties of diet seemed to have upon the symptoms. It was noted, however, that all of these cases occurred in young girls, or in young married women, in all of whom there were marked neurasthenic, neurotic, or hysterical manifestations, and in many distinct stigmata of these conditions. It was also noted by the patients themselves that anything which tended to render them more nervous, such as prolonged excitement, prolonged mental or physical strain, or violent emotional disturbances, markedly increased the symptoms, while if the life they led bordered upon one of extreme simplicity, the symptoms were much ameliorated. The result of the treatment of these cases also justified us in the belief that, although the vesical symptoms were distinctly referable to the urinary hyperacidity (probably somewhat increased by the increased irritability of the bladder, as well as all the other organs seen in neurotic or neurasthenic conditions), the hyperacidity in turn was directly referable to the general neurasthenic, neurotic, or hysterical condition; in other words, this hyperacidity was a urinary neurosis of neuropathic origin. The treatment was designed thus both to counteract the local hyperacidity of the urine and to correct as far as possible the underlying neurosis, neurasthenia, or hysteria. For the first, alkalies were administered by mouth in sufficient quantity to render the urine neutral or alkaline; in some cases a comparatively small amount of alkali was all that was required for this purpose (potassium citrate or potassium bicarbonate, 15 to 20 grains, 3 times a day); in other cases, however, the hyperacidity was so great that the administration of as much as 100 grains of the alkali daily was necessary to render the urine neutral; to correct the general condition, the usual treatment of rest, freedom from excitement, plenty of sunshine and fresh air, overfeeding, and a general attention to all the various bodily functions was carried out. Strychnia was administered in most of the cases, while in some a

veritable rest cure, associated with cold packs and massage, was found to be necessary.

In the 4 cases in which this treatment was carried out in full the symptoms disappeared quite rapidly; it is highly probable, however, if the patient relapses into her previous neurotic condition, that the symptoms, both local and general, will reappear. This was definitely seen in one case who was entirely free from all symptoms for 6 months subsequent to the cessation of the treatment, when, after a prolonged course of excitement and social dissipation, the symptoms returned, although less marked than when seen the first time. The patient was placed upon the same line of treatment as before and the symptoms rapidly abated.

In considering this neurosis of urinary secretion, it was thought probable that it was, in a certain way, analogous to the gastric hyperchlorhydria which is often associated with hysteria. Although, of course, vesical irritability in neurotic individuals has been described frequently, hitherto, so far as I know, the determination of urinary hyperacidity as an etiologic factor has not been described before.

I have dwelt upon this condition not only because of the interest attached to any of the secretory neuroses that are met with, but also, and perhaps mainly, because of the absolute necessity of correctly diagnosing the condition. If the condition is correctly diagnosed, proper medical treatment can bring about a complete cure in the majority of cases without any local treatment of the bladder whatsoever; if, on the other hand, a wrong diagnosis is made, and the condition is regarded as a cystitis and treated as such, often a real infection of the bladder will be set up by the long-continued use of irrigations and local applications, that are so usually employed, and the second state of that woman will be much worse than the first. To show that this is no idle warning, I need simply mention that at least 5 of the cases of chronic cystitis that have come under our observation owe their origin to the misinterpretation of this condition. Two of these cases were in young girls and, in them both, the cystitis which was directly consecutive to the treatment for what was undoubtedly but a simple case of vesical irritability probably due to urinary hyperacidity, was of so serious a nature that life had been rendered practically unbearable in both cases for many years, while the bladder now is in such a condition of ulceration and contraction that a cure, if it is obtained at all, will only be reached after the most protracted and painful course of treatment.

CASES WITH SYMPTOMS OF CYSTITIS BUT NO INFECTION, DUE TO HYPERACIDITY OF THE URINE.

CASE 1.—Hysterical young woman, extremely nervous, teaches school and has to be on her feet most of the time; condition persisting for 3 years, always getting markedly better during her vacation. Symptoms: At first, only frequent desire to urinate, later (for past year) pain and burning sensation in bladder. Symptoms are aggravated by cold, overexertion and nervous strain. Examination: Trigonum deeply injected; right floating kidney. Urine: A few pus cells and epithelial cells, no albumin, extremely acid (acidity, 27.5). Bacterial examination: Sterile. Treatment: Alkalies by mouth; hygiene; rest cure. Result: Cured. Patient seen 6 months later, has no trouble of this nature; whenever any tendency towards frequent urination appears, takes alkalies by mouth and rests more and condition is relieved.

CASE 2.—Neurasthenical woman of 28, with many hysterical manifestations. Symptoms: Scalding and frequent urination for past 6 or 7 years with pain in bladder. Examination: Intense hyperemia of trigonum and upper

urethra. Urine: A few pus cells and epithelial cells, occasional red blood-cells, no albumin, very acid (acidity, 30.0). Bacterial examination: Sterile. Treatment: Alkalies by mouth; cold packs, hygiene, rest cure, scarification of trigonum.

CASE 3.—Intensely neurasthenical married woman of 38, with myomatous uterus, retroflexion of uterus, and right floating kidney, and nervous gastritis with hyperchlorhydria. Bladder showed intense reddening of trigonum. Urination was frequent and somewhat painful (in mouth of urethra). Urine: A small number of pus cells, no albumin, very acid (acidity, 20), specific gravity, 1.005, very pale in color; sterile. Treatment: Myomectomy, suspension of uterus, double salpingectomy. Subsequently hygienic treatment, alkalies by mouth. Result: Symptoms entirely disappeared for more than 6 months, when the patient attempted to do too much, when the symptoms and hyperacidity returned. She was given the rest cure with alkalies by mouth and the symptoms again disappeared.

CASE 4.—Nervous woman of 31, complaining of nervousness, headache, and pain in the back of the neck, and painful and frequent micturition (urinates 4 to 5 times at night), and irritable bladder. Examination: Hyperemia of trigonum. Urine: A few pus cells, no albumin, very acid (acidity, 31.00), sterile.

CASE 5.—Complaint: Irritable bladder and frequency of micturition. Examination: Injected trigonum. Urine: Occasional pus cells, no albumin, very acid (acidity, 30.0); sterile.

CASE 6.—Married woman of 25, very neurotic. Three years ago, six days after marriage complained of frequency of urination, and later also of a tender spot in the bladder and dysuria. These symptoms have continued since then, and the patient has had the urethral sphincter dilated, the tender spot touched with various substances, and the bladder washed out. Examination: Intense scarlet injection of the trigonum, especially on left side. Urine: A few pus cells, occasional red blood-cells, no albumin, intensely acid (acidity, 49.0); sterile. Treatment: General hygienic treatment, touching spot with silver nitrate, alkalies by mouth (it required 100 grains of potassium citrate per day to render the urine neutral or alkaline). Result: Marked improvement (patient still under treatment).

CASE 7.—Married woman of 33. Severe instrumental delivery three years previously, since which time she has frequently used the catheter to withdraw her urine. During this time she has had considerable pain on urination, increased by cold, with a severe attack of vesical pain with fever two years ago. Examination: Deep injection with some ulceration at vertex of bladder. Urine: Very occasional pus-cells, no albumin, very acid (acidity, 21.0); sterile.

CASES 8 and 9.—Office patients seen but once, each complaining of frequent and somewhat burning micturition, and in each of whom cystoscopic examination revealed a deeply injected trigonum. Urine: A few pus cells, no albumin, very acid (acidity of Case 8, 31.0; acidity of Case 9, 29.0); sterile.

MULTIPLE BRAIN ABSCESS FOLLOWING EMPYEMA.*

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of Washington, D. C.,

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JUSTIFICATION for this report is sought, first, in that brain abscess from pulmonary disease is not very common, and secondly, in that while an abscess may be caused by disease of either lung or pleura, it more usually results from the former.

H. P., male, aged 22, was first admitted to the Garfield Memorial Hospital on May 26, 1899.

The patient had had the usual diseases of childhood, and typhoid fever 5 years before admission. While in Cuba during July, 1898, he contracted malaria, from which he thought he had never fully recovered. In September of the same

* Read before the Medical Society of the District of Columbia, November, 1900.

year he began to have a dull pain in the left side, which had not left him. A short time before admission (date not noted), he awakened one morning with a sharp, piercing pain in the left side, which was increased by motion and inspiration. He had a slight chill, and a dry cough set in.

On admission the temperature was 100.4° F., pulse 120, respiration 52. Dyspnea marked, pain in cardiac region severe. The expression was anxious, and there was slight cyanosis. The tongue was lightly coated. The vessels of the neck pulsated visibly, and there was marked pulsation in the third, fourth, and fifth interspaces on the right side of the sternum, which could be seen as far out as the right nipple line. No pulsation could either be seen or felt to the left of the sternum. Anteriorly, on the right, dullness began at the third rib and extended downward into the liver and toward the right for 3 inches from the midsternal line. On the left dullness began at the third rib and extended downward to costal border. The axillary region was so exquisitely tender as to render examination by percussion impossible. Posteriorly the flatness extended from 2 inches above the angle of the left scapula to the base of the lung. The upper level of the dullness was but slightly, if at all, altered by change of position.

The heart-sounds were distinct over the sternum, but were very faint at the normal position of the apex. The respiratory sounds were harsh over the right lung, and over the apex of the left, becoming tubular over the normal position of the heart. There was also tubular breathing over the area of flatness posteriorly. The diagnosis of left pleural effusion was made. The patient's condition was such as to demand immediate relief. Therefore, on May 27, paracentesis was performed in the seventh interspace midaxillary line. There seemed, however, to be some obstruction to the flow, and only a small amount of straw-colored fluid was drawn off. No cultures were made. The patient experienced slight relief, but two days later his suffering was so intense that I requested my colleague on the surgical side, Dr. A. A. Snyder, to see him. We decided it would be best to attempt paracentesis again and, failing in that, to incise and drain.

I will here anticipate criticism by saying that we were fully alive to the great probability of converting a serofibrinous pleurisy into an empyema, but the patient's condition was so serious that it seemed to be but a choice of evils, the left chest being nearly full of the exudate, and the heart pushed over until it occupied the position on the right, which it normally occupied on the left. There was extreme pain in the cardiac region, with cyanosis and dyspnea.

Dr. Snyder found it necessary to resort to incision. It would seem likely from the facts that the fluid came in such small quantities through the canula and so slowly even through the drainage tube, that there must have been adhesions which allowed the fluid to escape with difficulty. The following day the patient was more comfortable, the temperature and pulse had fallen, but the respirations were still frequent. For four days the condition was somewhat improved, the temperature not rising above 100.8° F. The fluid also gradually decreased, draining slowly into the dressing. The pain in the left side and over the præcordia, however, was so intense as to require morphia almost constantly. On June 1 the fever increased, took on the hectic type, and it was found that the wound had become infected. Two weeks later an empyema having developed, Dr. Snyder under chloroform-anesthesia made a 3½-inch incision over the seventh rib midaxillary line on the left side. After dissecting the periosteum away a 2-inch section was removed without injury to the intercostal artery. The pleural sac was opened and a large quantity of thin pus was evacuated. After flushing with hot salt-solution a tube was introduced and the wound partially closed with silkworm gut. Improvement was marked and the course of the case uneventful until June 24, when the temperature again went up and became hectic in type. This condition of affairs went on until September 20, when Dr. J. Ford Thompson performed the Estlander operation, resecting portions of the fifth, sixth, and seventh ribs in the midaxillary line. The seventh rib which had been resected minus the periosteum by Dr. Snyder had reformed. Quite a large pus pocket was evacuated and free drainage instituted. In three days the temperature fell to normal and the general condition rapidly improved. The patient was discharged on November 15, 1899, practically cured, except for a small sinus which he

returned to have dressed every few days. His condition was excellent, flesh was rapidly gained and he began to drill at the armory.

On December 9, H. P. was again admitted, complaining of having had on December 6, three days before, a chill associated with headache, high fever, nausea, and profuse sweating. On December 8 there had occurred a second chill, fever, headache, etc. Since that the pain in his head had not left him and was described as being intense, extending over the entire cranium and down into the back of the neck. Vomiting occurred whenever food was taken. The bowels were constipated. Temperature was 103.2° F., pulse 120, respirations 24. The patient was admitted to the surgical side with the idea that the existing condition was due to a reaccumulation of pus in the chest, but as Dr. Thompson was not positive upon this point he requested me to see the case daily until we could come to a definite conclusion.

Examination showed a flushed face, anxious expression and a clean tongue. The heart-sounds were normal and the organ had returned to its normal position. The left side of the chest was shrunken somewhat and the signs indicated a much retracted lung. The spleen was enlarged and there was abdominal tenderness. The urine showed a specific gravity of 1.031, acid reaction, albumin one-third by bulk and a few hyaline casts. The usual remedies for headache failed to relieve. Morphia produced sleep.

December 11.—Headache intense, nausea continuous. Temperature, 100.2° to 103°.

December 12.—Delirious, refused nourishment, vomited frequently. Ice-cap gave no relief to intense headache. Temperature, 100° to 102°; pulse, 70 to 80.

December 13.—Wildly delirious, tried to get out of bed, headache severe, sweating freely. Temperature at 8 P.M., 98.4°; pulse, 80; respirations, 26.

December 14.—Patient seemed much worse. Temperature, 104.4°. There was for the first time rigidity of the neck. Death occurred at 3.40 P.M.

During the attack there was no paralysis, no strabismus, no inequality of the pupils. Unfortunately there was no ophthalmoscopic examination.

The autopsy showed multiple abscess of the brain, a very small area of basal meningitis, parenchymatous nephritis and beginning degenerative change in the liver-cells.

The foregoing history well illustrates an insidious onset and rapid progress to a fatal result, which is by no means uncommon in cases of brain abscess.

The left pleural cavity was entirely obliterated except for a small sinus leading backward from the opening in the side for about 3 inches. This sinus seemed to be quite clear of any discharge save a thin seropurulent fluid. The adhesions were so firm in the neighborhood of the resected ribs as to require the use of a knife to separate the lung from the ribs. From about the sixth rib downward the diaphragm was adherent to the costal pleura, but could be easily separated.

The left lung was congested and felt solid, containing but little air. The right lung appeared to be in a normal condition.

The pericardium contained about 100 cc. of clear straw-colored fluid. The heart was large but very soft and flabby. Upon the mitral valves there were a few very minute areas which macroscopically suggested a beginning endocarditis.

The stomach and intestines were much distended but showed nothing worthy of note. The liver was pale and rather soft but no abscesses were found. The spleen was much enlarged, dark and friable and was adherent to the diaphragm and ribs.

The kidneys were very large and deeply congested.

Upon the removal of the calvarium the meninges were found to be deeply congested, but there were no signs of a meningitis upon the vault. In removing the brain as the optic nerves were being severed, yellowish-gray pus gushed out from the middle fossa. Upon turning the brain upon its superior surface and pressing upon the temporal lobes pus welled out of a ragged opening in the inferior surface of the right temporal lobe. Shaving away thin sections of this lobe disclosed the fact that the ventricles were enormously distended with pus. The velum and choroid plexuses were swollen, congested and covered with pus. The excessive pressure in the ventricles had evidently caused the pus to burrow through the right temporal lobe and show itself in the middle fossa of the skull.

The brain tissue was then freely incised and numerous abscesses varying in size from a small shot to an olive were found. The abscesses were far more numerous in the frontal than in the middle and occipital lobes, which probably accounts for the late appearance of symptoms. None was found in the pons nor in the cerebellum. The only indication of basil meningitis was about the optic commissure.

The cerebral tissue was soft, deeply congested and moist in many areas of varying size. Especially was this the case in the neighborhood of the larger collections of pus. The staphylococcus pyogenes aureus and streptococcus pyogenes were found associated in the pus from the abscesses and also in blood from the heart cavities.

Dr. J. B. Nichols, pathologist to the Garfield Hospital, has furnished me with the microscopic findings in the kidneys, spleen and liver.

The kidneys showed a marked and typical condition of parenchymatous degeneration or cloudy swelling. The epithelial cells of the secreting portions of the uriniferous tubules were swollen, granular, and showed indistinct outlines and their nuclei were absent. The remaining structures were normal. The spleen was practically normal. The liver cells showed a moderate degree of cloudy swelling, their nuclei not staining as deeply as normally and the cells being in places somewhat swollen.

There seems no reason to doubt that the abscesses in the brain were metastatic from the old empyemic fistula. Why abscesses should form in the white matter of the brain and not in the other organs, as the spleen, liver, kidneys, etc., is difficult to explain. There is, however, in these cases but little tendency to the general pyemic state. As to the frequency with which abscess of the brain becomes a complication of lung disease, we read that of 76 cases of brain abscess collected by Gull and Sutton, "Reynold's System of Medicine," Vol. 2, page 568, there were 9 due to disease of the lungs or pleura. Of these 3 resulted from empyema.

The following list of 58 cases of brain abscess resulting from primary lung disease, shows that empyema as a cause is second only to bronchiectasis.

1.—Bronchiectasis, 20 cases.

Three cases reported by Naether, *Deutsch. Arch. f. klin. Med.*, 1883-84.

One each by Holzhausen, Meyer, Oppolzer, Bath, Hutchinson, Curshmann, Löhmman, and four by Biermer, quoted by Fuchs, "Gehirnabscesse nach primären Lungenleiden."

Two by Pfungen, *Wiener med. Blätter*, 1883, p. 181.

One by Sainbury, *Lancet*, October 12, 1889.

One by Caley, *Trans. of the Path. Soc.*, London, vol. 35.

One in the *Jahr. d. Wiener K. K.*, 1895, p. 456.

One by R. T. Williamson, *Med. Chronicle*, Manchester, 1893-94, p. 423.

2.—Empyema, 10 cases.

One case by Nather, *loc. cit.*

One by Almgren (von C. H.), *Schmidt's Jahrbücher*, vol. 207-208.

Two by Gull and Sutton, *loc. cit.*

One by Bettenheim, *Deutsch. Arch. f. klin. Med.*, 1884.

One by Chapt (Jos.), *Bull. de la Soc. Anatom. de Paris*, 1892.

Three by Hadden (W. B.), *St. Thomas' Hospital Reports*, vol. 17.

My own case.

3.—Purulent bronchitis, 9 cases.

Two by Nather, *loc. cit.*

One each by De Caines, Peterson, Senator, and Meyer and three by Pontoppidan, quoted by Fuchs, *loc. cit.*

4.—Gangrene, 7 cases.

Naether, two, *loc. cit.*

Huguenin, one, *Ziemssen's Cyclopaedia of the Practice of Medicine*, vol. 12.

Virchow, Meyer, Hoffmann, each one, quoted by Fuchs, *loc. cit.*

Brettner (H.), one, "Ein Fall von Gehirnabscess und Lungengangrän."

5.—Tuberculosis, 5 cases.

Meyer, Biermer and Robertson, each one, quoted by Fuchs, *loc. cit.*

Gull and Sutton, one, *loc. cit.*

Fagge, one, quoted by Williamson, *loc. cit.*

6.—Lung abscess, 3 cases.

Böttcher and Virchow, one each, quoted by Fuchs, *loc. cit.*

Steesse, one, *Med. and Surg. Report*, Presbyterian Hospital, 1898, 3.

7.—Pneumonia, 2 cases.

Bamberger, one, quoted by Huguenin, *loc. cit.*

Finley and Adami, one, *Montreal Med. Jour.*, 1893-94.

8.—Gunshot wound of lung, 2 cases.

V. Mosetigsmorf, one, quoted by Fuchs, *loc. cit.*

Esbridge and Parkhill, one, *New York Med. Jour.*, 1895, lxii.

One point which is of considerable interest from a prognostic point of view, is whether in these cases the abscess is more likely to be single or multiple.

We read in Allbutt's "System of Medicine," p. 363: "Abscess of the brain is a consequence, not very uncommon, of empyema. The abscess is usually single and occupies either the occipital or temporosphenoidal lobe; in a few rare cases many abscesses have been found."

Of seven cases, the reports of which I have read, there were four multiple and three single. Two of the cases reported by Gull and Sutton were in hospital records which were not obtainable here. With the addition of my case, which was multiple, the balance would seem to be considerably in favor of the multiple variety; making five multiple to three single in eight cases. In case of multiple abscess, of course, surgical interference becomes practically useless.

I am indebted to Drs. Snyder and Thompson for the history of the case while under their care.

THE USE OF THE AQUEOUS EXTRACT OF THE SUPRARENAL GLAND IN PERSISTENT EPISTAXIS.

By LEWIS S. SOMERS, M.D.,

of Philadelphia.

ONE of the most annoying and at times serious incidents in the treatment of nasal disorders and occurring as a symptom during the course of some general diseases is the presence of continuous or intermittent nasal bleeding. In the majority of cases of epistaxis, the flow of blood is readily controlled by simple measures or ceases of itself within a short time, while in a much smaller number the bleeding is apt to be persistent and while local applications fail to modify it in the least degree, packing of the nares will apparently control the bleeding as long as the mechanical pressure is retained, but when it is removed the hemorrhage quite often starts afresh. When the bleeding comes from a definite point on the septum and resists the ordinary astringent applications, the actual cautery will almost instantly control the hemorrhage, but by this method a portion of the tissues must of necessity be destroyed and it is not unusual to have secondary hemorrhage when the eschar comes away, necessitating further applications for an indefinite period. The iron salts have probably been used more than any other remedies, but they are irritating, form a clot and are decidedly septic.

It is not my purpose to mention the long list of drugs and procedures used with varying success for the control of nasal bleeding, but to emphasize the results obtained from the suprarenal gland, especially in those cases of epistaxis extending over a long period of time,

and in which the usual gamut of procedures have been used and proved unavailing. The desiccated suprarenal gland of the sheep, being composed in great parts of animal matter, readily undergoes putrefactive changes when moistened, and in this form should not be used in the nasal cavities unless the conditions are very urgent, when it may be blown in the bleeding chamber either dry or made into a semifluid mass with water. Under any circumstances, however, when used in this form it should not remain *in situ* for more than 10 or 12 hours, or infection with local and systemic disturbances will take place.

This has previously been noted by Bates,¹ who states "that in severe nasal hemorrhage it is often difficult to reach the bleeding surface with the extract, if applied by spray or cotton on a probe, and in some cases it is necessary to syringe a 10% emulsion into the nares before the bleeding ceases. Tampons wet with the solution should not be left in the nose, because infection occurs in a few hours with vascular disturbance and secondary hemorrhage." I have not in any of my cases seen secondary hemorrhage occur from the presence of the adrenal extract in the nose, and when it does take place one cannot ascribe it to the adrenal, *per se*, but it occurs as a result of infection from putrefactive changes in the aqueous solution or desiccated powder which has been allowed to remain in the nasal cavity for too long a time. These untoward results should, however, not be considered, as they never take place if a properly prepared antiseptic solution be employed as a vehicle for the suprarenal. Unfortunately, the addition of a number of antiseptics or preservatives to the aqueous solution of the gland will seriously impair its efficiency and its maximum physiological results will not be obtained. However, by adding 1 grain of pure carbolic acid to a dram of sterile water containing 10 grains of adrenal and then filtering through paper, a solution is obtained that retains its maximum efficiency and is both sterile and permanent. I have used this formula for nearly 2 years and always find it reliable, but still more preferable is the same solution to which has been added a sufficient quantity of eucain to make a 1, 2, or 3% solution.² By this latter one attains not only the full vasoconstrictor action of the adrenal but an anesthetic action as well.

Theoretical studies of the suprarenal gland would indicate that it possessed qualifications rendering it superior as a local hemostatic and vasomotor constrictor to all other remedies, and on practical observation this is found to be the case. It has no effect on the blood itself—that is it does not produce a clot—but within a few seconds after it has been applied to the mucous membrane, blanching of the surface ensues and from its remarkable constricting action on the muscle fibers of the vascular walls, the small arterioles contract to such an extent that it is impossible for the blood to flow through them.

This may be well illustrated by the following case in which no bleeding had previously occurred, therefore differing from the class especially referred to here, but which I wish to record again as demonstrating this phase of the drug.³ The patient was a boy of 14 years, who came to my clinic with a severe attack of epistaxis, commencing but a few moments previously. The blood was freely escaping from nostrils and mouth and the patient stated that it had commenced from the left nasal chamber. Assuming that the hemorrhage was due to a rupture of the anterior artery of the septum, as is

most frequently the case, a small pledget of cotton saturated with the adrenal solution was placed over this region, as the parts could not be seen on account of the profuse flow of blood. This was allowed to remain undisturbed for a short time and then the nostril was thoroughly sprayed with the same solution and at the expiration of a few minutes the parts were cleansed with a simple alkaline solution, the flow of blood having ceased in the meanwhile. It could then be seen that all evidence of hemorrhage had disappeared and what was formerly a bleeding area was completely exsanguinated and the vessels firmly contracted, no clot remaining to later become detached and cause secondary hemorrhage.

What one may designate as chronic or persistent epistaxis is exemplified in the case reported by Lermitte⁴ of a boy, 6 years of age, who had epistaxis at almost daily intervals for two years; frequently there would be several attacks a day, some lasting for an hour or more. A long list of measures were tried on this case without the least results until by the use of local applications of the suprarenal gland the bleeding ceased and did not return.

These cases of long-continued nasal bleeding frequently assume a most unfavorable aspect, the general health of the patient becoming seriously impaired and a high grade of anemia developing. In addition to the general impoverishment of the system, the constant nasal bleeding and especially the inefficient measures used for its relief, produce alterations of the nasal mucosa, and on the slightest irritation the hemorrhage is renewed afresh.

The following case is of considerable interest both on account of the duration of the hemorrhage, the inefficiency of the usual remedies, and the prompt and permanent results obtained from the local applications of the suprarenal gland.

F. M., salesman, age 30 years, was first seen on October 26, 1899, when he stated that his nose commenced to bleed on July 1, previous. The bleeding was from the right side and there was at least one hemorrhage every day and very often this would occur two and three times daily. He would be awakened at night by the warm blood flowing down his throat, and the attacks of bleeding would last from one to four hours. A number of drugs and various measures were used, without avail. His general condition was poor, he was anemic, weak, and at times had attacks of vertigo, especially marked after the epistaxis had been profuse and excessive. There was a general hypertrophic catarrhal condition of the nasal interior and pharynx; the left side of the septum was normal while the mucous membrane over the right anterior cartilage was congested and irregular, bleeding on the slightest touch. The vessels of this portion of the nasal chamber were larger than normal, but they did not appear to be of an angiomatous character and there was no history of hemophilia or previous attacks of epistaxis. At his first visit a thin pledget of cotton was saturated with the adrenal solution and placed over the entire bleeding area of the septum, without pressure and without interfering with respiration through the affected nostril. He removed the cotton the following morning and bleeding did not recur until five days later, when he had a profuse hemorrhage at night, lasting for three hours and finally ceasing spontaneously. He was then directed to place a small piece of cotton in his nostril each evening, saturated with the solution. From this time on the adrenal was applied at infrequent intervals and the septum became pale in color, and the previously enlarged vessels were hardly perceptible. He reported at frequent intervals with no bleeding, until November 21, when the septal mucosa had entirely changed in appearance and was covered with normal epithelium, and did not bleed when touched with a probe, nor was it unduly sensitive. He has been seen at intervals during the past year, and the epistaxis

has not recurred, while his general health has decidedly improved.

Of a minor grade as to frequency, duration, and the amount of nasal bleeding, is the following case which responded admirably to the adrenal solution.

E. R., male, age 7 years, was first seen May 2, 1900. He had never had any nose or throat symptoms, nor nasal bleeding until April 25, 1900, when he had a profuse epistaxis from the right side. This took place during the night, and the week previous to when he was seen, he would have from 2 to 3 attacks daily. With but slight exceptions, there was an almost continuous flow of blood from the nose for 1 week. At times it would only be a few drops, but more frequently, a steady stream would flow from the nostrils. His general health was good, except for the anemia already present from the loss of blood, and the rhinopharynx was normal, except the anterior cartilaginous portion of the septum, which was red and granular, the vessels dilated and bleeding on the slightest touch. The blood appeared to ooze from all parts of this portion of the septum, and did not come from any large vessel. Adrenal was applied on cotton as in the previous case, other methods having been used without avail, and his mother was instructed to drop several minims of the adrenal solution into the affected nostril twice daily. This was discontinued in a few days, and the bleeding has not recurred, while the affected tissues are pale in color, perfectly smooth, and can be handled with considerable roughness without the least evidence of bleeding.

When the suprarenal gland is used in these cases and in any nasal pathological condition characterized by congestion and erosion of the mucous lining, the results obtained clearly indicate that it possesses a still further action than that of vascular constriction, and this is shown by the rapid changes taking place in the physical condition of the parts. The erosions heal and a general nutritive tone is given to the tissues that no other local remedy seems to possess. This has been noticed in all my cases in which the nasal conditions indicating its use were present and, therefore, in addition to the drug being the most remarkable vasomotor constrictor that we possess, it is also of great value for its local nutritional effects, and its power of acting as a pure muscle tonic.

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THE BIO-CHEMICAL BASIS OF PATHOLOGY.

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At the meeting of the Hospital Graduates' Club, held May 27, 1898, I had the honor to present a paper bearing the above title, in which paper were embodied certain results obtained in laboratory work in the field of biological chemistry, together with some deductions as applied to pathological conditions. In that paper the hope was expressed that the outcome of researches then under way might warrant the early presentation of a further paper under the same title, which would substantiate the correctness of these deductions. That there have been many disappointments, with apparently meager reward for much hard work, may go without the saying for those of my fellow-members who may have essayed investigations in this exacting field in conjunction with general medical practice. A profound faith in the future of this comparatively new

field of research is offered as sufficient justification for presenting this paper.

Until within the past few years our knowledge of pathological conditions has been limited to macroscopical and microscopical findings. While such knowledge is essential—in fact, further progress would be impossible without it—and too high praise cannot be awarded to the workers in that field, it may be safely stated that, except in the working out of disputed and, in the main, minor details, morphology has practically reached its limit in the field of research. We must go back of structure and form in order to determine the causes for the now well-recognized variations in detail.

If we accept the time-honored teaching that all pathological processes, whether those involved in tissue structure or in the modifications in composition and character of the body-fluids, are originally only deviations from normal physiological routine, we are obliged to conclude that the real secrets of disease-action must be sought back of and precedent to histological and morphological change. In other words, nutritional disturbances and perversions must antedate change of structure from the normal.

Therefore we must look to the cell as the starting point of pathological deviations just as we must consider it the beginning of physiological life, for in so far as the cell is perfect in activity and function, just so far is the organ, which is only a colony of similar cells, perfect. The activity of the cell, its very existence as a cell, is inherent in the nucleus, the surrounding cell-protoplasm being apparently a nutritional and functional envelope.

As a general proposition it may be stated that any normal cell nucleus resembles in every respect, morphologically and, so far as at present determined, also chemically, all other normal cell nuclei. According to Weisman and others, the amount of chromatin substance in every active cell among the millions of cells throughout the body is the same as in the primitive cell from which the organism sprang; and further, that in any given species, even the same number of chromatin filaments persists throughout, under whatever changed conditions normal cell proliferation takes place.

From the nuclei of the cells then are formed new nuclei for other and similar cells and from the cell-protoplasm are constructed, by the bio-chemical activity of the nuclei, the varied connective tissues as reticula, bone, cartilage, etc., etc. In this process in its entirety, whether observed in the life history of unicellular organisms, or in the complex structure of more highly evolved forms of life, we recognize living matter whose vital characteristics as opposed to matter not living are, according to Huxley's classical definition, first: "universal disintegration by oxidation and its reintegration by intussusception of new matter, giving rise to the varied forms of growth and repair, and second: the universal tendency to cyclic change or reproduction."

It is apparently in this conception of cell and tissue growth that the secret of normal and abnormal action must be sought, for the whole problem would seem to revolve around the perfection of the process of oxidation of waste and of the preparation of new matter for reintegration and reproduction. If there is no distinguishable difference in the active centers, the nuclei of the cells, we must look to the distinctive characteristics of the varied forms of new material built up by their activity out of the cell-protoplasm—the intercellular

connective tissues being considered simply as cement substance or as stroma—to furnish the clue to the character of the vital processes by which they are produced.

Under the law known as the physiological division of labor then, we find that the life-energy, as embodied in the primitive cell and which insures the persistence of all living things, is broken up into the different manifestations of that energy which marks the wide distinction between the primitive cell and the complete physical organism. Under the action of this law, connective tissues are found to vary so widely in the different organs and structures of the body, both in character and form, that we are obliged to assume the existence of a selective affinity on the part of the active nuclei for the various elements of nutrition required; for all the nutritive material needed for growth and function is contained in the fluids in which the cells, organs and tissues are constantly bathed.

Now simple protoplasm, as such, cannot continue as living matter, if deprived of the nuclear substance which gives it life; it would seem to be simply an intermediate material, or, perhaps, rather a transition state of organic matter between the active, directing and selective nucleus and the connective tissues which determine form and function. In other words, the character of an organ or tissue differs from that of other organs and tissues by virtue of the ability of the cell-nuclei to pick out from the tissue fluids holding it in solution the material which will build into the structure required.

As the composition of the blood-plasma throughout the body varies slightly, if at all, and as the specialized character of organic structure varies within wide limits in continuous and contiguous tissues, as in bone and ligament, muscle and aponeurosis, etc., it must follow that not only are all the elements of nutrition contained in solution in the tissue-fluids derived from the blood-plasma, but that the cell-nuclei of each tissue are possessed of the power of appropriating just what is wanted and nothing more. Any solution, therefore, of the problems involved in the processes of growth, waste, and repair, must rest primarily upon: (1) the quality of building material required and the method or methods of rendering it suitable for the purpose; (2) the character of structure to be built; and (3) efficient means of rendering innocuous, utilizing, or otherwise disposing of, waste-products.

It is a fairly proven proposition in biology that the living cell is enabled to prepare material for its own nutrition, by means of a secretion or emanation from its own substance, of special enzymes which seem to act universally by a process of hydrolysis; by simplifying and splitting up—by the introduction into its chemical formula of the elements of water—complex material, so that the subsequent synthesis which appears to be the distinctive function of protoplasm, may be possible. In all forms of cell and microorganic life, this fact seems to be fairly well established, although thus far efforts to isolate and identify such enzymes have met with but partial success.

That such enzymes do exist, however, is shown in the production of peptones and their concomitants in bacterial decomposition of proteids, in the glycolytic and emulsion forming powers of cells and other microorganisms on carbohydrates and fats and in all fermentations.

If we study, for example, the life history of the yeast

cell as a type of micro-organic life, many interesting facts may be noted. This cell secretes within its own substance and throws off, something which passes into solution in the surrounding culture medium, or even in water, which possesses the power of hydrating and splitting up carbohydrates previous to assimilating them to its own needs of protoplasmic growth. Now, yeast cells contain nitrogenous matter as proteid, carbohydrate as glycogen and cellulose, fat and mineral matter. In the classical experiment of Pasteur, it is demonstrated that a culture medium composed of sugar, tartrate of ammonia and the ash of other yeast cells furnishes a sufficient pabulum for the continued and extensive growth of new cells, although neither proteid substance nor fat are contained in the solution and the carbohydrate supplied as sugar is of a much higher degree of hydration than that built in as glycogen and cellulose. It is known further, that preparatory to the synthetic dehydration by which it is built into living matter, the sugar in this solution undergoes a radical change in its optical properties and therefore in its molecular structure. This inversion or division, which as far as my investigations have led me, seems to take place in the nutrition of all living cells, not only in carbohydrates but in all their derivatives, is a fact of such far-reaching importance that I here venture to suggest, by way of digression, that upon it will be found to hinge some of the deepest problems in biology, pathology, immunity and possibly also, heredity. There is no evidence of any such change taking place in the other constituents of Pasteur's artificial culture medium for yeast. The nitrogen of the tartrate and the mineral matter of the ash seem to enter into organic combination without material change, the synthesis producing proteid in its union with one half of the carbohydrate cleavage, while the other half is deposited as cellulose and glycogen, the alcohol produced being apparently an accumulation product and, on account of its symmetrical molecular structure, contributed equally by each moiety.

The life history then, of the yeast cell, whether grown in what may be considered its natural environment or in one artificially provided, is, first: preparatory hydrolysis and inversion by means of which the nutritional supply may be built into proteid already existing; by, second: successive dehydrations and syntheses—the formation of fat being apparently intermediary; third: the building up out of the carbohydrate thus incorporated into proteid, of cellulose as tissue structure, and, fourth: the storage of unused carbohydrate for future necessity, as glycogen. The entire process of synthesis is followed by, or, as is more likely, accompanied at each step by, disintegration through a reverse order of sequence—fat being again intermediary—to the close of the reproductive cycle. As the evolution of the heat of vital activity is continuous throughout, there must be an equally progressive oxidation of the waste of each stage to the final oxidation into carbon dioxide and water.

A point of considerable importance in the subsequent consideration of the subject of this paper, is the fact that only under anaerobic conditions do yeast cells produce any appreciable amount of surplus alcohol. If, as suggested above, alcohol is an accumulation product of ferment action—and it acts as do all such accumulation products, by finally destroying its producing ferment—we may comprehend how, in the presence of the free oxygen of the atmospheric air, the more vigorous

growth and multiplication of the organism compels an equally rapid oxidation to aldehyde. This aldehyde is the soluble carbohydrate needed for reintegration as proteid in the formation of new cells. The invariable presence of succinic acid in sugar fermentation and also of the compound ethers under special conditions, give some weight to this theory as to the origin of an alcohol surplus. This outline of the life history of the yeast cell may be taken as the type of all cell life, in so far as biology is unable to prove to the contrary.

As in the yeast cell, so in all organic life, there is abundant reason for believing that none of the food-stuffs are laid down in the body as such, but that their appearance as body stuffs is possible only by a process of synthesis into the proteid of the cell, for analysis fails to show that fat, for instance, is ever formed in the body except as a disintegration product of proteid. This is certainly true of the albuminous bodies, for it is a notable fact that no nitrogen or nitrogen-bearing body is stored up as reserve in the body, but that, on the contrary, such material immediately becomes part of the active bioplasm and as such is at once used up by the increased activity it stimulates, so that within a few hours after its ingestion a corresponding amount of nitrogen is practically wholly eliminated as urea.

It is far different, however, with the fats and carbohydrates. Here is undoubted storage of what is not required for immediate use, for future consumption, to be drawn upon as may be demanded and converted, the one into the other, according to the exigencies of vital activity.

The fact that in experiments upon animals the elimination of urea which is the measure of the extent of proteid metabolism, does not show a uniform decrease during starvation, would certainly indicate that, in the absence of the direct incitement to increased metabolism brought about by ingestion of nitrogen, the source of supply for heat production is a stable one. In accord with this is the further fact that the ultimate fate of fat in the body is to become oxidized through a regular sequence, to carbon dioxide and water with the production of heat and energy, whether physical or molecular; that the process is a continuous one and that the seat of this oxidation is throughout living proteid substance.

The gradual disappearance during starvation of glycogen from the liver and muscle—muscles showing its presence much later than the liver—the acceleration of its disappearance by muscular work; the small amount of dextrose found in muscle during life and its rapid increase after death,² together with the equally rapid decrease of glycogen and the appearance of dextrin as an intermediate product, are all in full accord with the view that the transformation of waste is only through the medium of repair and that this takes place only through the production of proteid substance.

In laboratory experiments on mice, by injecting solutions of methylene-blue and of indigo carmine under the skin, and killing the mice as soon as color showed in the urine, I found that the cell-protoplasm of the excretory glands especially had taken up the stain. The stain had not been deposited in the connective tissues and, if the mouse was not killed promptly, the color was found to have wholly or partially disappeared according to the time after injection. While admitting that the results of these experiments are not altogether conclusive, they are respectfully submitted as furnishing a link at least, in the chain of evidence that the

entire process of metabolism takes place through the formation of proteid.

That fat and tissue carbohydrate are mutually transformable through the medium of proteid production would seem to be strongly indicated by many facts, among which may be noted the large amount of fat together with the small amount of carbohydrate—none of the latter as glycogen, so far as I am able to find—as found in the egg; while in the embryo the converse is true. In the embryo there is an enormous amount of glycogen to supply the rapidly growing tissues and to insure during early infancy a sufficient formation of fat to act as a reserve from which may be drawn the material for future growth.

On the other hand, the inhabitants of the arctic regions and the carnivora, from whose diet carbohydrate—except the small amount obtainable from proteids by digestive cleavage—is wholly excluded, do not lack the muscular development inseparable from glycogenic activity either as embryos, infants or adults.

Finally, in breaking down proteid material, whether by means of digestive enzymes or by chemical hydrolytic agents, we always find split off carbohydrate as a glucose, or rather as an aldehyde or a ketone, whose power of reducing copper oxide³ varies apparently with the degree of dehydration which has taken place in its synthesis. That these cleavage carbohydrates are in every case aldehydes or ketones may be easily demonstrated by the usual tests for these bodies. I am most familiar with the ammoniated silver nitrate solution of Tollens, from which the metallic silver is deposited as a mirror on the glass of the test tube, in the presence of an aldehyde. I have done little with the ketones except a slight study of their phenylhydrazones. That the aldehydes at least undergo varying degrees of dehydration in proteid synthesis, the degree depending apparently upon the tissue from which they are split off, is shown by their different and characteristic osazone crystallizations with phenylhydrazine, as well as by their varying power of reducing copper oxide referred to above.

While the carbohydrate product of digestive proteolysis is always an aldehyde or a ketone, the fat that is also found in the residue has been considerably modified in character and, aside from the strictly interstitial fat—which is still storage fat—is never the so-called neutral fat which serves as reserve.

Thus Dormeyer⁴ finds "that after muscle has been subjected to preliminary gastric digestion, ether extracts 8.5% more of the total fat obtainable; and that without such preliminary digestion, extraction with ether is useless for quantitative purposes." E. Bogdanow believes that "the fat which is thus soluble in ether with difficulty, is a real constituent of muscle plasma and states that it is richer in volatile fatty acids than that from the surrounding connective tissues."

It would seem, therefore, that these volatile fatty acids are not produced by proteolytic action. They are apparently acids which have not as yet been built into proteid, for the acids derived from the breaking down of strictly albuminous material are always found in combination with an amidogen group, sometimes two or more, and vary in proportion with special tissues. It might even be said that the character of tissue may be determined by the proportions of these amido acids relatively to each other, so characteristic does this proportion seem to be. For instance, the predominant amido acid of gelatine and its mother substance collagen

is amidoacetic acid, glycocoll, although with it are found amidopyrotartaric acid, amidosuccinic acid and leucine but no tyrosine, both amido compounds. The only other connective tissue substance in which glycocoll has been found is elastin, but here there is, according to Drechsel, no accompanying amidosuccinic acid or amidopyrotartaric acid, but a small amount of tyrosine. Lysatinine,⁶ but no lysine, both diamidoacids were also found. So also, Siegfried⁶ found amidovalerianic acid in reticulín from reticular tissue and from no other, not even from white fibrous connective tissue with which reticular tissue is "anatomically continuous and histologically identical." Amidopyrotartaric acid which is found in elastin and gelatin is not found in reticulín. And so on with all the tissues which have thus far been studied.

It is noteworthy that the so-called antipeptone which is the end product of proteolytic digestion opposed to the group of amidoacids which constitutes the hemi-, or more acid half of the proteid decomposition, is now found by Siegfried⁷ to be an amido-, or perhaps rather a multiple amidoacid which he calls carnic acid and which is capable of being further split up into lysine and lysatinine. Without wearying you further, sufficient has been said, I am sure, to indicate the rather strong probability that the particular character of structure may be dependent upon the predominant amidated or nitrogenized fatty acid or group of fatty acids which so evidently go to build it up.

Now the question arises as to the origin of these acids. In view of the fact that the neutral or storage fat of each animal species is characteristic, regardless of the form of the fat taken as food, or where fat forms no part of the diet, that is, that pork fat is always lard and beef fat is always tallow—differing only in the percentage of the different fatty acids combined with glycerine—the indication is rather strong that fat has its origin in the synthetic activity of protoplasm. The only experimental proof of this, so far as I am aware, is that of Munk, who showed that free fatty acids fed to animals, are synthesized into and deposited as reserve like the neutral fats normal to the animals experimented on.

The fact that the higher fatty acids are easily oxidized in the laboratory into acids of lower carbon content; the fact that aldehyde and ketones, the carbohydrate factors in tissue construction, are direct oxidation products of primary and secondary alcohols, becoming corresponding acids through further oxidation, and finally, the fact that the oxidation processes of the body must be continuous, all would seem to make the relation of these acids to the food carbohydrates a fairly clear one. We read and talk of the system of drawing on the reserve of storage fat, but very little is known of the methods by which such stored material is prepared to enter the circulation or to become part of the tissue fluids. It is known that the neutral fats are not and can not be absorbed as such. They are decomposed for absorption, but are at once reintegrated, by the agency of the lymphoid cells of the intestinal villi⁸ preparatory to being laid down as reserve. Investigation suggests that perhaps the manner in which such storage takes place may furnish the clew to the methods by which the fats are utilized.

Such high authority as Hammarsten,⁹ while admitting that fatty tissues supply a "depot where there is stored during proper alimentation, a substance of great importance in the development of heat and vital force,

which on insufficient nutrition is given off as needed," has no explanation to offer for this fact further than that "the fatty tissues, on account of their low conducting power, become of great importance in regulating the loss of heat from the body. They also serve to fill cavities and act as a protection and support to certain internal organs." While there is no doubt of the correctness of these statements, such functions of the fatty tissues must be considered as purely subsidiary.

The real importance of the general plan of this physiological storage would seem to lie in the fact that the organs so supported and protected are organs of intense and unceasing activity, requiring for their energy incessant and heavy drafts upon a convenient and stable source of supply.

Between the mass of fat surrounding or lying adjacent to such organ or lymphatic, or other gland and the organ or gland itself, there is a fine network of lymphatic vessels. Now lymphoid cells are notably active in all the processes of anabolism and, in accordance with the general proposition that all metabolism is an alternate process of breaking down and building up, it would not be a violent assumption to suppose that these cells bring about just such chemical changes in this stored fat as would be necessary to form the various tissue fluids qualified to meet the specific demands of the tissues to be supplied or nourished.

In other words, given the base or bases of lysatinine, lysin, or antipeptone—one or more of which being apparently always present in all forms of proteid substances—special character of tissue would depend upon the particular fatty acid to which they, as bases, are united. As the only source of such acids is the neutral storage fat, their presence as acids, must depend upon the degree of hydrolysis to which the neutral fat is subjected in the preparation for organic or cellular assimilation. With this idea in view, I endeavored a few years ago, to demonstrate the existence of a fat-splitting enzyme in bronchial glands, but in view of the elusive nature of enzymes in general and the limited acquirements of the experimenter, it will not surprise you to learn that the several attempts were wholly futile. The frequent appearance, however, as observed with the microscope, of fatty acid crystals in fat cells—particularly in those cells lying in closest contact with the lymphatic network referred to, and also in the lymph-spaces of the organs themselves, gives hope that the future will provide a more fortunate investigator.

If the hypothesis here presented be true, as to the origin of tissue differentiation, for all tissues are supplied with lymphatic vessels and glands and also with interstitial spaces filled with tissue fluids, we need not feel obliged to accept without reservation, Waller's assumption of an "interorganic relation" under which "the waste of one organ serves as the raw material for another," for each organ and tissue is seen to supply a complete metabolism by and for itself and pathological change would simply be the result of deviations in degree or sequence of anabolism and catabolism in relation to each other.

Thus, an excessive accumulation through too active formation, or through imperfect oxidation and elimination of any of these organic acids would lead to hyperplasias—the special type depending upon the particular acid involved,—their perversion to metaplasias, etc., etc.

The waste or oxidation products of each tissue or organ need not, therefore, be the end products of met-

abolism of the body as a whole—carbon dioxide, water and urea—although to a certain extent this is really the case, but would certainly be the antecedents of these and whose retention would give rise to such toxic conditions as the acid diathesis, such as gout, rheumatisms, etc., on the one hand, and to uremia and uremic conditions on the other. The ready production by Drechsel and others of urea, by various hydrations and oxidations of the different basic substances derivable from proteids, together with the fact that in birds and reptiles the nitrogenous end product of physiological waste is uric acid and not urea, furnish a logical reason for this assumption.

The different forms of physiological and pathological degeneration would seem to point to imperfect hydrolysis, due either to impaired or perverted enzyme action and subsequent faulty dehydration and synthesis, or to imperfect synthesis of properly prepared material. In fatty degeneration, for instance, the cells seem to have lost the power of completing the proteid anabolism from carbohydrate and the process stops at the fat stage. The cell then loses its protoplasm through ordinary vital waste and deposits the fat instead of new protoplasm. This deposited fat, not having reached the stage of organic combination where it can be oxidized with physiological rapidity, gradually accumulates to the final destruction of the cell as such. In myxedema and in the amyloid, hyalin and colloid types of degeneration, it would seem that the stops occur at the different stages of normal cell activity, with the result that in each case, otherwise normal material fails of complete metamorphosis and is deposited in the tissues. In glycosuria, however, the excess of glucose, on account of its solubility, is carried off in the body fluids and is eliminated as such.

However this may be, the products of cytoplasmic degeneration seem always to be normal physiological substances, their excess, location and environment making them pathological, proving Huxley's definition of dirt as "matter out of place" to be true physiologically as well as physically.

To return to the amido acids. We never find them combined with glycerin as the free acids themselves. It would seem from this, in view of the abundance of glycerin in the body-fats and the fact that it is never found in the free state, that at the instant of the union of the acids of the fat with the amidogen, the glycerin is at once set free as triatomic alcohol and as promptly disposed of according to the demands of normal metabolism. At any rate it disappears immediately it is broken off from its combination with the fatty acids, apparently either by (a) union with whatever free acid may be available to serve again as storage fat, or under pathological conditions to become degenerative fat; or (b) by oxidation to aldehydes and ketones, for the formation of new proteid, physiologically or pathologically, to pass off as glucose through failure of normal synthesis, or (c) by oxidation to a succession of acids whose physiological or pathological character depends upon the orderly sequence and completeness of the oxidation processes.

These acids cannot exist normally in the body in a free state any more than can the glycerin from which they are derived. Their appearance implies at least a partial failure of metabolism. Such failure gives rise to retention acid toxemias either as the acid diatheses before referred to, or to autotoxic states not so well recognized, such as diabetic coma, due, as now be-

lieved, to the presence in the body fluids of B-oxybutyric acid.

The physiological disappearance of glycerin by oxidation to aldehyde for the formation of new proteid, as just suggested, is rendered extremely probable by the fact before noted that aldehyde is always a cleavage product of proteid decomposition and by the further fact that inseparable from aldehyde as a result of such cleavage, are the amido acids.

Like glycerin and its derivatives, the fatty acids, the amido acids are never found free under normal conditions. They are the normal body acids united to one or more amidogen groups, NH_2 . This union is of such an intimate character that prolonged boiling in caustic alkalies does not destroy it and under normal conditions, although the acid half of the amido compound is successively oxidized to acids of progressively decreasing carbon content, the amidogen appears to maintain its relation with each succeeding acid to its final elimination in combination with carbonic acid as urea, carbamid.

The fact of the continuity of the amidogen or nitrogenous half of the different amido acids would indicate the importance of the grouping and gives strong confirmation of the assumption of Waller before referred to "that the waste" (meaning the oxidation acids only) "of one organ serves as the raw material of another." In no other sense may the amido acids be considered as waste material, and then only as they occupy positions lower in their series through successive oxidations of the acid radical.

The invariable presence of amido compounds—notably the monamids of aspartic and glutamic acids in germinating plants¹⁰ and of aspartic and glutamic acids, both amido acids, in the nutrient material of animal embryos, can mean only that they are necessary for proteid construction. Hlaziwetz and Haberman¹¹ have found as much as 23.8% of aspartic acid in egg-white.

If the amido acids higher in the series are of such importance in the normal physiological fibrosis which takes place in forming the embryo and are such important factors in maintaining the specialized character of the different body tissues, as heretofore cited, why, it may be asked, should they not be of equal importance in the formation of new tissues and cicatrizations in Nature's attempts at repair after degenerations and injuries? For instance, we know that all cures of the pulmonary lesions produced by tuberculosis are by fibrosis. I have found that the apparently predominant acid in this fibrosis is the amido-succinic acid; but whether it is the most important, I am not yet prepared to say. Its presence is, I believe, invariable.

This conclusion, which I have maintained for the past four years, has recently received grateful confirmation in a paper by Dr. Jonathan Wright,¹² of this city. I take the liberty of abstracting from his paper a quotation from an article by Viquerat, in *Centralb. f. Bakt.*: "Tuberculin, glycerin extract, TO or TR is nothing but a watery solution of an alkaline succinic acid salt, . . . Further researches, which will soon be published, show that succinic acid plays the principal part in the tuberculosis question; the tubercle bacillus, or rather the succinic acid bacillus, does not form a toxin and works in this connection much more as the producer of a diathesis like gout than as a true toxin-forming variety of bacillus."

The result of the further researches of Viquerat, the early publication of which is promised, will doubtless

be found to be extremely interesting. I do not know the extent of his researches into the physical properties of tuberculin extract, but I venture the prediction, based upon my own investigations, that here again, as suggested in the early part of this paper, the spatial arrangement of the atoms in the molecular structure will be found to be of the utmost importance. I am sorry to say that I have nothing sufficiently definite to offer upon this point now. Unfortunately my notes are too incomplete to justify any conclusions bearing upon this problem as relating to specific biological and pathological conditions, but enough has been learned to show conclusively in what direction the distinction between living and not-living matter lies.

This distinction which indicates infallibly the direction of the forces which tend to reintegration on the one hand and to disintegration on the other, is so fundamental that it is shown in the earliest and most primitive forms of life and is seen to persist throughout to the final dissolution of organic substance into its primary elements. What may be the nature of this form of energy it is impossible to say; as in other forms of force, we may never progress further than recognition of them by their effect upon matter. At present we are obliged to conclude with Pasteur:¹⁸ "Is it not necessary and sufficient to admit that at the moment of the elaboration of the primary principles in the vegetable organism, an asymmetric force is present? . . . Do these asymmetric actions, possibly placed under cosmic influences, reside in light, in electricity, in magnetism or on heat? Can they be related to the motion of the earth, or to the electric currents by which physicists explain the terrestrial magnetic poles? It is not even possible at the present time to express the slightest conjecture in this direction.

"But I regard as necessary the conclusion that asymmetric forces exist at the moment of the elaboration of natural organic products; forces which would be absent or ineffectual, in the reactions of our laboratories either on account of the violent course of these phenomena, or because of some other unknown circumstance."

Whether we accept the theories of Pasteur or those of Le Bel and van't Hoff, we must recognize this force or these forces as a profound modifier of chemical affinities as manifested in laboratory reactions, for the whole of biological chemistry is not told when these reactions are noted.

The profound and far reaching bio-chemical transformations which are seen to occur in the processes of assimilation and also of disintegration under the influences of normal and abnormal cell activity are brought about by the collective and harmonious action of the individual cells of each gland or organ. That this force is the determining factor in the bio-chemical reactions which take place within the cell, is evident from the uniformity of the results obtained. Under physiological conditions, lines of cleavage, synthetic rearrangements and successive series of oxidations are seen not to vary, but to follow a well defined and symmetrical sequence, disturbance of which is followed by a more or less widely distorted condition of affairs which we recognize as pathological.

If we consider the probable size of the proteid molecule, we must realize that the possible lines of cleavage and transformation are many. If after normal cleavage, an imperfect oxidation takes place, or complete oxidation follows an imperfect cleavage, or imperfect cleavage and imperfect oxidation coexist, we see that the

possible modifications of metabolism must be almost infinite. It is in these modifications and perversions of normal bio-chemical relations—those of physiological sequence—that the cause of morphological change must be sought; and it is upon the recognition and understanding of the chemistry and molecular physics involved in tissue structure and in tissue maintenance, that the pathology and therapeutics of the future must be based.

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CULTIVATION OF THE ASPERGILLUS IN URINE.

By L. NAPOLEON BOSTON, M.D.,

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(Contributed from Laboratory of the Philadelphia Hospital.)

THE frequency with which one detects the presence of yeast and mycelium in the urine voided by the inmates of this institution prompted me to investigate the apparent relation existing between these and other fungi, which are in many respects similar. For this purpose the *aspergillus fumigatus* and the *aspergillus nigr*a were cultivated on urine as follows: Acid, alkaline, and acid diabetic urines were placed in culture tubes, in quantities of 10 to 15 c.c. each. Where the urine was found to contain albumin, it was heated sufficiently to precipitate this body, after which it was filtered and placed in tubes, as above stated. One-half of all the tubes was placed in a temperature of 212° F. for 45 minutes. Tubes prepared in this manner were inoculated with the *A. fumigatus*, care being taken to introduce, as nearly as possible, the same quantity of the growth at each inoculation; always cultivating the organism on acid, alkaline, and acid diabetic urines. To accomplish this, 6 tubes, 2 of each variety—1 of which was sterile—were employed. The same precautions were observed in the study of the *A. nigr*a. All inoculations were made April 13, 1900, and the following is a record of the changes observed—cultures examined daily to May 13, 1900.

SERIES NO. 1.—*A. FUMIGATUS*.

Sterile acid urine, kept at room-temperature, 4 days after inoculation, presented a surface-growth which was easily broken by shaking the tube. Microscopic study detected clumps of mycelium. Many spores were found arranged in large clusters. Mycelial threads crossing one another were also observed. On the sixth day the urine was alkaline, of an amber color, and showed a heavy precipitate.

Acid urine (not sterilized) was rendered alkaline in 4 days—possibly due to bacteria. Growth less pronounced than on sterile urine. Microscopically, this growth appeared to be composed of amorphous material and spores. Color, amber.

Sterile alkaline urine presented a less pronounced growth than did acid urine. On the slightest agitation this growth

sinks to the bottom of the tube. Alkalinity was increased on the sixth day. The slight surface-growth contained only few spores, while the color was slightly deepened. On the twenty third day the surface and upper one fourth of the urine were of a chocolate color, and by the thirtieth day this color had extended to the bottom of the tube. The sediment and surface-growth at this time contained only few spores. To insure against the possibility of contamination, cultures were

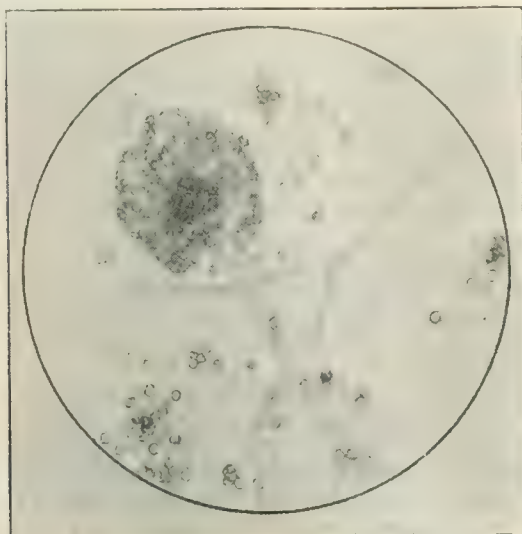


FIG. 1.—*Aspergillus fumigatus* from acid diabetic urine. Objective (Queen) $\frac{1}{2}$. Eye-piece iv.

made from this tube, and were alike in giving negative results.

Alkaline urine (not sterilized) presented a more marked growth, which was found to be largely composed of spores. Alkalinity was not increased until the tenth day, when a browning was observed at the surface of the liquid, which increased gradually to the sixteenth day, when the entire urine was of a brownish-black color.

Sterile acid diabetic urine presented a whitish growth in 48 hours, covering the surface of the liquid; and on the fourth day tipping and shaking of the tube did not displace

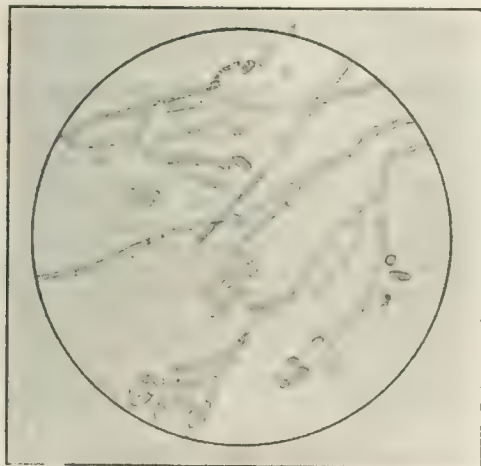


FIG. 2.—*Penicillium glaucum* from potato culture. Objective (Queen) $\frac{1}{2}$. Eye-piece iv.

the urine, and the growth was beginning to acquire a greenish hue, while the urine remained of an amber color. Microscopic study detected many mycelial threads, each displaying its individual sporangium at one extremity, and few spores—the usual findings when *A. fumigatus* is cultivated on potato or bread-paste. On the ninth day the growth was thickened, wrinkled, and separated from the side of the tube, while its surface was studded with sporangia.

There was practically no difference in the reaction of the *A. fumigatus* when grown on unsterilized diabetic urine.

SERIES NO. 2.—*A. NIGRA*.

Sterile acid urine showed a marked white surface-growth on the fourth day, which prevented the urine from changing its position when the tube was inclined. This growth was composed of mycelial threads and many spores. Reaction neutral. Color unchanged.

Acid urine presented both a surface-growth and a heavy sediment. The surface-growth was composed of mycelial threads and spores. Reaction, alkaline. Color unchanged. No further changes were observed.

Sterile alkaline urine presented but slight surface-growth on the fourth day, and by the seventh day this growth had sunken to the bottom of the tube. This growth was found to be composed of granular material, and few spores, which presented the usual dark color. Reaction neutral, after the fourth day, and at the surface of the liquid a slight reddening was noticed, which increased to a deep cherry-red.

Alkaline urine (not sterilized) differed only in that it was rendered highly alkaline, and at the thirtieth day the upper half of the liquid was changed to a dark brown.

Acid diabetic urine presented the same changes noted in the study of the *A. fumigatus*, except that the culture-medium acquired a dull black color, which was first observed at the surface and spread rapidly, discoloring the urine.

A review of the literature on Aspergillosis, made by T. A. Rothwell, of Manchester, England, credits Rénon¹



PLATE 3.—Mycelial threads (*aspergillus nigra*) from acid urine as shown by both $\frac{1}{2}$ and $\frac{1}{4}$ lenses, B. and L.

as the first to call attention to the presence of mycelial threads and spores of this fungus in the urine of animals suffering from experimental aspergillosis (pseudo-tuberculosis). This author found that in from 24 to 48 hours after inoculation, he was able to cultivate the *A. fumigatus* from the animal's urine, and in most instances he found mycelium—these findings being more constant as the disease progressed. At autopsy these animals were found to present classical lesions of the bladder and kidneys. Rénon attributed these findings to infection through the venous blood supply, as his attempts to cultivate the aspergillus on urine proved that it had little tendency to vegetate when kept at incubating temperature.

Many writers have called attention to the fact that the aspergillus and other fungi develop best on acid medium, at a low temperature; and the same has proven true in my study of the organism on urine, which probably explains the wide difference between the findings of Rénon and those of the writer. My review of the literature has been rather hastily accomplished and possibly some records have escaped my notice. However, I have been unable to find any special record of the effect of this organism on human urine.

¹ *Comptes rendus des séances et mémoires de la société de biologie*, April 18, 1896.

A NEW BLOOD-STAIN.

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(From the Laboratories of the Jefferson Medical College Hospital.)

EVERY year, or perhaps more frequently, some one publishes a new blood-stain.

One of the latest stains is that made according to the formula of Jenner, the only objection being its tedious procedure and uncertain outcome. After it is once made correctly, it keeps indefinitely and stains very well. Ehrlich's triacid, Ehrlich's triple-stain, Ehrlich-Biondi-Heidenhain stain—these all have their advantages, yet who has not had his failures with these stains to probably far outnumber his successes. The precipitation of the stains upon coverglass preparations is also a great disadvantage, the trouble being that in some formulae filtering is recommended and in others not.

Plehn's and Prince's stains are also very good ones, both for the malarial parasite and for the leukocytes. These are also, among many, easy to prepare. So many blood-stains deteriorate in a couple of weeks or sometimes less, that when you wish to use them you find they have spoiled. It stands to reason that a freshly prepared stain stains best, but when in a laboratory a couple of hundred students have to be supplied, then a stain easily prepared and easily kept for a couple of months is the one to be used. While performing Bremer's tests with anilin dyes upon diabetic blood—phloxin, congo-red, benzo purpurin, and methyl-blue—I was tempted to place them under the scope. Phloxin showed the granules of the leukocytes beautifully, and I then determined to prepare a blood-stain in combination with a basic dye.

In trying to perfect the stain, discouragements were repeatedly encountered, and at some critical moment hopes were always blasted. Methylene-blue being one of the best and most uniform stains, I tried this in combination with the phloxin. Saturated aqueous solutions of both these stains were made and the formula which has worked the best is as follows :

Saturated aqueous solution of methylene-blue.....	50 c.c.
“ “ “ of phloxin	20 c.c.
Alcohol (95%)	30 c.c.
Water (distilled).....	60 c.c.

These are all mixed indiscriminately together and a bluish solution is the result.

A precipitate generally forms and the stain needs "shaking before using." The blood-films can either be fixed by heat (115° to 120° C. for 20 minutes) or in equal parts of alcohol and ether, or absolute alcohol. The stain works well in either case of fixation. After the preparation is dried from alcohol and ether, or from alcohol alone, the stain is applied and allowed to remain from 1 to 3 or 4 minutes, washed freely in water, dried and mounted in balsam. As in all other blood-stains the nucleus of the white cell stains either a deep or light blue, according to its variety; the red cells a pinkish color or a reddish green. In the finely granular oxyphiles, the nuclei take the stain quite darkly, the granules either a dull pinkish color, or a bright red, denoting that they are slightly acidophilic and not always neutrophilic. The nuclei of the lymphocytes take the stain deeply, and around their periphery

numerous basic granules are demonstrable as a rule, while some do not show granules.

In the coarsely granular oxyphiles the nucleus takes a light blue stain, the granules are bright red, almost brilliant.

The myelocytes take a very faint blue stain, the nucleus taking up nearly the whole cell, while in some, small granules exhibiting a slightly acidophilic reaction are seen, while in others no granules are demonstrable. These cells are, of course, not found in normal blood, but in splenomedullary leukemia especially. The hyaline cell, which according to some is identical with the large lymphocyte, takes a uniformly light blue stain and no granules as a rule are demonstrable; occasionally, however, a few basophilic granules may be present. Finely and coarsely granular basophiles take a deep blue stain, the nucleus and granules both exhibiting an affinity for the basic dye.

The red corpuscles in normal blood generally take a pinkish stain, while in pernicious anemia and leukemia they take a reddish green or a yellowish with a faint tinge of pink.

The nucleus of the normoblast takes the basic stain.

Not only is this stain useful for blood-cells, but it is also a fairly good one for the malarial parasite of any variety. The estivoautumnal and the quartan parasite stain especially well; in any variety it stains a bluish-green, while pigment granules show up very decidedly upon this background.

A Case of Spontaneous Hemorrhage from the Iris and Ciliary Body Into the Anterior Chamber Due to Splenomedullary Leukemia.—Fr. Sorger (*Munch. med. Woch.*, Jahrg. 45, No. 35) reports a case of hyphema occurring in a patient who had splenomedullary leukemia for 6 months. Upon examination there was a hyphema divided into 3 layers. As spontaneous absorption did not take place under medicinal treatment, paracentesis of the anterior chamber was performed. Immediately thereafter streaks of blood emanated from the anterior surface of the iris and after a few minutes the anterior chamber was again half filled with blood. This phenomenon reappeared 3 times before the hemorrhages ceased. Hemorrhages from the iris in leukemia have not yet been described. [M.D.]

A Case of Tumor of the Right Crus Cerebri.
—Professor A. Pitres (*Journal de Médecine de Bordeaux*, January 13, 1901, No. 2) reports a woman of 35 years of age, married, with two healthy children, no miscarriages, and no suspicion of syphilis, who began two years ago to have intermittent headache. Her husband had often struck her on the head, when under the influence of liquor. About a year ago the headache became constant; and for the past 3 months it has been so severe that she could do nothing. A few weeks ago she noticed that her sight was failing, that the left side of her face moved less than the right, and that her left arm was growing weaker. There were no emaciation, fever, vomiting, or constipation, respiratory or urinary troubles. On admission to the hospital 4 main symptoms were found which formed the positive diagnosis of a tumor of the right crus cerebri. These were constant headache, worse at night, with exacerbations, causing the hydrocephalic cry of meningitis; bilateral optic neuritis; partial paralysis of the third cranial nerve on the right side (with dilatation of the right pupil, and paralysis of the superior rectus); and slight paresis of the muscles of the lower half of the left side of the face and the left arm. These last two, together, form the "syndrome of Weber"—positive sign of a peduncular lesion. The patient had an apoplectic stroke the night before, and died upon the day the clinic was held. Sudden death is the rule in these cases. The autopsy showed a glioma the size of a small apple in the right crus cerebri just where it enters the central mass of the right hemisphere.

[M.O.]

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Infusion of Salt-Solution in the Treatment of Pneumonia.—Dr. Clement A. Penrose, of the Johns Hopkins Hospital, Baltimore, calls our attention to the fact that he recommended this treatment in several cases of extreme severity happening in Professor Osler's wards in that hospital. He says that it had been a custom in the hospital (as it has been doubtless in many hospitals) to resort to infusion of normal salt-solution (.6%) in cases of collapse, especially during or after severe surgical operations. In gynecological cases he had been much impressed by the fact that stimulation to respiration was more marked than to the heart, and this led him to suggest the use of this solution in several cases of pneumonia. His personal experience at the time he read his paper was limited to three cases, of which two were fatal. The success of the treatment, however, should not be gauged strictly by these facts, because all three cases had reached a desperate stage. The infusion of salt-solution was given in the usual manner, at a little above body temperature. The needles were introduced under the breast or in the subcutaneous tissue of the thighs. Care was taken to examine the heart at frequent intervals, especial attention being paid to the pulmonary second sound, and instruments were kept in readiness for instant bleeding if this second sound should have become too accentuated in quality. Inhalation of oxygen was given in a special manner by means of a glass funnel instead of the usual delivery nozzle, and this funnel was held by a framework about two inches above the patient's face and thus supplied the oxygen to both mouth and nostrils without interfering in any way with the breathing. The gas was passed through a bottle containing a pint of hot water in which was placed a mixture composed of creosote, turpentine and benzoin. Dr. Penrose states that since he left the Hospital this treatment has been resorted to in several other cases with most gratifying success. The details of the treatment are given in a paper in the *Johns Hopkins Hospital Bulletin*, No. 100, July, 1899. The author claims that the infusion is a decided advance in treatment, but requires to be used with careful reference to the pulmonary second heart-sound. He thinks that infusion is preferable to transfusion. His idea seems to be that it dilutes the toxins in the blood and promotes their elimination through the sweat glands and the kidneys. He says that it lowers the temperature, stimulates the heart, and

renders the breathing less labored, and he also thinks that it renders the patient more susceptible to the influence of oxygen.

We have practically quoted here his own statements in his paper and must refer the readers to the paper itself for details.

Dr. Penrose says that Dr. Reid Hunt made experiments on dogs with intravenous injection of salt-solution, and found that the injection of this solution caused a marked increase in the amplitude of the respiratory undulations of the blood-pressure. The theory seems to be that the infusion of salt-solution increases the circulation in the lungs and therefore their ability to take up more oxygen. Not sufficient is said, however, about the possibility of such treatment causing a pulmonary edema, a risk which we should suppose on purely theoretical grounds to be a not insignificant one. Dr. Penrose does well to call attention to the need of instant bleeding in case the pulmonary second heart-sound should indicate the overdilatation of the lungs. But this sign is one which we should fear might not be sufficiently accurate or, at least, recognized with sufficient accuracy, to render all danger on this account unimportant. The value of the treatment can only be determined by a wider clinical experience, among a larger number of observers.

The Bio-Chemical Basis of Pathology.—The paper by Dr. Bunker, in the last number of the *JOURNAL*, is worth a careful reading by those medical investigators who take time to give thought to the deep-lying foundations of the science of pathology. Dr. Bunker's paper is not an arraignment of the microscope, for the author is evidently too wise to take such an extreme view; but it contains a frank criticism of that useful instrument, and at the same time it is a clear and comprehensive demonstration of the grounds for its limitations. It must be apparent to the man who takes the time and opportunity to think about it, that the microscope, as an instrument of precision, is an aid merely to one of the senses—the eye—and that what is not revealed to the eye can never be revealed by the microscope. According to Dr. Bunker, morphology has practically reached its limit in the field of research. This concise statement will not be welcome to the school of investigators who seek to find in dead matter the secrets of life and of disease—and it may

indeed be a trifle premature; but it expresses a truth which, if not yet realized, must be forced upon the minds of students of medicine in the not remote future. In the examination of diseased structure the microscope reveals not what is, but what has been; not the process of disease, but merely the wreckage which it has left; not the vital facts, but only the dead relics. The structural changes in a cell, pursued to the remotest conceivable subdivisions of dead cytoplasm, tell only an insignificant part of the story of disease. The essential factors are not shown to the eye, for they consist essentially of bio-chemical forces. They are no more to be seen and apprehended under the lens of a microscope than is the combination of an acid with a base.

The supreme merit in Dr. Bunker's paper is that it serves to call the minds of investigators to the true and ultimate problems of pathology—those problems which lie in bio-chemistry. It serves to divert them from their rather crude and persistent attempts to read in microscopic changes the true science of pathology. If it fully serves this purpose it will do well. It is too conservative not to recognize that the training of the eye by means of the microscope is an essential correlative factor in the study of disease, but at the same time it expresses the problems of disease in formula that cannot be solved by the eye alone, even though this organ were harnessed to a lens a hundred-fold mightier than the hand of man has yet evolved.

A Plea for the Ophthalmoscope.—Although ophthalmology is destined to remain within the exclusive confines of specialism, its creation as a major branch in many medical colleges has offered opportunities to the student-body which unfortunately are not always appreciated until too late. It is remarkable, but true, that many otherwise excellent physicians are not only ignorant of ordinary external ocular affections, but are absolutely unfitted to inspect this important organ as an accessory means of diagnosis. It seems almost incredible that an organ which in its structure practically represents a combination of almost all varieties of normal tissues, which permits of the inspection of exposed nerves and bloodvessels in situ, and in which there arises such a variety of pathological changes, indicative of systemic affections, should be so neglected by the general practitioner. How often is the ophthalmologist consulted as the last court of appeal when some physician has been instilling a mydriatic into a glaucomatous eye, and how seldom is he approached as a first court of appeal when the detection of intraocular changes might have elicited many valuable diagnostic factors. No one, of course, should attempt to perform any operations upon the eye unless he has had considerable experience; but this does not apply to the treatment of simple corneal ulcers and uncomplicated cases of conjunctivitis, which are so frequently

unintelligently treated by the family doctor. The expressions of students and even practitioners regarding their distaste for ophthalmology have their inception in several sources. In the majority of cases these dislikes are due to the fact that in the teaching of other branches of medicine but very little attention is paid to the eye. Again, the subject of "refraction" is taught to those who have preconceived intentions of forever banishing it from their consideration after they have graduated. Notwithstanding that the eye and its appendages consist of fibrous, adipose, areolar, muscular, nervous, vascular, glandular, osseous and specialized tissues, together with serous and mucous membranes, hair, skin, and cartilage, it is given but an insignificant position in modern treatises on pathology. If the intelligent use of the ophthalmoscope by the general practitioner would take the place of his frequent unintelligent use of the test lenses, much would be gained in diagnosis and treatment.

The Case of Major-General Wood.—The *New York Medical Journal*, commenting on our reference to the recent promotion of Dr. Leonard Wood to be a major-general, tells us that the case is not so unprecedented as we had supposed. In support of its criticism it mentions two instances (and only two) of surgeons being promoted in the line; one, the case of "a veterinary officer in an English hussar regiment" serving in a campaign in Egypt, and the other that of General Canonge, who has held high combatant command in the French army. The *New York Medical Journal* omits to give the details of these two cases, so we cannot judge how similar they are to the case of General Wood. Anyhow, the two cases serve as the exceptions that prove what seems to be quite a general rule. The special features that give interest to General Wood's case are not only his promotion in the line, but also his advance to such high rank in so short a time. If there are really parallel cases in any foreign service, we should be pleased to be informed about them, for we do not pretend to have made any extended research in the matter. We are under the impression that even in this country such cases have not been frequent. From the tone of the British medical periodicals in recent years in their comments on the unsatisfactory status of their army medical service, we should be much surprised to hear of an English army surgeon being advanced, for any gallant action whatsoever, to the rank of a major-general in the line. It is not so very long ago, as some of our readers may recall, that a brave English army surgeon in India, who had led a command and done some gallant fighting in an emergency, was referred to by the Duke of Cambridge, Commander-in-Chief of the British Army, as "that brave civilian."

A Bishop on Christian Science.—Bishop Fallows, of Chicago, is to be commended for his critical genius

as well as for his capacity to manufacture a new nomenclature—if the latter is really a commendable thing. He tells his good friends in the church who are inclined to be Christian Scientists, that if they are going to start a new religious system because they happen to have been healed at some time through the influence of a mental law as universal as gravitation, then the people who have been cured by patent medicines have just as good reason to establish medico-religious cults as they have. Thus he suggests that there would be Christian Liver Pillists, Christian Sarsaparillists, Christian Celery Compoundists, and Christian Cholera Mixturists. He might have added a good many more, especially if he had taken their names from the quack advertisements in the religious press. Bishop Fallows is doubtless brought into contact with a good many persons who mix their theology with their therapeutics, and therefore his suggestions are worth heeding. Professor Jastrow, from another range of vision, points out that the doctrines underlying this foolish system are not characteristically religious ones, but that they are only distorted into a religious guise. This criticism is a profound one, and should be a source of comfort to those alarmists who fear that Christian Science will overrun the land. It means that this system is no more a religion than it is a science, and therefore, that it is probably destined to an ephemeral existence. Persecution will help it for a while, but a wise and forceful administration of the laws against it will do much to exterminate it. It is an illegal practice in this State.

The Therapeutic Value of Yeasts.—An editorial in our last number dealt with some of the phases of the complicated problem of yeast fermentation, and this subject very quickly leads to one of practical importance—the current question as to the value of yeasts as therapeutic agents. For a number of years a few clinicians have employed yeasts in the treatment of furunculosis. Baron has recommended this treatment in conjunction with fruit juice in infantile scurvy. Landau employs an injection of brewer's yeast in vaginal gonorrhea, basing his treatment upon the fact that the yeast organisms have greater vitality and propagate more rapidly than gonococci, which are consequently crowded out. Most important are the observations that yeasts may favorably influence the course of diabetes. The effects of yeast upon the intestinal contents, with special reference to the utilization of sugar, make it possible, at least experimentally, for a patient to partake of a liberal hydrocarbon diet without increase of the glycosuria. The method of this action is simple. We know that the yeast causes fermentation of the sugars in the intestines with the production of alcohol and carbonic acid. However, we must recognize that the yeast so introduced has the power of acting only upon the sugars derived from the food, or, in other words,

those present in the alimentary tract. Nobécourt, Hallion and others claim a decided lessening of certain toxins, especially of diphtheria, when yeast has been given. For instance, Hallion found that if he added a pure culture of yeast in the must of beer to a dose of diphtheria toxin this mixture injected into the skin of the guineapig was harmless; but, when the toxin and yeast were injected unmixed in different parts of the body of the guineapig, the action of the toxin was not inhibited. This would indicate that the yeast neutralizes the poison directly. The author has concluded that the acidity of the culture medium is responsible for the neutralizing action on the toxin.

Besides the conditions named in which the use of yeasts is recommended we may also mention their employment in enteroptosis, the gastrointestinal disorders of infancy, the infectious fevers, and sepsis. It may not be unprofitable to summarize rapidly the action of yeasts introduced into the digestive tract. We know that the body temperature is favorable for their development, and that the saliva has no unfavorable influence. The gastric juice destroys a certain proportion of the yeasts introduced, but a certain amount is passed on, still active, into the intestine. In this alkaline medium we are obliged to consider the action of the bile, pancreatic secretion and the microorganisms present in the contents. It has been found that microorganisms do not sensibly affect the vitality of the yeasts. The action of the intestinal juices and the pancreatic juices is not as certain, but we know that the bile exercises a retarding influence. It is found necessary, in order to provide the most suitable medium for the development of yeasts, to add a liberal supply of sugar. Large quantities of yeast produce diarrhea, vomiting, fever and coma, which, it has been pointed out, are probably due to the toxic action of the carbonic acid gas evolved. Before we can intelligently employ yeasts in other than an empiric manner it will be necessary to have established the complete action of the several varieties of yeasts and the precise rationale of this action.

Experiments with the Milk of Tuberculous Cows.—According to the *Popular Science Monthly* (March, 1901) some interesting observations have been made at the Storrs Experiment Station in Connecticut on the use of the milk of tuberculous cows. Experiments, extending over a period of several years, were made by using the milk of a group of diseased cows for feeding calves. During the first two years, when the cows had the disease only in its earlier stages, the calves and young cattle which were fed on their milk and ran with them constantly, presented no symptoms of tuberculosis and showed no reaction to the tuberculin test. During the next year and a half, however, the results were quite different. By this time the disease had progressed so far in three of the cows used for the experiment that their failure was quite apparent. Five calves fed on the milk

from these animals, now well advanced in tuberculosis, proved to be diseased and responded to the tuberculin test. These experiments go to prove, what would almost be accepted without proof, that a cow far advanced in tuberculosis is more likely to transmit the disease with her milk than a cow that was still in the incipient or early stages of the infection. The one practical inference to be drawn is that the danger of infection from tuberculous cows is probably not so great as some persons have feared, because bovine tuberculosis, at least when transmitted to human subjects by milk, is not likely to be so transmitted until the disease is so recognizable as to be easily detected. Still, these observations were made on calves, not on children, and the inference is rather a wide one that is drawn from calves to children. Experiments seem to have proved that pasteurized milk from tuberculous cows can be safely used for raising calves, but this is no argument in favor of feeding such milk to children—or to people in general. Dairymen, as well as veterinarians, cannot be too careful to take no risks in any such way. "Pure" milk does not mean "pasteurized" milk.

The Care of "Neglected" Children.—Crime and vice may be looked upon as symptoms of disease in the body politic, and as such no effort can be too great that is exerted in their prevention, not less than cure. That much crime and vice can be prevented is so obvious a truth that its statement seems superfluous. Unfortunately, we cannot go back 200 years in our influence upon society, but we can at least start 200 years in advance. Inasmuch as "the child," in truth, "is father of the man," we must, in order to diminish crime and vice in later life, prevent its development and growth during the receptive and evolutionary period. Such a noble work the Children's Aid Society of Pennsylvania is engaged in, and it is done most admirably, intelligently, and practicably. The principle followed consists in the individual treatment in homes of the children that come under the care of the Society, which now, after an active existence of 19 years, has on its list 8,000 good homes that have been carefully investigated and inspected, into which, for a small payment at first, the children will be received. The object is to provide the children, not with the reformation that often they do not need, but with the personal care and attention and influence of foster-parents, that they need most of all. That the principle is correct is amply proved by its successful application. The efforts of the Society are directed upon three main lines: The care of foundlings; the securing of work in country families for women with babies; and the care of neglected children accused of delinquency or crime. The last report of the Society, just issued, shows that there were under its care at the beginning of the year 1900, 803 children, and that during the year 140 were additionally received. These are classified as follows: Orphans, 33; half

orphans, 97; deserted children, 39; from dissolute parents, 63; from unmarried parents, 43; from invalid and insane parents, 26; rescued from ill-treatment, 88; from parents living, but separated, 93; from parents unable to control, 42; vagrants, 10; from criminal courts and magistrates, 56; from almshouses, 335; from other charitable societies, 18. Depravity and immorality, like weeds, thrive where neglect and indifference prevail; while good citizens, like choice flowers, must be tenderly watched and carefully cultivated. The work of this Society emphasizes more forcibly than any elaborate argument the wisdom and the economy, as well as one method of preventing crime and vice, and thus by so much lessening the later need for reformatory, prison, and almshouse; and it should receive unstinted support, inasmuch as it represents an inestimable service both to the individual and to the State.

The Association of Appendicitis and Right-Sided Adnexal Disease.—The frequency with which disease of the right uterine appendage and broad ligament is associated with an adherent and inflamed vermiform appendix has attracted the attention of abdominal surgeons to a much greater extent within recent years than formerly. Indeed, the gynecologist is now arming himself for any intestinal complication of the kind when the symptoms would seem to indicate right pelvic disease. It is, however, very often when such a complication is least expected that the emergency arises, and the field of operation is unexpectedly transferred upward to the right iliac region. Persistent bladder-symptoms—frequency of micturition, dysuria, and irritable bladder—may have their origin in the adherence of an inflamed appendix to the body of that organ, while severe paroxysmal colicky pains, closely simulating those of extrauterine gestation or the painful contractions of a tubal abscess, may, at the time of operation, be found to have arisen in a latent appendicitis, with dislocation of that erratic organ to the pelvic region. Every gynecologist has now and again run across an elongated vermiform appendix—which not infrequently does not appear to be inherently diseased—attached firmly to the uterine fundus, broad ligament, tube, or ovary, with extensive pathological involvement of the pelvic viscera. The very frequency of the association would seem to debar the accidental element and to indicate some causal relationship between the two conditions.

Is the appendix attracted to a primary focus of disease in the pelvic organs, drawn thither by the vascular engorgement of the parts, or is it itself the offending agent, and, wandering here and there among the pelvic viscera, does it attach itself arbitrarily to a more susceptible portion of these organs, and through transmission of the pathogenic germs that normally inhabit its lumen, excite in the surrounding tissues an inflammatory reaction?

The tendency for the bacillus coli communis to penetrate the intestinal walls and invade the substance of adherent organs and tissues has repeatedly been noted. A dermoid cyst, pus-tube, or ovarian or uterine tumor may thereby be transformed into a suppurating nidus of grave disease and destruction of tissue. Is it not quite reasonable to suppose in certain of these associated cases of pelvic and appendiceal disease in which the greater pathological changes are to be found in the fallopian tube or ovary, in the absence of the history of septic or gonorrheal disease originating in the uterus or vagina, that the pelvic disease is the direct result of infection from the appendix vermiformis through bacterial transmission? On the other hand, when the adherent appendix appears to be more advanced in the pathological process, and has attached itself by bands of plastic lymph to a comparatively healthy broad ligament, or to the fundus of the uterus or to the bladder, it would naturally seem to be the offending organ primarily diseased and merely attaching itself to whatever chanced to be most in apposition to it.

The obscurity that is unavoidably associated with the etiology of appendicitis necessarily renders any absolute statement as to the primary point of the disease in these pelvic cases impossible. It would seem to us, however, that the origin of pelvic disease from appendiceal infection is more than merely possible, and indeed, quite probable for various reasons, as follows: In the first place, the well-recognized source of infection from intestinal adhesions in cases of suppurating cysts and tumors arising from the pelvis, proves the ready transmissibility of the pathogenic intestinal germs to the surrounding structures. If this complication may arise from ordinary adherent loops of intestine, it is just as reasonable to suppose that it may follow from an adherent appendix when that organ penetrates into the pelvic recesses. In the second place, the frequency of the greater pathological changes being in the adherent structures and not in the appendix itself, would seem to prove that the infection has arisen in a bacterial invasion, the microorganisms not producing the same inflammatory changes in their natural habitat as they would in any adventitious structure into which they might penetrate. In the third place and finally, the aggravated constipation, which is such a common associated condition in the various pelvic disorders of women, by lessening the resisting powers of the body through the resultant toxemia and by markedly increasing the virulence of the pathogenic bacteria resident in the intestinal tract, favor their dissemination through the bowel-wall adherent to the surrounding organs whereby the latter will the more readily become the seat of infection and active inflammatory changes. In some of the right-sided pelvic inflammations, therefore, the possibility of an appendiceal origin should not be overlooked.

Reviews.

An Introduction to Physiology. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. Pp. 314. Cambridge, Mass.: The University Press. 1901.

The readers of the PHILADELPHIA MEDICAL JOURNAL will recall the admirable paper of Professor Porter (published in the issue of September 5, 1900) on the teaching of physiology. In this paper the advantages of a properly conducted laboratory course of instruction over a purely didactic course, though illustrated by experiments, were clearly, forcibly, and convincingly pointed out.

The method of teaching there outlined has been put in practice at the Harvard Medical School.

In this paper it was also stated that at the very beginning of his studies, the student should acquire a knowledge of physiological methods, should be trained in technic by the study of one or more tissues, the physiology of which is well advanced. For this purpose no departments of physiology are so well adapted as those relating to the physiology of muscle and nerve, and the physiology of the circulation.

The "Introduction to Physiology," recently published by Professor Porter, is intended to meet the requirements of the method advocated by him. It is believed that the subject-matter is "at present that best adapted to form the mind in habits of exact observation and clear reasoning." It is divided into two parts: 1. The physiology of muscle and nerve. 2. The physiology of the circulation.

In Part I, under the title, "Methods of Electrical Stimulation," there is a description of a new form of that valuable instrument, the capillary electrometer, devised by Professor Porter, a new form of rheocord to be used in connection with the electrometer, an account of the electric cell, and a clear presentation of the scientific principles underlying their construction, their mode of action and their mutual adaptation for the study of the phenomena exhibited by muscle and nerve. The phenomena of induction, the construction of the inductorium, the induced currents and their advantages as stimulating agents, are clearly and scientifically presented.

Then follows a brief account of the graphic method, the apparatus employed, and the manner in which it is used in physiological work. The remainder of Part I, pages 59 to 235, is devoted to a consideration of the electrical stimulation of muscle and nerve, chemical and mechanical stimulation, irritability and conductivity, the electro-motive phenomena of muscle and nerve, and the change in form of muscle. Under each heading there are a number of fundamental experiments logically presented, which, if thoroughly and accurately performed, will not only give the student valuable information, but, far better, will train his faculties for the investigation of problems in other fields of physiology.

Part II is devoted to a consideration of the mechanics of the circulation. The cardinal facts are made clear by means of a new artificial scheme also devised by Professor Porter. This, taken in connection with a number of experiments made with the heart of the frog, and observations of the heart and pulse of man, will give the student an admirable idea of the phenomena of the circulation. An objection to the use of this Introduction by other teachers, might be that it will be necessary to have the same apparatus in order to perform the experiments here detailed. This difficulty is easily overcome by buying the apparatus, which we are informed is "trustworthy and relatively inexpensive." The Introduction is cordially recommended to all those interested in the practical teaching of physiology. [A.P.B.]

Society of Biology.—A Society of Biology has been founded in Italy for the purpose of studying biological sciences. The society is divided into sections on anatomy, physiology, pathological anatomy, general pathology, pharmacology, hygiene, zoology, and botany.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

New Department.—A department of Laryngology and Rhinology has been established by the Board of Trustees at the Presbyterian Hospital, 51 North Thirty-ninth street, under the direction of Dr. Arthur H. Cleveland.

New Duties for Pathologist.—Hereafter the pathologist at the State Hospital for the Insane will be compelled to examine the cattle obtained for the institution to ascertain whether they are free from tuberculosis.

Rabies.—Dr. N. G. Keirle, resident physician of the Pasteur department of the City Hospital, has found that a cat which bit several members of a family at Mahanoy City, Pa., nearly a month ago was rabid. The cat, which had been a pet, was killed and a portion of the spinal cord was sent to the Pasteur laboratory. Rabbits inoculated with a tincture made from the spinal cord became rabid.

Practised Medicine 68 Years.—Dr. John Dean Ross, a practising physician, died at his home in Williamsburg, Pa., March 5th, aged 95 years. Dr. Ross was graduated from the University of Pennsylvania in 1832. He founded the Blair County Medical Society, and was its first president. He was president of the State Medical Society in 1865, and was its oldest member at death. He was a member of the American Medical Society 47 years.

St. Joseph's Hospital.—The report of St. Joseph's Hospital for February shows the number of patients admitted during the month in the gynecological, surgical and medicinal clinics to have been 163; remaining from January, 120; total number treated, 283; patients discharged during the month, 160; patients remaining March 1, 123. In the medical clinic there were 165 cases treated; surgical, 394; gynecological, 107; ear, nose and throat, 223; children's clinics, 87; nerve, 60. There were 34 ambulance calls, 32 patrol cases and 92 accident cases.

Assistant Surgeon of the Russian Navy Charged with Desertion.—Leo Alexandroff, an assistant surgeon of the Russian cruiser *Variag*, who was arrested as a deserter, was set free on July 23, 1900, by a decision of the United States Court of Appeals. He came to this country with a crew intended for the *Variag* while the vessel was building at Cramps' shipyards. Shortly after his arrival he took out his first naturalization papers, and was later arrested as a deserter. The surgeon claimed that, as the *Variag* was not in commission, he could not desert from a ship that did not exist.

Deaths in Philadelphia.—The report of the Bureau of Health for 1900 has been submitted. It states that 2,717 deaths have occurred from tuberculosis during 1900. This report gives interesting statistics, of which, perhaps, the most significant is the number of deaths resulting from consumption—2,717. The Board is considering the advisability of recommending to the legislature the placing of this malady on the list of contagious diseases. Pneumonia, it is stated, caused 2,915 deaths during the year; but there was a marked decrease in the number of fatal cases of diphtheria, ascribed to the use of antitoxin. Attention is called to the sanitary need of prohibiting further interments in cemeteries in the central or built-up portions of the city. On the subject of milk, it was reported that 1,684,768 quarts were inspected during the year; and 21,384 were found to contain adulteration of water. Smaller numbers of quarts were found to be adulterated with preservative, or to contain coloring matter. It is recommended that many improvements be made at the Municipal Hospital in the way of interior alterations.

Death of Dr. Richard J. Dunglison.—Dr. Richard J. Dunglison, whose reputation in medical circles need hardly be commented upon, died on March 4 at his home in Philadelphia. Dr. Dunglison was born in Baltimore, Md., November 13, 1834. His father was Dr. Robley Dunglison, a well known physician, and his grandfather, John Leadam, was a noted surgeon in London, England. Dr. Dunglison was a graduate of the Central High School and the Collegiate

Department of the University of Pennsylvania, receiving the degree of A.B. in 1852 and A.M. in 1855. In 1852 he took up the study of medicine under his father's direction, and after a four years' course in the Jefferson Medical College graduated from that institution in 1856. He was the editor of "Dunglison's Medical Dictionary" and many other medical works of reference. He was acting assistant surgeon of the army from 1862 to 1865, and executive officer of a local army hospital during the closing years of the Rebellion. He was a member of the County Medical Society, Mutual Aid Association, State Medical Society, American Medical Association, International Medical Congress and many other organizations, in nearly all of which he held office.

Vital Statistics of Philadelphia for the week ended March 2, 1901:

Total mortality	CASES.	DEATHS.
Inflammation of appendix 2, brain 15, bronchi 11, kidneys 27, lungs 75, peritoneum 8, pleura 1, stomach and bowels 17, spine 2		158
Inanition 21, marasmus 15, debility 4		40
Tuberculosis of lungs		62
Apoplexy 29, paralysis 8		37
Heart—disease of 29, dropsy of 1, fatty degeneration of 1		31
Uremia 12, diabetes 4, Bright's disease 14		30
Carcinoma of bladder 2, stomach 3, uterus 2, jaw 2, liver 1, larynx 1, esophagus 1		12
Convulsions 18, convulsions, puerperal 1		19
Diphtheria	108	20
Brain—disease of 1, dropsy of 2, softening of 3		6
Typhoid fever	18	6
Old age		10
Cyanosis		4
Scarlet fever	91	9
Influenza 14, abscess of lung 1, abortion 1, asthma 1, anemia 1, aneurysm of aorta 1, burns and scalds 4, casualties 7, cerebrospinal meningitis 1, congestion of brain 1, congestion of lungs 4, pelvic cellulitis 1, cirrhosis of liver 5, childbirth 1, tuberculosis of the bowels 1, carbuncle 1, croup 1, membranous croup 7, diarrhea 2, drowned 1, dysentery 1, erysipelas 3, catarrhal fever 1, fistula 1, gangrene of foot 1, hemorrhage from stomach 2, neuralgia of heart 3, obstruction of bowels 2, edema of lungs 1, poisoning 1, rheumatism 3, sclerosis of spine 1, surgical shock 1, septicemia 6, sarcoma of breast 1, lung 1, suicide 3, teething 2, brain tumor 2, ulceration of stomach 1, whooping-cough 1		94

Pathological Society.—At the meeting of February 26, Dr. R. N. WILSON, JR., reported for himself and Dr. R. H. HARTE a case of **primary carcinoma limited to the vermiform appendix**. The patient was a woman of 24, with a negative family history, who had had several attacks of pain over the appendix and also in the right lumbar region. Diarrhea with bloody stools also was present at times. Operation revealed a long appendix, apparently normal, and no adhesions. The appendix was removed and sectioned. The lumen was obliterated nearly its entire length and at one point was found a typical carcinomatous growth. Dr. Wilson believes that the carcinoma could not have been diagnosed. The blood-count was normal and no tumor showed even when the appendix was removed. The prognosis in these cases is an interesting question. Dr. Wilson thinks that the seriousness attaching to them has been exaggerated. If the prognosis is unfavorable it would suggest the propriety of removing the appendix immediately in every case with appendicular symptoms.

Dr. D. J. M. MCCARTHY and M. P. RAVENEL exhibited a specimen of **melanosis of the cerebrospinal membranes from a case of rabies**. The specimen was from a cow that had died of hydrophobia. All the membranes were affected, but neither the cord nor brain showed any changes. The intense deposit of melanin was not considered to have any connection with the cause of death.

Dr. WILLIAM S. WADSWORTH spoke on **injuries to the brain**. The relation between the resisting powers of individuals and the injuries received was discussed and their significance pointed out.

Dr. M. B. HARTZELL reported a case of **lenticular cancer of the skin**. The lesion appeared first on the sole of one foot and was removed. It afterward spread to the legs, trunk, and face, death of the patient ensuing.

DR. JOHN B. ROBERTS showed specimens of **multiple tumors of the sciatic nerve** which he had recently removed from a patient, 36 in all having been removed.

Academy of Surgery.—At the stated meeting held March 4, DR. RICHARD H. HARTE presented a patient showing the result one year after an operation for **sarcoma of the antrum of Highmore**.

DR. CHARLES H. FRAZIER exhibited a patient showing a peculiar **neuropathic affection of the bones**. Skiagraphs showed a thickening of the left tibia and fibula and exostoses projecting into the right knee-joint with thickening of the ends of the bones.

DR. R. H. HARTE read a paper entitled **some observations on compound fractures of the skull based on 146 cases**. In doubtful cases of fracture an incision should be made through the skin over the point of injury. If infection has taken place a drainage tube may be inserted, but it should seldom extend beneath the edge of the bone. Trephining is not a serious operation, all but 3 of 26 cases recovering. Opium is one of the most useful remedies in use in these cases. Of the deaths 87% occurred during the first 24 hours.

DR. JOHN H. GIBBON reported **two cases of left cecal hernia**. Both patients were males. From a resumé of the literature the conclusion is reached that this variety of hernia is rare in women. The causes are believed to be a small movable cecum and a previous hernia of the small intestine.

DR. FRANCIS T. STEWART (by invitation) reported a case of **cecal hernia with volvulus of the ileum**.

DR. JOHN B. DEEVER read a paper entitled **mortality in operations for obstructive jaundice**. Hemorrhage, cholemia, and shock are the causes of death in the majority of cases. Peritonitis is not a common cause. To prevent hemorrhage chlorid of calcium in 30 grain doses may be given for several days before and after operation, although Dr. Deever has not seen any great benefit from its use. Suprarenal extract seemed of value in one case. The medical treatment of these cases is always disappointing. Early operation is the best preventive of hemorrhage and other complications.

DR. THOMAS S. K. MORTON read a paper entitled: **Report of a case of strangulated femoral hernia; herniotomy; acute obstruction 3 weeks later; enterectomy; recovery**. The case brought up the question of deciding what bowel to return and what to excise when operating for hernia. Dr. Morton returns all bowel that retains its endothelium.

DR. GEORGE ERETY SHOEMAKER spoke on the **Treatment of suppurating hematocele following extrauterine pregnancy**. When the abdomen is opened and this condition found, the abdomen should be closed and the collection evacuated through the vagina. The vaginal route should not be used when operating for extrauterine pregnancy.

Registration of Tuberculosis.—The following tract has been published for gratuitous distribution by the Pennsylvania Society for the Prevention of Tuberculosis:—Tuberculosis, or consumption, as it is usually called, is a contagious disease. The contagion centers around the person who has it, so that he as well as the place in which he dwells are liable to give the disease to others. But the contagion is confined to the matter given off from the diseased part, such as sputum which comes from diseased lungs, or matter which comes from a sore; and this contagion can be destroyed when such sputum or matter is given off, thus making the person of the consumptive, as well as the place in which he lives, harmless to others.

To do this, certain knowledge and means are necessary. Where is this knowledge and means to come from? Under our system of government from the Board of Health. But how is the Board of Health to know who needs them? *Only through registration of every case of tuberculosis.*

Now there are a great many people who seem to think that registration of tuberculosis means putting a yellow label on every consumptive's house, or tying a yellow ribbon on his coat, so that the poor consumptive may be branded and shunned like Cain. Nothing could be farther from the truth.

The only objects which can be obtained by registration of tuberculosis are: 1. To give knowledge and help to the consumptive and his family for their protection and for the protection of the public. 2. To protect people against the danger from contaminated houses into which they may innocently move. As things are now, a family may run into danger which they cannot see. If the house has been occupied by a consumptive, some member of the family moving in is very likely to get the disease. If every case of tuberculosis were registered, the Board of Health could watch houses which are occupied by consumptives and require their disinfection when vacated. To properly disinfect a house is rather an expensive operation, and this being the case few landlords will do it except under compulsion. No one can compel a landlord to disinfect such a house except the Board of Health, and the Board of Health cannot do so unless it knows where the house is.

Registration of tuberculosis would indeed be one of the greatest blessings possible to the people, and especially to the poor people. There would be no publicity in the matter. The sufferings of the consumptive poor would be lessened because they would be at least known to the authorities. The fact is we have all grown so indifferent about the existence of consumption and so callous about the sufferings of the consumptive that we seem oblivious of them. The poor consumptive could not be more completely hidden in the desert than he is in our midst. He needs to be discovered. He needs public attention and only through registration can he get it.

If you desire to join the Pennsylvania Society for the Prevention of Tuberculosis, a remittance of \$1 to the Secretary, 2024 Pine street, Philadelphia, or to The Commonwealth Title Insurance and Trust Co., Treasurer, 813 Chestnut street, Philadelphia, will secure membership.

College of Physicians.—At the meeting of March 6, DR. W. W. KEEN exhibited a modification of Fell's apparatus for artificial respiration. The bellows has an opening in which a funnel containing cotton can be placed for the purpose of giving an anesthetic, if desired. To the tube leading from the bellows can be attached a face-piece or a modified O'Dwyer intubation apparatus, which, when inserted, closes the opening of the larynx. A thumb is held over the end during inspiration (the tube being attached at the side) and removed during expiration. The apparatus is believed to be extremely useful in two respects: First, in surgical operations about the chest; second, in cases of opium poisoning, etc.

DR. GEORGE W. CRILE, of Cleveland, Ohio, gave, by invitation, an address on **experimental research into surgical shock and collapse**, and presented stereopticon views of blood-pressure charts, etc. The experiments were made on upward of 250 dogs, all of which were under surgical anesthesia and were killed before consciousness was regained. The effects on blood-pressure and respiration, of cutting, bruising or burning the various tissues of the body were detailed. The effect produced by sawing or cutting bone, cartilage or fascia was very slight. Wounds of muscle gave more change and in nerve-trunks the effect was very marked, there being an immediate rise of blood-pressure. Opening joints produced little effect. In amputations and disarticulations the principal change was caused by cutting the skin, muscles and nerve-trunks and not by sawing the bone or opening the joint. This exactly opposes the old view. Cutting the skin produced everywhere a marked effect (greatest over the abdomen), the change being greater than for any other tissue except the nerves. Cutting or crushing the tongue produced but little effect, but drawing it forward with considerable force, particularly if toward one side, sometimes caused total inhibition of the heart. The clearing of the throat by vigorous anesthetizers and the inhibition of respiration which sometimes follows and is supposedly remedied by drawing forward the tongue, suggested the above experiments. Foreign bodies thrust into the pharynx and larynx caused marked inhibition, in some instances collapse. Interference with the laryngeal mucosa caused respiratory inhibition and, if marked, cardiac inhibition also. The upper part of the larynx is most sensitive. When the superior laryngeal nerves were severed, these effects were not produced. Cases of quick death from drowning are believed to be due to circulatory failure and not to asphyxia. In positive inflation of the lungs circulation may possibly be stopped, an

important point in cases of resuscitation. Manipulation of the peritoneum caused marked arrhythmia of respiration and, when long continued, complete failure. These changes were more marked as the region of the diaphragm was approached. Handling the omentum caused no change. Opposite effects were noted in the male and female genital tracts. In the former the change, if any, is a fall of blood-pressure. In the latter the blood-pressure rises. Regarding the effect of blows upon the pit of the stomach, experiments led to the conclusion that no amount of manipulation of the solar plexus could produce collapse. The effect is due to action upon the heart, as blows upon the stomach, diaphragm, or intestines will not produce it. The symptoms of asphyxia were compared with those of inhibition. Asphyxia is generally blamed for the sudden deaths which occur during intubation or the removal of a foreign body from the larynx. Experiments showed that it is impossible to produce sudden death by asphyxia. Respirations are more intense when true asphyxia comes on and it takes from 2 to 8 minutes to cause death. These sudden deaths are caused by reflex inhibition of respiration and the heart through the superior laryngeal nerves. Dr. Crile then spoke of the various causes of collapse. Shock is believed to be caused by impairment of the vasomotor nervous system, as shock cannot occur without low blood-pressure. The heart still beats, but pressure is only slightly raised. The pulse is small because the blood does not get back to the heart in sufficient amount to raise venous pressure and consequently arterial pressure. DR. BRINTON mentioned having seen very great collapse from division of the thyroid isthmus and asked if experiments regarding it had been made. DR. CHARLES FRAZIER asked if spinal anesthesia had been used in any of the experiments. In answering these and other questions DR. CRILE stated that he had found nothing in the thyroid isthmus to cause such effects, and thought they were probably due to the traumatism on the larynx itself. Experiments with spinal anesthesia showed that no changes in blood-pressure or respiration were caused by operations upon the anesthetized area. The experiments had led to no plan of treatment for shock, as they were more suggestive of prevention than of cure. As to the part played by hemorrhage in causing shock, there is no fall in blood-pressure from hemorrhage up to a certain point, as the heart and vasomotor system compensate for the loss of blood. But because of the diminished stock of reserve power, shock comes on more easily after hemorrhage. The continuance of shock after abdominal operations depends upon the amount of raw surfaces left, the tension of stitches, amount of blood-clot left, etc. These factors probably determine why one surgeon's patients recover from operative shock sooner than do those of another operator. The statement was repeated that the cause of death in cases of quick drowning is blocking of the circulation instead of asphyxia.

College of Physicians of Philadelphia—Section on Ophthalmology.—Meeting, February 19, 1901. Dr. William Thomson, chairman, in the chair.

DR. WM. ZENTMAYER exhibited a case of **synchysis scintillans** occurring in a woman, aged 40 years. The condition was monocular, affecting the right eye. The crystals were diffused throughout the entire vitreous, and in places were imbedded in the retina. The fundus was otherwise normal. Dr. Zentmayer also showed a man, aged 43 years, with **hyaline formations on the optic nerve head**. The entire temporal half of the disc and the lower inner portion, in places, was covered by a mass composed of clusters of brilliant grayish-white bodies. There were similar bodies in the choroid surrounding the lower outer portion of the disc. The left eye presented the same condition in a less marked degree. Both nerves were very slightly atrophic. In the discussion DR. DE SCHWEINITZ showed a microscopic slide of an optic nerve which had ophthalmoscopically presented all the appearances that were seen in Dr. Zentmayer's case. DR. CARPENTER referred to 5 cases which he had reported several years ago, in only one of which were the drusen bodies found both in the macular region as well as on the nerve head.

DR. G. ORAM RING exhibited a young girl, 9 years of age, with **paresis of the left internal rectus following diphtheria**, which unlike most of the cases that he had seen, showed no improvement after 9 months' time.

DR. JOHN T. CARPENTER gave the clinical history of a case of **melanotic sarcoma of the choroid** in a woman, aged 64, of poor health and with probable malignant disease of the liver.

DR. H. F. HANSELL read a paper on **Binocular hemianopsia and optic-nerve atrophy in a case of diabetes mellitus**. The patient, a woman, 56 years of age, had suffered for a number of years with diabetes mellitus. The eye-symptoms commenced 6 months before she came to the eye department of the Jefferson Hospital. The ophthalmoscope showed marked optic-nerve atrophy of each side without signs of previous papillitis. The perimetric measurements disclosed an irregular hemianopic field for white and a definitely outlined hemianopic field for colors. Vision had declined to $\frac{20}{200}$. DR. DERCUM, who saw the patient in consultation, believed that the diabetic and the optic-nerve atrophy were both due to the same cause, namely, intracranial lesion, probably of the floor of the fourth ventricle. The urine contained $\frac{1}{2}\%$ glucose and was of high specific gravity; it was free from albumin. The case is of interest in that it demonstrated the rare form of eye complication, namely, optic atrophy with hemianopsia without opacity of the media or history of inflammation. Dr. Hansell reviewed the recent literature. In the discussion, DR. DE SCHWEINITZ thought that the symmetrical changes in the visual fields in diabetes mellitus might be explained by the action of the toxin of this disease on the ganglionic cells of the retina. The degeneration in the ganglionic cells results in atrophy of the macular fibers, which later spreads to other bundles. The action of the toxin of diabetes under these circumstances is similar to that of certain drugs; for example, quinin, filix mas, methyl alcohol, etc.

DR. S. D. RISLEY, under the title of Clinical Memoranda, presented Case I, **black cataract**, in a man, aged 74, a native and resident of the island of Barbadoes. Eight years before, an unsuccessful attempt had been made by a local surgeon to extract the lens in the right eye after an iridectomy for glaucoma. Dr. Risley found the ball shrunken, tender to palpation, and evidently causing sympathetic irritation in the fellow eye, a contracted field, increased tension, and a black cataract. The right eye was enucleated, a broad peripheral preliminary iridectomy made on the left, and 6 weeks later the lens successfully extracted in its capsule. The eye recovered without accident, and in 5 weeks, with correcting-glasses, $+5. \text{C} + 8. \text{C}$, $\text{Ax. } 180^\circ$, $\text{V.} = \frac{1}{12}$, with some difficulty. Through this correcting-glass a distinct but apparently not very deep glaucomatous cup of the optic nerve could be made out. Case II was that of a man, aged 58, a patient at the Wills Eye Hospital, presenting **extraordinary calcareous deposit in the tarsal conjunctiva**. He was the victim of chronic trachoma, erosion of the borders of the lids and closure of the lacrimal puncta in the upper and lower lids in both eyes. The entire surface of the conjunctiva was occupied by a pavement of yellowish-white masses that exuded through the overlying soft tissue under pressure. A portion of this was collected, treated with dilute acetic acid, and evaporated to dryness. This was once more dissolved with dilute acetic acid, filtered, and a drop of ammonium oxalate test-solution added, which showed the characteristic precipitate of calcium oxalate.

DR. G. E. DE SCHWEINITZ described some **unusual choroidal lesions associated with pregnancy**. A case of unilateral neuroretinitis beginning in the fifth month of pregnancy resulted in complete disappearance of the neuritis, but left an extensive pigmented retinochoroiditis. He was inclined to think that the retinal and choroidal lesions began simultaneously, although it was possible that the retina was first affected and the choroid coat became involved later, as in several other similar reported cases. In the second case the lesions were those of a bilateral choroiditis, or rather retinochoroiditis, which somewhat resembled pigmentary degeneration of the retina, and were ascribed to the influence of an abortion about the third month. It was suggested, however, that a syphilitic affection prior to this date might have been the cause both of the choroidal lesions and of the abortion.

DR. DE SCHWEINITZ also described a case of **normal combined cataract extraction in which the anterior chamber was not reformed until the thirty-second day**. Although the upper part of the cornea was slightly hazy, vision was $\frac{1}{12}$, but the eye remained red and lacrimation was

excessive. Two and one-half months later keratoiritis suddenly developed, followed by three or four attacks of secondary glaucoma, in one of which the anterior chamber became filled with blood. Vision was reduced to light-perception. Under the influence of profuse diaphoresis produced with pilocarpin and large doses of salicylate of sodium, all inflammatory symptoms disappeared, and ultimately the vision rose to $\frac{1}{2}$, with proper correction, in spite of extensive corneal opacity. The slow closure was attributed to failure of reparative power due to the mental condition of the patient, which was greatly depressed. The late keratoiritis was ascribed to irritating and doubtless infecting secretions from the conjunctiva which obtained entrance through an imperfectly closed wound, because even when the anterior chamber was apparently restored, it is probable that the wound was not perfectly solid. The secondary glaucoma was doubtless caused by sudden complete closure of the wound as follows: Slight leaking from the anterior chamber through an insignificant fistulous opening prevented a rise in tension; when this perforation closed there was complete restoration of the anterior chamber, but the aqueous could no longer find an outlet through Fontana's spaces, which had become impervious, and hence the rise in tension and glaucoma. Dr. Knapp has reported analogous cases, and suggested such an explanation. The great value of pilocarpin diaphoresis was emphasized.

County Medical Society.—The first paper at the meeting of February 27 was read by DR. ELIZABETH L. PECK, who reported two cases of typhoid fever and a case of suppurating bronchial glands, with recovery. The first case of typhoid fever reported was remarkable because of the high temperature, the limit of the thermometer being reached and maintained for some days. The patient was a very nervous woman, the high temperature being ascribed to that cause. Sponging failed to reduce it, the patient seeming to do better when left alone. The second case was that of an epileptic, the convulsions continuing throughout the attack.

DR. MATTHEW WOODS read a paper on the **Registration of tuberculosis from the standpoint of private practice.** Dr. Woods strongly opposes compulsory registration. He believes it would cause a disturbance without being a benefit to either the sick or the healthy. Persons who have been registered may be denied employment. The keeping of a knowledge of his disease from a sick person is often the most beneficent act a physician can do. Registration will not allow this. The fear of registration will have a tendency to keep people from seeking medical advice, until it is too late. Consumption is not contagious. Some people have tubercle bacilli in their sputum and not the disease, and *vice versa*. The Board of Health can accomplish more by eliminating the slums of the city than by making registration compulsory. Physicians can accomplish much by inculcating sanitary laws.

DR. LAWRENCE F. FLICK read a paper entitled **Home treatment of tuberculosis.** In the treatment of this disease three points are to be aimed at: 1. The restoration of the physiological functions of the body. 2. The securing of hypernutrition. 3. The conferring of immunity. These can be best secured, in the case of the poor, by treatment at home. "Close" treatment refers to sanatoria; "open" treatment to the home. The paper of Dr. Flick was an outline of what he characterizes close treatment at home. Early diagnosis is the first point and in this the general practitioner should be more alert. Indigestion is one of the earliest symptoms and its persistence always calls for physical examination of the lungs. When the diagnosis is made the first step should be to inform the patient of his condition. This is necessary to secure his cooperation in the treatment which he should understand is to be a struggle—perhaps from 3 to 5 years in length. Patients are often not cured when they seem to be, and treatment should be kept up for some time after a favorable result is obtained. A daily routine of life as to food, exercise, etc., should be laid down. Abundance of food is necessary—3 to 6 quarts of milk and 6 to 12 raw eggs daily can be taken by many patients. The foundation principle of medication for these cases is that whatever builds up the system is good for the patient. In Dr. Flick's experience the iodine compounds are first in value. Next is creosote given in hot water before

meals, a maximum of 50 drops three times daily being attained in some cases. Strychnin, arsenic, phosphorus, digitalis, and iron are also of value. Use any drug that will help any organ. One of the greatest difficulties encountered in the treatment of tuberculosis is the occurrence of complications as colds, influenza, or pneumonia. These frequently cause a recrudescence. When they occur, absolute rest in bed for several weeks must be insisted upon. Dr. Flick's results for the past 6 years have been 18% of cures, with arrest of the disease in 10%, very great improvement in 26%, and temporary improvement in 19%.

In discussing the two last papers, DR. J. C. WILSON stated that the diametrically opposed views of the speakers was not to be deplored, as a controversial spirit served to bring out the subject more fully. While commending the treatment laid down by Dr. Flick, he believes it impossible to carry out these measures among many of the inhabitants of the city, especially the foreign element in the southeastern section. Because of this, the profession must organize and insist that the municipality provide hospitals for poor consumptives. The drugs used today are the same as were formerly employed, but their application is different. Three groups are included—the phenol, iodine, and arsenical. Regarding registration he believes the way to meet a foe is to seek it and thinks that Dr. Woods in his opposition overlooks the value of that movement to society at large. Consumption is a constant menace under certain circumstances, and registration will help to minimize the danger. DR. R. G. CURTIN uses guaiacol, quinin, strychnin, and nuxvomica in the treatment of tuberculosis. He believes the cases of contagion are few. Instances were cited from the Philadelphia hospital where men had lived with consumptives for years, one man who had an ulcerated throat being there for 10 years, and did not develop the disease. Sentiment against consumptives is getting so great that they seem to have no place, and they are constantly depressed by everybody being afraid of them. DR. J. M. ANDERS said that a certain small percentage of cases of tuberculosis get well without any treatment or change of climate, but systematic treatment will add to this number. Considering this fact, too little attention is being paid to cases that must be treated at home. He has no experience with the iodine compounds. Creosote is not a specific, but it controls the bronchitis, fever, and cough as no other drug will do and is the most valuable single remedy. Fats, as cod-liver oil, are of great value. Arsenic and digitalis are of service, but hygienic measures are of infinitely greater importance. The patient should occupy the largest room available in the house and during the summer live out of doors, in a tent, in the woods, if possible. Plants and flowers in the sleeping apartment are of benefit. DR. ANDERS is in favor of registration. Although pulmonary tuberculosis is feebly contagious, the foci of the disease should be located, and for this reason registration should be secured. DR. S. SOLIS-COHEN said that persistent hopefulness on the part of the physician was a necessary part of the treatment. The patient should be told exactly what his condition is. This does not tend to depression, as hopefulness of the patient is characteristic of tuberculosis. DR. COHEN is not convinced that registration is the best way to accomplish what is desired in the way of hygiene, etc., but he is willing to be convinced. Prophylaxis in this disease is not so much a medical question as it is an economic one. There are three easily separable main stages in tuberculosis—the trophic, the bacillary, and the phthisis or consumptive. Perfect recoveries from each stage have been seen. Pneumatic measures are of great value in the treatment, simple and inexpensive ones being readily devised. Treatment may be summed up in one word—nutrition. DR. A. V. MEIGS believes that compulsory registration would not accomplish what is claimed for it, and that if adopted it will sooner or later fail and be abandoned. The diagnosis of tuberculosis is often so difficult that physicians can exercise great latitude in reporting or not reporting cases. He believes that the Board of Health has not the authority to enforce this measure at present. DR. MEIGS also stated that the committee, consisting of Drs. Mitchell, Tyson, and himself, that was appointed to appeal to the Board of Health in regard to the placarding of houses containing contagious diseases, had been unofficially notified by the president that the Board had receded from its position and that in the future

more discretion would be allowed in the matter of placarding. It has been found that this rule of placarding will not work, and the same thing will be true of compulsory registration of tuberculosis. Tubercle bacilli in the sputum are not an absolute indication of pulmonary tuberculosis.

A paper by DR. LEON BRINKMAN, entitled **Observations: Results of 150 operations for appendicitis**, was read by title.

NEW JERSEY.

Physicians Resign.—Dr. Frank H. Glazebrook and Dr. Henry P. Merrill, Jr., house physicians at the Orange Memorial Hospital, at Orange, N. J., have resigned. They state that their resignation was due to a disagreement with the Board of Governors of the hospital.

Morris Plains Hospital.—A resolution has been introduced in the legislature of New Jersey, calling for an investigation of the Morris Plains Hospital for the Insane. This action has been hastened because of a case in which it was charged that the wife of a citizen has been committed to the asylum when her friends believed her to be sane. She has recently been adjudged in possession of her right mind and was released.

DELAWARE.

An amendment has been introduced in Delaware providing that whenever a physician who is a resident of the State and who was duly qualified to vote for representatives in the General Assembly at the last general election prior to his application shall apply to the State Board of Medical Examiners for a certificate, it shall grant it without examination upon his presenting to the board a diploma from a reputable medical college, and on satisfactory proof that he had been in active practice of his profession at least ten years in any other State of the United States.

NEW YORK.

Physician for Lunacy Commission.—The Senate has passed the bill of Senator Brackett providing that the vacancy in the Lunacy Commission now existing may be filled by Gov. Odell from the ranks of physicians who are alienists or who have for two years been in charge of the insane.

Section on Railway Surgery.—A joint session of the Section on Railway Surgery with the Medico-Legal Society of New York will be held on Monday, April 15, 1901, in New York City, under the chairmanship of Dr. Charles K. Cole, of Helena, Montana. An attractive program, which includes a banquet, is being arranged.

Vaccinated Burglar and the Detectives.—A burglar walked into a quarantined apartment-house in New York City last week. There had been some smallpox in the building and two Board of Health doctors were in charge of the house. They found the burglar at work, and before turning him over to the authorities they vaccinated him. When three detectives arrived at the house the Board of Health doctors would not let them out of the building until they had submitted to vaccination.

Regulating Sale of Poisons.—The following restrictions regarding the sale of poisons have been introduced in the State of New York: No substance which, in the words of the law, "according to standard works on medicine or materia medica, is liable to be destructive to human life in quantities of 60 grains or less, shall be sold at retail or furnished without being labeled with the name of the article and the word 'poison' and the name and place of business of the seller plainly printed in red ink." A record must be kept of the more dangerous poisons, as arsenic, cyanid of potassium, hydrocyanic acid, cocaine, morphin, strychnin, and all other vegetable alkaloids and their salts. A complete record, including the name of the purchaser, his address, the amount of poison sold and date of sale, must be kept where it can be inspected at any time by the proper authorities, and must be preserved for five years.

The Buffalo Academy of Medicine held meetings during the month of February, 1901, as follows:

Section on Surgery.—Tuesday evening, February 5. Program: Conservative Surgery of the Extremity, CHAUNCEY PELTON SMITH. Surgical Complications of Typhoid Fever, VERTNER KENERSON. Operative Treatment of Tubercular Lymphomata of the Neck, PRESCOTT LEBRETON.

Section on Medicine.—Tuesday evening, February 12. Program: The Value of Clinical Pathology, A. E. WOERNERT. Pemphigus, with the Record of a Case, J. W. GROSVENOR. Discussion by GROVER WENDE. Report of a Case of Psychical Equivalent of Epilepsy, CHARLES CARY and JULIUS ULLMANN.

Section on Ophthalmology, Otology, Rhinology and Laryngology.—Monday evening, February 18. Program: Presentation of a Case—Macular Choroiditis, with Cholesterol Crystals, J. C. CLEMESHA. The Eye in Nervous Diseases, W. C. KRAUSS. Certain Diseases of the Eye Benefited by Treatment of the Nose and Nasopharynx, B. H. GROVE.

Section on Pathology.—Tuesday evening, February 19. Program: Leukemia, CHARLES S. JEWETT. House Distribution of Cancer in Buffalo During the Past Twenty Years. IRVING P. LYON. Formaldehyd Gas—Its Most Simple Application and its Limitation in Household Disinfection. WILLIAM G. BISSELL.

Section on Obstetrics.—Tuesday evening, February 26. Program: The Toxemia of Pregnancy, M. A. CROCKETT. Symphysiotomy, P. W. VANPEYMA.

Manhattan Dermatological Society.—A regular monthly meeting was held at the residence of Dr. Jacob Sobel, No. 1828 Madison Avenue, on Friday evening, March 1, with Dr. William S. Gottheil in the chair.

DR. L. WEISS presented a case of **erythema multiforme** of the face, showing grouped and scattered papules assuming a semivesicular nature, and circular patches of the forehead. On the extensor surface of the right leg a nodule resembling erythema nodosum had existed for two weeks. DR. SOBEL agreed with the diagnosis of exudativum annulare and DR. GOTTHEIL stated that the face was commonly involved in erythema multiforme.

DR. SOBEL presented two cases of **pruritus hiemalis**. Both patients attributed the itching to the cold weather, one having had repeated attacks. The urine was negative, there was no gastrointestinal disturbances and no signs of pediculosis. The body above the umbilicus was free. DR. WEISS concurred in the diagnosis. In winter-itch there are so-called prurigo papules, which are more visible to the touch than to the eye. DRS. GOTTHEIL and ABRAHAMS considered the first case a papular eczema. DR. COCKS looked upon both as pruritus.

DR. WEISS showed a patient with a **sycosis simplex** of the left cheek and neck, the lesions in the latter region resembling furunculosis. DR. ABRAHAMS looked upon the condition as sycosis plus furunculosis. DRS. BLEIMAN and GEYSER as a sycosis; and DR. GOTTHEIL as a furunculosis.

DR. ABRAHAMS presented a case of **erythema simplex** of the face in a highly neurotic woman. The condition assumes a butterfly shape.

DR. ABRAHAMS showed a case of **rheumatic purpura** which had existed, with remissions, for 20 years. The lesions respond rapidly to salicylates. DR. SOBEL would diagnose peliosis rheumatica and give salicylates. Relapses are not at all uncommon in this affection. DR. GOTTHEIL remarked that most cases of rheumatic purpura occur in children and young people.

DR. ABRAHAMS presented a patient who showed in the prepatellar region a large, firm, bluish-colored, flat mass, about the size of a child's palm. Six years previous the woman noticed a small lump around a varicose vein; this increased in size, remained stationary for 2 years, and then steadily increased to its present dimensions. He inclines toward a diagnosis of **sarcoma cutis**. DR. OBERNDORFER thinks it nonmalignant, probably a fibroma. Microscopical examination is advised. DR. FRANKLIN thinks that microscopical examination would settle matters, and with the aid of clinical observation give a positive diagnosis. DR. COCKS considers it benign. DR. WEISS would call it fibro-cavernosa, and DR. GOTTHEIL angiofibroma.

DR. ABRAHAMS reported a **lupus erythematosus** of the face, followed in 6 months by a **lupus vulgaris** of the left breast, the latter diagnosis being substantiated by micro-

scopical examination. DR. GOTTHEIL presented photographs of sarcoma of the abdominal wall and of congenital hypertrophy of all structures of the third and fourth fingers of the right hand. DR. MEYBOWITZ remarked that such anomalies were usually stigmata of degeneration.

State Health Commissioner.—Gov. Odell appointed Dr. Daniel Lewis, of New York City, State Health Commissioner on February 28 and sent his name to the Senate for confirmation. Dr. Lewis was president of the State Board of Health, which has been legislated out of office. He held the presidency of the board for three terms, serving on it since 1895. His appointment as State Health Commissioner is for the term ending December 31, 1904. The salary of the office is \$3,500 per year. He will have entire jurisdiction over the matters which have hitherto been supervised by the State Board of Health.

NEW ENGLAND.

Resignation.—Dr. B. H. Cheney, for 3 years chairman of the Board of Physicians and Surgeons of Grace Hospital, of New Haven, Conn., and Mrs. Cheney, his wife, chairman of the Women's Board of the institution, resigned their positions on March 1, 1901.

New Haven Hospital.—Plans have been completed for the new clinical building to be erected near the New Haven Hospital. The new building will be situated on the corner of Congress Avenue and Cedar Street, just across from the City Hospital. The frontage on Congress Avenue will be 65 feet, and the depth on Cedar Street, 90 feet.

Prize Essay.—Dr. J. B. Learned, of Northampton, Mass., is continuing his agitation against the practice of administering drugs to induce sleep. He believes that other methods, more natural and less harmful and destructive, are practicable, and offers, through the *Journal of the American Medical Association*, a prize of \$100 for the best essay on the subject.

CHICAGO AND WESTERN STATES.

Dr. Schauer Resigns.—Dr. J. L. Schauer, professor of dermatology in the Milwaukee Medical College, resigned on March 1, 1901.

The American Dermatological Association.—The Association will hold its next meeting in Chicago, May 30 and 31, and June 1, 1901.

Medical Society of the Missouri Valley.—The semi-annual meeting of this society will be held in the city of Omaha, on Thursday, March 21.

The Western Ophthalmologic and Oto-Laryngologic Association.—The Association will meet in its next annual session in Cincinnati, Ohio, April 11 and 12, 1901.

Association of Iowa Physicians.—President, Donald Macrae, Council Bluffs; vice-president, F. E. Sampson, Creston; treasurer, W. B. Small, Waterloo; secretary, J. W. Kline, Ft. Dodge.

Diphtheria in Springfield.—The residents of Springfield, Ill., have become quite alarmed on account of the spread of diphtheria in that city. The disease is of the malignant type, and several deaths therefrom are reported.

Chair of Casualty Surgery.—Dr. Gustavus Blech has been appointed professor of casualty surgery in the Jenner Medical College. This is the first institution in the West to establish a chair for this branch of practical surgery and medicine.

Hospital at Oshkosh.—Dr. C. W. Oviatt, house surgeon at St. Mary's Hospital at Oshkosh, Wis., announces today that plans have been completed for a \$50,000 hospital to be built in the business portion of the city. At the present time \$40,000 has been subscribed.

Pomona Valley (Cal.) Medical Society.—At the meeting of this Society, in Pomona, January 31, the following officers were elected: Dr. Conley Heaton, Pomona, presi-

dent; Drs. William A. Lillie, Ontario, and D. Hardy Smith, Pomona, vice-presidents; and Dr. Edward Henderson, Pomona, secretary and treasurer.

Milwaukee Hospital for the Insane.—The following officers were elected for the ensuing year at the annual meeting of the Board of Trustees: President, B. B. Hopkins; vice-president, A. L. Cary; secretary, A. F. Wallschlaeger; *ex officio* treasurer, the county treasurer, Schultz; executive committee, G. E. Gustav Kuechle, David Vance, J. W. P. Lombard; visiting committee, Christian Wahl, John F. Burnham, Miss Lillian Wall, Mrs. Anna L. Wall, Dr. Ernest Copeland.

SOUTHERN STATES.

Kentucky State Medical Society.—The forty-sixth annual session of the Kentucky State Medical Society will be held in Louisville, May 22, 23, 24, 1901.

The Texas Medical Gazette.—The *Texas Medical Gazette* made its appearance in January of the present year. It is printed at Fort Worth, and edited by Drs. F. D. Thompson, Bacon Saunders, Frank Gray and W. R. Thompson.

Tri-State Medical Society.—At the recent meeting held at Richmond, Va., Dr. J. N. Upsher, of Richmond, Va., was elected president, and Dr. W. B. Royston, of Charlotte, N. C., secretary. The next meeting will be held at Asheville, N. C., February, 1902.

President of Johns Hopkins Resigns.—Dr. Daniel Coit Gilman, president of the Johns Hopkins University, Baltimore, has resigned, the resignation to go into effect at the close of the academic year, September 1st. Dr. Gilman has been with the university since its foundation, twenty-five years ago.

Conference on National Legislation.—The second annual conference on national legislation of the American Medical Association and its affiliated societies was held in Washington on February 20 and 21.

There were present delegates from Kentucky, Michigan, New York, Minnesota, Connecticut, West Virginia, Ohio, Arkansas, Wisconsin, North Dakota, District of Columbia, Washington, Pennsylvania, Maryland, Texas, U. S. Army, and U. S. Marine-Hospital Service.

The chairman, Dr. H. L. E. Johnson and the sub-committee appointed at the last conference to act for the conference during the interim of meetings, reported the results of their endeavors to carry out the wishes of the conference. The report showed that the efforts made to prevent the passage of the so-called "Antivivisection Bill" had been efficacious. The bill providing for the protection of the Florida coast from fishing boats which landed yellow fever suspects, and which was advocated by the conference, would, it was said, probably be passed at this session of Congress. The Army Reorganization Bill, which had recently become a law, did not, however, contain the provisions which the conference had desired for the enlargement and betterment of the Army Medical Corps. The protest against changes in this portion of the Bill as originally suggested by the Army Medical Department had been unavailing. A discussion on this subject showed, however, that the law as enacted did no injustice to the present members of the Army Medical Corps, and was not as unsatisfactory to the medical profession as it at first seemed. It was thought probable that Congress in the future might be induced to give further consideration to the subject, which would result in a betterment in the direction desired.

The conference was notified that one of the provisions of the Post Office Bill now before Congress would compel publishers to affix stamps to weekly medical journals to be delivered in large cities. A resolution was adopted to have a committee of the Conference protest at once to the proper committee of the Senate against the passage of this portion of the Act, which had already passed the House of Representatives.

A subcommittee was appointed to consider the whole subject of medical legislation and medical education in order to obviate the present inconvenience of compelling a physician who moves from one State to another to pass an examination for license, though a licensed practitioner.

The importance of having every State medical society represented in the Conference was recognized, and steps were taken to call the attention of unrepresented State societies to the necessity of action in this regard.

CANADA.

Postgraduate Course.—The corporation of McGill University at the suggestion of the medical faculty will establish a new postgraduate course in legal medicine.

MISCELLANY.

Marine Hospital Inquiry.—Marine Hospital Service has issued a letter of inquiry regarding influenza or grip, with a view to gathering and promulgating some correct information regarding its prevalence and types.

The Stylus.—*The Stylus* has been consolidated with the *Interstate Medical Journal* and the two publications continued under the latter name. Dr. William Porter, formerly editor of *The Stylus*, will be associated with Drs. W. B. Outten, R. B. H. Gradwohl and O. F. Ball, in the editorial management of the *Interstate Medical Journal*, St. Louis, Mo.

Headless Cigars.—Headless cigars are recommended, because they do away with the danger from the pasted end, with its possibilities for infection. Many factory operators are said to have the habit of moistening the fingers in the mouth before making the end twist. The discovery by the San Francisco Board of Health of tubercle bacilli in cigars emphasizes the danger.—*Public Health Journal*.

Obituary.—DR. S. J. SMITH, at Winchester, Va., on February 26, aged 73 years.—DR. D. W. SCOTT, at Oklahoma City, Okla., on February 27.—DR. W. F. Aiken, at Savannah, Ga., on February 27.—DR. OLIVER H. MCKITTRICK, at Washington, Ind., on February 28, aged 61 years.—DR. DITTENHOEFER, at San Francisco, Cal., on February 22, aged 40 years.—DR. GEORGE A. HAMIL, at Martinsburg, W. Va., on February 28.—DR. E. P. FRASER, at Los Angeles, Cal., on February 25, aged 66 years.—DR. EDWARD A. FESSENDEN, at Portland, Me., on February 28, aged 55 years.—DR. JOHN HALLER, at Rose Hill, Mo., on February 28.—DR. WILLIAM H. GATES, at Cleveland, Ohio, on March 4.—DR. JOHN SYLCURCK, at Frederick, Md., on March 5, aged 25 years.—DR. ALOYSIUS X. WHITFORD, at Parkville, Md., on February 28.—DR. THOMAS RILEY, at North Adams, Mass., on March 4, aged 58 years.—DR. JOHN SHELTON, at Leroy, Ill. on March 3, aged 68 years.—DR. L. C. MORGENSTERN, at Brooklyn, N. Y., on February 28, aged 37 years.

Changes in the Medical Corps of the U. S. Navy, for the week ended March 2, 1901:

PICKERELL, G., surgeon, detached from the Cavite Naval Station and ordered to the Mare Island Navy Yard.
THOMPSON, J. C., assistant surgeon, detached from the "Solace," and ordered home to wait orders.
WENTWORTH, A. R., surgeon, detached from the "Independence," and ordered to the "Solace."
CORDERIO, F. J. B., surgeon, detached from the "New Orleans," and ordered home via the "Buffalo."
STOKES, C. F., surgeon, detached from the "Buffalo" and ordered to the "New Orleans."
ROGERS, F., medical inspector, detached from recruiting duty, and ordered to the Asiatic Station for duty as fleet surgeon, sailing from San Francisco, March 15.
PERSONS, R. C., medical inspector, detached from duty as fleet surgeon, Asiatic Station, and ordered home to wait orders.
RUSH, W. H., surgeon, retired, detached from the Pensacola Navy Yard, and ordered home.

Changes in the U. S. Marine-Hospital Service, for the week ended February 28, 1901:

PURVIANCE, GEORGE, surgeon, granted leave of absence for 1 day, February 18.
DECKHAM, C. T., surgeon, granted leave of absence for 20 days from February 17, on account of sickness, February 19.
NYDEGGER, J. A., passed assistant surgeon, upon expiration of present leave of absence to report at Washington, D. C., for orders, February 12. To proceed to Cape Charles Quarantine, as inspector, February 15.
WICKES, H. W., passed assistant surgeon, granted leave of absence for 30 days from March 11, February 26.

TROTTER, F. E., assistant surgeon, upon being relieved by Assistant Surgeon T. D. Berry to proceed to Havana, Cuba, and report to the chief quarantine officer for duty, February 13.
BERRY, T. D., assistant surgeon, relieved from duty at Havana, and directed to proceed to Cienfuegos, Cuba, relieving Assistant Surgeon F. E. Trotter, February 18.
HARRIS, B. Y., acting assistant surgeon, granted leave of absence for 10 days, February 23.
MARSH, W. H., acting assistant surgeon, granted leave of absence for 4 days from February 27, February 26.

Health Reports.—The following cases of smallpox, yellow fever and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended March 2, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
ALABAMA:	Mobile	Feb. 16-23	1
CALIFORNIA:	Los Angeles	Feb. 9-16	1
DISTRICT OF COLUMBIA:	Washington	Feb. 2-23	12
FLORIDA:	Jacksonville	Feb. 16-23	3
ILLINOIS:	Chicago	Feb. 16-23	10
INDIANA:	Delaware Co.	Feb. 2	1
KANSAS:	Lawrence	Feb. 8-16	1
"	Wichita	Feb. 16-23	8
KENTUCKY:	Lexington	Feb. 8-23	3
LOUISIANA:	New Orleans	Feb. 16-23	14
"	Shreveport	Feb. 16-23	2
MARYLAND:	Baltimore	Feb. 16-23	1
MICHIGAN:	West Bay City	Feb. 8-23	2
MINNESOTA:	Minneapolis	Feb. 8-23	15
"	Winona	Feb. 16-23	13
MISSOURI:	St. Joseph	Jan. 1-31	34
NEBRASKA:	Omaha	Feb. 8-23	12
N. HAMPSHIRE:	Manchester	Feb. 16-23	30
NEW JERSEY:	Newark	Feb. 8-26	3
NEW YORK:	New York	Feb. 16-23	43
OHIO:	Ashtabula	Feb. 16-23	3
"	Cincinnati	Feb. 16-23	3
"	Cleveland	Feb. 16-23	48
PENNSYLVANIA:	Erie	Feb. 16-23	1
"	Pittsburg	Feb. 16-23	3
"	Steelton	Feb. 16-23	1
SOUTH CAROLINA:	Greenville	Feb. 16-23	2
TENNESSEE:	Memphis	Feb. 16-23	21
"	Nashville	Feb. 16-23	6
TEXAS:	Galveston	To Feb. 16	123
UTAH:	Salt Lake City	Feb. 8-23	46
WEST VIRGINIA:	Huntington	Feb. 16-23	1

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Jan. 26-Feb. 9	17
BELGIUM:	Antwerp	Jan. 26-Feb. 2	1
"	Ghent	Jan. 19-26	1
BRAZIL:	Bahia	Jan. 19-26	3
"	Pernambuco	Dec. 17-Jan. 15	62
"	Rio de Janeiro	Dec. 16-Jan. 15	39
CEYLON:	Colombo	Jan. 6-12	1
ECUADOR:	Guayaquil	Jan. 8-26	13
FRANCE:	Paris	Jan. 16-Feb. 9	32
GREAT BRITAIN:	Bradford	Feb. 2-9	2
"	Liverpool	Feb. 2-9	1
"	London	Jan. 26-Feb. 9	4
"	New Castle on Tyne	Jan. 26-Feb. 2	7
INDIA:	Bombay	Jan. 15-27	2
"	Calcutta	Jan. 12-26	186
"	Karachi	Jan. 13-27	14
"	Madras	Jan. 15	6
MEXICO:	Mexico	Feb. 1-16	4
NETHERLANDS:	Rotterdam	Feb. 8-16	1
PORTO RICO:	Ponce	Feb. 1-10	32
RUSSIA:	Moscow	Jan. 19-Feb. 2	17
"	Odessa	Jan. 26-Feb. 9	35
"	St. Petersburg	Jan. 26-Feb. 2	1
"	Warsaw	Jan. 19-26	12
SCOTLAND:	Dundee	Jan. 26-Feb. 9	17
"	Glasgow	Feb. 8-15	10
STRAITS SETTLEMENTS:	Singapore	Dec. 29-Jan. 12	1

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	Dec. 8-Jan. 15	10
CUBA:	Havana	Feb. 8-16	2
MEXICO:	Vera Cruz	Feb. 8-15	1

PLAGUE.—FOREIGN.

AFRICA:	Cape Town	Feb. 8	2
INDIA:	Bombay	Jan. 16-29	837
"	Calcutta	Jan. 12-26	89
"	Madras	Jan. 19-26	1

The Latest Literature.

British Medical Journal.

February 16, 1901. [No. 2094.]

1. Remarks on the Heart-Index Interval in Aortic Regurgitation. PAUL M. CHAPMAN.
2. The Effects of Severe Muscular Exertion, Sudden and Prolonged in Young Adolescents. W. COLLIER.
3. Cases of Adult General Paralysis with Congenital Syphilis. PERCY SMITH.
4. Wind Exposure and Phthisis. CHARLES A. DAVIES.
5. Thyroid Extract as a Remedy, with Illustrative Cases. P. BLAIR SMITH.
6. Cerebellar Abscess Successfully Treated by Operation. THOMAS BARR and H. NICOLL.
7. Trephining in Intracranial Suppuration and Result of Fracture. D. A. MCCURDY.
8. A Report on Ten Cases of Poisoning by Arsenic Hydrogen. J. S. CLAYTON.
9. The Electrolytic Deposit of Sulphur from the Harrogate Sulphur Waters as a Therapeutic Agent. F. W. SMITH.
10. Amputation Mortality at the London Temperance Hospital. W. J. COLLINS.

1.—Chapman publishes a tracing from a case of **aortic regurgitation** that he believes furnishes proof of the pulse delay and of its modification in aortic regurgitation. He believes that this pulse delay is accounted for by a lengthened ventricular systole in fully compensated cases of aortic regurgitation. In making the tracing the author used Dr. Augustus Waller's digital sphygmograph. The normal heart-radial delay is about 0.18 second and the delay from the radial to the index pulse is, at the very most, 0.02 second. Allowing for errors in making measurements involving hundredths of a second, the patient had a **heart-index delay** of about $\frac{1}{10}$ second, which was probably indistinguishable by touch. Later the heart-index delay was 0.185 second. In the former case the blood-pressure was equal to 16 mm. of mercury; in the latter instance it was 20 mm. of mercury. The pulse-wave produced in cases of aortic regurgitation is slow, and this, the author believes, is the principal phenomenon in pulse delay. When delay is observed in these cases increased arterial tension tends to obliterate the delay; while diminished arterial tension makes it still more manifest. As compensation is attained the arteries are better filled, giving to the patient a corresponding sense of comfort and well-being and then the pulse-wave is accelerated. We see, then, that the attainment of a normal heart-radial delay is some measure of the correctness of the compensation and this may guide us to avoid further interference. [J.M.S.]

2.—The most important factor in the production of breathlessness is the saturation of the blood with carbon dioxide. The respiratory need is in proportion to the quantity of CO_2 in the blood, and in athletic exercise the quantity is rapidly increased by increased production. If muscular work in a given time is so great as to produce a quantity of CO_2 greater than the lungs are able to eliminate, the gas must accumulate in the system and the respiratory distress will increase progressively. Further, CO_2 has a weakening influence on muscle fiber and causes its contraction to be less effective. **Severe muscular exercise**, either **sudden or prolonged**, throws a great strain on the air-vesicles, leading to that which may be described as physiologic emphysema. In the case of a young university athlete the signs of this physiologic emphysema are: (1) Absence of apex-beat while at rest; (2) absence of superficial cardiac dulness; and (3) a hyperresonant percussion-note above the clavicles and at the edges of the sternum. If the muscular effort is persisted in, this physiologic emphysema may become pathologic. Again, this severe muscular exertion throws a great strain on the right side of the heart, and this danger is a very real one in **adolescents**. In the cases of two long-distance runners, exertion produced a systolic murmur in the right side of the heart from overdistention of the ventricle. There is a form of heart-strain in girls and young women, especially in those who do much stairclimbing, that is of the same nature, the symptoms of which disappear

when the patients are required to rest in the horizontal position. As Allbutt has pointed out, oft repeated muscular effort produces hypertrophy of the left ventricle, and the increased force with which the blood is thrown into the aorta causes that vessel to lose much of its elasticity, to become dilated, and finally causes the aortic valves to become incompetent. A symptom of these changes, which are of very gradual establishment, is sleeplessness. In order to prevent these dangers, all boys should be submitted to medical inspection before being allowed to compete in school sports, and the badly developed subjects should not be permitted to take part. Boys who are obviously growing with exceptional rapidity should be advised to avoid exercise requiring great muscular exertion. Healthy and strong boys who are in athletics should be examined once or twice a year as a safeguard against overstrain. Severe muscular exertion undoubtedly causes intermittent albuminuria. [J.M.S.]

3.—Smith gives the history of a case of **general paralysis** in a woman, 28 years of age, in whom there was undoubtedly **inherited syphilitic taint** and a history of paternal general paralysis. The case was referred to by Mott in the Croonian Lectures, in June, 1900. He also gives the history of a married woman, aged 24 years, who broke down with general paralysis. There was a history of paternal syphilis and general paralysis, although there were none of the ordinary signs of congenital syphilis in the patient herself and she had never acquired syphilis. In neither case was there any history of alcoholism or of sexual excess. There was no history of head injury nor of special stress or worry in either patient. Such cases seem to confirm Mott's opinion that some cases of general paralysis in which there is no history of acquired syphilis and in which the patient can no longer be classed as "juvenile" may owe their inception to inherited syphilis. [J.M.S.]

4.—After careful investigation, covering a period of 15 years, with the mortality from **pulmonary tuberculosis** in the Isle of Man, Davies finds that the results obtained can in no way be considered to support the theory that **strong winds** are accountable for the peculiar distribution of the disease in that locality. [J.M.S.]

5.—Smith reports a case of widespread carcinoma in a woman, aged 44 years, in whom **thyroid extract**, in 5-grain doses varying from two to four times daily, given for 6 months, produced great amelioration of the symptoms. The symptoms returned, however, in spite of persistence of the treatment. In the case of a child, aged 3 years, who first presented an eruption that simulated that of measles and which was soon cured; but in whom the eruption reappeared at varying intervals and became edematous, bullous, erythematous, and hemorrhagic, the administration of thyroid extract was followed by complete cure. In the case of a man, aged 50 years, who was suffering from chronic nephritis and who was becoming very fat, thyroid extract was beneficial in reducing the weight. [J.M.S.]

6.—Barr and Nicoll report a very interesting case of **cerebellar abscess** resulting from middle-ear disease after the mastoid operation had been performed. The abscess was drained through an opening made in the floor of the posterior fossa. The patient, whose condition was very bad at the time of the operation, greatly improved afterwards excepting that the abscess cavity did not seem to drain well. A second operation for the purpose of establishing through-and-through drainage was then thought advisable and an opening was made through the mastoid and petrous portions of the temporal bone and counter-drainage obtained in this way. The patient made an excellent recovery and two and a half years after operation showed no effect of his trouble save deafness on the affected side. Facial palsy, which was well marked before the operation, entirely disappeared soon afterward. [J.H.G.]

7.—McCurdy reports a case of fracture of the skull in the frontal region which was not recognized at the time of its occurrence, but 18 days afterwards the patient developed an epileptiform fit and three days later another. Operation was decided upon and when a button of bone was removed at the seat of fracture it was found that there was a considerable collection of pus between the dura and the skull. This was evacuated and the patient recovered well from the operation. At first there was considerable drainage, but four days after the operation he became irritable, complained of pain in the head and on the fifth day became unconscious. The

wound was again opened and the frontal lobe of the brain thoroughly explored for pus but none found. The patient died and at the necropsy it was found that the pus had extended downward and backward into the neighborhood of the Sylvian fissure. [J. H. G.]

8.—Ten men who were engaged in manufacturing zinc chlorid from crude zinc oxid and hydrochloric acid were **poisoned by arsenetted hydrogen**. Both the hydrochloric acid and the zinc oxid were known to contain arsenic, but the exact percentage was not determined. The symptoms were nausea, hot, burning pain from throat to stomach, intense thirst, violent vomiting, severe diarrhea, hemoglobinuria, jaundice of an intense coppery hue, prostration, cyanosis, and thready pulse. These symptoms gradually diminished after several days, and the feeling of depression, anemia, and pale-green color of the skin lasted for several weeks longer, and the man who was most severely affected and recovered, was unable to go to work for 5 weeks. One case terminated fatally. [J. M. S.]

9.—Smith found a yellow deposit that looked and smelled like sulphur on the skin of many patients who had been treated with electricity passed through Beckwith Harrogate water at a temperature of 99° F. The water contains a large amount of alkaline carbonates and a considerable amount of sodium sulphid. Two patients, particularly, who presented this deposit recovered, one from gouty eczema, rapidly. It would seem then from these clinical results, as well as from the results of electrolytic experiments, that nascent sulphur is deposited in the Harrogate sulphur water by electricity at the positive pole. In addition to the remedial influence of nascent sulphur, electricity stimulates the peripheral nerves all over the body in a sulphur bath and thus renders the action of sulphur more rapid and more efficacious in skin and gouty affections. [J. M. S.]

Lancet.

February 16, 1901. [No. 4042.]

1. The Hunterian Oration. An Address on Craniology. N. C. MACNAMARA.
2. Three Lectures on the Surgery of Pregnancy and Labor Complicated with Tumors. J. BLAND SUTTON.
3. Remarks on Agglutination by Plague Blood. E. KLEIN.
4. Why are Both Legs of the Same Length? GEORGE E. WHEERRY.
5. A Case of Subacute Glanders. JOHN FAWCETT and WALTER C. C. PARKES.
6. Posterior Basic Meningitis. HUGH THURSFIELD.
7. Primary Sarcoma of the Stomach. W. SOLTAN FENWICK.
8. Foreign Body in the Abdomen. ERNEST H. ELLISON.
9. A Case of Cephalhematoma. HUGH HOWIE BORLAND.
10. Primary Carcinoma of the Ampulla of Vater, with Report of a Case Presenting Some Special Features of Interest. H. D. ROLLESTON.
11. On the Uses of Formalin in Glycerin. ALFRED C. JORDAN.
12. Maternal Impressions in Lower Life. ANDREW WILSON.
13. Reflections on Therapeutics. HARRY CAMPBELL.
14. Outbreak of Typhus Fever in Manchester. HAROLD COATES.

1.—Macnamara delivered the Hunterian oration, taking as his subject **craniology** and reviewed the labors of Hunter and the other able scientific men who followed him in that line of study, including the chief of England's craniologists Thurnam and Barnard Davis, who have made magnificent collections of prehistoric and other skulls. He remarks that we have now come to know that the size and form of the skull depends to a large extent on the growth of the bones of which it is formed along the lines of the various cranial sutures. It is well known that the frontal bone, which forms the vault of the anterior part of the cranium in the young of man and apes, is divided by a suture, and so long as this line of growth, together with the coronal and other sutures by which the frontal is separated from surrounding bones, remains open, the fore part of the skull and with it the anterior fossæ which it encloses can expand. But if the frontal and other anterior sutures of the cranium consolidate early in life the fore part of the skull cannot increase in capacity beyond the size it had reached in in-

fancy. Deneker has shown that in consequence of the early closure of the anterior sutures of the skull of anthropoid apes the fore part of their brain does not increase beyond the size it had attained at the end of the first year of life, but in man these sutures do not consolidate until a much later period, so that the anterior lobes of his brain are enabled to become far more perfectly developed than the correspondent lobes among apes. Men of the same bulk have 4 times as much superficial brain-surface as anthropoid apes. Whatever functions the anterior lobes of the brain perform, their cortical nerve elements in conjunction with those of the other lobes of the brain control to a large extent our higher intellectual faculties. If we compare the skull of an Englishman with that of one of the natives of Australia a wide difference may be noted between the development of their frontal regions and also as the nature of the sections of many of their skulls. Schwabe has arrived at the conclusion that the Java skull, taking its capacity and form into consideration, is on the border line between that of man and anthropoid apes. Until the Java skull was found, the earliest known human skulls had a cranial capacity of about 1220 cu.cm. The postorbital index or narrowing of the Java skull is 19.3, as compared with the average of living Europeans, which is 12. The anterior surface of the lower jaw among the existing races of Europe projects to form the chin. Among apes the reverse is the case, for the anterior surface of their mandibles recedes. [W. A. N. D.]

2.—In his second lecture on the surgery of pregnancy and of labor complicated with tumors, Bland-Sutton treats of the coexistence of pregnancy and fibroids, and presents illustrative cases of this complication. He remarks that the impaction of the uterus with fibroids secondary to conception is not only responsible for pain, and in a certain proportion of cases to retention of urine from direct pressure on the urethra, but it probably accounts for the frequency with which abortion occurs under these conditions, and it is interesting to observe how even a relatively small fibroid will impede the ascension of the uterus as it enlarges during pregnancy and gives rise to much trouble. The tumor may likewise obstruct delivery when the pregnancy grows to full term. Septic endometritis is rendered more serious when the infected uterus contains fibroids. Necrosis and consequent gangrene of the fibroid arises usually from injury, and may even result from the efforts of the uterus itself to expel the pedunculated tumor. It does not necessarily follow that in every parturient woman with a fibroid the tumor becomes septic. In cases complicated by tumor which have reached term, if the growth cannot be pushed out of the pelvis, cesarean section should be performed. [W. A. N. D.]

3.—Klein, in an article entitled **Remarks on agglutination by plague blood**, states that unfortunately the plague bacilli show a tendency to adhere together in broth cultures which vitiates the agglutination test when this media is employed. In the cultures upon agar, glycerin agar or serum the plague bacilli produce a sticky, intercellular substance. After a number of attempts at securing a good emulsion of the plague bacilli, the author finally tried the following: The growth upon gelatin (which is somewhat drier than the growth upon other artificial culture media) was mixed with a physiological salt-solution. This solution has the property of dissolving globulin. With this method a uniform distribution of the bacilli was brought about. The author found that by adding bouillon in the proportion of 1 to 20 (of the emulsion) agglutination took place in from 12 to 20 minutes. Even with the dilution of 1 to 40 this occurred. This demonstrates the uselessness of the agglutination test when using a bouillon culture of plague bacilli. Normal human blood and normal mouse's blood mixed in the proportion of 1 part of blood to 20 parts of emulsion failed to give the agglutination test even after 24 hours. He next injected rats with Haffkine's prophylactic and then with living plague cultures. In all the animals slight bubo formation was noted and a general illness was produced, but recovery followed. After 2 or 3 weeks the blood of these rats was tested, and agglutination was present. The author concludes by saying that the agglutination test is positive with the blood of an animal convalescent from plague, but from his own experience he cannot make the same statement in regard to the blood of a human individual convalescing from this disease. [F. J. K.]

4.—Wherry discusses the subject of **asymmetry** in both upper and lower extremities in the lower animals as well as in man. He argues that by proper exercise of a short limb its growth can be encouraged and oftentimes its length increased. He thinks it is a mistake to simply put a high-heeled shoe on a short limb and allow the patient to go through youth without any attempt being made to develop the part. [J.H.G.]

5.—Fawcett and Pakes report an interesting case of **subacute glanders** occurring in a man, 45 years of age, in whom the clinical symptoms were not very marked but the bacteriological examination positive. The patient had a number of subcutaneous swellings, a few small furuncles, a small abscess in the left forearm, and fluid in the knee joint. There were no typical ulcers of the skin, no bullous or pustular eruptions, no rhinorrhea, and no intramuscular abscesses. The patient died and postmortem the heart, blood, spleen, and fluid of the knee-joint gave cultures of the bacillus mallei. The culture injected in a guineapig produced the disease. [J.H.G.]

6.—Thursfield reports **17 cases of posterior basic meningitis** which occurred between the period of July, 1899, to August, 1900, in the medical wards at Great Ormond Street. In 12 the diagnosis was confirmed by autopsy. Two cases were not examined after death, one was transferred from the wards during the course of the disease on account of intercurrent diphtheria, and 2 cases recovered. The bacteriological examination in nine instances showed that in 8 of these an intracellular diplococcus was present in the exudate. In 5 cases inoculations were made upon artificial media, 6 giving rise to a distinct growth which was, however, always of low vitality. In 1 of the cultures a mixed infection was found. The principal clinical features were the following: Seven of the cases occurred in females, 10 in males. The average age was 9 months, excluding 4 cases which occurred in their fourth year and over. In the latter cases there was some difficulty in making a diagnosis. The onset of the disease was marked by retraction of the head in 3 cases, vomiting in 9, convulsions in 4, and bulging of the fontanels in 6 cases. Sooner or later retraction of the head appeared in all of the cases. This is considered one of the cardinal symptoms. The author next mentions a case of retraction of the head which at the autopsy did not show signs of meningitis. Of the ocular symptoms he frequently noted early strabismus and nystagmus. In 13 out of the 17 cases changes in the fundus were observed, and amaurosis was seen in 7 cases. Retraction of the upper lid, which occurred in 7 instances, is regarded as the most constant and characteristic ocular symptom of posterior basic meningitis. Vomiting and rapid progressive emaciation were present in all of the cases. The other remaining symptoms are those common to other forms of meningitis. He mentions that a clinical feature, sometimes present in posterior meningitis, is hydrocephalus, and involvement of the joints. The sudden onset, the head retraction, the rapid emaciation and the chronic course render the diagnosis easy as a rule. Leukocytosis was found in the more acute form, while in the chronic variety the number of leukocytes was normal. Lumbar puncture was performed once for diagnostic purposes. The treatment that was instituted he believes was ineffective. In conclusion he mentions that there are a number of clinical varieties of this disease, the variation depending largely upon the age of the patient and the virulence of the toxin. [F.J.K.]

7.—Fenwick thinks that **sarcoma of the stomach** is much more frequent than is commonly supposed and that it is frequently mistaken for carcinoma. He thinks that it constitutes probably from 5 to 8% of all primary neoplasms of the stomach. The round-cell sarcoma is the most frequently seen variety occurring in the stomach and the spindle-cell or fibro-sarcoma is next in frequency; these latter growths sometimes reach an enormous size and are not infrequently pedunculated. Myosarcomata are rare in the stomach, but they frequently reach enormous size and sometimes undergo cystic degeneration. Angiosarcoma is very rare indeed. All varieties of sarcomata are apt to have secondary growths arising in organs more or less remote from the primary disease. Sarcomatous nodules are frequently present in the skin of the abdomen. In almost all cases the lymphatic glands of the stomach are enlarged and sometimes the retroperitoneal, mesenteric, and mediastinal glands are

enlarged. The elongated nodular epigastric tumor so frequently seen in carcinoma of the stomach and due to the involvement of the omentum is absent in sarcoma of the stomach. In about 15% of the cases of round cell sarcoma the spleen is considerably enlarged. Perforation of the stomach is much more frequent in sarcoma than in carcinoma. The two conditions have twice been found associated. Leukocytosis is not infrequently present in cases of sarcoma of the stomach. Diarrhea is a noticeable feature in the round cell type. Hematemesis is not often a prominent symptom in round-cell sarcoma. The Oppler-Bas bacillus has been demonstrated in these cases. Unless the pylorus is involved death usually occurs from exhaustion, though sometimes from perforation and peritonitis. The formation of a perigastric abscess is rare because adhesions are not apt to form before perforation takes place. In many cases of sarcoma of the stomach there is a slight but continuous pyrexia. [J.H.G.]

8.—Elison reports the case of a man who presented himself with a foreign body protruding from the abdomen and which on removal proved to be a portion of a hemostatic forceps. This had been left in the patient's abdomen after an operation done 8 years before. [J.H.G.]

9.—Borland describes a case of **cephalhematoma** in which there was no elevation of temperature, no dyspnea, and no cerebral complications. There was also no history of hemophilia. [W.A.N.D.]

10.—Rolleston reports a case of **primary carcinoma of the ampulla of Vater**. The patient was a man, 66 years of age, and was admitted to the hospital deeply jaundiced, with an enlarged liver and gallbladder, and with some tenderness over these organs, but no abdominal distention or ascites. The urine contained albumin and bile but no sugar. On the fourth day after admission the patient suddenly went into a collapse and died within 18 hours. At the necropsy it was found that the duct formed by the union of the common bile duct and the duct of the pancreas was the seat of a carcinoma completely obstructing its caliber. The hepatic cystic ducts and the gallbladder were greatly distended and the liver enlarged. There was a large cystic dilation of the pancreatic duct which contained recent blood-clot. Rolleston thinks that the cause of death in this case was acute pancreatitis with hemorrhage. [J.H.G.]

11.—Jordan recommends the use of a solution of **formalin and glycerin**, the strength of the formalin varying from 1% to 4%, and he adds that the solution should always be freshly prepared. It is recommended (1) in throat affections, such as tonsillitis, diphtheria, and for the erythematous sore throat of scarlet fever; (2) as a mouth wash in various forms of stomatitis; (3) in parasitic affections of the skin such as tinea tonsurans; and (4) as a urethral injection. The author cured a case of acute gonorrhea by a 1% formalin glycerin solution. He is not prepared to advise its general use as a urethral injection on account of the pain and swelling of the mucous membrane which follows its application.

12.—Wilson states his belief in the possibility of the condition of the mother mentally and otherwise affecting the fetus in utero, and gives an interesting illustration of **maternal impressions** in lower life, the deformity occurring in a bush-buck ewe (*Tragelaphus sylvaticus*). [W.A.N.D.]

14.—Coates gives a report of an **outbreak of typhus fever** in Manchester. The Health Officer of Manchester was informed, on January 8, of the illness of 7 women and a boy, who were employed in a rag sorting establishment. It was found that the disease was typhus fever. In this establishment 14 women were employed, working in two rooms. In one room woolen rags were sorted, while in the other cotton rags. Of those stricken with the disease all had handled the woolen rags and no case developed in those who handled the cotton material. The disease in the eight occurred between the 20th and 24th of December. The sudden onset was marked by chills, pain in the back and limbs, headache, and in some vomiting. In 3 a measles rash developed. In 5 who recovered the illness terminated by crisis. The infection seemed to spread from this focus. Up to January 10, 33 cases with 8 deaths were reported. On February 1 a case was reported, the infection of which was traced to June, 1900. The total number of cases from June to February 1 was 53. The management of the outbreak consisted in removing the patients to the Hospital for Infectious Dis-

eases, disinfection of the infected houses, isolation of those who came in contact with the sick for two weeks, house-to-house inspection, dirty and filthy quarters were disinfected, and the rag-sorting establishment from which the epidemic probably originated was also disinfected. [T.L.C.]

New York Medical Journal.

March 2, 1901. [Vol. lxxiii, No. 9.]

1. The Axis-traction Forceps, with Special Reference to Rotary Axis-traction in the Treatment of Posterior Positions of the Anatomical Head. SIMON MARX.
2. Metrorrhagia Due to Inflammatory Processes Within the Pelvis. EDWIN B. CRAGIN.
3. The Pathology of Intrauterine Death. NEIL MACPHATTER.
4. The Electrochemical Action of the X-Rays in Tuberculosis. J. RUDIS JICINSKY.
5. The Palliative Operative Treatment of Carcinoma of the Posterior Wall of the Stomach. ALBERT VANDER-VEER.
6. Cancer of the Uterus. ANDREW F. CURRIER.
7. Hemorrhage from a Circumtonsillar Abscess. WALTER F. CHAPPELL.

1.—Simon Marx makes a plea for more recognition and more frequent employment of the **axis-traction forceps**. In his experience he has found the axis-traction forceps of Tarnier to be of great value where posterior positions of the head present. The length of the forceps which render sterilization difficult is one of the objections, but according to the author, this can be obviated by using a baby's bath-tub as a sterilizer. In unskillful hands there is more danger of slipping than with the ordinary forceps. The danger of disfigurement can be overcome by entirely dispensing with the fixation screw. It having been shown that the blades are kept in place by the pelvic structures and the impact from the fetal head, the screw can be discarded. When employing the Tarnier forceps, unlike with ordinary forceps, influence upon moulding, rotation and descent of the head does not have to be exerted by a purchase upon the handles, and by traction and pressure on the head; the handles of the forceps are not interfered with, and are simply employed as an index of the position of the head and as an indication in which direction traction is to be made. The force of extraction being directly exercised upon the cross-bar attached to the traction rods, rotation can then occur. In employing ordinary forceps to the head, the more powerful the extraction force the greater the compression upon the skull; this is overcome in the axis-traction forceps where extraction is applied to and from the cross-bar. The saving of exertion on the part of the operator, according to the author, is the greatest advantage possessed by the Tarnier forceps. The handles of the instrument must be taken as a guide as to the direction of traction, no matter what their position, otherwise pulling directly backward as is done in employing the ordinary instruments may cause an improper leverage, and the forceps may be directly pulled off. The author has given the name **rotary axis-traction** to a procedure which combines axis-traction and artificial rotation. He states that as rotation in the majority of cases occurs at the pelvic floor, he has frequently, in occiput posterior positions, succeeded in rotating the head anteriorly by making axis-traction, and relying upon the resistance of the pelvic structures and that afforded by the ischial spines. The Tarnier forceps by their free mobility rotate with the head and nature can thus be assisted by rotary axis-traction. He preferably applies the blades so that they are in one of the oblique diameters of the pelvis. Traction is made with the right hand and with the left by gentle rotation, the forceps are influenced to turn in the direction of the presenting part. The author refers to one of his previous articles in which he quotes the following: "To my mind, there are no instruments that we are called upon to use which are more, if I might say, intelligent than these. They are strength-saving to the accoucheur, safe for the mother, and eminently more safe for the child. Whilst they have much, very much, in their favor, yet there are certain objections to their use which, in a great measure, cannot be overcome, and these objections do not all hold good, since they apply with equal force to the ordinary obstetric forceps." [M.R.D.]

2.—Cragin remarks that in the discussion of the etiology of **metrorrhagia** due to inflammatory processes within the pelvis, three factors must be considered: (1) The endometrium; (2) the muscular wall of the uterus; (3) the blood-vessels of the uterus. Hemorrhage is so slight in amount during an acute endometritis that this disease may be dismissed as a common cause of metrorrhagia. With chronic endometritis, however, metrorrhagia is commonly associated, and in this condition the endometrium is rough and hypertrophied. The two conditions most commonly interfering with the normal contractions of the uterine muscle in the nonpregnant state are: (1) Tumors of the uterine wall; (2) chronic interstitial inflammation of the uterine wall in which there is atrophy of the muscular tissue and an increase of new connective tissue. Although both of these conditions most often produce metrorrhagia through the medium of a chronic endometritis, occasionally the endometrium seems but slightly involved and the bleeding appears to be caused by a lack of sufficient elasticity in the uterine muscle, due to interference with the normal muscular contraction. Interference with the normal contraction of the arteries themselves favors the development of metrorrhagia. Thus, a condition of arterial sclerosis occasionally is noted at or near the time of the menopause, which results in an insufficient elasticity of the vessels either to maintain the normal balance of uterine circulation or to check the flow beginning at the menstrual period. Consequently, a metrorrhagia will be produced. If the bleeding be associated with an absence of hypertrophied endometrium, or if it persist after repeated curettage, hysterectomy may be justified. [W.A.N.D.]

3.—To be abstracted when article is completed.

4.—J. Rudis-Jicinsky discusses the **electrochemical action of the x-rays in tuberculosis**. The application of the x-ray to early cases of tuberculosis is highly recommended by certain authorities. The author has found in certain early cases of the disease, on x-ray examination, a slight haziness, indicating the beginning of tuberculous infiltration in the apices. He has not only attacked the seat of the disease by x-ray treatment, but has placed his patients in pure air, at suitable temperature, and in good hygienic surroundings. The exposure varies in these cases from 10 to 15 minutes at each sitting. The rays are to be observed with the fluoroscope at each exposure, the tube tested to see that it is working at its best, and the apparatus must be under full control of the expert, who, with the help of the x-ray, is enabled to determine the limitations of the diseased portion of the lung. His results have been most encouraging, and he urges that this method of treatment should receive more attention in all curable cases. [T.L.C.]

5.—Albert Vander Veer reports **four cases in which the palliative operative treatment of carcinoma of the posterior wall of the stomach was performed**. From these cases he summarizes as follows: Continued gastric disturbances that do not yield to medical treatment should undergo careful examination as to the possibility of malignancy being present. Even in cases where a positive diagnosis of malignancy is not made, and the patient continues to emaciate and the suffering increases, he advocates an exploratory incision, and if there is no malignant growth a **gastrointestinal anastomosis** should be made, as recommended by Dr. Weir. **Malignant growths in the posterior wall of the stomach** are more difficult to diagnose and sometimes escape the notice of the most careful diagnostician. When an exploratory incision has been made and a malignant growth is found in the posterior walls of the stomach, with no possibility of removal, by resection or otherwise, although quite deep, yet he believes that the patient should submit to a **gastrointestinal anastomosis**. Finally he recommends that the blood of such patients should be examined most carefully. [T.L.C.]

7.—Walter F. Chappell reports a case of **hemorrhage from a circumtonsillar abscess**. Chappell finds 10 cases reported in the literature with 2 recoveries. His own case recovered. He believes that the spontaneous rupture of the tonsillar abscess in all these cases is very suggestive, and expresses the opinion that an early incision would have prevented the extensive ulceration which implicated one of the large vessels. **Immediate ligation of the carotid** on the occurrence of the first hemorrhage should be practised, or a **free incision** through the

anterior wall of the soft palate and firm packing of the abscess with antiseptic gauze. The latter method was followed successfully in his case. [T.L.C.]

Medical Record.

March 2, 1901. [Vol. 59, No. 9.]

1. The Treatment of Rheumatic and Allied Diseases of Joints Complicated by Deformity. VIRGIL P. GIBNEY.
2. An Improved Method of Examining the Female Bladder, Admitting Intravesical Operations and Treatment of the Ureters. WILLIAM R. PRYOR.
3. Some Facts Regarding "Ureine." A. F. CHACE and WILLIAM J. GIES.
4. A Method of Reducing Dislocations of the Thumb. JOHN F. ERDMANN.
5. Tuberculosis in Prisons and Reformatories. S. A. KNOFF.

1.—Gibney of New York reports 22 cases of **rheumatic and allied diseases of joints complicated by deformity**. He states that his experience with the **hot-air treatment in multiple arthritis with deformity** has been disappointing. There is usually a temporary relief, but relapses occur in which the deformity must be corrected under an anesthetic, and prolonged use of plaster of Paris. In conclusion, Gibney states that it is difficult to fix upon any one form of treatment that has yielded the best result, but he commends the **forcible breaking up of adhesions** when inflammatory conditions have subsided, the frequent recurrence to these operations and the discriminate use of plaster of Paris. Each year his belief grows stronger in the efficiency of **absolute immobilization as a promoter of absorption of chronic inflammatory products**. He commends also the **protection of joints with a limited range of motion by apparatus within the bounds of this motion**. Recently he has attempted the correction of deformity in a rigid spine by extension with moderate force, and his result up to this writing is gratifying. The apparatus employed is that used in the correction of the bones in the deformity of Pott's disease and is employed without an anesthetic. [T.L.C.]

2.—William R. Pryor presents an improved method of examining the female bladder, admitting intravesical operations and treatment of the ureter. His **cystoscope** consists of a main tube for inspection, alongside of which is attached a smaller tube for carrying a lamp and the stand which holds it. The tube for illumination extends beyond the tube for inspection and consequently the rays of light project beyond and outside the tube for inspection, no rays entering the latter. The light illuminates 100° of the bladder circumference, 260° being in the shadow. The heat from the light is taken up from the metal of the tube, the lamp, lamp-holder, and wires are completely insulated, neither urine nor other fluids can short-circuit the current when this apparatus is connected. The advantages he claims for the instrument are a tube for inspection free from obstruction and free from light-rays, either direct or reflected; the absence of necessity for focussing rays of light which embarrass the operator in his maneuvers when a head-mirror or lamp is employed; the passage of the rays of light directly to the object to be inspected; and lastly, the perfect ease with which demonstrations can be made; absence of heat; absence of urine about the trigone; absence of the necessity for pumping out urine. The bladder assumes the shape of an open equilateral triangle with rounded corners. The advantage of this posture over the knee-chest is due chiefly to the straight lines which the vaginal segment (in which the ureteral orifices are found) and the pubic segment assume. He first examines the ureteral orifices and the trigonum, for there we find the most of the lesions. He then sweeps the instrument over the lateral vesical walls and by turning the handle down the light illuminated the pubic segment. In catheterizing the ureters for the purpose of securing separate specimens in ureteral and kidney lesions he has been able to secure sterile urine from both ureters even when an acute cystitis existed. He first detailed the objections to the ordinary methods of examination and then advocates placing the patient on her back in the lithotomy position. He dilates the ureter with a 30 or 36 (French) straight sound, but states that no dilatation is needed when

the smaller tube of the endoscope is used with cocain. He next proceeds to introduce the obdurator speculum and evacuates the urine. The table is then lowered to the requisite angle usually to about 45°. The uterus now sinks away from the pubis and drags with it that portion of the bladder which is covered by that portion of the peritoneum. [T.L.C.]

3.—A. F. Chace and William J. Gies present a comprehensive criticism of the recent paper by Dr. William Ovid Moor upon the **discovery of ureine**, the principal organic constituent of urine and the true cause of uremia. From the laboratory of physiological chemistry of Columbia University at the College of Physicians and Surgeons of New York. The fact has long been known that normal urine contains substances of a very toxic character. **Potassium compounds** are prominent among these, but more poisonous still are the various **organic bodies of an alkaloidal nature**, present in only minute proportions. These writers believe that Moor's method of preparing **ureine** fails to eliminate completely either **potassium salts** or the **normal basic alkaloidal bodies** giving the typical reactions with **potassium ferri-cyanid and ferric chlorid**, and the toxicity ascribed to **ureine** must be referred at least in part to these substances dissolved in it. Summing up they state: Ureine is not a chemical individual. It is a mixture containing several of the organic substances and a considerable proportion of inorganic salts ordinarily found in normal urine. Further, its toxicity can be referred to some of these normal urinary constituents. [T.L.C.]

4.—Erdmann reviews the various causes of **irreducible dislocations of the thumb** and suggests a method of reduction which he has never failed to find successful. It consists of manipulation and is free from all danger to the parts. The two thumbs of the operator are placed over the dislocated end of one of the bones and the forefinger over the other. By pressure the dislocation is reduced. The article is illustrated by photographs showing the method of reduction. [J.H.G.]

5.—S. A. Knopf discusses the subject of tuberculosis in prisons and reformatories. He believes the spread of infection should be prevented by separating the tuberculous prisoner from the nontuberculous in the workshop as well as the cell. He urges the necessity of careful physical examination of each prisoner on admission, which should include the bacteriological examination of the sputum, and advises that they should be reexamined every 3 months. This should not be confined to prisoners alone, but should be obligatory for wardens, keepers, officials, and help. He suggests the feasibility of forming convict camps, as has been done in Alabama, and advises the patients to be carefully instructed as to the danger in coughing and spitting upon the floors and corridors. He goes so far as to recommend that all tuberculous patients should be forced to wear mouth-masks. Hygienic surroundings must be provided. The author in conclusion wisely remarks that we must not overlook the fact that these tuberculous patients will, in many cases, soon be at liberty in their diseased state and act as agents for the spread of tuberculosis. [T.L.C.]

Medical News.

March 2, 1901. [Vol. lxxviii, No. 9.]

1. Veratrum Viride; Its Value in Some Conditions of Toxemia. A. B. ISHAM.
2. The Treatment of Delirium Tremens by the Intravenous Infusion of Saline Solution. JAMES P. WARBASSE.
3. Yohimbin and Its Salts; A New Aphrodisiac. ROBERTS BARTHOLOW.
4. Thymotal; A New Remedy for Ankylostomiasis. J. E. POOL.
5. Belladonna vs. Scopolia. REYNOLD WEBB WILCOX.
6. Immunization for Typhoid Fever; A Review. H. W. McLAUTHLIN.
7. Malarial Fever, with Special Reference to the Value of Blood Examinations; Report of Cases. HERBERT OLD.

1.—Isham reports the following cases in which **veratrum viride** was used with marked benefit: (1) Peritonitis; (2) uremia; (3) hepatic colic from passing of gallstones. The drug affects first the glandular system, including the sudo-

rikerous and salivary glands, although the latter are not so much affected if there is profuse sweating. The cells of the liver are undoubtedly excited to increased activity. The author thinks that activity of the salivary glands is much less important in toxemia than that of either the liver or sweat glands, although the organ may exercise a very considerable power in neutralizing and removing leukomaines and toxins. The liver is a factor in the conservation of life under conditions of toxemia which is of great importance. The retching and vomiting also indirectly spur up the liver to increased secretion, through muscular action and siphonage. The drug's action is thought to be due to the effect upon vasomotor functions and the exertion of some stimulating influence on the cells of the liver, salivary and sweat glands. [T.M.T.]

2.—According to Warbasse, treatment of delirium tremens by the intravenous infusion of saline solution accomplishes the following: 1. Increases the amount of the circulating medium in which the toxic materials are dissolved, thereby diluting the poison and bathing the nerve centers with a more attenuated solution of the same. 2. The amount of circulating fluid is increased above the normal, so that the excretion of fluids through all the fluid-excreting channels is increased, thereby carrying off in solution much of the contained toxins. 3. The action of the heart is improved by the filling of the relaxed vessels. These suffice to restore the physiological equilibrium and turn the balance in favor of recovery. [T.M.T.]

3.—Bartholow, in his experiments with yohimbin on animals indicates that it is a central paralyzer of mobility, but not of sensibility. With the muscular paresis occur spasms of the muscles and nodding movements of the head, involving the neck muscles. It affects respiration by action on the chest muscle and diaphragm. Heart action is weakened by it, and ultimately, the organ is paralyzed, stopping in diastole. The result is due not to peripheral impressions, but to an action of the cardiac motor ganglia. It is not a muscular poison; the muscles themselves react to mechanical and electrical excitation. Dose, 1/2 to 1 grain. [T.M.T.]

4.—Pool advises the substitution of thymotal for thymol in ankylostomiasis, based on the following reasons: (1) Because it is without odor, and can therefore be taken by children who cannot swallow pills. At the same time the danger of being suffocated by thymol electuary, which occasionally happens in infants, is avoided; (2) because it is not dissolved in the stomach, as is thymol, and is not vomited, as is often the case with thymol; (3) because thymotal does not cause giddiness, as thymol does very shortly after it is taken; (4) because the danger of thymol poisoning is reduced, especially to those children whose bodies are weakened by ankylostoma; (5) because the carbonate of thymol is broken up in the body by the influence of the bile and the mucus of the intestines, and thymol is formed exactly at the places where the ankylostomas are found in the body—i. e., duodenum and the adjacent parts of the intestines; (6) because it cures more rapidly than thymol. Dose: Adult, 30 grains; children, 15 grains; babies, 7.5 grains—3 to 4 times a day. Treatment kept up for 4 days, and on fifth day a purgative given. [T.M.T.]

6.—Dr. McLaughlin, in his article on immunization for typhoid fever, gives a detailed account of Wright's observations of typhoid among inoculated and uninoculated in the British Indian Army—period of observation, about nine months; total number of men under observation, 11,295; number inoculated, 2,835; number not inoculated, 8,460; number of cases of typhoid among inoculated, 27, or 0.95%; number of cases of typhoid among uninoculated, 213, or 2.5%; number of deaths from typhoid among inoculated, 5, or 0.2%; number of deaths from typhoid among uninoculated, 23, or 0.34%. [T.M.T.]

Boston Medical and Surgical Journal.

February 28, 1901. [Vol. cxliv, No. 9.]

1. The Use and Abuse of Spectacles. HASKET DERBY.
2. Avulsion of the Finger, with a Case in which this Accident Occurred to an Infant 20 Months Old. GEORGE H. MONKS.

3. Two Cases of Ligature of the Internal Jugular Vein for Infective Thrombosis of the Sigmoid Sinus Due to Purulent Otitis Media; one Recovery and one Death. FREDERICK L. JANE.

2.—Avulsion of a finger is caused by firm holding of the finger in something moving away from the person or by holding of the finger while the hand is pulled away from it. The bones are usually separated through one of the joints. Avulsion of the terminal phalanx is the most common variety. A tendon, usually the deep flexor, is, as a rule, attached to the avulsed finger, and the tendon is most frequently pulled off at its exit from the muscle. The skin is usually pulled off at a higher point than that at which the bones give way. Hemorrhage is seldom troublesome. No attempt should be made to replace the avulsed portion of the finger. An accident of this kind to a baby, 20 months old, is reported. [J.M.S.]

3.—Jack reports 2 cases in which the internal jugular vein was ligated for infective thrombosis of the sigmoid sinus due to purulent otitis media. One of the patients died and one recovered. In acute cases, before ligating the vein, remove the purulent material in the sinus until a healthy clot is reached. After this operation, if rigors and elevation of temperature recur immediately, ligate the jugular vein and then remove the entire thrombus until there is a free flow of blood. If at the original operation no healthy clot is formed, ligate immediately. In chronic cases no time should be lost in ligating the vein and completely removing the thrombus. [J.M.S.]

Journal of the American Medical Association.

March 2, 1901. [Vol. xxvi, No. 4.]

1. Nutrition and Stimulation. I. N. LOVE.
2. The Results of the Surgical Treatment of Inflammation of the Mastoid Process. EDWARD BRADFORD DENCH.
3. Treatment of Chronic Otorrhea. FRANK ALLPORT.
4. Bony Defects and Fistula in the External Meatus. H. GRADLE.
5. Aphasia with Letter-Blindness, Without Word-Blindness, with Right Hemiplegia and Pulmonary Tuberculosis. GUY HINSDALE.
6. Combined Sclerosis of Leichtheim Putnam-Dana Type Accompanying Pernicious Anemia. M. A. BROWN, F. W. LANGDON, D. I. WOLFSTEIN.
7. Croupous Pneumonia. J. M. ALLEN.
8. Irrigation of the Colon as a Therapeutic Measure. GEORGE J. LOCHBOEHLER.
9. Protest Against the Use of Proprietary Remedies. DANIEL R. BEOWER.
10. Cultivation of the Estivoautumnal Malarial Parasite in the Mosquito *Anopheles Quadrimaculata*. ALBERT WOLDERT.
11. An Original Chart of the Neuronic Architecture of the Visual Apparatus. LOUIS STRICKER.
12. Address Before the New York State Assembly Committee on Public Health. In the Discussion of the Bell Bill ("Christian Science Bill") Prohibiting the Practice of Medicine by Unlicensed Practitioners. ROBERT T. MORRIS.
13. Anastomosis of the Ureters with the Intestine. A Historical and Experimental Research. ROBERT PATTERSON.

2.—Dench thinks that wherever there is the slightest evidence of inflammation of the mastoid cells a thorough exploration should be made. If this is done in an aseptic manner the danger of the operation is practically nil. The incision should be made as close to the ear as possible. Exploration of the entire pneumatic structure, including the cells at the apex of the process, should be made. The mastoid antrum should be entered as the first step of the procedure. This avoids accidental exposure of the meninges or of the lateral sinus. He thinks that the wound heals as rapidly when it is packed as when it is partially sutured. [J.H.G.]

3.—Allport discusses at some length the different views held by the profession regarding the treatment of chronic otorrhea. The great difficulty in deciding upon the treatment of this condition depends upon an exact diagnosis of

the extent of the disease. Oftentimes the symptoms are very slight when the disease is very extensive, and the contrary is not infrequently true. Allport thinks that as soon as a diagnosis of extension to the mastoid has been made the radical operation should be done. If the aural discharge continues in spite of proper local treatment for a period of 3 months, accompanied by recurrent and persistent exuberant granulations and necrosis, the case assumes a decidedly suspicious aspect. This is especially true if the opening is in Shrapnell's membrane or in the posterior superior quadrant of the main membrane, and if carious bone is found in the upper and posterior wall of the tympanic cavity. Other indications for the posterior operation are a cheesy or flaky discharge, the presence of the streptococcus, influenza, or tubercle bacilli, and also the condition of the discharge after ossiculectomy and curettage. [J.H.G.]

4.—Gradle has met with 20 instances of artificial communicating passages between the meatus and the attic of the middle ear. This defect was usually a fissure in the external wall of the attic but in some instances it was a fistula. In a few cases the membrana tympani was totally gone. The patients were all adults and dated their trouble back to childhood. The origin of the condition is due to necrosis of bone. All of the patients were suffering from a chronic otorrhea. Nineteen of the twenty patients were cured without an operation, although a relapse was not infrequent. Gradle does not think that the treatment of chronic otitic suppuration is made more difficult by the presence of bony defects. [J.H.G.]

5.—Hinsdale reports a case of **aphasia with letter-blindness without word-blindness** in a patient, a physician 35 years of age. He was suffering from pulmonary tuberculosis and suddenly had an attack of paralysis involving the right side of the face, the right arm, and the right leg. The paralysis disappeared rapidly in the course of a few days. Speech was almost completely lost during the first 24 hours. The patient could only speak the word "No." Sensation was not disturbed and the kneejerks were normal. Some time after the patient could not name objects although he could recognize them (word-deafness). The patient also mispronounced some words, and incorrectly substituted words. During the patient's illness he regularly read the daily papers. When asked to read the alphabet, instead of saying "A," "B," "C," he would count "1," "2," "3," but when shown the words "boy" and "child" he pronounced them. He therefore had letter-blindness but not word-blindness. The aphasia persisted for nearly a year and a half. [F.J.K.]

6.—Brown, Langdon and Wolfstein report a case of **combined sclerosis of Lichtheim-Putnam-Dana** type accompanying pernicious anemia. The patient, 34 years of age, was the proprietor of a restaurant. Dr. Brown first saw the patient in July, 1899. He had complained of failing health for three or four years. After careful examination the diagnosis of pernicious anemia was made. The blood-count showed 1,279,440 erythrocytes, 3,600 leukocytes and 32% of hemoglobin; the color index was 1.3. Microscopical examination of the stain films disclosed a number of megaloblasts, a pronounced poikilocytosis and marked polychromatophilia. The patient was admitted to the Cincinnati Hospital in January, 1900, under the care of Dr. Langdon. He complained of stiffness and weakness in the legs and inability to walk. A blood count showed 1,661,805 red blood cells, 3,000 white blood cells, 54% of hemoglobin and a color index of 1.54. A differential count revealed an increase in the lymphocytes. Incoordination was apparent in the upper and lower extremities. He could not walk on account of weakness and rigidity, the knee-jerks were exaggerated and ankle-clonus and Babinski's sign were noted. There was some disturbance of sensation. Death occurred on April 11. The autopsy revealed no gross lesions of the organs. Microscopically the spinal cord exhibited degeneration in the posterior and in the lateral tracts. The degeneration in the posterior tracts commenced low down in the cord about the level of the lower lumbar and extended as high up as the pyramidal decussation. The pyramidal tract from the level of the olivary bodies showed downward degeneration, extending as far as the sacral region. The posterior nerve-root bundles were involved. Hyaline changes of the smaller bloodvessels were also noted, but no evidences of inflammation. Dr. Wolfstein and Dr. Langdon believe that the condi-

tion was a primary systemic degeneration dependent upon the pernicious anemia. [F.J.K.]

7.—Allen reviews the **treatment of croupous pneumonia**. He recommends the initial use of calomel and rhubarb, and during the course of the disease the bowels are to be kept open with castor-oil and turpentine. Sodium salicylate given in Phillip's milk of magnesia is given until the fourth to the sixth day of the disease. During the exacerbation of the fever Dover's powder is recommended. During the middle of the second stage of the disease the following stimulants are used: Digitalis, strophanthus, and strychnin. After the sixth day, instead of the sodium salicylate he gives tincture of the chlorid of iron, potassium iodid, quinin, and nitroglycerin. With good results he uses oxygen inhalations. [F.J.K.]

8.—**Irrigation of the colon** as a therapeutic measure is discussed by Lochboehler. The introduction of water into the bowel provokes expulsion of its contents, acts as a solvent for catarrhal product and when large quantities of fluid are used thermal changes and peristalsis are brought about. Irrigations may act mechanically and are sometimes indicated to relieve constriction of the bowel and incarcerated hernia. Irrigations are also recommended for such conditions as hemorrhage, cholera, yellow fever, diabetes, uremia, shock and collapse. Normal saline solution has been given with the best results, as it stimulates the nervous system, improves the circulation and restores the temperature to the normal. [F.J.K.]

9.—Brower makes a protest against the use of **proprietary remedies**. The author found that three leading dispensing druggists of Chicago, in examining the last 1,000 prescriptions on their files, respectively 20%, 21%, and 26% of the prescriptions called for proprietary remedies. The author sees no reason why physicians should not prescribe liquor chloralis et potassi bromidi compositus instead of prescribing "bromidia," and pulvis acetanilidi compositus instead of antikamnia. He urges the Association to call its members back to the more conservative way of prescribing. [F.J.K.]

10.—Woldert continued his observations upon the cultivation of the **estivoautumnal malarial parasite in the mosquito** (*Anopheles quadrimaculata*) during the past winter and summer. In the neighborhood of the League Island Navy Yard, Philadelphia, on June 19, 1900, the author found both the larvae of the *Anopheles quadrimaculata* and the *Anopheles punctipennis* near a house where a case of malaria developed. From June 19, 1900, to November 11, 1900, he collected larvae of the *Anopheles* and raised 200 adult mosquitoes. He also visited many infected localities, and always found that where there is malaria there are mosquitoes. The reverse, however, does not hold, for where there are mosquitos there are not always cases of malaria. He found some larvae of *Anopheles* in the Pocono Mountains of Pennsylvania. A number of observations were conducted to see whether the *Anopheles* collected around Philadelphia were susceptible to the infection from the malarial parasite. In only one out of 10 observations did he find zygotes in the middle intestine of one mosquito. [F.J.K.]

11.—Stricker presents a diagram showing the **neuronic architecture of the visual apparatus**, the chart representing a complete cross section of the brain at a level with the optic thalami. Beginning with the eyeballs the chart portrays the optic nerve, chiasm, optic tracts, tracing the visual apparatus to the peduncles, the distribution of the fibers to the primary optic centers, and the dendrites, which in turn are in apposition with those given off by the ganglion cells in the primary centers. Furthermore, these ganglion cells give off dendrons which are sent out to the visual centers in the cortex of the occipital lobes. The association fibers, the fibers from the motor cortical areas to the motor ocular nuclei of the opposite side are shown, as are also the fibers which pass directly from the optic tracts to the centers for pupillary reaction, as well as to the third and fourth nerve. The sixth nerve and the remaining cranial motor nerves are communicated by the centripetal and centrifugal fibers contained in the posterior longitudinal bundle. The neuronic structure of the retina is described. The various theories regarding decussation are considered, as are also the third, fourth, fifth, sixth, and seventh nerves in detail. Lesions affecting the association fibers not only give rise to hemianopsia but also to other manifestations, such as optic

aphasia, alexia, soul-blindness. The nerve fibers were traced by Weigert's stain, and their origin and terminations by Golgi's stain. [M.R.D.]

12.—To be considered editorially.

13.—To be treated editorially when completed. [J.H.G.]

Münchener medicinische Wochenschrift.

January 1, 1901. [48. Jahrg., No. 1.]

1. The Treatment of Club Foot in Adults. VULPIUS.
2. The General Distinction between Cow's Milk and Human Milk and the Value and Significance of the Substitutes for Mother's Milk. EDLEFSEN.
3. The Abscesses of the Pancreas. MARWEDEL.
4. The Sensory Disturbances of the Skin in Diseases of the Internal Organs, Particularly in Diseases of the Stomach. HAENEL.
5. Contribution to the Etiology of Primarily Infected Kidneys. BAUMGARTEN.
6. The Defects of Nursing Bottles and Their Prevention. SCHMIDT.
7. A New Test for Sugar (Nitro-Propiol Tablets.) VON GEDBART.
8. Azooaspermia and Paternity. ECKSTEIN.

1.—Vulpus believes as a result of his very successful experience that in the majority, if not in all cases of **club foot**, permanent and almost complete cure can be obtained by the method of forcible reduction of the deformity, followed by the application of a plaster cast, that is to be worn for at least 4 months. Even in adults this treatment has produced feet that are almost normal in appearance, and apparently quite satisfactory as far as function is concerned. The treatment is not entirely bloodless. He almost invariably cuts the Achilles tendon, and frequently the plantar aponeurosis, and in some cases, more extensive operations are required. In the severe cases it is sometimes necessary to use appliances to bring the bones of the foot into approximately normal relation, and it may even be desirable to overcorrect slightly. After the plaster cast has been removed, braces are often required for some time. There may be at first intense pain, which usually does not last more than 3 days, but if it should persist beyond this time, it indicates that the brace has not been properly applied, and needs attention. If, before the operation, the leg is shorter than its fellow, of course no elongation is produced, and in nearly all cases the calf muscles remain small, although the strength of the foot is usually very good. Altogether he had 37 cases, ranging from 13 to 35 years of age, and many of them have now been under observation for more than 5 years since the operation. There have been no relapses, and the results have been uniformly excellent. The only danger is the possibility of the formation of a pressure ulcer under the bandage, but even this is not to be greatly feared. [J.S.]

2.—Human milk contains from 11 to 12% of solid constituents; cow's milk, from 14 to 14.5%. Human milk contains from 6 to 7% milk sugar; cow's milk from 3 to 4.5%; although immediately after delivery human milk contains a smaller proportion of sugar. Citric acid occurs in human milk in a very much smaller proportion than it does in cow's milk. Both contain about the same quantity of fat, but in human milk there is a larger proportion of the heavy fatty acids, and a larger, finer emulsion of the fat than in cow's milk. Human milk contains very much less albumen than cow's milk, and a proportion of nitrogenous substance from 7 to 9%, whereas in cow's milk it is 1 to 2.3%. Curiously enough the quantity of albumen is greatest immediately after delivery, and then steadily diminishes, so that the total quantity taken daily by the child remains almost the same. However, the proportion of lactalbumen to casein is greater in human milk than in cow's milk. In addition there are certain nitrogenous substances, some of which contain phosphorus in combination. Cow's milk contains a larger amount of phosphorus, but most of it is in the form of inorganic salts. In conclusion Edlefsen expresses himself as rather sceptical regarding the value of certain substances, that, added to cow's milk, modify its chemistry in the direction approximating human milk, and feels that in general, ordinary cow's milk diluted, with the addition of a small amount of cream, albumen and sugar of milk, fills the required conditions. [J.S.]

3.—A man, 60 years of age, had suffered from pains in the right upper portion of the abdomen for about a year, and slight icterus, that disappeared after the employment of Carlsbad salts. He emaciated rather rapidly, and there was a distinct globular resistance in the left epigastrium, that was not painful upon pressure, and became very much less distinct when the stomach was inflated, and was evidently behind the transverse colon. The feces did not contain any abnormal quantity of fat, but there was a distinct trace of sugar in the urine. A diagnosis of tumor of the tail of the pancreas was made, and an operation performed, that revealed an **abscess** containing offensive pus, about twice the size of a fist. Cultures showed the presence exclusively of the diplo-bacillus of Friedländer. The 3 forms of pancreatic disease amenable to surgical interference are tumor, necrosis of the pancreas as a result of inflammation, and abscess. The last is by all odds the rarest. Only 8 cases have hitherto been recorded in which operation has been performed. [J.S.]

4.—Haenel has made a considerable number of observations in cases of **gastric disease**, in order to determine to what extent the statements of Head regarding **sensory disturbances** in certain definite areas of the skin in affections of this order, are borne out by observation. In 42 cases he obtained positive results, and he believes that these constitute about $\frac{1}{3}$ of all the patients examined. The changes consist essentially in hyperalgesia and hyperesthesia. There was no particular difference between the cases of gastric ulcer and dyspepsia. There are two maximal points, one anterior and one posterior, and a third just beneath the acromion over the deltoid muscle was present in 37% of all cases of lung, heart, and stomach disease. With regard to the extent, 22 cases showed hyperesthesia restricted to the usual limits, that is the fourth and sometimes the five cervical segments, and the seventh and ninth dorsal segments. Twenty cases showed much more extensive distribution. With regard to other diseases Haenel calls attention to the interesting fact that diseases of the serous membranes give rise to hyperesthetic areas, usually coextensive with the membrane and not limited to any particular spinal segments. This he is unable to explain. Therapeutically it seems reasonable to suppose that suitable stimulation of those sensory areas might act reflexly upon the organs involved. He concludes with brief descriptions of five of the most interesting cases. [J.S.]

5.—Baumgarten has observed 220 cases of **primary contracted kidneys**, 158 in men and 62 in women. The disease is proportionately more frequent in young women than in young men, 9 women being affected before 30 years of age, and only 12 men. It is probable that this disease can be inherited, that is, it may exist at birth, or there may be a distinct predisposition; the existence of gout, exposure to lead-poisoning and indulgence in alcohol are probable etiological factors, but it seems unlikely that diabetes mellitus acts in the same way. Amyloid disease, especially that following constitutional syphilis, is also a potent factor. The renal condition may be produced either by direct irritation of the kidney or secondarily to arteriosclerosis. Baumgarten admits that the commonest type is one in which both the parenchymatous and the interstitial tissues are affected, but he also believes that there are other forms in which one tissue is involved predominantly. He gives two valuable tables, in one of which the cases are classified according to age, and in another according to cause. [J.S.]

6.—Schmidt believes that the ordinary **nipple of the nursing-bottle** has certain serious defects. It requires too little force to collapse it, and therefore it does not sufficiently develop the baby's muscles, and it necessitates the frequent opening of the mouth in order to allow air to flow into the bottle, so that the child is obliged to swallow more or less air. In addition, nipples that have been used any length of time usually have their orifices so dilated that the milk flows rapidly into the stomach and may either dilate it or cause vomiting, and this flow, together with the slight amount of work required, fails to fatigue the child sufficiently, and as a result it does not sleep after nursing. He has therefore devised a nipple which consists essentially of the ordinary finger form containing slits instead of holes at the end, which have a valve-like action, and prevent the ingress of air, and on its sides an opening that can be regulated by a screw-valve to allow air to get into the bottle. The extent to which this is opened regulates the amount of this flow, and the effort required to obtain the milk. [J.S.]

7.—Gebbart has employed **nitropropiol tablets in order to detect sugar in urine**. The method of employment is to drop a tablet into 10 or 15 drops of urine, diluted with about 10 ccm. of distilled water, and to warm slightly. If sugar is present the solution turns first green and then blue. If only a small quantity is present, this can be concentrated by shaking with chloroform, as in the indican reaction. The reaction does not occur with biliary pigments, uric acid, albumin, blood, or phosphates. Neither does it occur in the urine of patients who have been taking benzoic acid, chloral, carbolic acid, guaiacol, iodine, the salicylates, senna, or turpentine. It occurs if .03 part of dextrose is dissolved in 100 parts of water. [J.S.]

8.—The plaintiff had contracted gonorrhea, followed by epididymitis, as a result of which one testicle had been removed. He subsequently married and his wife bore two children. Certain admissions by her led him to doubt his paternity, and a medical expert, to whom the case was referred, found that spermatozoa were absent from his seminal fluid. He decided, therefore, that, although he was not the father, the plaintiff must provide for the children, because he had not suspected their illegitimacy until more than a year after birth. The author criticises this judgment because the swelling and tenderness of the other epididymis indicated a recent infection and suggested a lingering possibility that paternity had been possible. [J.S.]

January 8, 1901. [48. Jahrg., No. 2.]

1. A Remarkable Case of Visibility of the Ciliary Processes in the Pupillary Area. EVERSBUSCH.
2. New Contribution to the Knowledge of Butyric Acid Forming Bacteria and Their Relation to Glanders. SCHATTENFROH and GRASSBERGER.
3. The Test for Indican in Urine Containing Iodin. KUHN.
4. Steam Disinfection in Surgery. BRAATZ.
5. The Influence of Subcutaneous Injections of Gelatin Upon Hemorrhage from the Renal Pelvis. GOSSNER.
6. A Case of Pressure Congestion. MORIAN.
7. Engaging the Fetal Head in Walcher's Position in the Pelvis by Pressure. CRAMER.
8. Brief Annual Statistics of the Royal Gynecological University Dispensary of Prof. Amann for 1899. BRAUN.
9. Reply to the Remarks of Prof. Fraenkel in No. 51 of this Journal. KOPP.

1.—Eversbusch reports a case of **visibility of the ciliary processes in the pupillary area** occurring in a 20-year-old girl. Dilatation of the pupil with homatropine showed that a cataract (two corneal scars showed that a previous dissection had been done) caused a diminution in the volume of the lens not only anteroposteriorly, but also caused an equatorial shrinking. There resulted a lengthening of the ciliary processes in the whole anterior division of the choroid, most marked at the lower inner quadrant, and least marked up and out. Most careful examination of the eye with the loup could not determine whether this condition was due to an unequal shrinking of the lens in its equatorial diameter, or to the fact that the ciliary processes were drawn up over the anterior surface of the shrunken lens capsule. The operation, which was conducted under complete cocaine anesthesia (fearing loss of vitreous on account of retching and vomiting from a general anesthetic), consisted of a corneal section at the lower outer quadrant of the limbus, sufficiently broad so as to permit the introduction of Esberg's dissection-scissors. The latter were introduced into a small gap which existed between the two ciliary processes. Uninterrupted recovery followed with black and regular pupil reacting well to light, etc. The illustrations comprehensively show the pre- and postoperative condition of the eye. The literature on the subject is considered, with special reference to the cases of Siegrist and Schweigger. [M.R.D.]

2.—The authors, in continuation of their work, have cultivated a number of bacteria, found in various places, that have the following characteristics: They decompose albumen; ferment the carbohydrates with production of butyric acid and lactic acid in alcohol; they are of obligate anaerobes, and the group contains an organism that is nonmotile, and causes **glanders** of cattle. They have now several specimens of tissue from animals affected with glanders, from which they have obtained this organism. [J.S.]

3.—Kuhn has performed a number of investigations upon the urine in order to determine the presence of **indican**, using the reaction of Obermeyer and Jaffe. He was impressed during this investigation by the fact that the chloroform not infrequently was colored red or violet. This he ascribes to the presence of iodine in the urine. In order to overcome this disturbance it is only necessary to add a crystal of sodium hyposulphite in order to convert the iodine into sodium iodide. Suspecting that bromine might also develop the reaction, tests were made with this, but they showed that it had no influence. [J.S.]

4.—Braatz calls attention to the fact that in surgery it is exceedingly important not only to **sterilize** the various materials used, but to keep them sterilized. He has devised an apparatus by which this can be done very quickly and very readily. This consists essentially of a metal box that is air tight, and in which a wire basket is enclosed that contains the dressings, and permits the free access of steam to all parts. In order to increase the effect, he is in the habit of heating the dressings first in a hot air oven, and then introducing into them steam at the temperature of 100° C. [J.S.]

5.—Gossner reports the case of a man who had severe **hematuria**, associated with severe pain in the right renal region. All treatment proving unavailing, it was decided to give him a **subcutaneous injection of gelatin**, and 200 ccm. of a sterilized 2.5% solution was introduced into the right breast. The injection was intensely painful, and associated with considerable swelling, but the hemorrhage stopped within 24 hours, and there was no recurrence. [J.S.]

6.—Morian reports the case of a man, 42 years of age, who was rushed by a heavy bucket in a mine. He was rendered unconscious for some time, and the same day, when inspected in the hospital, it was noted that his face was deep blue in color and swollen; there were hemorrhages from the nose and mouth; minute ecchymoses in the skin, covering the upper portion of the body, and involving also the mucous membranes, with the exception of the neck, where there was a white mark corresponding to the pressure of a collar. The left leg was completely paralyzed, the right almost completely; the knee-jerk was lost, and it was necessary to use the catheter for 11 days. At the end of 10 weeks the patient had improved considerably and commenced to walk. The author has collected 8 similar cases from the literature, 2 of which died in a very short time, the other 6 completely recovered. He believes that the condition was produced by pressure upon the viscera partially equalized by closure of the glottis. He prefers the name "**pressure congestion**" suggested by Berthes to "congestive hemorrhage after compression of the body" suggested by Braun. [J.S.]

7.—Cramer believes that in those cases in which the head refuses to engage in the pelvis, it is desirable to use pressure through the abdominal walls in order to compel it to do so. For this purpose he prefers pressure with the closed fist by which it is possible to exert a force equivalent to 70 kilograms or more. He has used this procedure in 6 cases with excellent results, and with no complications. [J.S.]

Berliner klinische Wochenschrift.

January 21, 1901. [38. Jahrg., No. 3]

1. Diseases of the Hip Joint. KÖNIG.
2. Mania with Depression. WEYGANDT.
3. Two Cases of Rupture of the Ductus Arteriosus Botalli. ROEDER.
4. Gallstones. RIEDEL.

1.—König describes **gonorrheal coxitis and arthritis deformans** of the hip-joint. He believes that the former variety is a peculiar disease, and occurs more frequently than has been supposed, in consequence of which there are many errors in diagnosis and treatment. Observation of his twenty cases shows that **gonorrheal coxitis** occurred usually between the ages of twenty and forty years, eleven times in females and nine times in males. The disease occurred principally during the acute stage of the gonorrhea, although it also occurred during the chronic stage. Trauma preceded the affection in five cases. Pregnancy appears to favor the onset of gonorrheal coxitis. This also applies to

the puerperium, an observation which is of value, as it may explain many cases which have been diagnosticated as due to puerperal sepsis. Frequently the affection is bilateral; varies in intensity; frequently there is simultaneous involvement of other joints. The author has frequently observed during the latter stages of gonorrhea that the process also affected the vertebral joints, with a tendency to ankylosis. Clinically there are two varieties: those where the onset of the pain is gradual, as is also the restriction of motion in the affected part, and those in which the onset is characterized by marked disturbances of motion, the most severe pain, and a plainly demonstrable tumor. In the stage of the process in which the patient generally presents himself at the hospital, pain is the predominant symptom. In a relatively small percentage of cases anomalies in the position of the extremity and contracture do not occur. Much more frequently, however, moderate flexion with abduction and external rotation are present. The extremity with the patient in the horizontal recumbent position appears lengthened. This was observed in one half of the author's cases. In one quarter of the author's cases there existed a condition which according to him endangered the later functional activity of the joint, namely, flexion, with adduction and internal rotation, and which with the patient in the recumbent position showed apparent shortening and luxation. The author has noted actual shortening in these cases of from 2 to 5 cm. A very constant symptom of gonorrheal coxitis is the swelling of the joint, most marked at the anterior portion, often fluctuating, and occasionally assuming a phlegmonous character. During the acute stage this swelling is sometimes accompanied by a moderate fever. Without treatment the majority of cases terminate in a pitiful manner. Almost one-third of the author's patients recovered with more or less shortening. Impairment of mobility regularly follows, sometimes hampering the ability to stand or sit. Occasionally the author was only able to correct the deformity by force. The prognosis as far as function is concerned is not good. Five of the author's cases recovered without disturbance of mobility. Of the remaining cases one-half recovered with slight impairment of mobility, while in the balance marked disturbances of mobility, shortening, ankylosis and abnormal positions resulted. König is of the opinion that the latter cases would have terminated more favorably if treatment had been instituted very soon after the onset of the disease. Although the author has had no experience in the application of plaster-of-Paris bandages to the hip joint, he is of the opinion that an accurately applied plaster-of-Paris bandage would lessen the pain and hasten the recovery, as it does in the elbow, hand and knee. During the acute stage of the process surgical intervention is but rarely required. When ankylosis occurs, indication for surgical interference depends upon the position of the part. According to the position, either osteotomy or resection may have to be done. König believes that **arthritis deformans** affecting the hip joint is a typical affection, although we are not yet in the position to demonstrate its etiology as we can in tuberculosis or gonorrheal arthritis. The pathological anatomy shows a marked panarthritis involving the joint and capsule. Arthritis deformans of the hip occurs as a monarticular process, although beginning changes in other joints are also frequently found. The author describes 20 cases coming under his observation. Among these, 16 were over forty years of age, 12 were over fifty, and half of the latter were sixty and over. Among the younger patients observed by the author, inflammatory processes (acute osteomyelitis) or trauma had preceded the arthritis which, however, did not occur as a rule in the typical cases. Among König's 20 cases, 17 were males and 3 females. Hard-working persons like farmers and laborers seemed to be more frequently affected by this disease than others. The beginning of the disease is usually ushered in by subjective difficulties. Patients complain of a grating sensation in the region of the hip, which is most annoying in the morning upon rising. Disturbances of motion soon follow which, as a rule, first become manifest in the attempt of abduction. The pedestrian complains that he experiences great difficulty in stepping over ditches which he previously could cross with ease, and the rider finds great difficulty in swinging his leg over the saddle when mounting. Abduction and adduction soon increase in difficulty, and rotation becomes

almost impossible. Finally the members can be bent only in one horizontal axis, and, as a rule, the foot assumes a position midway in rotation. Some patients experience great pain which becomes either periodical or becomes manifest at every moment. In time there occurs more or less ankylosis of the hip. The disease is not typical as far as its development and progress is concerned. The author has never seen complete recovery in a case of arthritis deformans of the hip-joint. The treatment of arthritis deformans depends upon the individuality of the case. König believes that the most efficient manner of treatment is to begin with regular movements of brief duration, whose purpose is to prevent a deformity in one axis. This treatment must be continued for some time. Should symptoms of irritation with increased pain occur, the exercises are to be stopped and a period of rest advised. The symptoms of irritation are relieved by extension treatment. In some cases resection is the only remedy left. The author reports several cases operated upon, the technic of his operation, and the history of the patients. [M.R.D.]

2.—Weygandt believes that 90% of cases of **mania with depression** are hereditary. The patients generally manifest symptoms of disease during youth by certain peculiarities of character and spirits. The first attacks generally occur during puberty, the disease then showing marked periodicity. The maniacal condition is characterized by excitement and flighty ideas. The other phase, by dejection, and interference with the association of thought. [M.R.D.]

3.—Roeder reports two cases of **rupture of the ductus arteriosus Botalli**. One child was born in breech presentation and in the other there was an enlargement of the thyroid gland up to three times its normal size. The author believes that the cause in most of the cases is a marked disturbance of the circulation occurring in his two cases during birth. From a histological and hemodynamic point of view it appears that the opening of the ductus into the aorta can normally only occur at acute angles. [M.R.D.]

4.—Riedel reviews the literature on **gallstones** since Sæmmering published, in 1795, his work entitled "*De Concrementis Biliariis Corporis Humani*." The formation of gallstones is a harmless process as long as the cystic duct remains open; the bile produced in the liver may go through the gallbladder and flow over gallstones without producing any troublesome symptoms. The author believes that hydrops is not caused by the closure of the cystic duct, but by impaction from a stone in the neck of the gallbladder. The clinical course of the affection is not dependent upon the nature of the fluid in the gallbladder; seropurulent fluid may give rise to severe attacks and pure pus may not cause any symptoms for weeks or months. Among 151 cases of "gallstones" the fluid contents in 76 cases consisted of serum, mucus in 16 cases, and pus in 36 cases. In 23 cases in which bile was present, the latter was inspissated in 14 cases, turbid in 7 cases, and clear in 2 cases. Most of these 151 cases had a large and the longest existing stone impacted in the neck of the bladder; this was sometimes the only one, but most frequently there were several generations of stones of similar size that had developed in the direction of the fundus. As long as the occluding stone remains in position inflammatory exudates may be absorbed, and the distended gallbladder again becomes softer and smaller. We now know that primarily, in violent biliary colic, there is almost always serum in the gallbladder, and it requires a rapidly accumulating serous exudate, with a wall of the gallbladder relatively intact, to permit of the further progress of the gallstone. The author agrees with Sæmmering that **icterus** occurs in about 10% to 15% of cases where the stone remains quiet in the neck of the gallbladder. Riedel has termed this variety of icterus as **inflammatory** in contradistinction to that variety caused by the lithogenous process, when there is an impaction of a stone in the ductus choledochus and which causes an inflammation of the gallbladder extending to the entire biliary system. Although it has recently been attempted to explain this variety of jaundice as due to the distended gallbladder pressing upon the ductus choledochus, this explanation according to the author is not tenable because this icterus is also seen in small shrunken gallbladders, and even after operations when the drainage tube has been removed too early. The character of the affection changes suddenly when a more or less harmless local process develops into a general affection. The ordinary everyday onset of the affec

tion of the process is a rapid distention of the anterior abdominal wall, vomiting and pain radiating to the right shoulder; the absence of icterus may then give rise to a suspicion of gastralgia following a gastric ulcer, when no gallbladder is palpable, and a floating kidney or appendicitis may be diagnosed when a tumor is present below the liver. Errors are also made when there is a palpable gallbladder. If the latter decreases in size with an abeyance of the symptoms, many physicians still suppose that the diminution in the size of the tumor is due to the passing of a stone through the cystic duct. Furthermore, when the patients do not have icterus and no stones are found in the dejecta, this statement is made; "not every patient has icterus;" or, "the stones in the feces have been overlooked." As a matter of fact in these cases the stones have not been moved in the slightest degree, but the inflammatory tumor has undergone spontaneous retrogression, similar to that process seen in gouty joints. Most of the patients have a watery fluid in the gallbladder, not bile, and have a large calculus, not a small one impacted in the neck of the gallbladder. The older view on this subject is only applicable in the minority of cases, namely in those where there is inspissated bile in the gallbladder and where there is a small stone; in these cases an effusion of serum may push the stone out. Regarding the indications for the treatment of these affections the author is of the opinion that among the cases **not** to be operated upon are those where the first paroxysm of pain is succeeded by all the typical manifestations, where the patient becomes jaundiced on the second to the third day and passes small stones *per vias naturales*. Even repeated attacks are not indications for operations when each time small stones are passed. When there are numerous attacks without the passage of small stones then the question of operation arises on account of the suspicion that besides the small calculi there may also be large ones impacted in the gallbladder. Furthermore those cases should not be operated upon in which after repeated ineffectual attacks larger calculi have been passed; for if a large stone has been passed others may follow. If ineffectual attacks continue to follow, operation is indicated. On the other hand, a single ineffectual attack without jaundice indicates operation; the calculi should not be pushed deeper by further attacks, but should then be abstracted. We have no one single remedy to bring about a state of latency. The latter may be partially at times brought about by aperients, but even then it is of short duration. Operation is indicated in those cases when after repeated ineffectual attacks the uppermost stone enters and becomes impacted in the ductus choledochus. Of course this impaction must be determined by waiting for some time; from 2 to 3 weeks is sufficient, although a patient rarely permits himself to be operated upon so early, because he still hopes of a spontaneous evacuation of the calculus. The earliest choledochotomy performed by the author was 6 weeks after the entrance of 3 stones into the ductus choledochus; one of these was spontaneously evacuated in a natural manner, and the two others were abstracted from a ductus choledochus that had become as thick as a finger; uninterrupted recovery followed. The physician must not only make a general diagnosis of gallstones, but in every case must establish the position of the calculus, its presumable size, and the nature of the contents of the gallbladder. In this way it will be elicited what cases to leave to nature, and upon which to operate. Some of the literature on the surgery of gallstones is reviewed. [M.R.D.]

Wiener klinische Wochenschrift.

January 31, 1901. [14. Jahrg., No. 5]

1. The Umbilical Cord in Newborn Infants. MAX STOLZ.
2. Four Cases of Plastic Induration of the Cavernous Bodies of the Penis. OTTO SACHS.
3. Further Communications upon Operation for Volvulus. JOSEPH PREINDLSBERGER.

1.—Stolz reports his results, in 500 cases, of his treatment upon the **umbilical cords of newborn infants**. One hour after the umbilical cord has been ligated at some distance from the navel, he **ligates the cord remaining, close to the navel with a fine silk thread, and snips off the cord a half centimeter above that with a**

sterile scissors. Sterile gauze is then applied, and a bandage put over it for safety. This is dressed every second day, when the child is weighed, the dressing being continued even a few days after the cord sloughs off. The stump appeared dry, with very slight secretion at any time. In most cases the cord dropped off upon the fifth, sixth, or seventh day (309 out of 500). The average time was 6½ days. It was not true that the cord healed any quicker in the stronger or heavier children. There was no relation between body weight and the time the cord dropped off. Nor did the character of the food make any difference. But it was striking that in the children of parents suffering from slight puerperal diseases, the cord dropped off later, after 7 days. This was possibly due to slight infection of the stump, with secretion following. The after care may have caused it, however. Only one case of hemorrhage occurred, and that was from the slipping of a ligature, as the cord had been cut too close to it. Finally, he advises great care in treating the stump, to keep the wound aseptic and dry. [M.O.]

2.—After a thorough review of the reported cases of **induration of the cavernous bodies of the penis**, their causes, course, and treatment, Sachs gives the histories of his 4 cases, the causes for which are unknown. In all, when past middle age, circumscribed hard masses appeared on the dorsal surface of the penis, near the median line, preventing complete erection. Nothing showed in skiagraphs, so that they were probably due simply to connective tissue. They came on very slowly, during two years or more, and caused pain only upon erection. The diagnosis of the affection is easy. No local treatment has had any effect thus far. Internally arsenic and potassium iodid have been given. Patients should be assured that the affection is not serious, as it may lead to melancholia. [M.O.]

3.—Preindlsberger reports two cases of **intestinal obstruction**. The first was a farmer, aged 25 years, who had had gastroenterostomy performed for stenosis of the pylorus. Two years later he was again operated on, this time for intestinal obstruction. The small intestine was found twisted upon itself beneath the site of the former operation, probably due to the shrinking of the cicatricial tissue of the mesentery, the intestines, or both. The other case occurred in a man 51 years old, who died after operation. **Meckel's diverticulum** existed, was very long, and had become **adherent to the abdominal wall**. Under this the small intestine was twisted upon itself and incarcerated. Though laparotomy was performed with local anesthesia, he died 24 hours later. Both cases occurred in Herzegovina. [M.O.]

February 7, 1901. [14. Jahrg., No. 6.]

1. Disease of the Nasal Mucous Membrane a Common Occurrence Among Turners. RUDOLPH BLUM.
2. Hysteric Facial Diplegia. HUGO LUKACS.
3. Foreign Bodies in the Male Bladder. FRITZ PENDL.
4. A Method of Preventing Clouding of the Mirror in Nasopharyngeal Examinations. ERNST URBANTSCHITSCH.

1.—In spite of the dust extractors, and other modern inventions employed in cane factories, large quantities of **dust come in contact with the nasal mucous membrane of the turners** at work. Besides, the hazelwood used has first been soaked in potassium dichromate, which substance itself causes inflammation of the nasal mucous membrane. Small blisters first appear, then ulcers follow, after which hemorrhage occurs. Later membranes may form, or rarely ozena results. As a rule nothing is noted externally; but internally an **advanced atrophic condition** is finally developed. Besides the care taken by the proprietors of the factories to prevent the accumulation of dust, all new workmen should be made to wear a sponge, moistened with vinegar, over the mouth and nose, to counteract the potassium dichromate. When this atrophic condition exists, daily local treatment will do good, if continued regularly. [M.O.]

2.—Lukacs reports a rare case of **hysteric facial diplegia** in a girl of 19. Right facial paralysis occurred 3 years ago, with pain on pressure over the point of exit of the right facial nerve. Electricity cured this in 3½ months. Six months later the right facial paralysis again appeared. This was also treated electrically. A week later the left side became paralyzed. Her facial expression changed almost like the "mask" of Parkinson's disease. She was easily

hypnotized, but presented no stigmata of hysteria. During 14 months' treatment, this condition has varied but little, at one time better, then worse again. Tonic contractions of the muscles of the mouth have appeared, lasting several minutes at a time. Voluntary movements are carried out, though limited in extent. They are done better when she is hypnotized. No reactions of degeneration have appeared at all. A review of the literature of the subject follows. [M.O.]

3.—Pendl reports 2 cases of **foreign bodies in the male bladder**. In the first case, a boy of 2 years, he extracted a **needle, its eye end embedded in a calculus**, by suprapubic cystotomy. He believes that the presence of the needle in the bladder is most probably due to the child having swallowed it, the needle then having perforated the intestine, and reached the bladder. In the second case, a man, of 38, he performed lithotomy, crushing about **20 pieces of paraffin**. Though the history is obscure, it is supposed that the patient had introduced paraffin sticks into the urethra. He gives the literature of the subject in full. [M.O.]

4.—Urbantschitsch has experimented with **lasin**, a substance which, when spread upon the mirror to be used in nasopharyngeal examinations, prevents the breath from clouding the mirror, and does away with the necessity of heating the mirror before introducing it. It is spread upon the mirror, and lightly wiped off, so that the mirror remains bright, yet all the moisture is at once absorbed by the lasin. To disinfect the mirror, a 10% solution of carbolic acid is used, and then the mirror is washed in water before the lasin is again spread upon it. [M.O.]

Centralblatt für Gynäkologie.

December 8, 1900.

1. F. Ahlfeld and the Tübingen Method of Hand Disinfection. TH. PAUL and O. SAWAY.
2. Remarks on the Open Letter of the Geheim. Medicinrath Professor Dr. Ahlfeld to Herr Privatdocent Dr. Kriönig. KRIÖNIG.
3. Kolpeurysis and Metreurysis. ARTHUR MUELLER.

1.—The authors object to the criticism of Professor Ahlfeld on the **method of hand disinfection** as employed at the University of Tübingen. Ahlfeld prefers the hot-water method to that of the soap and alcohol of the latter institution. They claim that Kriönig had not spoken in opposition to their method, as Ahlfeld had stated, and that Professor Ahlfeld is in fact the only authority up to date who has found fault with their method of disinfection of the hands. They assert, on the other hand, that Professor Kriönig was astonished at the results obtained by their method, and openly acknowledged the value of the Tübingen process. They emphatically state that Ahlfeld's criticism is absolutely unfounded. It is difficult to say, they admit, which method of disinfection gives the best results, namely: the method as employed by them or that of Hagler and Kriönig. [W.A.N.D.]

2.—Reinicke stated that after 10 minutes of **immersion of the hand in alcohol**, no living spores could be found on the epithelium. Kriönig remarks that this is a mistake, and that the bacilli will be found without a doubt after this method has been employed. He has demonstrated that after 15 minutes immersion of the hand in alcohol, anthrax germs were still present, as was shown by inoculating mice, the animals quickly dying of the infectious disease. He believes that many pathogenic forms of bacilli exist which have as yet not been recognized, and that many of these germs will not be destroyed by this method of disinfection. [W.A.N.D.]

3.—Mueller endorses the method of dilatation of the vagina and uterus by means of elastic balloons or bags for the **induction of premature labor** in preference to the performance of the more serious operations of cesarean section and symphysiotomy at term in cases of pelvic contraction. The bags may be retained *in situ* for from 8 to 5 hours, or, if necessary, even up to 31 hours. The bags that he prefers are modelled somewhat after those of Champetier de Ribes. [W.A.N.D.]

December 15, 1900.

1. Autocystoplasty and Kolpocystoplasty in Marked Defects of the Vesico-vaginal Wall. O. WITZEL.
2. On the Favoring Influence of Pregnancy upon Enteroptosis. HECTOR MAILLART.
3. Cure of a Bilateral Salpingitis—Probably Tuberculous—Through an Atrophy Secondary to Ligation of the Vessels. MAX NASSAUER.

1.—Witzel emphatically condemns the operation of kolpokleisis for the cure of **gross defects of the vesico-vaginal wall**, on the ground of the ultimate development of serious complications, which result from infections originating in the retained vaginal secretions. He remarks that the bladder very shortly becomes the seat of a chronic cystitis which, sooner or later, extends up the ureters to the kidneys. The end is a septic pyelonephritis. He describes the case of a woman, 46 years of age, who presented a marked vesico-vaginal fistula in which 3 unsuccessful attempts had been made to close the opening, which had resulted from attempts at the removal of a myomatous uterus. His examination of the patient convinced him that there was a possibility of intravesical transplantation of the ureters, and he resorted to an extensive kolpocystoplastic operation to remedy the defect. Full exposure of the seat of operation was obtained by digital retraction of the anterior vaginal wall and the use posteriorly of a large-sized speculum. It was found that the destruction of tissue had partially involved the posterior wall. By means of the finger the bladder was loosened from its surrounding tissues after a transverse incision had been made into the vaginal wall, and the organ thus rendered more accessible for the further necessary manipulations. Slight traction was then successfully exerted upon the posterior wall, which was drawn forward to cover the deficiency in the anterior tissues, a few stitches then sufficing to bring the parts into active apposition, Lembert's sutures being employed for this purpose. A large-size Néaton catheter was introduced into the urethra and retained in position for a few days. The wound made an uninterrupted recovery. There was but little discharge from the vagina following the operation. [W.A.N.D.]

2.—Maillart has for several years been paying considerable attention to the association existing between **pregnancy and enteroptosis**. After giving a thorough review of the literature of the subject, he describes several cases of the condition which had occurred in his own practice, and finds that there exists a certain relationship between the enteroptosis and a condition of congenital neurasthenia. He concludes that since in cases of ptotic individuals becoming pregnant, the intraabdominal pressure increases rapidly as soon as the uterus has attained a certain volume, and since pregnancy under these circumstances produces a marked improvement in the digestive functions and in the general neurasthenic condition—an improvement which gives rise to an increase in weight of from 2½ to 6 kilograms from the time of conception until the end of the puerperium—it follows that by proper treatment this improvement, which seems almost to amount to an absolute cure, may be made lasting. This permanent improvement especially manifests itself in the latter months of pregnancy, and induces a further increase in weight of several kilograms. In those cases in which from some other cause, such as albuminuria or neglect of a proper handling of the case, this improvement of the general condition is arrested, even then a normal pregnancy exerts no evil influence upon the ptotic condition, not even in the cases in which there is associated a constituted neurasthenia. [W.A.N.D.]

3.—Nassauer takes exception to the statement of Lindfors published in No. 41 of the *Centralblatt für Gynäkologie* that a case of **bilateral salpingitis, probably tuberculous in nature**, had been cured by an atrophic process resulting from ligation of the vessels on that side of the broad ligament. He prefers to believe that the beneficial result was not the direct outcome of the arterial ligation, but that it resulted from the alternative effects following the abdominal incision which, as is recognized, gives rise to a marked improvement in the circulation of the pelvic tissues in tuberculous cases whereby there follows an amelioration and in many cases an absolute cure of the tuberculous process. This, he believes, results from the improved nutrition consequent upon the increased circulation of the blood. [W.A.N.D.]

Original Articles.

FALSE PREGNANCY (PSEUDOCYESIS) AND
MYXEDEMA.By EDWARD P. DAVIS, A.M., M.D.,
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GENUINE pregnancy, whether entopic or ectopic, is often difficult to recognize. Still more puzzling are cases of false pregnancy. The circumstances under which they arise are calculated to mislead the practitioner. The patient's positive assertion, her accurate description of symptoms, the abdominal tumor, indefinite mammary changes, and the preparations made for the expected confinement render an error easy. The task of undeceiving a woman strongly desirous of offspring is a thankless one. But the resentment which such a patient feels when allowed to go to a supposed labor must be most annoying to the physician and detrimental to his reputation.

Accusation alleging criminal assault by innocent persons are not infrequently made by patients who assert that they are pregnant. Here the physician's diagnosis destroys one of the strongest evidences in favor of the really guilty party. The following cases illustrate this condition:

CASE 1.—A robust woman, of gouty tendency, married later than the average age of marriage. Of an affectionate disposition, the birth of a child would have been most acceptable. After marriage menstruation became disordered, being greatly diminished in quantity and attended with far less pain. The breasts increased considerably in size, the patient became stouter and increased markedly in the development of the waist. The abdomen increased in size and the patient alleged that she felt movements of the fetus. Her married sister, the mother of several children, had a periodical discharge resembling menstruation throughout each pregnancy. This led the patient to believe that menstruation in her case was no proof that pregnancy was absent. When the patient was first examined, the womb was slightly enlarged, the cervix softened. She was informed that pregnancy might be present, but that positive evidence of it was lacking. Examinations at intervals sufficiently long to recognize growth in the uterus proved that such growth was not taking place. The patient was thoroughly convinced that she was pregnant and that if she was not pregnant she had an abdominal tumor of considerable size. At the suggestion of her physician she was examined under ether and in consultation with a second physician. The pelvic organs were found normal in size, position, and consistency. The patient accepted the result of the examination and willingly submitted to treatment by massage, regulated feeding and exercise. Her increased weight diminished to normal, the abdominal tumor disappeared, and she speedily became convalescent.

In this case marriage was followed by increase in general physical development, a result not infrequently seen. The patient very naturally reasoned from the experience of her sister, and from incidents which she had heard from other women, that she was in the pregnant condition and continued so to think. Her recovery to sound health was greatly hastened by her good sense in accepting the result of the examination and in cooperating with the treatment proposed.

CASE 2.—A girl, aged 16, had been an inmate of several charitable institutions, giving the following history. She had been criminally assaulted and had become pregnant. The

exact period of gestation she could not describe nor remember, but her statement as to the occurrence was positive and she was prepared to make a charge against an individual. She described minutely the symptoms usual to pregnancy.

On examination the abdomen was enlarged to eight months' gestation. The breasts were also enlarged, the nipples more prominent than usual, secretion was not present. Upon palpation, the position of the fetus could not be definitely outlined nor could much be learned regarding the nature of the abdominal tumor. Fetal heart sounds were not heard. As it was necessary to ascertain definitely the patient's condition, she was anesthetized. As the anesthesia proceeded the abdominal tumor gradually disappeared, and it was possible to grasp the uterus between the hands in making the examination, and to demonstrate in clinic the fact that pregnancy was absent. Prolonged observation of this patient proved the truth of the diagnosis. She could at will produce the abdominal tumor and did so whenever she wished to attract attention.

This patient may have been immoral, and was certainly malicious in so far as her declaration that pregnancy existed was concerned. She evidently used this declaration to attract attention, to secure lodging in charitable institutions, and with the hope of ultimately getting money.

That pseudocyesis is a neurotic state has long been recognized. Its association with other well-marked neurotic symptoms receives abundant illustration in the following:

The patient was a stout woman of pallid complexion, aged 33. She gave a family history of heart disease. When thirteen she was thrown from a horse. Her menstruation had never been attended with great suffering. She gave a history of enteric fever and also of so-called brain fever. She had been married twice. In the first marriage, she had two miscarriages at about seven months. Her last marriage was three years ago. Since then she had menstruated regularly. For almost a year she had had milk in the breasts, and for a number of months she had felt fetal movements. Some time before she experienced well-marked nausea. Some eight months previously she had labor-pains and was supposed to be in labor. She passed nothing but clots. Since that time she has felt fetal movements, the abdomen has been most of the time enlarged, and milk has been present in the breasts. She has had headaches for years, has a fair appetite, her bowels move regularly and she sleeps badly. She would be glad to have a child, and when supposed to be in labor recently, she had a nurse in attendance and a physician remained in the house during the night, expecting the birth of the child. She asserts that she had strong labor-pains and that the doctor could not tell what had become of the child.

The results of the examination of this patient were as follows:

The cranium was narrow and the vertex high and pointed. The patient was evidently anemic and the thyroid was found enlarged. Upon questioning the patient, she stated that she had taken tablets for that condition. The left half of the gland was larger than the right. The intercostal nerves were tender and the patient's tissues were flabby. She was fat and much above her normal weight. In the left breast there was a small portion of hard glandular tissue from which milky fluid exuded. No fluid came from the right breast. Both breasts were flabby and there was no increase in the pigment about the nipples. The thoracic organs were normal. The abdomen was fat, its walls flabby, with marked tympany over the large bowel and modified tympany over the entire abdomen. The urine was normal and the blood-count showed a slight anemia.

The patient was seen by Dr. Dercum, who examined the nervous system, and by Dr. Hansell, who examined her eyes.

Dr. Dercum found her a neurotic patient, partially recovered from myxedema. Dr. Hansell found slight

hypermetropia in both eyes, and observed that the patient was wearing glasses which did not fit her.

This patient was examined under ether, when the genital canal was found relaxed, the womb subinvolved but no evidences of pregnancy present. Her perception of fetal movements ceased upon learning the result of the examination.

In the case just described, the history of abortion and the subinvolution found showed that a center of irritation was present in the genital organs. This was probably the exciting cause for the imaginary pregnancy. The predisposing cause which rendered this condition possible lay in the patient's malassimilation and neurotic state. The recognition of this condition with the local findings made the case readily intelligible.

In diagnosing false pregnancy, the physician must not be misled by ectopic gestation. It is possible for a patient to have an ectopic embryo, to manifest many of the signs of pregnancy and yet upon vaginal examination to be pronounced in the non-pregnant state. In such a case, examination under ether is of especial value, as it enables the physician to map out the pelvic contents as accurately as possible.

In patients with thick abdominal walls or with those who relax badly under ether, exact diagnosis may be most difficult. Close observation, however, will usually show that the patient has not an ectopic pregnancy, while if such be present, rupture and the symptoms which follow it must soon make clear the diagnosis.

Examinations to determine the existence of pregnancy, and especially in cases of false pregnancy, should invariably be made in the presence of a third person and whenever possible with the cooperation of a trusted assistant. In cases where an abdominal tumor has been present and where the family of the patient may believe her pregnant, it is well to demonstrate to her husband or relative the fact that the abdominal tumor disappears under ether, and that bimanual examination proves the womb to be empty.

The physician can act the part of a friend to many of these patients by protecting them, if possible, from gossip. If the supposed condition of pregnancy has become known, the patient may be greatly mortified to have the true condition announced. The physician should not only absolutely avoid statements of any sort regarding the case, but he should take pains to discourage gossip whenever possible.

It is a mistake to allow patients having false pregnancy to go with an examination only and without treatment. The source of nervous irritation giving rise to the supposed pregnancy should be removed, the nutrition of the patient stimulated as vigorously as possible and her general condition brought as nearly to the normal as the circumstances permit. The examination may reveal some pelvic disease, which must be dealt with by operative or other treatment. Where the patient can afford it, rest in bed, massage, careful feeding, electrical treatment and a selected diet are indicated.

Institute for Backward Children.—An Institute for the instruction of children of defective intelligence has been opened in Rome.

German Congress of Otology.—The German Otological Society will hold its annual meeting this year at Breslau, May 24 and 25. The arrangements are in charge of Professor Kuemmel, Thiergartenstrasse 53, Berlin.

THE ACTIONS OF MORPHIN UPON METABOLISM, WITH ESPECIAL REFERENCE TO "INTERNAL SECRETION" AND ITS BEARING UPON TOXICOLOGY.

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FOR nearly fourscore years morphin has held a most important place in the armamentarium of the clinician, yet our knowledge of its physiological properties is fragmentary and unsatisfactory. It is universally recognized that this poison kills almost invariably by paralyzing the respiratory center, but to what extent this paralysis is due to direct and indirect actions is merely speculative. If it be conceded that morphin acts directly upon the metabolic processes of the center which are specifically concerned in the discharge of respiratory impulses, it must also be admitted that this action is reinforced by the enfeeblement of the circulation, by the lowered temperature, and probably by a universal depression of metabolism that not only directly but indirectly affects both its anabolic and katabolic processes. That morphin is a depressant of nearly all forms of metabolic activity, both special and general, is evident from many facts: Its power to annul the pangs of hunger and lessen the quantity of food required for subsistence; its lessening of the body-weight; its weakening of the reproductive powers of habitués; its enfeeblement of the higher mental processes; and its depression of secretory, circulatory, respiratory and muscular activity, and of body-temperature, etc., all point to a decrease of metabolism so widespread as to extend to the important processes which are concerned in internal secretion and in repair. If morphin be thus so extensive a depressant, it follows that in dealing with poisons of this class we must consider not merely the direct actions upon the vital centers, but the indirect actions which result from the metabolic depression of remote and apparently unrelated structures, by which the centers may no longer be properly supplied with some special forms of pabulum, or with other substances essential to their normal activities.

While our knowledge of the actions of internal secretions* is extremely limited, it is sufficient to warrant the belief, that they play important parts in many or in all of the vital processes; that they may affect either anabolism or katabolism; that the removal of the thyroids, adrenals or pancreas is inimical to life because of the loss of their functions of internal secretion, and the consequent effects upon general nutrition; that the respiratory disturbances in uremia are not due to the retention of urinary constituents in the blood, but to the interference with internal secretion by the kidneys; that after the removal of three-fourths of the total kidney-weight, animals may live for weeks, and die of asthenia without their being either coma or convulsions; that the marked respiratory excitement caused by muscular activity is due to substances given to the blood by the muscles; that some of the principles are more or less powerful excitants to the respiratory center, to the heart, to the cardiac centers, or to the vasomotor centers or peripheries; that some are apparently dynamogenics, increasing volitional muscular power and

* The term "internal secretions" is here used to include all substances which are specifically or incidentally produced by the various structures of the body, and destined to affect the metabolic processes of other structures than those in which they are formed.

lessening fatigue; that several are of great toxicity, one obtained from the adrenals being among the most powerful poisons known, 0.00009 gram causing marked effects upon the circulation in a dog.

The manifest importance of this subject led me to make a number of experiments on dogs with the view of studying the actions of morphin not only upon general metabolism, but their bearing upon toxicology. The calorimetric method was chosen because of its being generally preferable to the others. This method is based on the fact that the heat produced in any structure is proportionate to the degree of metabolic activity of that structure; therefore, the heat produced by the entire organism during any given period is an index of the mean degree of activity of metabolism in all of the tissues. Inasmuch, however, as each structure is to a large extent independent in its chemical processes of those in others, this index can be applied as a standard to each organ only in conjunction with what special evidence exists regarding the metabolism in that organ.

The average minimal lethal dose of morphin for dogs, when injected subcutaneously, is from 0.25 to 0.45 gram per kilo of body-weight, the mean minimal lethal dose being about 0.35 gram per kilo. Notwithstanding the comparatively large quantity required to kill, fractional doses are sufficient to cause decided effects. One thirty-fifth of the average minimal lethal dose, or 0.01 gram per kilo, is promptly followed by stupor, depression of the circulation; marked weakness, especially in the hind legs, the animal often being unable to stand, and if so, the hind legs are almost if not completely paralyzed; a fall of body-temperature, usually as much as 1.5° to 3.5° C. (2.7° to 6.3° F.); lessening of sensitivity; and many other manifestations of nervous, muscular and secretory depression, although in many instances the respiratory movements are for a time increased in depth or frequency, or in both. An increase of the respiratory rate to 200–250 per minute is not rare. A dose of 0.15 gram per kilo is sufficient to cause paralysis of the hind legs, which may last for two days. The psychic depression, the slow full pulse, the lowered arterial pressure, the slow quiet respirations, the intense muscular weakness and the decided fall of body temperature are among the most marked phenomena commonly observed in morphin poisoning.

Twelve experiments were performed. In each the heat processes were studied for 1 or 2 hours before giving the morphin,* and from 3 to 5 hours after. The results, as shown in the accompanying condensed records, were decided and quite uniform. In the first 10 the dose was 0.01 gram per kilo of body-weight; in Experiment 11, 0.07 gram per kilo; and in Experiment 12, 0.15 gram per kilo. In every experiment a fall of temperature occurred, the maxima being 3.66° , 2.10° , 0.91° , 1.57° , 0.93° , 2.30° , 3.76° , 1.69° , 1.24° , 0.93° , 1.35° , and 2.77° , respectively, and the average 1.93° . As a rule, the temperature begins declining during the first hour after morphin, falls rapidly during the second hour, and but little more during the third hour, and sometimes continues downward during the fourth hour. In every case the temperature fell during the second hour. In 4 experiments (Nos. 8, 9, 11, and 12) there was an increase during the first hour, notwithstanding the occurrence of a decrease of both heat production and heat dissipation, the former, however, not being lessened so much as the latter. In 5 (Nos. 1, 5, 6, 7, and 10) the temperature fell continually throughout

EXPERIMENT 1.—Dog: weight, 9.85 kilos; dose, 0.01 gram per kilo of body-weight.

	HEAT PRODUCTION	HEAT DISSIPATION	RECTAL TEMPERATURE			
			Beginning of hour.	Ending of hour.	Change of temperature.	MEAN TEMPERATURE
First hour before morphin.	20.04	19.434	39.78	39.86	+0.08	20.2
Second " " "	18.548	19.572	39.85	39.73	-0.13	20.2
First " after " "	7.473	19.372	39.73	38.22	-1.51	19.9
Second " " "	5.176	15.420	38.22	36.92	-1.30	20.1
Third " " "	8.761	13.410	36.92	36.33	-0.59	19.8
Fourth " " "	12.069	14.118	36.33	36.07	-0.26	23.3

EXPERIMENT 2.—Dog: weight, 11.81 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin.	21.041	23.598	39.09	38.82	-0.27	22.1
Second " " "	25.731	30.846	38.82	38.28	-0.54	21.7
First " after " "	16.715	23.808	38.28	37.32	-0.96	21.4
Second " " "	12.602	21.660	37.32	36.37	-0.95	21.2
Third " " "	15.147	16.956	36.37	36.18	-0.19	21.8
Fourth " " "	12.591	11.076	36.18	36.54	+0.16	22.1

EXPERIMENT 3.—Dog: weight, 10.5 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin.	23.934	23.682	38.76	38.59	+0.03	27.2
Second " " "	16.650	18.834	38.59	38.33	-0.26	26.7
First " after " "	13.632	18.000	38.33	37.81	-0.52	26.0
Second " " "	9.600	12.876	37.81	37.42	-0.39	25.9
Third " " "	10.416	8.652	37.42	37.63	+0.21	25.6
Fourth " " "	9.890	11.058	37.63	37.61	-0.02	25.2

EXPERIMENT 4.—Dog: weight, 12.97 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin.	27.485	30.390	38.84	38.56	-0.28	23.3
Second " " "	25.895	28.800	38.56	38.28	-0.28	23.6
First " after " "	27.630	29.490	38.28	38.12	-0.16	23.6
Second " " "	10.508	23.814	38.12	36.98	-1.24	23.1
Third " " "	21.564	24.376	36.98	36.71	-0.27	23.6
Fourth " " "	22.117	20.976	36.71	36.82	+0.11	24.3

EXPERIMENT 5.—Dog: weight, 11.07 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin.	18.227	18.138	38.44	38.47	-0.01	24.3
Second " " "	13.278	16.200	38.47	38.14	-0.33	24.2
First " after " "	12.728	14.676	38.14	37.92	-0.22	24.3
Second " " "	7.454	11.528	37.92	37.46	-0.46	23.6
Third " " "	8.588	10.182	37.46	37.28	-0.18	23.3
Fourth " " "	9.928	10.548	37.28	37.21	-0.07	23.1

EXPERIMENT 6.—Dog: weight, 13.75 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin.	27.049	31.229	39.46	39.03	-0.43	29.8
Second " " "	29.440	30.500	39.08	39.02	-0.06	21.1
First " after " "	7.414	21.219	39.02	37.71	-1.31	21.5
Second " " "	11.227	18.377	37.71	37.09	-0.62	21.4
Third " " "	17.555	19.205	37.09	36.91	-0.18	21.3
Fourth " " "	15.529	17.619	36.91	36.72	-0.19	21.4

* The units of heat production and heat dissipation are in centigrade degrees, the temperature records in the centigrade scale.

* The sulfate was used in these experiments.

EXPERIMENT 7.—Dog, weight, 10.8 kilos; dose, 0.01 gram per kilo of body-weight.

		BODY HEAT PRODUCTION.	BODY HEAT DISSIPATION.	RECTAL TEMPERATURE			MEAN ROOM TEMPERATURE.
				Beginning of hour.	Ending of hour.	Gain or loss (+ or -)	
First	hour before morphine	38.732	40.980	38.88	38.92	+0.04	23.9
Second	" " "	32.000	36.700	38.59	38.68	-0.21	24.2
First	" after "	27.888	25.688	38.38	37.98	-1.00	24.5
Second	" " "	14.476	31.914	37.38	35.28	-2.10	23.9
Third	" " "	17.571	23.152	35.28	34.62	-0.66	24.2

EXPERIMENT 8.—Dog, weight, 11.224 kilos; dose, 0.01 gram per kilo of body-weight.

Hour before morphin . . .	27.609	28.896	39.38	39.44	+0.14	20.9
First hour after morphin . .	26.508	26.149	39.24	39.28	+0.04	21.4
Second " " " " " "	4.105	19.929	39.28	37.55	-1.74	22.3
Third " " " " " "	19.221	18.504	37.55	38.35	+0.80	22.9
Fourth " " " " " "	24.904	17.092	38.35	39.22	+0.87	24.0
Fifth " " " " " "	14.369	14.748	39.22	39.18	-0.04	23.4

EXPERIMENT 9.—Dog, weight, 8.83 kilos; dose, 0.01 gram per kilo of body-weight.

Hour before morphin . . .	40.297	38.309	38.58	38.85	+0.27	23.0
First hour after morphin . .	29.922	27.378	38.85	39.21	+0.36	23.9
Second " " " " " "	6.411	13.101	39.21	38.15	-1.06	23.6
Third " " " " " "	17.600	21.476	38.15	37.61	-0.54	24.5
Fourth " " " " " "	18.777	16.445	37.61	37.94	+0.33	24.3
Fifth " " " " " "	18.408	16.440	37.94	38.22	+0.28	25.0

EXPERIMENT 10.—Dog, weight, 11.40 kilos; dose, 0.01 gram per kilo of body-weight.

First hour before morphin . .	12.760	13.928	39.51	39.38	-0.13	19.5
Second " " " " " "	14.561	16.883	39.38	39.12	-0.26	19.5
First " " after " " " "	11.182	14.853	39.12	38.71	-0.41	19.6
Second " " " " " "	11.581	14.616	38.72	38.38	-0.34	21.6
Third " " " " " "	11.863	14.539	38.38	38.19	-0.19	22.6

EXPERIMENT 11.—Dog, weight, 10.02 kilos; dose, 0.075 gram per kilo of body-weight.

Hour before morphin . . .	36.820	42.707	38.90	38.80	-0.45	19.7
First hour after morphin . .	28.800	35.041	38.45	38.70	+0.25	20.4
Second " " " " " "	24.081	38.043	38.70	37.70	-1.00	22.2
Third " " " " " "	31.084	32.310	37.70	37.60	-0.10	22.6
Fourth " " " " " "	27.766	29.772	37.60	37.50	-0.10	21.2
Fifth " " " " " "	27.835	33.080	37.50	37.10	-0.40	21.7

EXPERIMENT 12.—Dog, weight, 10.5 kilos; dose, 0.15 gram per kilo of body-weight.

Hour before morphin . . .	41.748	42.746	38.60	38.82	+0.17	21.1
First hour after morphin . .	29.972	31.100	38.82	38.08	+0.16	22.0
Second " " " " " "	28.948	30.048	38.98	37.78	-1.20	22.3
Third " " " " " "	14.642	33.310	37.78	38.17	+0.16	22.6
Fourth " " " " " "	34.007	35.507	38.17	38.05	-0.12	24.2
Fifth " " " " " "	36.924	36.924	38.05	38.05	+0.00	24.9

the 4 hours. In 2 (Nos. 3 and 8) rises of 0.21° , and 0.8° , respectively, occurred during the third hour. In 4 (Nos. 2, 4, 8, and 9) rises of 0.16° , 0.11° , 0.87° , and 0.33° , respectively, were recorded during the fourth hour. The minimum temperature was in 2 experiments noted during the second hour; in 5, during the third hour; in 4, during the fourth hour; and in 1, during the fifth hour. The extent of the decrease is due, in part, to idiosyncrasy, as will be apparent by comparing the figures of the 10 experiments in which the dose was the same, and also by a comparison of these with the results in Experiments 11 and 12, in which the doses were very much larger.

Heat production was decreased in every experiment, but the effects were decidedly more marked, as a rule, during the first 2 hours after morphin. The maxima decreases in heat production, being 72, 51, 43, 60, 44.75, 55, 85, 84, 23, 32, and 67%, respectively, or on an average about 58%. The average in the 10 experiments in which the dose was 0.01 gram per kilo was 59.2%. The maxima decreases were recorded in 1 experiment during the first hour; in 8, during the second hour; in 2 during the third hour; and in 1 during the fourth hour. Heat dissipation was also decreased in every experiment, and the maxima decreases were 31, 64, 54, 27, 37, 42, 32, 49, 67, 14, 32, and 29%, respectively, or an average of not quite 40%, while the average for the first 10 experiments was 41.7%. The maxima decreases occurred in 2 experiments during the second hour; in 5, during the third hour; in 4, during the fourth hour; and in 1, during the fifth hour. The fall of heat production sets in sooner, progresses more rapidly, and reaches a maximum earlier than the fall of heat dissipation. The mean depression of heat production was about 20% greater than that of heat dissipation.

The actions of morphin upon thermogenesis and thermolysis can, however, be understood by studying the results of the experiments as a whole, than by considering each experiment separately. If we find the mean heat production, heat dissipation, and body-temperature of all 10 experiments for each hour, and from this data construct composite curves, we obtain a composite picture, as it were, of the typical effects of a dose of 0.01 gram per kilo of body-weight, as shown in the accompanying cut (Fig 1). Examining these curves it will be noted that heat production, before giving morphin, was increased to a trifling extent (0.7 kilogram degree). After giving morphin, it fell 6.339 kg., or 26%, during the first hour; and 8.735 kg., or 36%, in addition during the second hour, thus falling 15.074 kg., or about 62%, or to 38% of the normal in 2 hours. During the third hour an increase occurred of 5.715 kg., and during the fourth hour a further increase of 0.696 kg., leaving heat production at the end of the fourth hour at only 65% of the normal.

Heat dissipation before giving morphin was somewhat in excess of heat production, and was increased 1.08 kg. After giving morphin it fell 2.989 kg., or about 11%, during the first hour; 5.86 kg., or about 22%, during the second hour; 1.367 kg., or about 5%, during the third hour; and 5.143 kg., or nearly 20%, during the fourth hour, the total fall being 14.359 kg., or about 55%, or to 45% of the normal. It will thus be noted that heat production fell only during the first 2 hours, while heat dissipation continued falling throughout the 4 hours, and quite regularly; but it was only during the fourth hour after morphin that heat dissipation was

reduced more than heat production. During the first 2 hours heat production fell about double as much as heat dissipation.

The cause of the decrease of temperature is rendered apparent by a study of the relations of the curves of heat production and heat dissipation, as exhibited in Fig. 1. Before giving morphin heat production was a little less than heat dissipation, causing a fall of temperature of 0.19° . During the first hour after morphin both heat production and heat dissipation fell, the former 26% and the latter 11%, causing the temperature also to fall 0.39° . During the second hour both heat production and heat dissipation continued decreasing, the former about 36% and the latter 22%, resulting in a further decrease of temperature of 1.19° . During the third hour heat production increased, and heat dissipation fell about 5%, but owing to the continued deficit of heat production in relation to heat dissipation the temperature still further declined 0.18° . During the fourth hour an increase of heat production, together

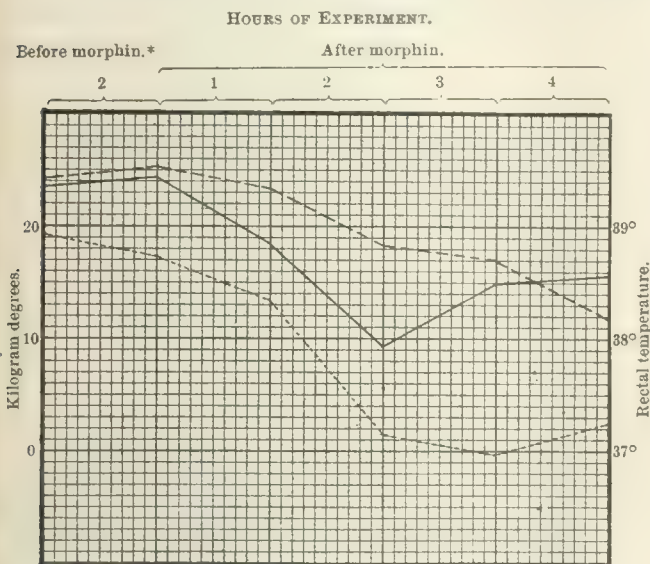


FIG. 1.—The curve of heat production is represented by a solid line (—); of heat dissipation, by a broken line (---); and of rectal temperature by a dotted line (.....).

with the continued decrease of heat dissipation, caused more heat to be produced than dissipated, and as a consequence there occurred a rise of temperature, this amounting to 0.26° . That the marked fall of temperature caused by morphin is due to a lessening of heat production is obvious from the fact that while both heat production and heat dissipation are lessened, the former is affected the more decidedly.

The cause of the decrease of heat dissipation is doubtless owing chiefly to two factors: First, to compensating actions of the thermolytic mechanism to conserve the body-heat; and, second, to a direct depression of the circulation.

The cause of the decrease of heat production is theoretical, and we should not be justified in attempting to reach conclusions as to how and to what extent each structure shared in this depression until after a detailed study of the effects on at least all of the most important metabolic processes, because each tissue that is directly or indirectly affected by morphin has its metabolic activities increased or decreased, as the case may be, and thus takes part in the alterations of the mean quantity of heat produced. Under ordinary conditions, prob-

ably 5% of the total heat production, in the absence of volitional movements, shivering, etc., is contributed by the metabolic processes in the heart and respiratory apparatus, the remainder coming from the other active structures of the body, and varying in quantity from each in accordance with the degree of activity. In two of the experiments, the mean metabolic activity, as shown by heat production, was decreased as much as 84 and 85%, thus lowering the mean metabolic activity of the body to about 15%, or about $\frac{1}{4}$ of the normal. Deducting from this the heat contributed by the circulatory and respiratory mechanism, the remainder is so small as to indicate a state of vitality bordering on dissolution, and one which must of necessity directly or indirectly injuriously affect every function. It would, therefore, seem unreasonable to assume that so profound a depression, apart from any other consideration, is not shared to an important degree by the metabolic processes which are concerned in internal secretion, and with consequent important results.

If the vital centers be partially or wholly deprived of substances essential to their activities, it is obvious that the most important indication in morphin poisoning is not merely to administer specific excitants to the respiratory and vascular centers, but to reach the causes of the depression, and therefore to direct some measures to the processes which are concerned in internal secretion and in repair. In fact, it is more than probable that most of the agents which are, or appear to be, of unquestionable value in the treatment of morphin and opium poisoning have proved so, in part at least, because of their action upon these processes, although entirely unrecognized. Atropin, caffein, strychnin, cocaine, faradization, cold douches, and prolonged very hot baths, will doubtless generally be regarded as the most effective physiological antidotes, and with the exception of atropin each will be recognized as an agent which more or less decidedly excites both special and general metabolism.

As regards atropin, I have already called attention to the fact that clinical, experimental and toxicological data demonstrate clearly that this substance cannot be regarded a reliable respiratory stimulant in morphin poisoning. (*University Medical Magazine*, February, 1891.) Furthermore the results of subsequent investigations not only fully verify this statement, but also show that while in some cases atropin is of value, in most cases it is worthless or positively harmful. Upon the circulation it is also uncertain in its actions, therapeutic doses sometimes increasing the pulse and the arterial pressure, and sometimes decreasing both, etc. The causes of these variations I have also shown (*loc. cit.*). Atropin is claimed to be in therapeutic doses a depressant to the cardioinhibitory apparatus, and a direct stimulant to the heart; a stimulant to the vasomotor center and peripheries; a delirifacient; and sometimes an excitant to thermogenesis, increasing body temperature in this way. There is very little evidence which indicates that this substance is to any marked degree a metabolic excitant. In fact, apart from its cardiac, vasomotor and cerebral excitation, and its direct stimulation of the respiratory center (which may more than be offset or antagonized by the effect of the depression of the pulmonary fibers of the vagi and other factors), it is probable that it is an almost universal metabolic depressant, and that its reputed value in opium poisoning is owing largely to the circulatory and cerebral excitation, coupled at times with a more or less important

increase of the rate or depth, or of both rate and depth, of the respiratory movements.

Caffein is a very general metabolic excitant, and there is evidence which leads to the belief that in opium poisoning, besides its value as a direct respiratory, cardiac and psychic stimulant, it is of indirect value by affecting internal secretion through actions on the nervous, muscular and secretory structures. It increases body-temperature by increasing heat production, and it in some obscure way affects general nutritive processes, allaying the sense of hunger, apparently lessening the quantity of urea formed, facilitating assimilation, and acting directly upon the muscles to increase the activities of their chemical processes.

Strychnin is stated to be a powerful and certain respiratory stimulant in morphin poisoning, but the experimental and clinical evidence is far from convincing, excepting when strychnin was pushed so far that the individual was on the verge of convulsions, and in about as much danger from one poison as the other. Elsewhere (*Therapeutic Gazette*, April 15, 1892) I have shown that when it is given *subcutaneously* to normal dogs, and even in doses so large as nearly one-half the minimal fatal quantity, it is without any specific effect on the frequency of respiration movements. In man, in therapeutic doses, its general tonic influence is simply shared by the respiratory center in common with other structures, and its effects upon the respiratory movements are too feeble to be of any important value in states of depression so profound as in morphin poisoning. That strychnin will, however, powerfully and certainly excite the respiratory center when injected *intravenously* in doses so large as to cause dangerous effects is without doubt. But entirely apart from any direct action upon the respiratory center, suppositious or otherwise, this substance may be of value because of its widespread tonic powers in restoring the normal activities of trophic and allied centers. That it exercises an influence upon internal secretion is indicated in its stimulation of the salivary glands, by the increase of heat production as shown by the rise of body-temperature, and by its favorable effects upon nutritive processes generally.

Cocain is among the most powerful of respiratory excitants. In many ways it is apparently a powerful physiologic antagonist to morphin. It is a psychic, respiratory, cardiac, vasomotor, muscular and secretory excitant; and it decidedly increases body-temperature by increasing heat production. All indications point to its being a very general and potent metabolic stimulant.

Faradization, is, as is well known, an excitant to both special and general metabolism.

Cold douches decidedly affect the metabolic activities of the skeletal muscles, increasing chemical tonus and heat production.

Prolonged very hot baths tend powerfully to reflexly excite the respiratory center by actions upon the cutaneous nerves, and to restore the normal temperature of the body, and thus favorably influence all forms of metabolic processes.

While it would be futile to contend upon a basis of such generalities that the antidotal values of these several agents (not considering atropin) are due in any large measure to their actions upon the metabolic processes that are concerned in internal secretion and in repair, it seems equally futile to assume that these processes are not depressed, and therefore take part directly and indirectly in the causation and intensification of

the lethal symptoms; but what degree of importance is to be attached to the consequent effects of this depression upon the respiratory and circulatory mechanisms is of course problematical.

This subject opens a wide and laborious field of research, and considerable experimental work along different but cooperative lines will have to be done before we can hope to obtain data of sufficient scope to enable us to reach satisfactory conclusions. Nevertheless, it must be admitted: First, that the profound depression of general metabolism, even by sublethal doses, together with the probable involvement of the processes concerned in internal secretion and in repair and their consequent effects, must be considered among the important factors in the treatment of morphin poisoning; second, that further research will probably show that we have in this depression an agent in explaining, in part at least, the values of certain physiological antidotes, and, on the other hand, the ineffectiveness of others which upon theoretical grounds should prove of signal power; and third, that if a means be found to restore the normal processes concerned in internal secretion and in repair, the counteraction of the direct actions of morphin upon the metabolic processes which are specifically engaged in the discharge of respiratory impulses will probably be accomplished with far less difficulty than heretofore experienced.

In the near future I will supplement this article by the results of further research.

PARESIS SIMULATING BRAIN TUMOR.

By WHARTON SINKLER, M.D.,

of Philadelphia.

Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases

It is familiar to everyone how patients suffering from paresis often have symptoms which resemble so closely those which arise from localized disease in the brain, that one can scarcely believe that there is not some gross lesion present. The convulsive seizures which occur as a late symptom of paresis frequently begin in or may be confined to one arm, and one sometimes sees in a paretic almost typical Jacksonian convulsions. As the disease progresses, the convulsive movements may involve the entire side, and consciousness is often completely lost for minutes or hours. After a seizure there may be more or less complete paralysis in the arm or whole side for several days, and in cases in which the hemiplegia is right-sided, there may be aphasia, which is generally transient but may be more or less permanent. When the mental and other symptoms of paresis are not pronounced, it is difficult to convince oneself that there is not a tumor or other gross lesion of the brain present. The following cases are illustrative of the above statements:

Case 1.—W. A. consulted me on September 1, 1885. He was 35 years of age and gave a history of syphilis. The family history was bad; three brothers were or had been insane, and one of his uncles was alleged to have had softening of the brain. About a month before he saw me he awakened one morning with violent pain in the left eye. A day or two later he noticed that he had double vision and consulted Dr. Oliver, who referred him to me. Under the use of potassium iodid and faradism to the external rectus, the pain and double vision disappeared in the course of a few weeks. I did not see the patient again until September, 1887, two years later, when I was sent for to see him on account of two epileptiform convulsions which he had just had. He had

had 3 or 4 seizures of a similar character during the few months previous, each followed by severe headache but no paralysis. When I saw him he was incoherent, the speech thick, and he was unable to express his wants, but there was no paralysis. In 24 hours he entirely recovered. Two or three weeks later he had an attack of excitement brought on without sufficient provocation. He had delusions of persecution and at the same time some grandiose ideas. On January 7, 1888, he had 4 convulsive attacks; following these he was aphasic and there was ptosis of the right lid. By January 24 the aphasia had almost entirely disappeared, except that he occasionally misapplied a word. On March 20 he had another convulsion. The face was drawn to the left and both arms were violently convulsed. This attack was also followed by aphasia. Convulsions now occurred at intervals of from one to two weeks. The strength of the right side was decidedly less than the left, but there was no distinct paralysis. The ocular conditions were as follows: At the first examination there was paresis of the right externus and compound myopic astigmatism. January, 1887, Dr. Oliver reported that "Fields of vision were normal, although those of the left eye were somewhat reduced in area. The eye-grounds gave marked evidences of regressive neuro-retinitis and this was more pronounced upon the left. Upon individual exposure, the left pupil was the larger, although conjointly both became equal. In associated action the irides were freely mobile to light stimulus and accommodative reaction. A slight paresis of the right externus could be made out."

About the end of May he had another seizure, after which the entire right side was paretic for 8 hours, and the aphasia was more marked. From this time onward the patient's condition grew worse. His mental state deteriorated and he had periods of excitement which caused him to become violent. He was finally admitted to the Pennsylvania Hospital for the Insane, where he remained until his death, which occurred 3 months after his admission. An autopsy was made in which the only lesions found were those of paresis; that is, the pia arachnoid was opaque, and there was an unusual amount of subarachnoid serum, but there were no gross changes to be found anywhere in the brain. Through an accident the brain became unfit for microscopic examination.

CASE 2.—A. J. E., aged 32, married. Consulted me October 6, 1898. He never had syphilis and had always been temperate and correct in all of his habits. No history of any serious illness. His occupation was that of a bookkeeper, and he had previously been for a time employed in a drug store, but had to give up the work because he was not strong enough. He is the father of 5 children, all of whom are healthy except the youngest boy who is 2½ years of age, and who was born after the present illness of the patient began. The child is a deaf mute and is backward in every respect. Four years ago the patient got into an altercation with a man, who struck him a violent blow on the left side of the head, just below the ear, and he fell, striking against a bulk window and injuring the right side of his head. When he got upon his feet he was again struck on the side of the head by his assailant. He was stunned and dazed when he got home, but there was no external injury. For about 2 months after this he had a noise in the right ear and was somewhat deafened. He then saw his doctor about it. He was not otherwise affected, except that his wife thought he was more irritable than usual. In the autumn of 1897, about 3 years after the injury, he seemed to get worse. There was a tendency to shaking of the hands, his speech became hesitating and his memory was impaired. He continued his work, however. In May, 1898, he suddenly had a sense of numbness in the right arm, which extended to the head and also to the leg. The attack lasted about 15 minutes, and after this he seemed as well as before. He had another similar attack 2 months later and about 3 weeks before seeing me he had had a third attack. In addition to the numbness in the arm and leg and drooping of the lid, there was inability to swallow and thickened tongue. He was not unconscious during the attacks, but after one he always seemed worse than before; he dragged his leg more and seemed generally feeble.

On examination it was observed that the expression was vacant. There was a tendency to drooping of the left side of the mouth and the speech was slow and inclined to be

scanning, his memory was poor, sleep variable, there was no nystagmus, pupils equal, knee-jerks markedly exaggerated but no clonus. The patient's mental condition was evidently below par, although he had no delusions. There was a tendency to tremor in the hand when it was used, and in walking his whole body was moved stiffly. He could whistle and there was no marked tremor, but his tongue trembled when it was protruded. He had no headache, and there was no loss of power in the arm, but he was inclined to drag the right leg in walking.

The patient's mental condition grew worse from this time. He became delusional and at times was greatly excited so that it was difficult to manage him. He finally lost strength and fell into a condition of dementia. He died July, 1900. The brain was sent to me for examination, and I referred it to Dr. Spiller, who found no gross lesions, and who has kindly made the following report of the microscopic examination:

"Sections from the left paracentral lobule stained with a nuclear stain show distinct round-cell infiltration of the pia. Round-cell infiltration is also found about the vessels within the brain-substance, but does not extend beyond the perivascular spaces. Numerous spaces, small and usually round, are found within the white matter beneath the cortex. It is difficult to say whether these are caused by a gas-forming microorganism, or are the result of degeneration of nerve fibers. No microorganisms can be found by deep staining with thionine. These spaces are far more numerous in the white matter of the brain and in the medulla oblongata than they are in the cerebral cortex, and are not separated from the surrounding tissue by a distinct wall. Many of the perivascular spaces are much enlarged. It is difficult to express an opinion in regard to the number and condition of the nerve-cell bodies and of the medullated fibers, as the method employed for hardening the tissues prevents the proper staining with thionine and Weigert's hematoxylin. The above description applies also to sections from the left upper ascending frontal convolution, from the right frontal lobe and from the medulla oblongata. The condition is one of meningoencephalitis."

OPERATIVE TREATMENT OF TUBERCULAR LYMPHOMATA OF THE NECK.*

By PRESCOTT LE BRETON, M.D.,

of Buffalo, N. Y.

NATURE has provided a wonderful barrier to certain diseases and infections in human beings by the elaborate system of lymphatic channels and nodes throughout the body. Due warning is given of an invasion of septic or other processes by the swelling, pain, and tenderness occurring in the glands and noted by the patient. Certainly no surgeons think of removing such able sentinels so long as they preserve their usefulness and are more serviceable than damaging. When, however, the infectious process overcomes the resistance met with, the surgeon must interfere. As regards operation in the case of tuberculosis of the lymph nodes opinions are at variance. Schleich, of Berlin, advises a conservatism almost unsurgical, because of unsatisfactory data as to surgical treatment. Wheaton states that the protection afforded is so perfect and so extensively exercised that removal of such a help to health is often a crime. Horace Grant, after quoting these men in a recent article, has summed up the matter and meets the objections offered.

1. Although there is a loss of protection for a time, the remaining glands and newly-formed lymphatic channels soon perform an extra duty, just as one kidney will do the work of two, or as one part of the brain will do the work of a part previously excised.

* Read at a meeting of the Surgical Section of the Buffalo Academy of Medicine, February 5, 1901.

2. The difficulties of complete removal in competent hands are never insurmountable.

3. Dissemination of tubercle bacilli may be prevented by careful dissection and cleanliness during the operation.

We may add to these statements that operation is indicated because general infection does occur in a large proportion of cases of tuberculosis of the cervical glands. Van Noorden, quoted by Dowd, found that of 149 cases whose histories had been traced for 3 years or more, 28 died of general tuberculosis and 14 others had pulmonary tuberculosis, but were alive at the time of the report.

Treves, in his monograph, written as early as 1882, had found excision, scooping and cautery puncture the best treatment.

Certainly the general trend of opinion among surgeons in this country, as evidenced in the latest editions of Da Costa, Roberts, Stimson, etc., is towards radical operation in all cases that have withstood medical treatment.

The great frequency of cases in which lymphomata of the neck appear renders the subject an important one. In children tuberculosis starts most often in this region and assumes various types. Watson Cheyne in the Harveian lectures in 1899 gives the most practical classification according to clinical characteristics and indications for treatment.

1. Cases in which the glands remain hard, small and movable, with no marked tendency to softening or matting together. As long as the glands are quiescent they may be left alone and medical treatment alone instituted.

2. Cases in which the glands enlarge steadily or at intervals until the whole side of the neck is involved in a mass of glands, some free and others matted together, and in all stages, from those which are fleshy in appearance to those which are cheesy and suppurating. Here medical treatment is contraindicated and surgical intervention should be prompt and thorough, consisting in complete excision.

3. Cases in which the inflammation is very active. The glands enlarge rapidly and soon suppurate while fresh glands become involved. Periadentitis is early, and unless the case is operated upon, abscess after abscess forms, and numerous ulcers remain. Again excision is indicated. Although many surgeons are content with scraping, excision is the better plan, with removal of capsules, fat, and neighboring glands.

4. Cases in which there are unopened abscesses, and these may be subdivided according to the position of the abscess. If 1 or 2 glands only enlarge and suppurate, by making an oval incision over the mass and dissecting outside the abscess, one may often enucleate abscess and glands in toto. If the abscess is accidentally opened while dissecting, the pus should be washed away immediately. Where the abscess has broken through the deep fascia and undermined the skin, it is sometimes wise to incise and drain 3 to 4 weeks and then operate, rather than excise the thin skin over the abscess and leave a large scar that may stretch.

5. A series of long-standing cases in which ulcers and sinuses remain with remnants of broken-down tubercular tissues and glands at the bottom. The treatment is either excision or scraping, with the application of iodoform or carbolic acid.

The most important rule to remember in excising these cervical glands is to remove not only the glands, but their capsules and other surrounding tissue, in

which are often small glands already infected. In other words, to go wide of the disease as in operating upon malignant growths. This produces the best results, the cleanest wound, and the quickest healing. Cheyne is the most ardent advocate of a complete and radical operation, leaving the least chance of recurrence. Hartley considers it best to identify the chief structures in the neck and dissect them from the mass, rather than to dissect the mass from them. The operation must be planned beforehand and carried out systematically with an incision large enough to expose the field and allow complete extirpation without cutting important structures.

Numerous incisions have been devised. In the submaxillary region an incision similar to Kocher's for excision of the tongue is the one preferred. If only a few glands are involved in the anterior triangle a straight incision in front of the sternomastoid will be sufficient. In the posterior triangle a straight incision behind the sternomastoid or an incision running down behind the sternomastoid and curving backward above and parallel to the clavicle. When the glands in both the anterior and posterior triangles are enlarged some surgeons incise parallel to the muscle both in front and behind and dissect, lifting the muscle up from its bed. The incisions of Hartley and Dowd are the best and afford more room, each being followed by the cross-section of the sternomastoid. Hartley formerly used the S H and T incisions but abandoned these in 1897 for the following: Beginning just below the mastoid process in front of the sternomastoid, incise along the anterior margin of the muscle to its middle point, alter the direction to run downward to a point one inch above the sternoclavicular articulation, then curving laterally with a rounded angle, pass across the posterior triangle till a line joining the two extremities of the incision passes behind the posterior margin of the mass. Dowd's incision is the reverse of this in position. Starting from under the lower jaw, running backward to the mastoid and downward along the hair border, the incision is continued as far forward and downward as the extent of the disease renders it desirable. The scar resulting from this is the least noticeable and is not liable to stretch.

Having incised through superficial fascia and platysma, the flap is dissected back. The external jugular vein is tied above and below and any superficial glands along its course are removed. The sternomastoid is now cut transversely below the exit of the spinal accessory nerve and its ends reflected, in this way uncovering the great vessels from the mastoid process to the clavicle. Milton, quoted by Dowd, reports two cases of torticollis following this muscle section, but no other ill effects have been seen, as many surgeons testify. The writer has cut this muscle several times and reunion and return of power have resulted. The key to the situation is to locate the internal jugular vein at the lower end of the wound and follow it as one finds and follows the axillary vein in the axilla. If the disease is continued to the root of the neck, slow and patient work is insisted upon to avoid the pleura and other important structures and especially the thoracic duct on the left side. Having located the internal jugular, by blunt dissection, aided by snips with curved scissors, the contents are enucleated en masse. In managing the tumor violent tearing of the nodes should be avoided and the tumor-hook must be prevented from puncturing suppurating foci and spreading pus over the wound.

If periadenitis is present and the glands are adherent

to the internal jugular, it is best to ligate it and remove it with the glands. The dissection is facilitated and no harm is done to the patient. Watson Cheyne says: "Probably in the majority of cases—in all cases where there are sinuses and practically in all cases where supuration is present—I make a point of dividing the vein between two ligatures and taking it away along with the mass of glands." If the vein is removed the superior thyroid, lingual, and facial veins are met with above and must be ligated. A final ligature is applied to the internal jugular at the upper end of the wound. The descendens noni is recognized and saved. As the mastoid process is neared the spinal accessory is looked for at its entrance into the sternomastoid and followed upward, separating the glands about it. Then the glands under the mastoid may be freed, care being taken not to cut the facial nerve. Rarely there are glands beneath the common carotid which, when enlarged, are removed. After defining the spinal accessory at its exit from the sternomastoid and freeing it, the posterior triangle can be cleared. The entire field should now be clean. The sternomastoid is sewed with catgut. If Hartley's incision is used a puncture at the base of the flap is made and a small drainage tube inserted to remain 48 hours. The flap is sewed in place unless pus has smeared the wound, in which case 1 or 2 wicks of gauze may be added at the corners of the incision. If sinuses have been present they are scraped out before the operation is begun and the edges cut away.

The lowest branch of the facial, running below and parallel to the lower jaw, is often cut. This causes a temporary drooping of the lower lip near the angle of the mouth, but need cause no alarm. The superficial branches of the cervical plexus are usually injured, resulting in anesthesia of the skin supplied by them. The deep branches can be avoided. The writer has seen one case in which the thoracic duct was cut. Chyle flowed freely for about a week, then the discharge gradually ceased, pressure being applied over the discharging area. A frequent use of hot saline solution in the wound clears it of blood and causes the tissue to stand out in bold relief. Many small vessels are wounded and it is only by salt-solution that we may secure an unstained field.

Patients stand this extensive operation well, being up and about in a week or ten days. In a series of 7 cases, operated on by the writer, there were no accidents or complications. The writer remembers one case in which the common carotid sloughed through the night after operation, at a point where it was infiltrated with tubercular tissue. The hemorrhage was severe, but a ligature was tied about the artery and the patient lived. In the case of a little girl in which the submaxillary glands were excised, death followed on the third day from what was apparently an ulcerative endocarditis. No autopsy could be obtained.

The ultimate results are encouraging. Dowd gives the following table of cases whose after-histories were followed in most instances for several years.

Total number of cases	309	
Apparently cured	202	65.4%
Living with local or general tuberculosis	57	18.4%
Died of tuberculosis	50	16.2%

Since it has been proved that the bacilli enter, as a rule, through the mouth and pharynx, an important adjunct to the treatment is the removal of adenoids, and hypertrophied tonsils and the care of carious teeth.

Eczema of the scalp, rhinitis and otitis demand attention.

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A SKIAGRAPH OF BENNETT'S FRACTURE OF THE METACARPAL BONE OF THE THUMB OR "STAVE OF THE THUMB."*

By JOHN B. ROBERTS, M.D.,

of Philadelphia.

THROUGH the courtesy of Dr. George Thomas Beatson, of Glasgow, Scotland, I am able to show a Röntgen-ray print of this fracture. The injury was accurately described in 1885 by Professor E. H. Bennett, of Dublin, Ireland, but has not attracted as much attention in this country as it should.

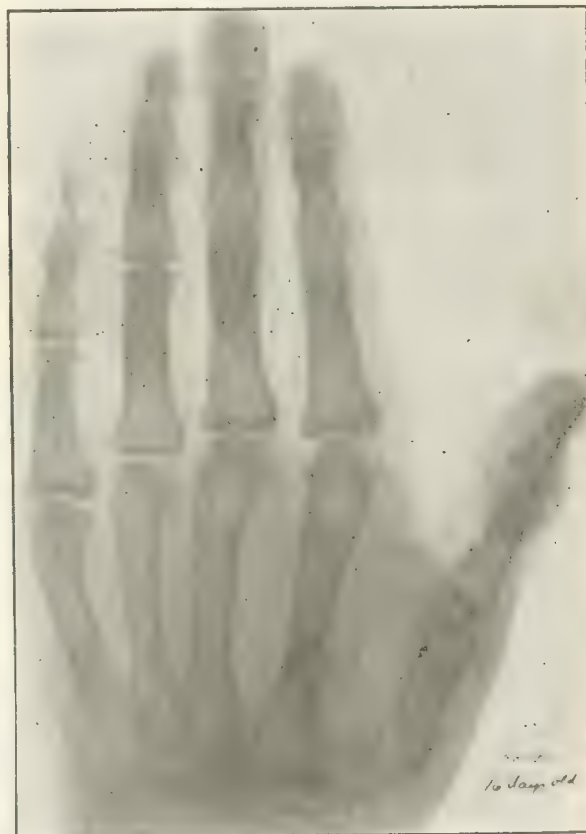


FIG. 1.

The fracture occurs obliquely at the base of the metacarpal bone of the thumb on its palmar aspect, detaching a portion of the base of the bone. It runs into the joint between the metacarpal bone and the trapezium. As a result of this detachment of a considerable portion of the articular surface, the metacarpal bone is displaced backward and gives a deformity similar to that of a posterior subluxation. The injury is usually

* Read before the College of Physicians of Philadelphia, February 6, 1901.



FIG. 2.

caused by a blow applied in the long axis of the thumb. The pain causes a disability in opposing the thumb to the index finger and probably to the other fingers. Grasping small objects becomes impossible

and pressure on the ball of the thumb gives pain. The injury is likely to be mistaken for subluxation, sprain, or contusion. It is to be treated by extension and full abduction of the thumb, which should be maintained by a gypsum or other splint. The skiagraphs of Dr. Beatson's case were taken sixteen days after the injury and at the conclusion of treatment. The fracture, until seen by Dr. Beatson, had been unrecognized and had not been reduced.

The attention of the Fellows is called to this injury because it is probable that it is overlooked. I have never recognized the fracture, though the inspection of the skiagraphs calls to my mind an injury of the thumb seen some time ago which was not clear to me. It is possible that it was a case of this kind.

A CAST AND SKIAGRAPH OF THE SO-CALLED SMITH'S FRACTURE OF THE LOWER END OF THE RADIUS.

By JOHN B. ROBERTS, M.D.,

of Philadelphia.

SEVERAL years ago I showed a series of specimens from the Mütter Museum illustrating fracture of the



FIG. 3.



FIG. 4.

lower end of the radius with anterior displacement. There were also shown at that time skiagraphs of such fractures. In a monograph presented to the American Surgical Association in 1896, I recorded a number of instances occurring in my own practice and collected from various sources. Experience in, and study of, this injury have convinced me that it is usually overlooked. Of the five or six cases which I have seen there was probably not one in which the character of the injury was clearly understood by the practitioner who first saw it.

It is a great pleasure, to be able to present to the college at this time a cast and a skiagraph of an old injury of this sort, sent me by Dr. George Thomas Beatson of Glasgow, Scotland. The case was one which Dr. Beatson did not see until a year after the accident. It occurred in a woman of 46 years, who fell from a bicycle. The deformity corresponds with that usually seen, and the skiagraph is an almost perfect representation of the specimen in the museum of the New York Hospital, a picture of which was given in the article to which reference has been made. It is unnecessary to speak of the treatment in full at this time. It may, however, be said that it requires the application of force, often great force, to break up the impaction and restore the fragments to their normal relations. A moulded splint, made of metal, gutta percha, or gauze and plaster of Paris, should then be applied to the palmar surface. In some cases a straight splint may be applied to the dorsal surface instead of the moulded splint to the palmar surface.

ON THE NECESSITY FOR THE ORGANIZATION OF BACTERIOLOGICAL COMMISSIONS FOR THE STUDY AND INVESTIGATION OF QUARANTINABLE DISEASES UNDER THE FORMATION AND CONTROL OF THE GOVERNING AUTHORITIES OF THE COUNTRIES INTERESTED—AN ABSOLUTE NECESSITY FOR THE SCIENTIFIC MANAGEMENT AND BETTERMENT OF MARITIME HYGIENE AND QUARANTINE.*

By HENRY B. HORLBECK, M.D.,
Health Officer of Charleston, S. C.

THE story of maritime hygiene and quarantine is the tale of the closing years of the nineteenth century.

It is the history of one of the great problems confronting civilized mankind, a problem to solve, whose mission it is to protect tens of millions of mankind from the transmission of diseases of fatal tendencies and to permit with all possible freedom the interchanges of commerce, and thus secure international exchange.

When it is considered how absolutely necessary to the well-being and happiness of mankind is the unlimited and unshackled and unchecked intercourse of nations and communities on the great highways of the sea, it will be seen how serious and momentous is the question to be answered. As the civilization and prosperity of the world have advanced, so has the imperious demand been made *pari passu* for the minimization of restraints upon commerce and for some practical solution of the world-wide problem of holding in check and fettering the great leviathans which traverse the oceans of the world.

The maritime hygiene and the maritime quarantine

of the past concerned not itself with the hardships of a 40-day detention; fleets of vessels were kept infecting and reinfesting themselves for this period, this confinement ceasing only when every craft had been subjected to quarantinable disease.

From the quarantine detention of 40 days, which was the recognized period of detention in the past, to the quarantine restraint of 5 days now prescribed is a great leap and a vast progress.

From the sulphur pots of only 15 or 20 years ago to the perfected jacketed steam cylinder is a far greater bound and shows a much greater growth.

These are not simply advances loosening the check-rein that has hampered commercial prosperity and progress, but they are methods that have greatly minimized and lessened the chances and dangers of the introduction of diseases which scourge mankind and desolate the households and habitations of human victims.

These steps of human progress have been accomplished in so short a period of time that would almost seem incredible. It has all occurred in less than a generation of man, and during the official life-terms of some of us who are engaged in the daily mission of protecting our shores from the introduction of dangerous and deadly diseases. With a better knowledge of the diseases most to be dreaded our restraints will be surely lessened, and our ability to protect our shores increased.

The outlook, the standpoint, and the responsibilities of one engaged or charged with the duties of carrying out a safe quarantine vary greatly with his locale. While each and every quarantine official feels to a certain extent the requirement of protecting his community from the advent of all dangerous diseases he feels that there are certain diseases which are to him most important, and to which his community is especially liable and which he must guard against with all his main and all his soul. The health official of one of our northern ports feels every pulse quicken at the reports of cholera and plague.

The health official of our own latitude on the south Atlantic coast of the United States, and to the south of us is never insensible to the notice and warning of the presence of yellow fever, and so around our little world there will be found on the borders of every ocean or sea some plague or pestilence or disease that prevails in that locality with a tenacity and a deadly force that must be accounted with. These diseases demand every requirement that this age of vitality and accountability has furnished and provided for the protection of the people interested.

All of us, therefore, that are engaged in this all-important work must look to such dangerous diseases as may when introduced injure and destroy those with whose well-being they are charged, and all of us, it is to be presumed, have perfected ourselves in a knowledge of the appliances which scientific advance has furnished; so it is not therefore necessary to epitomize what temperature shall be employed to destroy the dangerous cocci, or this pathogenic bacillus, or that perilous spirillum. Our health associations and medical organizations have had papers and papers presented on such matters explaining thoroughly their uses and advantages.

What is the all-absorbing thought in entering upon such an exciting theme or subject as Maritime Hygiene and Maritime Quarantine?

* Read before the Section of Marine Hygiene and Quarantine, Pan-American Medical Congress, February 4, 1901.

We all know that a temperature of 230° F. will surely kill pathogenic bacteria; this much we know, and we can surely and safely use this temperature with confidence, and we have the jacketed steam cylinder to effect the desired result.

We may also use with more or less confidence and belief in their germicidal value certain solutions of certain chemical salts and certain vaporizations which are at our easy command.

We are thus armed and equipped with the materials for warfare, but it is a warfare against an enemy in many cases of which we know but little.

It is the bludgeon's work and not the rapier thrust; and is such work required in all cases?

The dominant, all-important, all-pervading necessity in the work of maritime hygiene and maritime quarantine is a better and fuller and more thorough knowledge of the pathology and of the etiology of the diseases against which our quarantine officials must contend and make warfare.

The all-absorbing necessity is a better and a fuller knowledge of the causes, and we can in no way better further the great and important subject of maritime hygiene and quarantine than by urging upon these earnest gentlemen of this Pan-American Congress the necessity of awakening the public thought and interest among the people they represent towards the more definite and closer study of the diseases which hamper commerce, and which are dangerous to the lives of the communities with which commerce holds intercourse.

We have been following in the wake of ignorance, century after century, until the two last decades.

The discovery and the use of the oil-immersion lens and other mechanical appliances has given us the opportunity of acquiring an exact knowledge of the pathology of the diseases which are ever present and which are ever dangerous.

The exact knowledge of the *raison d'être* of these diseases due to specific origin is imperative, and meantime maritime hygiene and maritime quarantine will never be scientifically fulfilled until this is obtained. To acquire such sure and certain information there must be established Government commissions, arranged for bacteriological research. In every State and in every community where there are diseases that exact constant thralldom to commerce and that are of ever-dangerous importance, there should be established bacteriological stations for constant, unremitting, and continuous work; not that this commission should work for a limited period, and then another commission organized, whose first duty may be to hunt for a lost thread of a predecessor's labors, but an organization of trained bacteriological experts, who shall be so equipped as to ensure a successful investigation, and to continue such labors until the work that has been assigned to them has been brought to a successful termination—*nulla dies sine lineâ*—following the heritage of Lord Bacon: "Its law is progress; a point which yesterday was invisible is its goal today, and will be its starting-point tomorrow."

For two and a half years Dr. Ross, with unflagging interest and persistent energy, though baffled again and again, sought the malarial organization in the mosquito, and he finally found it.

The solution of the cause of the transmission of malaria among the nations of the earth—the certain knowledge—dissipating the superstitions of malaria and malaqua, is of such incalculable importance and benefit

that it should be a beacon-light in all lands and in all countries.

This discovery is the result of well-appointed, well-organized, and long-sustained bacteriological investigation.

Laveran commenced this work in 1889, by the discovery and description of the plasmodium malariae.

It has taken 20 years of constant and assiduous work to fulfil all the requirements, so that full fruition should come to mankind, and today the picture is on the wall.

The culmination of the work has been the success of the procedures undertaken and carried out during the summer of the year 1900, at Ostia. Today it is simply the problem of the destruction of the anopheles mosquito. No anopheles, no malaria. It has taken a fifth of a century of continuous scientific work to accomplish this result.

What of the malaria and the malaqua and the miasms and the vegetable organizations undergoing decay or decomposition with light and heat and moisture relegated to the realms of the shades? Definite knowledge has assumed leadership and physicians and sanitarians are in a position with certain and definite knowledge to give instructions as to enlightened methods for the protection of humanity.

The same work must be done as to yellow fever.

For over two centuries have the nations of the two continents of North and of South America paid tribute to yellow fever.

In a recent issue of the *N. Y. Herald* I find the following report as to yellow fever: "Medical officers in Cuba admit that while considerable has been learned about yellow fever since American occupation began, the laws governing the disease have not been discovered. Major Vallery Harvard, chief surgeon of the division of Cuba, says: 'Yellow fever continues to strike when and where it listeth, regardless of our most reasonable expectation and best hygienic measures. Why the germ should remain quiescent and inactive one or two seasons in the presence of susceptible material and then suddenly become active and virulent is a question still unanswered. The outbreak at Santiago last year was attributed on what appeared to be good grounds to the intensely hot and dry spring, while the outbreaks of this year at Santa Clara and Quemados are attributed on equally good grounds to the unusually heavy rains which fell in April and May.'"

What tons of paper and what gallons of ink have been sacrificed in giving the causes of yellow fever and what is the situation today! Theories upon theories. What exact certain knowledge have we of the etiology of yellow fever? None.

We have, however, great encouragement from the recent investigations of Doctor Walter Reed and his colleagues. Following in the wake of Dr. Carlos Finlay, a distinguished investigator of the city of Havana, Dr. Reed with the aid of the microscope has given us a clue to the labyrinth which has so far baffled all investigators.

Quoting from a recent exchange: "Dr. Reed says the experiments show beyond a doubt that there is no contagion from an infected person or from infected clothing, but that the mosquitoes alone are responsible for the spread of the disease."

What a vision of hope this discovery affords,—that the mosquito (*Culex fasciatus*) is the conveyor of the *materies morbi* of yellow fever. It is a source of con-

gratulation to one charged with the great and grave responsibilities attaching to the guardianship of the public health in a great extent of territory. What an encouragement!

Only one having such duties and living in a community susceptible to yellow fever can realize the benefit of such a boon. With the exclusion of the mosquito from the patient the dangers of the transmission of the disease, if the idea proves correct, are *nil*. This solution, that the mosquito is the factor in the etiology of yellow fever, explains many interesting facts: its presence and its absence in various communities, the immunity enjoyed by some and the prevalence of the disease in others, as the mosquito may be in the ascendancy, infecting herself and conveying the poison from one patient to another person.

There is at present, at this period, no known fact established and recognized and accepted as to the specific origin of yellow fever and its methods or modes of transmission.

What has the maritime hygienist or quarantine officer to do? Do as his forefathers have done for generations—proclaim nonintercourse. Certain detention for at least 5 days after disinfection—a sort of empirical quarantine formula.

We are holding our session in the city of Havana, where yellow fever has been more or less present for two centuries, summer and winter, and, judging from the records of the past summer, its inhabitants are as powerless to stay its ravages as they were when the holocaust began—and they have folios and folios to consult as to maritime hygiene and maritime quarantine. Is it not, therefore, becoming in us and proper to send forth to the inhabitants of the North and South American Continents from this Pan-American Congress our urgent solicitation and recommendation that the different governing and representative bodies have such investigating bacteriological commissions organized as we have indicated?

It surely does not want a lurid pen to tell of the tens and tens of thousands who have been victims and whose homes have been made desolate. It does not require more than the recital to tell of a great commerce paralyzed again and again.

It is not a distant past to recall the tragedies and horrors of 1878 in the Mississippi Valley, costing 16,000 lives and \$200,000,000 of money. These facts are known to us all and require but the reminder to bring up to us the picture of the desolations that follow upon such visitations.

And as to yellow fever so to all other diseases which come within the purview and care of officials charged with the administration of maritime hygiene and maritime quarantine.

Without a scientific knowledge of the etiology of plagues and pestilences there cannot be a scientific administration of maritime hygiene and quarantine.

It is our belief that the good health, safety, betterment, and happiness of mankind require that constant effort should be made by each government represented in this Pan-American Congress to establish properly equipped bacteriological stations for the investigation of dangerous and fatal diseases, so that quarantine officials may have such exact knowledge that they may scientifically fulfil their duties.

Sir Dyce Duckworth has been appointed Consulting Physician to the Italian Hospital, Queen Square, London.

ALBUMINOUS NUTRITION AND NUTRITIOUS ALBUMEN.*

By ALBERT BERNHEIM, M.D.,

Instructor in Diseases of the Stomach and Intestine in the Philadelphia Polyclinic and College for Graduates in Medicine.

By the above title Dr. Finkler, professor in the University of Bonn, read a paper before the Ninth International Congress for Hygiene and Demography at Madrid, Spain, April 10–17, 1898. In this paper Finkler discussed elaborately the great and absolute necessity of providing man, in order that he be able to work and to exist, with a food that will yield muscle and with the muscle, strength; strength of body and indirectly strength of mind. At the same time he comes to the conclusion in accordance with many investigators and in contradiction to views, formerly and partly now regarded as valid, that albumen alone is the supporter of the muscle-substance; he quotes Pflüger, by whose exact and accurate researches the maxim has been established, that the albumen is the nutriment of the first order, and whose thesis is: "Full muscular energy though fat and carbohydrates being absent, no muscular energy without disintegration of albumen. Albumen can perform all the work. The materials of the second order, however, the fat and the carbohydrates, are by themselves never able to sustain life; all work of life can be performed by albumen alone, while no other material in the universe can do it. The integral ingredient of the living and working cell is the albumen, indeed often the only organic part of it."

Dr. Finkler gives the daily amount of raw albumen:

1. For hard-working man.....145 grams.
2. For moderately working man 96 grams.
3. For moderately working woman... 61 grams.

Supposing the man's weight to be 65 kilograms and the woman's weight to be 55 kilograms, the daily amount of raw albumen for each kilogram would be:

- For 12.23 grams.
- For 21.48 grams.
- For 31.11 grams.

In the rations of the armies of 12 countries, he finds the average amount of raw albumen as follows:

1. In times of peace117.92 grams.
2. In times of war130.49 grams.
3. In the navy on sea duty148.03 grams.

But the difference between the ingested albumen and the albumen really consumed in the body is great. In every food mixture a certain part of albumen will not be resorbed, that is, it is called indigestible. The correction for this uselessly ingested albumen is of the greatest importance. Of course there are many points to be considered as to this correction, which may offer difficulties, such as the individual percentage of the resorbability of each food, and the mixture of the various nutriment for the meals and particularly the individual disposition of man, perhaps too the training and habits.

There are, however, to a certain extent, a few hints for this correction. By frequent researches the value of the resorbable albumen of some of the main kinds of foods, such as bread, meat, leguminous plants and vegetables has been found.

* Paper read at the meeting of the Philadelphia County Medical Society, January 23, 1901. Re-read on invitation before the North-east Medical Association, January 25, 1901.

On the average we must subtract 5% from the animal albumen and 35% from the vegetable albumen; at the same time man takes about one-third of the food from the animal stuffs and two-thirds from the vegetable stuffs:

Correcting according to that the above mentioned figures we get:

For 1.....	108.08	digestible <i>i. e.</i> , resorbable albumen.
For 2.....	72.00	" " " "
For 3.....	45.00	" " " "

And from the same standpoint for the armies of the 12 countries:

1.....	88.19	digestible <i>i. e.</i> , resorbable albumen.
2.....	100.97	" " " "
3.....	108.00	" " " "

Only the resorbable albumen will be used for the repair of the body; the not resorbable is a waste in the body in regard as to the work to be performed as well as to the money value.

By further investigations Finkler finds that per kilogram and 24 hours 1.73 grams albumen are necessary for a hardworking man, for a moderately working man 1.42 grams; therefore for a man of 65 kilogram body weight:

When hardworking	112.45.
When moderately working.....	92.45, and that only resorbable albumen.

For the hard-working man the defect shown is 3.6 grams, or 3.2%, of the albumen.

For the moderate workingman the defect shown is 20.3 grams, or 22%.

By the same figuring, the ration of the armies in times of war compared to the food of the hard-working man, has a defect of 12.35 grams of resorbable albumen, or 10.16%; the sailor on sea duty 3.6 grams, or 3.2%; and the soldier in time of peace 24.70 grams, or 20.31%, while the albumen in time of peace amounts to 7.2 grams, or 6.4%, above that of the moderately working man.

A remarkable and well-known fact is that the lower social classes have to suffer most from the deficiency of albumen, a fact which is caused by the proportionately more expensive albuminous foods. It is true, records of inquiries from 1853 and 1891 show an improvement to a certain extent, and that in all classes. The difference between the poorest and richest class is 40.0 grams of albumen, whereby not even the richest class reaches the absolutely necessary amount of proteids.

1. The proportion of the daily consumption of albumen in 4 classes, differentiated as to pecuniary circumstances, is 100:117:153:159.

2. The animal ingredients of the food were in the proportion of 100:135:180:236.

3. The total amount of food was in the proportion of 100:111:129:139.

The comparison of these figures shows that the prevailing need is not the fulness of the dinner-pail in order to fill the stomach, but to provide the body with the necessary amount of the best nourishment, namely albumen, the material most suitable for the reproduction of flesh and muscle-substance. Corresponding to the instinctive want and the social conditions improving, first the consumption of animal food increases, then the consumption of albumen in the whole, and but as third the total amount of food.

A question not to be neglected arises. Can the

take-in of albumen not be reduced and be replaced by antinogenous food?

Many investigators believe that this can be done, and perhaps it can be done under certain circumstances and to a certain extent.

But what happens if the amount of albumen is reduced? The first thing is that the organism begins to economize by reducing the metabolism of the body albumen, and conforming to a lower metabolic equilibrium.

Maybe it is possible that for a short time work, that has to be done by albumen, may be performed by antinogenous food, but only for a short time; when less albumen is introduced into the body, the muscle-substance will be reduced in weight, and that very soon and very considerably; the result of it is a hunger for albumen.

If in man, when hard-working, but a small amount of albumen, and a large one of fat and carbohydrates, are disintegrated in the metabolic process, we must not conclude that its reason lies in the large amount of fat, but in the small amount of albumen disposable; this means that either simultaneously less albumen is present in the food, or that on account of a previous reduction of the body albumen, the food albumen must be used for repairing the muscle-substance before a normal level of the disintegration of albumen for the sake of working can be reached. This fact is markedly pronounced in the growing persons, in convalescents, and in persons recovering from hunger.

It is particularly the fat that has been supposed to have the capability of reducing the disintegration of albumen, but at the same time the concession has been made that this fact is not markedly evident when a large amount of fat has been ingested along with a small quantity of albumen. But under such circumstances, in case of subnutrition, the efficiency of fat to save albumen would be just the real desideratum. If large amounts of antinogenous foods are introduced, while the amount of albumen is reduced, these antinogenous foods are expected to perform anything and everything in the body; *muscle work*, however, will not be performed if the above-mentioned maxim of Pflüger is correct, namely, that the muscle consisting of albumen performs its mechanical work through the anabolism of albumen, but never through that of fat or carbohydrates. Under these conditions less work will be performed; for the laborer, moderately nourished with smaller amount of albumen, is not able to perform hard work, because for this purpose he needs the largest amount of albumen, as shown above. With a deficiency of albumen, the body is forced to conform to a lower standard of proteid metabolism. This lower standard is unavoidable in persons who are continuously deprived of the full amount of nutritious albumen so necessary to them. Finkler says that this fact is markedly exhibited by the proof—that the majority of men who have hard work and but scarce nourishment, grow prematurely old and soon become exhausted, a fact which is daily observable.

It is true, certain amounts of fat or carbohydrates furnish a corresponding number of calories as a proportionate amount of albumen does, but there is a deception in our belief that the one can replace the other for any length of time, or even continuously. For man of the present day, in his strenuous struggle for life, the indispensable amount of albumen must be provided for; it cannot be reduced unless the enduring

ability of the worker or the continuance of the full amount of the body albumen will be reduced. Not only the provision of albumen at all, but also the equality of the daily ingestion of albumen is necessary. In the course of the 7 days of a week Finkler found a difference of from 30% to 40% between the smallest and largest amount of the digestible albumen; physiological research has shown that under such circumstances the inequality in the ingestion of the albumen becomes rather a waste of this material, because the superfluency of the one day will not be used up entirely for the benefit of the body, and will not by any means make up for the deficiency of the other day.

Another point to be considered in regard to the food is the digestibility. The loss of the proteids in the bread is about a third of the whole amount, in the legumes about the half. It is true, a proper preparation of this kind of food will help a great deal for the digestion, but nevertheless a large part of the albumen will not be used, and this unused albumen proves a fertile soil for putrefaction, which when continuing for a longer time may result in disturbances of the alimentary canal and further of the whole body.

Last but not least in our times of social revolutions is the question of expense. It is known that those nourishments containing the most nitrogen and being the most digestible and most relishing are the most expensive ones; and since mostly the less well-situated people have to perform the hardest manual work, they will have to come to an ever increasing lower condition of wealth and work. The rich people have less manual work and more nourishing food, the poor people more work and less nourishing food.

How to amend these conditions? Fish, very nourishing, pretty well digestible and not too expensive, may be put down to a greater extent upon the daily bill of fare, but it needs training of the people for the daily use of fishes (besides the best ones are again the more expensive);* creamery products (cheese) are good and may be furnished rather cheap, at least in country districts; but the preservation of milk and cheese has its limits. Vegetable albumen, particularly legumes, may be thought of in this respect, but the digestibility or rather indigestibility becomes a hindrance and besides they are not cheap, or at least not cheap enough to be general food for a large population.

Many and various investigations have shown that on an average 60% of all household expenses have been spent for the food, and the albumen of the food costs more than the half of the food.

There remains the necessity of furnishing good, resorbable, and cheap albuminous food.

*In this place I wish to say a few words on fish diet. Many may regard the albumen originating in fish-meat as a disadvantage, as the fish is considered an inferior food from the social standpoint. I cannot admit this. Where fish-food is plenty the people like it not only as a nourishing food, but also as a delicatessen, especially where the fishes are prepared in a sensible manner. Fried fishes are certainly not preferable to the plain boiled fish. That fish-meat is proportionately cheaper than butcher's meat is well known, particularly as it is more easily digested. Let us hear what Dr. Keen has to say about fish diet.

Fresh fish is abundant and cheap in almost all parts of our new tropical possessions, and it is somewhat surprising that the recent authority for the issue of this cheap, excellent and wholesome variation of the meat ration is not more taken advantage of.

I am informed that the men eat it gladly when issued. Conservatism, which is so characteristic of the military service and in matters of food, of the Anglo-Saxon race, together with slight administrative difficulties which with practice would disappear, seem to be the causes of its comparatively limited use at Columbia Barracks. It has, however, been more regularly used at other posts in this department.

Routine is dear alike to the commissary-sergeant and company-cook, and these two important persons have more influence than is generally recognized in deciding what shall go into the company kitchen. When the greater trouble and labor to the latter in preparing and cooking fish is considered, as well as the fact that the fish ration is less than that of meat, the absence of fish from the bill of fare, where its use is optional with company authorities, is largely explained. Being a less satisfying food than beef, and the waste-heads, tails, entrails, etc., being greater than the proportion of bone in beef, being sometimes as much as

Can such food be furnished?

Of late years, all the scientists, hygienists and social economists have looked out for such a food; only recently the newspapers were full of a report how the president of the Chicago University would endeavor to show how to live on 15 cents a day; the United States Government has employed scientists to make researches as to the value of foods and drinks; not only in America, but also in Europe the governments are seeking for the best methods of feeding large masses, be it for the inhabitants of prisons or for the soldiers in army and navy. Experiments have been tried; have they been successful? Remember the preserved meats, the canned meats and vegetables! Can we say that they are accompanied by success?

Many manufacturers, many packing houses have endeavored to furnish the long-desired foods. It was a great progress when meats could be preserved and shipped all over the world. When the experiments were tried to furnish meat in a well digestible liquid or powdered form, were these experiments really successful? An unprejudiced mind has to say "No."

Some of the foods have been cheap, but they do not keep as well as to be fit for the human body; other foods would be fit for the body, but they are expensive; they are either luxuries for the rich or drugs for the poor; many are nutritious, keep well, but they are on account of the high market price only medicine for the sick, and often if they should be continued, only for the rich sick.

Finkler,¹ after long and many labors and studies in the laboratory of the University of Bonn, was the first to succeed in obtaining a food which has all the requirements of a proteid food as it should be. He made a food:

1. That has the greatest amount of albumen possible, up to 99%.
2. That is digestible up to almost its entire weight.
3. The amount of which can be made equal for each day.
4. That keeps well indefinitely in all climates.
5. The flavor and taste of which does not interfere with the palate of man in combination with other food.
6. The price of which is the lowest possible.

The proteid made by Finkler consists of the digestible albuminous parts of meat, fish and legumes, is odorless and tasteless, of a light-yellowish color, and presents a very fine, sandy powder.

The proteids, as a rule, possess the qualities of solution and coagulation, a fact through which they may be separated from the other ingredients of the food; at the same time, however, they have disagreeable qualities of being closely combined with many substances,

35%, no reason is known why the ration should be less than that of beef, viz., 20 ounces.

Fish is largely eaten by all tropical races near the source of supply, and is undoubtedly less stimulating and more easily digested than butcher's meats. For this cause, and to secure variety, fresh fish, where obtainable, should be used twice a week, no savings being permitted.

The issue of the meat components at Columbia Barracks, Cuba, for 185 consecutive days has been as follows:

Fresh beef	124 days
Mutton	10 days
Bacon	47 days
Fresh fish	1 day
Other issues	13 days

Which shows we had the monotony of the issue, the only important variant being the undesirable bacon.

A certainly more desirable issue, and one apparently permitted according to the paper ration, would have been, for example, somewhat as follows:

Fresh beef	100 days
Fresh mutton	7 days
Fresh fish	8 days
Other issues	15 days

A saving of two-fifths of the fresh meat being authorized.

As fresh fish is quite cheap at Havana the difference in cost would have been immaterial.

such as fat, coloring matter, odors and flavors, the separation from which is a very difficult task. According to the origin of the albumen there are different methods for obtaining the digestible albumen.

It is one thing to gain the animal albumen and another thing to gain the vegetable albumen; but the purification of the albumen of various origin has been done after one uniform method. The fatty and extractive substances, when securing the albumen of animal origin, must be brought into such a condition that they can be extracted, and especially is it necessary that all and even the smallest fat globules are removed, else after a very short time the muscle fibers will acquire a particular disturbing odor or taste. Besides the use of ether for extraction of the fat, the muscle fibers have to be treated by substances which allow peroxid of hydrogen to penetrate into the interior of the fibrillae in order to decompose the fat; simultaneously the albumen will be softened without being turned to albumoses or peptones. It is not enough to cover the odor or taste of the albumen with certain substances, as such experiments will not yield a permanent result. Perfectly pure albumen it must be, if it shall have the qualities of keeping for a longer time and remaining free from any disagreeable odor or taste.

In order to obtain the pure vegetable albumen we must be able to remove it out of the cells of the plants. The conditions are not easy because, first, the cells have to be broken mechanically, and then the various albuminous substances react differently in regard to their solubility in water, alcohol, and various other salt solutions. In extracting fat from plants it may happen that simultaneously the albumen is extracted also; the difficulties are especially great in manufacturing the albumen in large quantities; and this has to be done for the sake of the uniform qualities and the expenses. But they succeeded in this respect too. In the laboratories, of course, it is less difficult to obtain small quantities of pure albumen than in factories. For the sake of cheapness the choice of materials to be used for the manufacturing must be limited, and for the purification we have only the resources of water of various temperature with weak additions of alkalies and acids, of oxidizing and reducing substances.

Among the different contaminations of the albumen are not the least ones the coloring matters, though even the pure albumen may not be entirely white, but according to the temperature and method of drying may have various hues of yellow. For instance, the removal of the coloring matter of albumen gained from the blood of slaughtered animals is, as a rule, pretty circumstantial and expensive. To prevent this, a special method was needed and was found in the oxidation of the blood-coloring matters by means of peroxid of hydrogen. If a sufficient amount of this substance is used, you will succeed, by keeping the albumen at a boiling heat, in destroying the coloring matters and along with them the odorous and flavoring substances, so that the end product will be an absolute sterile and pure hematic albumen. This success depends largely on certain circumstances; thus, it must not be forgotten that fresh blood will decompose peroxid of hydrogen, so that in order to become discolored, it must first be prepared in such a manner that its oxyhemoglobin will be altered. Another point is the fact that when free alkali is present the albumen itself would be decomposed.

Finkler, in order to prove that all injurious contami-

nations of the albumen have been destroyed by the methods employed by him, had, in his laboratory, frequently mixed bacteria as well as bacteria cultures with the toxins contained in them to the raw materials, and at the end of the manufacturing process experimenting on animals convinced himself that the albumen was entirely rid of the poisonous substances in question.

The product recovered from the various materials is an albumen insoluble in water. In the greater majority of the cases such insoluble albumen is preferable to soluble or predigested proteids. Certainly in the healthy person and in the greatest number of the sick, too, we need not a totally or partially digested food; on the contrary, by furnishing such food for a longer time we rather put the individual into a condition not beneficial at all; for by doing so we take from him the work which the stomach and intestines must necessarily perform for the maintenance of their respective functions. Of course, there may sometimes be circumstances where a soluble and predigested food has its place, particularly in a certain number of diseases in which the alimentary canal has lost its power of action.

Finkler made it a special point to remove the gelatinous substances from the albumen, because gelatin is of a considerably inferior nourishing value than the pure albumen. This albuminous food, consisting of animal as well as vegetable albumen, contains at least $\frac{1}{3}$ animal albumen, as this is about the proportion in which the animal and the vegetable albumen are united in the general daily food. The first analysis of this food was published by König,² as follows:

Proteids	59.87 %
Water	8.89 %
Ash	1.24 %
Fat	0.20 %

Some other analyses, by various investigators, are about of the same tenor.

Lichtenfelt³ found as the average of 468 analyses:

Proteids	90.57 %
Water	8.41 %
Ash	0.87 %
Fat	0.15 %

Cellulose substance has been found to the amount of 0.01 to 0.03 %.

An elementary analysis has been made by Kunz,⁴ and was found as follows:

ANIMAL ORIGIN.	VEGETABLE ORIGIN.
C	51.498
H	7.862
S	0.788
N	16.028
O	23.184
Ash	0.64
C	50.232
H	7.167
S	0.788
N	16.028
O	23.004
Ash	2.74

These analyses represent the earlier products of the manufacturing process. In the meantime the methods of manufacturing have been improved, so that according to the more recently-made analyses an amount of 97 to 99 % of chemically-pure albumen has been found.* (Finkler, Plant.⁵)

In a paper on the valuation of foods, Dr. Lewith⁶ puts forth very interesting observations. Among a number of various foods he found that for the price of 1 florin, equal to about 50 cents, he could obtain the following number of calories out of the albumen (fat and carbohydrates respectively):

* More of recent date are two other albuminous food preparations—the one of entirely animal origin, and the other of entirely vegetable origin. For either it is claimed to possess merits, although I cannot speak from experience, as I experimented with the first only in small quantities, with the second not at all. Both are cheap, too, and easily resorbable, and would deserve a thorough trial.

FOODS.	ALBUMEN.	FAT.	CARBOHYDRATES.
Lard.....		12345	
Natural butter.....	ca20	8877	20.6
Oleomargarine.....	ca44	15443	45
Sugar, refined.....			10470
Beef.....	1152	1526	
Milk.....	1063	2475	1396
Milk, skimmed.....	2804	1103	4652
Eggs.....	791	1437	
Tropon.....	1200	(relatively expensive on account of import duties; refers to this country, too, where the duties amount to 25% <i>ad valorem</i> .)	
Potatoes.....	1476	619	34784
Bread.....	1390	325	3092

As a result of his researches he recommends on the one side oleomargarine as preferable to lard and dairy butter as a more valuable and more hygienic product, provided it comes from a good source, and because its production may be easier guarded in a sanitary sense than the other products, and on account of its being cheaper; for the same reasons he recommends Finkler's food as a clean and cheap and highly nourishing albuminous food. The indispensable 500 calories deriving from albumen are obtainable in—

Tropon.....	110 grams,*	3½ ounces.
Lentils.....	550 "	18½ "
Peas.....	650 "	21½ "
Beans.....	710 "	23½ "
Meat.....	720 "	24 "
Rice.....	1730 "	57½ "
Bread.....	2500 "	83½ "
Milk.....	3760 ccm.,	1 gallon.
Milk, skimmed.....	4450 "	1 gallon, 1 quart.
Potatoes.....	14100 grams,	30 lbs.
Eggs, 21 pieces.....	1100 "	36½ ounces.

This albuminous food can be resorbed at almost its entire amount—certainly to an extent of more than 90%; even as high as 95% (Strauss,⁷ Finkler). In Leyden's *Handbuch für Ernährungstherapie* we find a comparison by Klemperer as to the analysis of well-known food-preparations, whereby he makes a distinction between preparations with stimulating effect (Genussmittel), and such with nutritive effect. Among the former are:

	WATER	ALB., MEN.	SALTS	ASH.
Valentine meat juice ...	59.1	6.7	22.7	11.5
Liebig's beef-extract.....	17.72	20.5	38.29	22.74

Among the latter:

	WATER.	ALBUMEN.
Liebig's pepton.....	33.3	47.13
Somatose.....	9.2	80.00
Eucasin.....	8.0	90.00
Nutrose.....	8.0	90.00
Tropon.....		90.97

But we will immediately become aware of the great difference in the value of the various foods of this kind when we consider that the wholesale prices of 1 kg. of albumen amount in—

Tropon.....	\$1.00
Eucasin.....	2.80
Nutrose.....	5.00
Somatose.....	12.50
Valentine meat juice.....	41.50
Pepton Merck.....	5.25
Pepton Antweiler.....	10.00
Pepton Kemmerich.....	15.25

Finkler's nutritious albumen is on the market in different forms—the food plain, and combined with iron and iron-mangan and with sano (a 25% mixture of the

albumen and finest barley flour), as wafers, in combination with cocoa and chocolate.

The food in question had been used in the feeding of healthy as well as of sick people. Time would not allow me to give the growing literature on the use of this nutritious albumen. I shall only mention Professor Finkler,⁸ who fed a large number of consumptives and hysterics with a surprising result; thus it was possible in the case of a hysteric woman, who was in an excessive state of inanition, to increase her weight from 56½ pounds to 108 pounds, by administering first this pure albumen alone, and later on in mixture with other food. An excellent effect was exhibited in the nourishment of cases of phthisis, anemics, diseases of the alimentary apparatus and in acute diseases. Similar good results were found in cases of consumption by Dr. Knopf,⁹ of New York, and Dr. Martin,¹⁰ of St. Louis.

Dr. Pannwitz,¹¹ Regimental Surgeon in the German Army and Secretary-General of the Central Committee for Sanatoria for Consumptives, reports experiments with this food made on a lieutenant and 25 petty officers and privates. The experiment lasted for 3 days and nights. On an average they marched daily 30 km. (19 miles), and they camped during the night in the open air. The night rest was never more than 3 or 4 hours. The first night they camped at a temperature of 41° F., covered by tents around a fire of brushwood. The second night was warmer, but the rest lasted only 2 hours. In the third night they rested for only 3 hours in the woods without any campfire. Each man had three small parcels, each containing a day's ration of the wafers and the chocolate. Besides this, each man had 2 days' ration of a mixture of pea-soup or bean-soup in his bread pocket. The participants did not eat anything but this nutritious food except on the second evening some beer, and some coffee on the morning of the second and third day. On the evening of the third day they ate some bread and butter. The exclusive feeding with this proteid food was strictly enforced for 2½ days.

The method and partition of the food was as follows: Breakfast, coffee and the wafers. Until dinner, which was at 10 or 11 A.M., each participant could eat of the wafers or the chocolate; dinner consisted of the mixture with pea or bean-soup. Supper, the prepared chocolate cooked in water.

The nutrition was excellent, the digestion normal; in spite of the cold night temperature, no diarrhea; neither obstipation followed the change in the manner of life.

The weight of the 3 days' ration was 1,200 grams, while the weight of the common 3 days' ration amounts to 1,950 grams. This deficiency of weight may act as a relief to the soldiers, or they may make it up by carrying more cartridges.

Dr. Pannwitz made a second experiment for controlling the first. During the more extensive fall-maneuvers, 25 intelligent privates reported voluntarily for the experiment. They received as daily ration 100 grams of the wafers with sugar, 100 grams without sugar; 100 grams of the cocoa, and 100 grams of the peas mixture—equal to 400 grams; for 3 days, 1,200 grams. The food contained 130 grams albumen in the daily ration. The result was highly successful in spite of the most unfavorable circumstances as to weather, long marches, and irregular night-rest.

In connection with these experiments I like to mention two articles on the soldier's diet in the tropics, the one by Major and Surgeon W. O. Owen,¹² and the other

by Major and Surgeon J. R. Kean.¹⁵ These two writers stand to a certain degree diametrically opposite; Owen is for increased meat diet—Kean against it. Dr. Owen says, "It is not from choice that the laborer of the tropics lives on rice, bananas, etc., or the Irish cottier on potatoes, or the Eskimo on fat, but from necessity." At least to a great extent, for in the tropics vegetables and fruit are abundant and cheap whereas meat is expensive and hard to preserve, while in the Arctic regions the conditions are reversed. Owen reports that for several months he had charge of 300 convalescents and 50 nurses in the tropics, and found that they consumed all the beef, eggs, chickens, ducks, etc., that he could obtain for them, and they wanted more. At the end of the period they were in as good a condition as that of the inmates of any of the other hospitals in the neighborhood. His own personal experience was that so long as he tried to live on a vegetable diet in conformity to theory and tropical natives' custom, he was uncomfortable and despondent, and that when he resumed his full meat diet, his energy returned. Moreover, his native servants ate, with evident relish and benefit, all the meat that could be spared for them from the mess.

Dr. Kean, in his article "A Tropical Ration," says, "The digestion is weakened in hot climates and the liver is more inclined to torpidity. Fats are more difficult of digestion and absorption normally than carbohydrates, and when freely ingested in the tropics are extremely apt to split up in the stomach into butyric, caproic, lactic and other irritating acids, producing a condition of hyperacidity of the stomach-contents which the diminished secretion of the torpid liver is unable to neutralize and render alkaline."

This difficulty of the digestion of fat is well-known in the tropic and subtropic regions, but it refers only to the animal fat. As I mentioned elsewhere,* vegetable fat, as olive oil, cottonseed oil, may be used without any impairment of alimentary canal. Dr. Kean quotes Treille as saying, "In conclusion, the peoples indigenous to tropical countries are above all, but not exclusively, vegetarians. These habits do not proceed, it should be observed, from a backward civilization. For the great oriental lawgivers, who were true hygienists, took care from the most ancient times to forbid by religious laws the abuse of animal diet. This was because they had cogent reasons for doing so, and these were drawn from experience. They knew that too carnivorous a diet disposes in warm climates to certain diseases, and they had reason to fear that these would result in injury to the development of the race or nation. Hence, we find the prohibitions of the Mosaic and Mohammedan law and likewise of the Vedic, Brahmanic, and other religions of India where the Aryan race established so enduring a foothold."

As to the Mosaic laws, Treille must certainly be mistaken, for there is nothing in them to forbid a complete meat diet. It only forbids certain kinds of meat that have been known for many years to be the carrier of noxious agents to the human body. Furthermore, it forbids the use of the blood as the carrier of all that which is necessary to life on the one side and of the impurities to be eliminated on the other side; it forbids the eating of meat combined with milk or butter. In my previously quoted article I recounted the experience of a friend of mine who lived for many years in the Island of Java and in the Philippine Islands. He

told me that he never could understand the idea of the Mosaic dietetic laws till he came to the tropics, where the people very quickly learn to stop eating meat mixed with animal fat, such as butter or cream.†

I do not doubt that an addition of such a food, which can be preserved for an indefinite time without deterioration, would be accompanied by an excellent result in the feeding of the soldiers in the army as well as navy, and particularly in the tropics where fresh meat is very hard to keep for a longer time.

As to my experience with this albumen-food, I have used it for two years, and that in 27 cases‡ of healthy as well as of sick people, among others in 6 cases of anemia; 2 cases of pernicious anemia (1 case in the practice of a colleague); 1 case of acute vasomotor ataxia; 2 cases of achylia gastrica; 1 case of chronic mucous gastritis with large dilatation of the stomach; 1 case of neoplasma of the rectum; 1 case of renal calculi and cystitis; 2 cases of neurasthenia; 1 case of gastritis subacida with motor insufficiency; 2 cases of heart trouble, 1 complicated with chronic nephritis; 2 cases of diabetes mellitus, and others. One experiment I wish to mention. I decided to live on this nutritious albumen for one month, and I started on August 24; I ate for the following month no meat at all and replaced it by tropon food. I ate bread, butter, vegetables, potatoes, coffee, and I added at every meal from one teaspoonful to one tablespoonful of the preparation, mixing it with the food. I used the different kinds of the preparation; the best as to taste are undoubtedly the combination with the iron and iron mangan; then the wafers and sano-mixture, the latter particularly adapted to soups. At the end of the experiment, on September 23, I certainly felt in as good a condition as if I would have eaten meat, and since that time I have often used one or the other of these food preparations as a meal. This experiment proves, at least if nothing else, that this food can be injected in pretty large doses for any length of time without interfering in the least with the digestion and the well-being of the individuals. In cases of anemia the feeding of this nutritious albumen yielded excellent results;—better conditions of the blood as well as of the general health; loss of weight was never recorded even by feeding the plain albumen alone, except where anemia was accompanied by the so frequent state of obesity; in such cases I found flabbiness of the skin and muscles giving way to firmer skin and muscles,

* The Jewish dietetic laws are in fact Mosaic only to a certain extent; they are rather originating in the exponents of the biblical legislation, but undoubtedly they must have understood the hygienic laws to a degree that is marvelous. You might say they anticipated the whole bacteriology. Meat was not forbidden on account of a possible disagreement with the alimentary apparatus, but bad meat was forbidden, meat of animals which were not in an entirely sound condition. To begin with, only animals of apparently good health could be killed, and that only in such a manner that the blood could flow off as much as possible. The meat inspection was stricter than it was ever made by any other legislature. If after the slaughtering of the animal any kind of pathologic condition of the viscera was found, the meat was declared unclean in a religious sense and therefore not fit to be eaten. These lawgivers must have been pathologists, as they declare, for instance, that when the pleura is adherent to the lungs the meat of the whole animal is unfit for use unless the adhesions can be loosened without tearing; nodules in the lungs make the meat unfit; any ulceration on any of the viscera makes the meat unclean; kidneys as the carriers of the material of elimination were unclean. Even after the meat was declared fit to eat, it had to undergo a purifying process, it had to be rubbed in with salt and to be covered by it in a salt pan for a certain time and to be irrigated for another definite time; if meat was to be kept for a few days it had to be washed off, preferably in running water every 24 hours, ceremonies that show the wisdom of these ancient legislators. Another hygienic law of not less great foresight was, for instance, that no food ought to be touched with a hand not cleaned just for this purpose. Food standing over night was declared unclean. Metallic kitchen utensils were to be cleaned by exposure to fire, wooden utensils by rubbing with sandstone and water, such of glass by putting them under water and replacing the stale water by fresh water after a certain duration of hours unless it was a running water; all these laws, which are easily understood nowadays, when we know of the attacks of the armies of bacteria, were given as religious ceremonial laws in those olden times.

† A detailed report will be published later on.

* *Charlotte Medical Journal*, January, 1899.

with subsequent increase of flesh. The principal reason for this improvement was no doubt dependent on the fact that the body was nourished without being compelled to carry along a large ballast of water and undigestible remnants present more or less in all our foods.

The greatest amount of this albumen, about 3000 grams, was taken by the patient suffering from the acute vasomotor ataxia (S. Solis Cohen). In this case, I believe, it had a particularly good effect compared to the common proteid food, animal or vegetable, as it took away with the large bulk of indigestible remnants, a ready soil for putrefaction in the bowels, a fact which is not to be neglected in cases of this kind, where the etiology may be of the nature of autointoxication. Such autointoxication with symptoms especially of a nervous character cannot be denied after the elaborate researches of Bouchard, Albu and others.

In cases where the common meat diet is not advisable, as in uric-acid diathesis, this proteid food may be safely administered, since in the plain preparation the salts and nucleins have been removed; another form, to which the natural salts of nutrition have been added, has been put on the market, too, and used in many cases, especially in little children and where the food was given as exclusive food; this latter preparation has, on account of the presence of the various salts of nutrition, a more palatable taste than the plain preparation. In our times, where time is money, and in the times of the "Quick Lunch Restaurant," a more ideal and more nourishing food than these prepared wafers and this prepared chocolate cannot be thought of.

A short resumé of the nature and use of this nutritious albumen is as follows:

1. This food is a powder of almost chemically pure albumen of animal and vegetable origin in the average proportion in which the daily food is usually mixed.

2. This powder is of slightly brownish color, odorless and tasteless.

3. It is sterile, and can be kept for any length of time under any climate without deterioration.

4. The plain preparation is not soluble in water, but is readily accessible to the secretory juices of the alimentary apparatus. The iron mixture is soluble.

5. It is resorbable to an extent of more than 90% of its weight taken into the body.

6. It can be eaten as food by itself, or readily be added and mixed to any other food without changing taste or flavor of the food.

7. This nutritious albuminous food, because of its high degree of resorbability, is an exceedingly cheap proteid food for the sick as well as for the healthy person. Particularly it must become an ideal albuminous nourishment for the soldier in army and navy, and for the traveler in the far North as well as under the tropic sun.

8. This food, on account of its small bulk and absolute digestibility, yields excellent results in all cases of malnutrition of the insane, the anemics, the consumptives, the sufferers from gastric and intestinal diseases, and the acute infections, and in the subsequent convalescence; furthermore, in all cases of disturbed metabolism, such as diabetes mellitus and gout.

9. Because of its insolubility in water it does not lose any of its good qualities; on the contrary, it is preferable to soluble and predigested foods in the greatest number of cases where an artificially prepared food is necessary.

10. This food, like several other artificially manufactured foods, including oleomargarine [sold as such] will and must become the foods of future periods, especially when the number of the population shall have increased to such a degree that all available space must be given to the people, and the factories, where all the necessities of life have to be manufactured; these preparations must become the food wherever the success of an undertaking is dependent upon the maintenance of the enterprising parties by the least possible ballast and the best possible nourishment.

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THE FUNCTION AND DISTRIBUTION OF COMBINED HYDROCHLORIC ACID IN PROTEOLYTIC DIGESTION.*

By A. E. AUSTIN, M.D.,
of Boston.

By the term combined hydrochloric acid is meant, of course, that portion which is united with albumin or albumose, in distinction from the free, and that portion which is more firmly combined with the alkaline bases. This latter is a true chemical combination, while we shall be able to show in the experiments which follow that the loosely combined may be regarded as simply an adherence of the acid to the albumin which serves the purpose of base. This combination in fact is so unstable that it can be disassociated by alcohol, heat, and all bases which have a greater affinity for chlorin than the albumin itself. Thus, in the Sjöquist test, barium easily combines with the chlorin which is taken from the albumin, forming barium chlorid, while in Leo's test calcium serves the same purpose. This combination of albumin and chlorin seems absolutely necessary for digestion by pepsin, since the latter apparently does not digest albumin, but acid albumin or better hydrochlorid of albumin, the formation which seems always an essential preliminary to the further disintegration of the albumin molecule.

For the accomplishment of this combination it is useless to talk of percentages of hydrochloric acid and water, as it seems to make but little difference, as regards the ratio of hydrochloric acid and water, provided that there is enough hydrochloric acid to saturate the albumin. What is of vastly greater importance is the ratio of the albumin to water, since in order to affect this combination, the albumin must always be in solution. The problem of the action of pepsin is a distinct and different one, for we know that we may readily provide such a concentration of hydrochloric acid that it has an inhibitory effect upon the activity of pepsin. If digestion by pepsin is hydration, then we can readily conceive why excessive dilution of the albumin solution upon which it acts is so necessary. Nor is hydrochloric acid the only one which can form acid albumin upon which pepsin may act. Lactic,

* From the Laboratory of Physiological Chemistry, Tufts College, Boston.

acetic, and other acids may perform the same function. As to the conditions which favor the production of acid albumin, we are not wholly clear; the first essential, of course, is enough hydrochloric acid. Simon in his "Clinical Diagnosis" gives a list of albuminous substances, and the amounts of hydrochloric acid which they can respectively combine, but nothing is said in this of other modifying conditions. Temperature apparently aids this combination, as does also persistent and frequent shaking. Further, hydrochloric acid does not attack albumin well, when mixed or surrounded by fat. It appeared a matter of sufficient interest to investigate at length the conditions which modify and affect this union between hydrochloric acid and albumin. One of the first ones considered was that of concentration.

EFFECT OF CONCENTRATION.

In order to demonstrate this, five solutions were prepared, each containing respectively 1000, 500, 250, 200, and 100 cc. of water, with 2.5, 1.25, .625, .5 and .25 gm. of HCl. To each of these was now added 10 gm. of dried egg albumin, and all were digested 24 hours at 38° F.

The free hydrochloric acid was now determined by dimethylamidoazobenzol and tenth normal NaOH, and deducted from total HCl used, whereupon it was found that each gram of albumin in the first solution had combined 21 mg. HCl, of the second 23 mg., of the third 27 mg., fourth 25 mg., and of the fifth 25 mg. It is of interest here to note that while the percentage of hydrochloric acid always remained the same, and the total amount of HCl steadily diminished, yet with decreasing amounts of water, in which the albumin was dissolved, the latter was able to grasp and hold more hydrochloric acid.

This process was then repeated, but in a somewhat different manner. An insufficient amount of hydrochloric acid for saturation as determined by the previous experiments was added, and after the digestion was completed, tenth normal HCl was added in presence of demethyl until free acid was present, then the total HCl obtained, four solutions were prepared which contained 100 cc. of water, 10 grams of egg albumin, and respectively 250, 270, 275, and 330 mg. of hydrochloric acid. After adding to each an amount necessary to show the presence of free acid, it was found that one gram of albumin had combined respectively with 28, 27.6, 33, and 33 mg. HCl. In other words, while not enough was present to show free acid, with gradually increasing percentages of HCl, the albumin had taken up more of this by subsequent addition than in the previous experiment. In fact the gradual addition of hydrochloric acid will cause the albumin to absorb more than though it is placed in contact with more than its usual quantity of combination. As the last two experiments came out alike, no further effort was made to increase the concentration of the hydrochloric acid.

This latter experiment is not fully satisfactory, because the eye trained to observe the change with dimethyl, from red to yellow finds great difficulty in noting the reverse change of yellow to red, and the exact point at which all of the albumin is saturated is difficult to determine.

Here we have a varying concentration of HCl, from 2.5 to 3.3 per thousand.

EFFICACY OF ACID ALBUMIN IN DIGESTION.

It was now considered advisable to determine whether acid albumin had lost its efficacy in the further digestion of native albumin with the acid of pepsin. Starting from our previous experience, that each gram of albumin would hold about 30 mg. of HCl in combination, 50 grams egg albumin were dissolved in 500 cc. water, 1.5 cc. HCl added, and the whole placed in a brood-oven for 24 hours. At the end of this period it was removed, filtered, evaporated, and dried at a low temperature. It is necessary to add that no free acid could be detected by dimethyl. This preparation kept perfectly well, but was redissolved with difficulty, in fact not all of it could be dissolved even upon warming. The addition of a drop or two of tenth normal HCl, caused reddening with dimethyl, showing that it was fully saturated with HCl. With this preparation several digestions were preformed in the following manner: Two similar solutions were prepared, one containing .1 gm. acid albumin, no native albumin, .1 gm. pepsin, and 100 cc. of water. The other was prepared in the same way, but .5 gm. of native albumin was added. After 24 hours the coagulable and acid albumin were removed, the albumose peptone in each was determined by centrifugation, and also in some cases by the comparative amounts of nitrogen. The first combination contained .16% albumose peptone, while the second with the native albumin contained .26% albumose peptone. In the second series 2 gm. acid albumin were used in the first, while the second contained the same plus .5 gm. native albumin. The first of these series had .23% albumose peptone, or 37 mg. nitrogen, while the second showed .33% albumose peptone, or 53 mg. nitrogen. Of the third series No. 1 had 1 gm. acid albumin, while No. 2 had the same plus 1 gm. native albumin. The result of this digestion was .26% albumose peptone or 37.8 mg. nitrogen in No. 1, and .43% albumose peptone or 42 mg. nitrogen in No. 2. Fourth and last series had 1 gm. acid albumin in No. 1, and the same with .5 gm. native albumin in the other. The result of this digestion was .9% albumose peptone, or 109.2 mg. nitrogen, and 1.06% albumose peptone, or 120.0 mg. nitrogen in the other. In every case a marked increase in the amount of albumose peptone, and consequently of nitrogen, was discovered in those digestions to which native albumin had been added. As the theory of digestion presupposes that the native albumin must have been converted to acid albumin, it must have obtained its hydrochloric acid from the acid albumin. Riegel makes the statement that free HCl can do still further digestive work, while the combined HCl has already done such work. It would seem that acid albumin or acid peptone before absorption could give up a portion of its HCl, which could again serve its purpose of converting native to acid albumin. In no other way can we account for the fact that stomach-contents which show no trace of free HCl, have still quite a marked digestive power when brought in contact with fibrin or egg albumin. This has been the experience of the author in several cases where routine examinations for pepsin have been made in stomach contents. This condition is distinctly different from those where alkalies in the form of bile, or succus entericus unite with the HCl; there, as is well known, all digestion ceases. It is also noticeable that when 2 gm. acid albumin instead of 1 were used, the increase in digestive products was much greater. For instance

37.5 mg. nitrogen to 53.2 mg. nitrogen in place of 109 mg. to 120 mg. nitrogen, but the total amount of nitrogen in the form of albumose peptone was much greater in the latter case. An amount of 2 gm. of acid albumin when digested produces less nitrogen than 1 gm. of acid, and 1 gm. of native albumin, by nearly 5 mg. This is another proof that the native albumin must take up HCl from the acid albumin.

EFFECT OF DIALYSIS.

It is a well-known fact that the major part of the digestive products pass through a dialysing membrane; at least primary and secondary albumoses as well as peptones do this, and, while it is not generally stated, my experience showed that acid albumin would also pass through an animal parchment. With the expectation that free acid with digestive products would pass through such a membrane to a large extent, leaving coagulable albumin and acid albumin behind, a series of digestions was prepared in the inner receptacle, while the outer contained only distilled water. This then remained in the dialyser 24 hours in the brood-oven. At the end of that time free hydrochloric acid was determined both in the inner and outer fluids, after being measured, by N-10 NaOH and dimethyl while the total free and combined was determined by the Sjöquist method. Efforts were made to separate the free acids by distillation, and also to separate the combined acid by precipitating the albumose peptone, with which it was combined by alcohol. Both attempts were utterly futile. Other difficulties were also met with. It was found that there was no surety that all the albumose peptone would pass through the membrane, even when dialysed against running water, and furthermore acid albumin was repeatedly found in the outer fluid. In spite of these difficulties which impaired the value of the work, some of the factors are worthy of mention. In the first effort 5 gm. of dried egg albumin, .2 gm. pepsin, .5 gm. HCl and 250 cc. water were placed in the inner receptacle, while in the outer there were 550 cc. water. At the end of 24 hours the contents were removed from both vessels, carefully evaporated to 100 cc. at a temperature of 40°, and 10 cc. of each taken for the determination of free and total HCl, from which the combined was calculated. In the inner were found 174 mg. free HCl, 103 mg. combined and 140 mg. nitrogen; in the outer there were 183 mg. free HCl, 28 mg. combined and 65 mg. nitrogen, or a total of 488 mg. HCl, and 205 mg. nitrogen. In digestion No. 2, 10 gm. albumin, .5 gm. pepsin, .4 gm. HCl, and water as before. After the digestion was completed, the inner fluid had 73 mg. free HCl, 46 mg. combined, and 308 mg. nitrogen, while the outer had 94 mg. free, 16 mg. combined HCl and 210 mg. nitrogen, or a total 229 mg. HCl, and 518 mg. nitrogen. The enormous loss of HCl here experienced, can only be accounted for by the loss in evaporation from the dialyser. Digestion No. 3 had 5 gm. albumin, .2 gm. pepsin, .2 gm. HCl, and after digestion the inner had no free HCl but 100.2 mg. combined HCl, while the outer had no free HCl and 40.8 mg. combined HCl, making a total of 141 mg. No. 4 had all the ingredients of the previous digestion, but only 150 mg. HCl; at the close of the digestion the inner had no free HCl, but 55.1 mg. combined HCl, while the outer had no free HCl, but 25.2 mg. combined HCl, or a total of 80.3 mg. In the last two digestions no effort was made to concentrate the solution for fear of loss of HCl, and

calculation was made up in aliquot parts of the original solutions. Among the points which were here noted was this: that as long as the acid was in excess of the combining power of the albumin, it passed through the membrane freely, but not until the demands of the albumin were satisfied. As soon, however, as the HCl approached the saturating point of the albumin, no free HCl was found in the external fluid. It appeared that when the digestive products were fully or even partially removed by dialysis, a certain amount of albumin would take up no more HCl than when simply combined. As, for instance, in No. 3, 28.2 mg. per gram of albumin instead of 30 mg., the largest amount which could be made to combine in our first experience. Another explanation of this fact, which is more fully brought out in later experiments, is that the albumoses and peptones will take up much more chlorin in the proportion to the amount of nitrogen contained, than the simple albumin. This seems opposed to pepsin, by which more albumin can be digested, if the digestive products be removed by dialysis. A part of the loss of HCl as compared with the original amounts used can perhaps be attributed to the difficulty of filtering barium sulfate in the Sjöquist test, which is only retained with difficulty by the finest filter paper. These experiments lead to no definite results as to the distribution of hydrochloric acid, because no complete separation of the digestive product could be made.*

SEPARATION BY METALLIC SALTS.

This effort was made in order to demonstrate, if possible, the greater combining power of albumose and peptone for chlorin, as well as to learn, if possible, how the chlorin was distributed with reference to the different digestive products in a completed digestion. It was assumed naturally that each of the digestive products when separated from the solution carried with it the chlorin with which it was combined. These digestions were prepared, and after 24 or more hours the coagulable albumin was removed by boiling with a drop or two of acetic acid, the acid albumin by sodium carbonate, the primary albumose by the addition of copper acetate in solid form until equal to 2% of the total solution. The precipitate was washed by a saturated solution of copper acetate, while the secondary albumose was precipitated by adding 2 cc. of 25% sulfuric acid to each 100 cc. of fluid, and then zinc sulfate added to this until a saturated solution was obtained while warm, as evidenced by deposition of some of the zinc sulfate when cool. This precipitate was removed, washed with saturated sulfate solution, and the filtrate, containing peptone and certain amido acids, was preserved. The acid albumin was suspended in water, the copper removed from the albumose, dissolved in water by H₂S. The secondary albumose was redissolved and the peptone in solution was freed from zinc by exact neutralization, and then each solution was divided into 2 equal parts, the one half was evaporated with 5 grams of saltpeter mixture (3 parts nitrate of potash and 1 part of sodium carbonate) and burned, and the other half reduced in volume, and its nitrogen was determined by the Kjeldahl method. By this method the portions which were burned were freed from organic matter and the chlorin, after neutralization with HNO₂, could be determined by a standard solution of silver

* After completing this work to this point, my attention was called to the fact that Gillespie had done similar work, published in *Journal of Anatomy and Physiology*, vol. xxvii, p. 201, to whom credit for priority is due, but not for any suggestion to me.

nitrate. The 5 grams of saltpeter mixture contained quite uniformly as an impurity, 3 mg. of chlorin, which were deducted from the total found in each case. The amount of hydrochloric acid used in each digestion was 600 mg. of dilute, which, as determined by the standard silver solution, contained 164 mg. of chlorin. The egg albumin used was found free from chlorin, but contained 465.5 mg. nitrogen per 5 gm. albumin. Digestion No. 1 consisted of 5 gm. albumin, 600 mg. HCl dilute, 200 mg. pepsin, and 200 cc. of water. Period of digestion was 25.5 hours. There were found combined with the acid albumin 20.4 mg. chlorin, with the primary albumose 24 mg. chlorin, with the secondary albumose 18 mg. chlorin, and with the peptone 100.8 mg., or a total of 163.2 mg. The respective amounts of nitrogen in these separate products were 16.2, 12.3, 5.6, and 12.6 mg. nitrogen, or a total of 46.7 mg. No. 2 was similar to the former except that 150 cc. of water was used. Period of digestion, 24 hours. There were combined as acid albumin 24 mg. with primary albumose 15.6 mg., with secondary albumose 40.8 mg., and with peptone 81 mg. chlorin, making a total of 162 mg. The corresponding amounts of nitrogen were 22.9, 1.9, 5.6, and 21 mg. nitrogen, making a total of 51.4. No. 3 same as former, but

thing is that the acid albumin, so called, appears to have no regular formula for its composition. We find in this form 16.2 mg. nitrogen combined in one instance with 20.4 mg. chlorin, and in another instance 6.1 mg. nitrogen in the form of acid albumin combined with 18 mg. chlorin. This amount of chlorin is so very much larger than we can cause to unite with native albumin without the aid of pepsin, that this must represent a rest or residue of the albumin molecules from which the more easily split-off portion undergoes further change into albumose peptone, which contains much stronger basic properties. This is found pretty generally throughout. For instance, 12.3 and 11.2 mg. nitrogen as primary albumose combined with 24 mg. of chlorin. In one of these the nitrogen in the albumose was found to be about 12%, so that we find an equivalent of 102.5 and 93.3 mg. of primary albumose uniting with this amount of chlorin, making vastly more than can be made to combine when these two are brought together apart from digestion. For instance, Otto Cohnheim could only make one gram of protoalbumose in 2.5% solution take up 43 mg. of HCl, while heteroalbumose takes up 81 gm. to the gram, and in a 1.25% solution protoalbumose took up 35 mg. HCl, and heteroalbumose took up 45 mg. to the gram. We can therefore

ACID ALBUMIN.				PRIMARY ALBUMOSE.				SECONDARY ALBUMOSE.				PEPTONE.			
CL.	N.	Percent Total CL.	Percent Total N.	CL.	N.	Percent Total CL.	Percent Total N.	CL.	N.	Percent Total CL.	Percent Total N.	CL.	N.	Percent Total CL.	Percent Total N.
Mgms.	Mgms.			Mgms.	Mgms.			Mgms.	Mgms.			Mgms.	Mgms.		
20.4	16.2	12.5	34.7	24.	12.3	14.7	26.3	18.	5.6	11.	11.9	100.8	12.8	61.7	24.8
24.	22.9	14.8	44.5	15.6	1.96	9.6	3.7	40.8	5.6	25.1	10.8	81.6	21.	50.3	40.8
18.	6.1	9.8	12.7	39.6	3.6	21.7	7.1	10.8	1.6	5.8	3.1	114.	39.2	62.6	77.6
10.	10.	6.1	14.7	24.	11.2	14.7	16.4	18.6	7.5	11.1	11.4	113.4	39.2	67.9	57.7

100 cc. of water was used. Period of digestion, 96 hours. There were found combined as acid albumin 18 mg., as primary albumose, 39 mg., as secondary albumose 10 mg., and as peptone 114 mg. chlorin, or a total of 181 mg. Corresponding amounts of nitrogen were 6.1, 3.6, 1.6, 39.2 mg., or a total of 0.5 mg. No. 4 same as former, but with 50 cc. water, acid albumin had 10.2 mg., primary albumose 24.6 mg., secondary albumose 18.6 mg., and peptone 113.4 mg. chlorin, or a total of 166.8 mg. Corresponding to each of these were respectively 10 mg., 11.2 mg., 7.5 mg., 39.2 mg. nitrogen, or a total of 67.9 mg. In none of these was free acid ever discovered by dimethyl. These factors are here shown in tabular form.

The most noticeable thing about these digestions is the inefficient nature of the digestive process. There was by actual estimation 455.5 mg. nitrogen in the original albumin, but only from 46.4 to 67.9 mg. could be found in the sum of the digestive products. This was probably due to the great ratio of albumin to water in the solution. The inhibitory action of albumose peptone upon the farther digestion by pepsin was apparently increased by their greater concentration. The major part of the nitrogen was, of course, removed in the coagulable albumin, which was not taken into account because not a part of the digestive products, containing no chlorin in combination. Another noticeable

conclude that they have vastly stronger basic properties than the native albumin, and in general we may say that each stage of the digestive process enabled the nitrogenous substance to increase its chlorin-containing powers until the acme is reached in the peptone. The relative amounts of the different albumoses in the various digestions vary so greatly that it is hard to draw any conclusions as to distribution of the nitrogen. In the first two the major part of the nitrogen is found in the two extremes, acid albumin and peptone, but in the latter the nitrogen gravitates more toward the peptone end of the line. E. Zuntz (*Zeitschr. f. physiologische Chemie*, vol. xxviii, p. 141) finds in a digestion 1.12% of the total nitrogen as primary albumose, 11.7% as secondary albumose, and 87.18% of the total in other nitrogen-containing products. He used serum albumin and much larger quantities of water, 275 cc. to 5 grams. My most favorable results only approximated this after 96 hours digestion with still 1.7% as acid albumin, and 77.6% as other nitrogen-containing products. Zuntz does not regard all of the remainder, nonprecipitable by zinc sulfate, as peptone, for an amount of nitrogen varying at different periods of digestion from 34.8 to 62.47% of this is not precipitable by phosphomolybic acid and sulfuric acid. This substance was probably of the nature of amido acids, for they could be precipitated by tannic acid and other alkaloidal reagents.

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Recent Phases of Medical Legislation.—State Legislatures and Governors in various parts of the United States are having opportunities at present to display the degree of natural intelligence with which they are endowed with reference to the greater questions of public health. In New York at the time of the present writing we are glad to know that there is a prospect of a passage of the so-called Bell bill by the Legislature. This bill will compel all such so-called practitioners of medicine as osteopaths and Christian Scientists to submit to the same regulations and take the same examinations as are required by the graduates of recognized medical schools. The justice of this measure is so obvious as to need no comment. It is in our opinion the most practicable, if not the only practicable, way to suppress these unqualified practitioners. It obviates the necessity of any criticisms of their various tenets and beliefs. It merely requires of them a demonstration of their fitness to practise medicine, and it effectually suppresses them if they are found not to be competent.

In some of the Western States, we are sorry to see that this subject of State control of the practice of medicine is not receiving the intelligent consideration which it demands. Some Governors of States as well as legislators show with reference to this question that they have little appreciation of the duties imposed upon them as guardians of the public welfare. It is very evident, as we said in these columns in discussing Dr. Wyman's recent address before the Pan-American Medical Congress, that the public and the servants of the public in this country require a more careful education in the subjects of hygiene and medicine. For crass ignorance and perversion of judgment, the Governor of the State of Washington (Rogers, by name) has shown that he is preeminent. He has just vetoed an act passed by the Legislature to control medical practice in that State, because it ruled out the osteopaths. In addition to this pernicious exercise of his prerogative he has indulged in a senseless tirade against the medical profession. He professes to believe that the osteopaths are teaching educated physicians the way to cure diseases without the use of deleterious drugs, and he claims that the contents of the drug stores are perhaps more dangerous to the future well-being of the human race than are the saloons. To criticise such a public official is useless; it is sufficient to quote him.

In California the Legislature has persisted in putting Christian Scientists on an equality with graduates of the recognized schools of medicine. Its motives for so doing seem to have been that these sectarians are numerous and a good class of people; a reason which the *Sacramento Bee* (quoted by the *Journal of the American Medical Association*) says would have been as pertinent if applied to the inmates of the various lunatic asylums of the country. In connection with this class of legislation the recent eruption of Mark Twain is perhaps worthy of a passing notice. He has appeared before a committee of the New York Legislature in favor of legalizing osteopathy. Fortunately Mark Twain's entire reputation is that of a so-called humorist, but his recent championing of osteopathy is as devoid of judgment and knowledge as some of his more recent productions are lacking, in the estimation of men of good taste, in the essential qualities of humor.

The Liverpool Tropical School on Yellow Fever.

—In the *British Medical Journal* of February 23, 1901, appears the abstract of the interim report of the Yellow Fever Expedition of the Liverpool School of Tropical Medicine. The investigations were conducted by Dr. Herbert E. Durham and Walter Myers, M.B. They were, unfortunately, interrupted by both of these observers suffering from attacks of the disease. Most regrettably, Mr. Myers' case proved fatal, and it was deemed wise to publish the incomplete report. This furnishes us with a valuable contribution on the subject of the etiology of yellow fever. The investigators have found in all fatal cases of the disease, after thorough search, a small bacillus somewhat resembling that of influenza. They have been able, upon examining the organs after death, to discover this bacillus in the kidneys and spleen, and in the mesenteric, portal, axillary and lymphatic glands. Apparently the same bacillus is often found in extraordinary preponderance over the other microorganisms in the lower intestine. Preparations of the organs fail usually to show the presence of any other bacteria. They believe that this bacillus has been observed by Dr. Sternberg and two others, and they attribute the fact that no etiological importance was attached to the bacillus, to the employment of insufficiently stringent staining technique, owing to which it was not found constantly. They have not been able to obtain pure cultures of the organism in

either aerobic or anaerobic culture tubes. They have, however, obtained pure cultures by placing whole mesenteric glands cut out by means of the thermocautery in broth, under strict hydrogen atmosphere. Most careful search was made for parasites of the nature of protozoa, but none were found. They conclude, consequently, that yellow fever is not due to this class of parasites. Durham and Myers were not familiar with the concluding report of the American Commission, but they were far from being convinced of the commission's logic in the deductions of its preliminary report.

The concluding Report of the American Commission read recently before the Havana Pan-American Congress (and which we have commented upon editorially) has received wide support, and would probably satisfy certain objections which Durham and Myers found in the preliminary work. These authors conclude by stating that there is much etiological importance to be attached to the fine, small bacillus which they describe, and they suggest that the acquisition of a new intestinal bacterium would explain the immunity of the "acclimatized." They have examined the blood and organs of fourteen fatal cases of yellow fever, with painstaking care, and the report of their studies is entitled to respect. They may be criticized, however, for a lack of thoroughness in their deductions. No experiments seem to have been performed upon animals and the etiological relation between this fine, small bacillus and yellow fever cannot be considered by any means as definitely established. At the present writing, while we must suspend judgment, it would appear that the views of the American Commission are far more conclusive than the abstract quoted, yet it is but fair for us to await the promised completion of the Report of the Expedition of the Liverpool School of Tropical Medicine before attempting a judgment of its work.

The Influence of Sterilized Air Upon Animal Life.

"Therefore as a result of the experiments made by me in 1893 and 1894, and during the present year, upon the influence of sterilized air upon animals, I maintain that, besides the oxygen of the air, certain microorganisms of the air are also necessary to maintain life and the normal metabolism in the tissues. These microorganisms enter the blood during the interchange of gases and are devoured by the leukocytes (hence they are not found in normal blood), then, after they have been digested by them, they give rise to the formation of ferments without which the normal process of oxygenation in the organs rapidly diminishes, and is replaced by the formation and accumulation of a large quantity of incomplete intermediary products of tissue metamorphosis, that is, by leukomaines, which cause the death of the animal."

This is, to say the least, a startling assertion. Kijanitzin (*Virchow's Archiv*, 162, p. 515), who has done

much work with sterilized air, has performed a number of experiments by placing sterile newly born and other animals in sterile vessels, and supplying them with a sterile atmosphere. Under these conditions the animals emaciate, as a result of a marked increase in the nitrogenous excretion compared with the nitrogenous intake, and a large proportion of them die in five days, or less. It does not appear possible that this is due to the formation of any poisonous element in the air, as a result of the intense heat to which it has been subjected; and CO was not present in the blood of the animals after they died. Therefore it seems reasonable to suppose that the mere fact that the air was sterile, that is, contained no microorganisms, must be the true explanation.

The author supports his doctrine by the following arguments. First, that most of the normal ferments of the blood are found in the leukocytes. Second, in certain pathological states certain of the pathogenic microbes are digested by the leukocytes and give rise to the formation of substances that possess the characters of ferments. Third, the non-pathogenic microbes, instead of being absolutely neutral, exert, under certain circumstances, considerable influence upon the tissue, especially upon the leukocytes. Fourth, the fact that the animals subjected to the experiment died not only in the apparatus, but frequently from ten minutes to an hour and a half after their removal from it, when they had been supplied with ample nourishment and everything to enable them to recover, is an indication that some profound alteration in their economy had taken place.

In order to determine what this alteration was he made careful *estimation* of the nitrogenous metabolism, and found that the proportion of the total nitrogen in the urine to the nitrogen in the urea, which, in normal animals is about 100 to 90, in the animals subjected to this experiment was altered to 100 to 55, and even less, as a result of the enormous increase in the proportion of leukomaines.

The interesting feature about this paper is the light it throws upon the moot question of the advantage of bacteria in the economy of the higher animals. It has been supposed, in fact it has been accepted, that the bacteria of the intestine are concerned in the digestion or at least in the disintegration of cellulose, but, aside from this, no actual benefit derived from their action has ever been definitely proven, excepting of course those very indirect benefits that result from the formation of antitoxins.

If Kijanitzin is correct we must modify our views, or rather agree to believe that the ferments of the blood, which by the way are not as well known as they should be, but whose functions are undoubtedly of the greatest importance, are produced largely, if not exclusively, as a result of the conversion of the bodies of bacteria obtained from the atmosphere by the action of leukocytes.

If one should allow one's imagination to run riot it

might dream of the treatment of various dyscrasias by saturating the air in which the patient should be placed, with certain forms of bacteria whose bodies should supply the missing ferments.

The Registration of Tuberculosis.—Amid the controversy which this subject is bound to excite—a few tones of which can already be distinguished in the columns of the JOURNAL—it were well for every one to pause long enough to endeavor to gain a clear view of what after all is the vital question. This, it seems to us, is the old and ever recurring question, in hygiene as in every other sociological science, of what is the greatest good to all. It is not a question that is to be argued on purely sentimental grounds, or even exclusively on the ground of the sensitiveness and welfare of the individual, but of the one imperative consideration of the public welfare. Is this infectious disease controllable, and, if so, how is it to be best controlled? Is it to be allowed to go about unrestrained, slaying yearly its thousands and tens of thousands, lest, perchance, an effort to control it should wound the feelings or the scruples of a minority? In other words, is the majority to be exposed to a constantly active risk rather than that the invalided minority should be in some remote way put to inconvenience or exposure? The question needs but to be put in order to answer itself. The principle involved is already acted on in the case of every contagious disease, and human society for its own good can and will be satisfied with nothing less than protection. It is absolutely needless to dwell upon the so-called hardships of the law. They are greatly exaggerated, and such as they are they can be practically ameliorated in many ways.

The force of all arguments, *pro* and *con*, bears eventually upon the question simply of public welfare. Practically the problem resolves itself into this: If this or any disease is to be subject to State control, there must be a way to allow the State to gain knowledge of its whereabouts, and in the case of tuberculosis there seems no practicable way but by means of registration.

The New Medical Bulletin of the University of Pennsylvania.—The medical faculty and graduates of the University of Pennsylvania are to be congratulated on the appearance of the new medical periodical which comes out this month under the title of *The University of Pennsylvania Medical Bulletin*. This first number is very attractive in appearance and in its table of contents. Dr. Francis R. Packard contributes the first of a series of papers on medical men prominent in civil and military affairs in revolutionary times. This paper has all the interest which attaches to Dr. Packard's literary and historical work. Dr. J. William White publishes a valuable paper on the Treatment of Trifacial Neuralgia, with the report of a case of evulsion of the second and third divisions and of the Gasserian

ganglion. At the end of 11 months the patient remained free from pain. Dr. Charles H. Frazier and Dr. Montgomery H. Bigs contribute an important paper on the Value of the Tuberculin Test. Their conclusions are given at length, and should be read in the original. Dr. John H. Jopson contributes a digest of recent literature on Perforation of the Intestine in Typhoid Fever. The number concludes with copious alumni notes, which will be of great interest to the graduates of the University.

This new *Bulletin* is to be published once a month, and is to take the place of the former *University Medical Magazine*. It is to represent exclusively the University, not the work of those only who are actively connected with the faculty, but of the whole alumni body. It is to be a purely scientific periodical, without advertisements, and promises under the able editorial care of Dr. Frazier to be in every way a worthy exponent of the oldest medical school in the United States.

The Assault on the Kaiser.—If the earlier reports are accurate the recent assault on the German Emperor was made by an epileptic, and the case has therefore more medico-legal than political interest. It is said that the assailant, after throwing a piece of iron at his Majesty and wounding him slightly on the cheek, had several fits, and that he was found, on investigation, to be the victim of chronic epilepsy. It is premature perhaps to comment on the case, but it may not be inappropriate to express the hope that the assault may be found to have been the act of an irresponsible man. Epilepsy, as is well known, predisposes its victims to just such impulsive and maniacal outbursts as this act of Weiland seems to have been. Such patients sometimes act in an automatic or seemingly purposive manner, when in fact they are quite unconscious of the nature of their acts, and have no memory of them. This is especially true of the post-epileptic maniac, who may continue to display a true psychosis for hours or even days after a convulsion. It is also true of the victim of those curious substitutional attacks which replace the fit itself, and, as the name implies, substitute for it a delirium in which delusions and wild impulses have full sway. In the *épilepsie larvée*, or concealed epilepsy, of Morel, the motor crisis may never or rarely occur, but a periodical or occasional furore may be the sole symptom. This is one of the most involved of all the vexed questions in medical jurisprudence, and it is to be hoped that this assault on the Kaiser may have at least the one good effect of subjecting the whole question to renewed investigation and profitable criticism.

The Treatment of Cancer.—Professor L. Lewshin remarks that during the last 33 years of his surgical practice no material improvement has taken place in the treatment of cancer. The percentage of complete

recoveries following surgical intervention, as attested by European surgeons, is still very small even in operable carcinomas. On the other hand, the statistics of Massey, Heyman, Czerny and others establish beyond doubt the alarming fact that cancer, especially of the digestive organs, is on a progressive increase. In Moscow there occurred in 1880 411 deaths from cancer, while in 1896 the number of deaths from this disease reached 892, almost doubled. It is to be regretted that the author does not state the extent of the increase in population during the same period, but it may be assumed that he has taken this into account in making his deductions. To the hundreds who die there are thousands who drag out a miserable existence, a burden to themselves and their families and a ready prey to the quack. These unfortunate sufferers should be taken care of. Moreover, the rapid increase of an incurable and fatal malady renders of paramount importance the study of the disease in all its phases. Both the humanitarian and scientific purposes could only be accomplished by the establishment of proper sanatoria. Such an one is being established in Moscow through the efforts of Professor Lewshin, who has already received private contributions to the amount of 300,000 roubles (about \$150,000). The city council of Moscow pledged itself to pay for the maintenance of 50 patients for 10 years, while the medical faculty of the Moscow University has taken the sanitarium under its protection as an addition to the university clinics.

Plague News.—According to the Marine Hospital *Health Reports*, India is still the great theater of plague. In some districts of the vast Hindu empire cases were being reported in the early part of the winter by the hundreds, and even thousands. In the Patna city and district, in Bengal, 5,506 cases occurred during November, December, and January, and of this number 4,810 cases were fatal. A glance at the list of infected regions in India, with the tabulated figures of cases and deaths, showing as usual a very high mortality, does not inspire the reader with the belief that the disease is under any sort of control in that country, or with the hope that even with serum-therapy and prophylaxis its spread will be checked before the onset of summer. India is at present the most active focus of plague on the face of the earth, and her condition is a grave menace to mankind in general. If the disease does not spread from her territory to other countries, and become as unmanageable in them as it is in her, it will be almost miraculous. In Japan, China, and Formosa there is very little plague that is being reported. In Japan especially the disease seems to have been fought with great intelligence and success. In Brazil there is still some of it lurking in Rio de Janeiro, and the mortality is high, but the number of cases is not great. The reports contain no mention of plague in San Francisco, so we might hopefully and charitably suppose there is none

there, if we did not believe that the truth has been suppressed—a state of things for which the U. S. Marine-Hospital service is not responsible. It is unfortunate that that city has aroused a suspicion that the disease has been concealed by the local authorities. A delegation of San Francisco citizens in Washington have just given out a remarkable statement that no case of infectious bubo-pneumonic plague has been found in California, but that all the cases have been of a “non-contagious character.” This is a truly alarming statement, for it acknowledges the presence of plague while it attempts to mitigate the fact by claiming that the disease is “non-contagious”—a self-evident contradiction that goes far to discredit either the knowledge or sincerity of those who made it—or both. In Cape Town, South Africa, 15 new cases were reported on the 11th inst. In the Philippine Islands there were but 2 cases. There is plague in Russia (more than 100 cases of it) and in Smyrna in Turkey. From this latter port a steamer arrived at Bristol, Eng., on January 21st. laden with barley, with a clean bill of health. The following day dead rats were found in the hold, and in their bodies were found the plague bacilli. Extra precautions had been taken to keep rats from leaving this ship, and it was believed that none of the animals had escaped. The crew were kept under medical inspection and the vessel was disinfected and allowed to depart. A fatal case occurred at Cardiff in Wales in a man who had been employed in gathering up dead rats and destroying their bodies, but where the rats came from and how they had contracted the plague are mysteries. From these various items of plague news it is evident that the disease is still active, and that great watchfulness is required to meet it.

Astereognosis.—At a recent meeting of the Philadelphia Neurological Society an interesting paper on this subject, written by Dr. Walton and Dr. Paul, of Boston, brought out a discussion of this rather obscure symptom of nervous disorder. The term itself is derived from two Greek words, meaning a knowledge of solid objects, and, in its negative form, is meant to apply to that peculiar loss of the ability to recognize the shape, size and locality of a solid body which is displayed by some patients in certain forms of cerebral disease. In attempting an analysis of this subject, as was pointed out in this discussion, the clinician should begin by recognizing the fact that there are certain elementary properties of the sensory nerve cell which we generally speak of as the various modes of sensation, or the pain, tactile, and thermal senses. These elementary properties are probably inherent in every sensory nerve cell. In the lower forms of life we have every reason to believe that they are all present. When we come to the higher animal forms, in which there is elaborated a complex psychological life, we have a much more complex matter to deal with. We have here to consider the activity of the brain

cortex, and we must recognize certain psychological problems more complex than those that are presented by the sensations of pain, heat and cold. It requires quite an elaborated psychological perception to apprehend the qualities of a solid body, such as its size, shape and location in space; and it is not probable that among the very lowest forms of life there can be any such conception unless in a very rudimentary way. In the higher forms of life, these conceptions are not only present but are essential.

This is, therefore, a psychological and physiological as well as a pathological question. Looking at it from the practical standpoint of pathology, we have very good grounds for knowing the course in the spinal cord for these elementary qualities of sensation, such as the pain, tactile and thermal modes of sense. We know that they run in different tracts through the cord. These facts have been proved in certain cases by pathological conditions, as, for instance, syringomyelia and traumata of the cervical region of the spinal cord.

When, however, we come to lesions of the cortex or of the cerebral hemispheres, then we come into the region where there is necessarily present the "gnosis," the knowledge or judgment; and in such cases the disturbances of sensation may present highly complex problems.

A rare form of aphasia, which has occasionally been seen, illustrates this fact. A woman, for instance, could not name an object which was presented to her sight, but if the object was placed in her hand she would name it instantly. In this case there was evidently a breaking up of the fibers that proceeded to the speech-center by way of the visual sense, but the fibers that approached by way of the stereognostic sense remained intact.

In a case of brain tumor reported by Dr. Mills and Dr. Keen, a diagnosis of a tumor in the superior parietal lobule had been made. This diagnosis was based in part on the fact that there was here a peculiar form of incoordination due to a sort of astereognosis which was practically identical with what had been seen in a previous case in the wards at Blockley, in this city, and shown by autopsy to be due to a lesion in the superior parietal lobule. It would not be proper to assert that the superior parietal lobule is the seat of all astereognostic symptoms, but a number of cases have been seen in which astereognosis, associated with a form of incoordination, has been caused by a lesion of this region of the brain. The case of Dr. Mills and Dr. Keen had been of extraordinary interest, because it was a practical, pathological demonstration of some of these rather fine distinctions.

Literary Piracy.—The *Indian Medical Record* possibly thinks that it is published so near the antipodes that it can safely rifle the columns of THE PHILADELPHIA MEDICAL JOURNAL without being detected.

Living on the other side of the earth, the *Record* stands constantly on its head, and may therefore naturally have a perverted view of morals in general. It printed verbatim, on January 30, 1901, Dr. Howard A. Kelly's paper, "On Methods of Teaching Gynecology," which was first published as an original article by this JOURNAL on September 1, 1900; but the *Record* omitted to mention this latter fact. Again, in its Volume XX, February 6, 1901, it published Dr. A. O. J. Kelly's paper on the "Relation between Cardio-vascular and Renal Disease," as an original article without giving us credit for having originally published this paper on October 27, 1900. There is an old saying that imitation is the sincerest flattery, and there is also an old fable about a Spartan boy being blamed not for stealing a fox but for being caught at it. The *Indian Medical Record* can now sympathize with that Lacedæmonian youth.

The Influence of Climate on the Evolution of Experimental Pleuropulmonary Tuberculosis.—Lannelongue, Achard and Gaillard (*Gaz. Heb. de Méd. et de Chirur.*, January 31, 1901, 48me Année, No. 9) have experimented by inoculating into the pleura of 300 male guineapigs, equal quantities of an emulsion of tuberculosis and immediately submitting groups of equal numbers to different climatic influences. The conditions of the injection were in all cases the same and the conditions of lodgment and food in each group were as nearly alike as possible. Two series of experiments were made. In the first series 150 guineapigs were divided into 3 groups. One group was kept at the laboratory of External Pathology of the Faculty of Medicine, at Paris, another group was sent to the seashore at Grandes-Dalles, and the third group was sent to the country at Valmont. In the second experiment, one group was retained at the laboratory, a second group was sent to the mountains, and the third group to a forest on the Isle-Adam. In the two experiments the groups retained at the laboratory presented the advantage of condition, in spite of the apparent unfavorable surroundings produced by lack of space, poor ventilation, absence of light, the high degree of humidity, and the abundance of ammoniacal vapors. Cold and change of temperature appeared to have acted unfavorably, while the equality of temperature and the greater quiet in the laboratory animals seemed to have operated favorably. The evolution of the lesions in the animals of each group presented great variations. While certain guineapigs died of tuberculosis at the end of 6 weeks, in certain others at the end of 15 or 18 months, the lesions were very few and small and were entirely localized to the thorax. This was the end of the experiment in 3 animals of the group sent to the seashore, 3 of the group sent to the country and 4 of the laboratory group of the first experiment. In the second experiment the same condition was found in 1 animal sent to the mountains and in 3 of those kept in the laboratory. Whether or not the remarkable resistance of certain guineapigs to the generalization of tuberculous lesions might go on to complete cure and to the disappearance of virulence is doubtful. These experimental facts have certain definite relations to conditions observed in human pathology. The evolution of tuberculosis in man is eminently variable according to the subject and very diverse forms of the disease are met with independent of climate or of altitude. Cure and resistance to infection are observed with greater frequency in man than in the animals experimented upon. This observation is explained sufficiently by the fact that the guineapigs received a larger dose of the virus, and by the fact that this animal presents a high degree of susceptibility to the infection. [J.M.S.]

Correspondence.

PAROTITIS IN PNEUMONIA.

By T. C. MORRIS, M.D.,

of Lynch, Va.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

I HAVE noticed in the past few months a limited number of cases of parotitis reported, complicating pneumonia. I wish to add one to the list. The patient was a man, 79 years of age, who was taken with the grip. Four days later bronchopneumonia set in. Five days from the onset of the pneumonia I noticed the patient constantly placing his hand near his left ear, and examination revealed the presence of a parotitis of the left side. The patient made no complaint of it owing to his mental condition, which was very bad at this time. There was no rise in the temperature, which ranged from 99 to 101. But there was a marked change in the character of his pulse which, prior to this, had been remarkable, ranging from 90 to 100, full and strong. Now it ranged from 130 to 140, soft, compressible, and intermittent. There was no appreciable change in any of the other symptoms.

The case terminated fatally 6 days later. Whether the parotitis had anything to do with the change in the circulation I am unable to say.

PULMONARY TUBERCULOSIS AND THE BOARD
OF HEALTH.

By WM. M. CAPP, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

BEFORE the Board of Health should be so unwise as to require the registration of all cases of pulmonary tuberculosis, it should first clearly appear that some practical benefit will thereby be gained to the public. Registration of itself is an idle form and does not give as useful information as the physician's usual death-reports. In New York, where this requirement is in force, no public action other than the registration is taken as to private houses and in cases reported by private physicians. To this extent, at least, registration, then, has no value whatever; and besides, it may do much harm to the individuals reported and their friends. To be of value in protecting public health a registry of consumptives' names should be an open book and proclaimed abroad to all for their personal safety; for, certainly, registration must be thought of as devised for the protection of the public rather than of the patient. But this public exposure of private distress is an idea so shocking to all sense of propriety and humane sentiment that we are told the register is to be kept with the utmost secrecy. Registration, as such, therefore, can accomplish nothing in the way of protection to the public health. A knowledge of the particular house or locality in which germs of consumption exist is what the public authorities really need, and that only, if it is the *bona fide* intention to follow the matter up by officially conducting effective sanitary measures by destroying the threatening germs of the disease wherever they may be found. In fact, prompt and thorough disinfection of infected abodes of the ejected bacillus of consumption is the only paternal intrusion of the government upon individual rights which is called for in these cases, or which will be in any sense valuable for the protection of the public. And this should not be undertaken until liberal and sufficient arrangements for the efficient

prosecution of the work are mapped out and provided for. Disinfection is a more or less costly operation and needs to be done aright by properly qualified agents, and will not be strictly attended to if left in the hands of the average landlord or tenant of means, and cannot be exacted of the poorer tenant, who often lives in quarters most requiring it. The public authorities should not proceed against the individual, but against the disease, in infected premises. Meanwhile, let the health boards also prosecute a more vigorous and intelligent campaign of education and enlightenment of the public upon the nature of the disease under consideration and the proper means to prevent its spread among the people, among whom, in the very nature of things, the unfortunate victims of the disease must associate with more or less freedom.

TWO CASES OF PAROTITIS COMPLICATING
CROUPOUS PNEUMONIA.

By D. J. MILTON MILLER, M.D.,

of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

APROPPOS of several cases of parotitis complicating pneumonia, which appeared in your correspondence columns last winter (1900), and of the case of bilateral parotitis reported by Dr. Eshner in your issue of February 16, 1899, I desire to briefly record two additional instances of this unusual complication of croupous pneumonia, occurring in my service and in that of my colleague, Dr. D. D. Stewart, at the Episcopal Hospital, during the winter and spring of 1900. My case was that of a young woman of 18, who, while at the height of an attack of chorea, the last of many similar outbreaks, was seized with acute croupous pneumonia, limited to the whole of the upper and adjacent portion of the middle lobe of the left lung. The disease ran a severe course, with high temperature (104° to 105° F.), intense delirium, and great restlessness, the patient's limbs and body being constantly tossed from side to side by the exaggerated choreic movements. In addition, there was a loud, blowing, systolic murmur, heard at the apex and transmitted to the axilla and to the left scapular angle. The second pulmonary sound was sharply accentuated. These signs were regarded at the time as indicating an associated endocarditis. On the ninth day, while the constitutional and local symptoms were abating (the temperature fell by lysis), enlargement of the left parotid gland was observed. Suppuration rapidly supervened, necessitating incision and free drainage three days later. Bacteriological examination of the evacuated pus gave a pure culture of the staphylococcus aureus. With the establishment of drainage the temperature, which had risen with the onset of the parotitis, fell almost to normal (98.5° to 99°), and continued so until the seventeenth day, when it again arose, owing to the development of an empyema in the right pleural cavity. Aspiration was performed on the twenty-third day, and a pint of thick, creamy pus removed, from which a pure culture of the streptococcus pyogenes was obtained. After this the patient gradually sank into a typhoid condition, and died on the twenty-seventh day. No autopsy was permitted. The leukocytes, which on admission numbered 17,000, increased with the parotitis to 27,000, then fell almost to normal, to rise again to 18,000 at the height of the empyema.

The second case (reported through the courtesy of Dr. Stewart), a woman of 71, on the eighteenth day of an acute pneumonia of the left upper lobe, while the temperature was

falling and the other symptoms abating, developed a left-sided parotitis, which quickly suppurated, and was opened and drained four days later. The wound healed readily in about 10 days, and the lung cleared up entirely, but a severe cystitis developed and she died on the thirty-seventh day. No autopsy could be obtained, nor was a bacteriological examination of the parotid pus made. The leukocytes, at the height of the parotitis, numbered 22,000. The association of the first case with endocarditis is worthy of note in view of the statement of Osler that parotitis in pneumonia is commonly accompanied by this form of heart disease. About one year ago, however, when I looked this matter up with the intention of publishing a more elaborate paper in connection with these cases (the material for which has since been lost), I did not find the associations at all frequent. Another point of interest in the same case is the different bacteriology of the two suppurative processes, the parotitis giving a pure culture of the staphylococcus, while in the empyema the streptococcus only was found, the pneumococcus not being present in either. This does not necessarily indicate that the pneumonia was of streptococcal origin, as in pneumonias, owing to a mixed infection, the streptococcus alone may find access to the pleura. The presence of the staphylococcus in the parotid pus, however, may be regarded as an evidence that the infection reached the gland by way of the parotid duct, as is usually the case in one-sided parotitis. In the bilateral variety, as in Dr. Eshner's case, it is more likely that the inflammation is induced by an infection through the blood.

THE TREATMENT OF PURULENT ENDOMETRITIS BY INJECTIONS OF IODOFORM-GLYCERIN EMULSION.

By JAY G. ROBERTS, M.D.,
of Hastings, Nebraska.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

In presenting this article I wish simply to call attention to a new application of that old and tried remedy, iodoform.

It is possible that this method of treatment may not be entirely new, but a careful perusal of all the literature at my command fails to disclose any reference to such a method of treatment of endometritis.

I have always been a firm advocate of iodoform in the treatment of all those conditions attended with pus formation, in spite of its unsavory odor, which has led into many a vain experiment with other numerous substitutes with which the market is flooded, for all of which are claimed all the advantages with none of the disadvantages of the drug which they seek to replace.

After having gone the rounds, I have yet to find a drug which will clear up a suppurating surface and replace foul, unhealthy granulations so well, and in so short a time as iodoform.

The possibilities of such a method of treatment were first suggested by a consideration of the close resemblance of the infected uterine cavity to a tubercular or other abscess cavity, the custom of which it has long been to treat by injections of iodoform-glycerin emulsion. Other methods having given such unsatisfactory results as almost to lead to despair, I determined to put it to a test.

The method of application, which is very simple, is as follows: An emulsion is prepared according to the following formula, the small amount of creolin very effectually disguising the odor without affecting its efficacy to which most patients object very strenuously.

R.—Iodoform	2.00.
Amyl	1.00.
Mix and add	
Glycerin	20.00.
Water	12.00.
Creolin	.80.
M. Stirring gradually, heat to about 27° F.	

This makes a more stable emulsion than that made by the usual method.

For the injection the ordinary long-nozzled intrauterine syringe may be used. I have found a small glass syringe with a soft rubber nozzle, some two inches in length, and of sufficient firmness to answer admirably.

The cervical canal in these cases being quite patulous, as a rule, little difficulty is experienced in inserting.

The patient is placed in the dorsal position with the hips well elevated.

The cervix is exposed by means of the ordinary bivalve speculum, and with dressing forceps and pledgets of absorbent cotton, all discharge is carefully wiped from the cervix and vaginal fornices, which are then thoroughly mopped with sinol or other antiseptic, and then with hydrogen dioxide.

About 4 cc. of the emulsion is then drawn into the syringe, all the air expelled, the nozzle gently inserted well up into the uterine cavity, and the emulsion slowly injected. The syringe is withdrawn and the cervix plugged with absorbent cotton.

It is a good plan to have the patient retain her position for a few minutes before arising, thus keeping the fluid in more prolonged contact with the upper portion of the uterine cavity.

As high as 8 or 10 cc. may be used at a time, but it is better to start a smaller amount, even as low as 2 cc., and gradually increase the quantity to guard against any susceptibility or idiosyncrasy to the action of the drug, the uterine mucosa, as is well known, possessing great absorbent properties. The injections should be repeated every other day or every third day.

The following case, the first in which I had occasion to resort to this method, well illustrates its efficacy. I have since used it in numerous cases of both simple and purulent endometritis with uniformly satisfactory results:

CASE.—Anna T., age 21, waitress. Came under treatment September 21. History of painful menses, constant dragging pain in the pelvis, and leukorrheal discharge.

Examination revealed a somewhat enlarged and painful uterus. Cervix enlarged, everted, and eroded. Red and painful, bleeding readily, with an abundant, thick, purulent discharge.

Applications of iodized phenol were made to the uterus with tampons of ichthyol and glycerin to the cervix every other day, and hot vaginal injections twice daily.

Under this treatment the acute symptoms rapidly subsided, but the discharge continued with little decrease in amount. At the end of 6 weeks silver nitrate applications were substituted for the iodized-phenol with no benefit. Discharge increased in amount.

November 3. Curetted lightly and douched out uterus, which seemed only to aggravate the disorder.

November 18. Injected 4 cc. iodoform-glycerin emulsion.

November 20. Discharge less abundant. Injected 6 cc. iodoform-glycerin emulsion.

November 22. Discharge markedly diminished. Treatment continued.

November 28. Discharge absent. Cervix almost normal in appearance.

December 6. Discharge absent for over a week. Cervix normal. Consistency not painful.

Patient has been seen at intervals since, and has been entirely free from discharge, pain, or other symptoms. Menses regular and painless.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

Chester Hospital.—A nurses' home and laundry will be built as an addition to the Chester Hospital.

Dr. B. A. Randall Resigns.—Dr. B. A. Randall has resigned the position of Eye and Ear Surgeon to the Methodist Hospital. Applicants, who must possess the B. A. degree, should communicate promptly with the Board of Managers.

Death of Dr. Emil Schnizler.—After two weeks illness Dr. Schnizler died at his home in Philadelphia on March 6. He had practised in this city for twelve years and had devoted considerable time to the study of rheumatism and gout. He was born at Frankfort-on-the-Main, Germany, and received his medical education at Heidelberg University. On graduating there, in 1868, he became head professor at the Vienna Hospital, where he remained for fifteen years.

University of Pennsylvania Medical Bulletin.—We note that the changes in the *University Medical Magazine*, which were announced in February, appear with the March issue. The title has been changed to read **University of Pennsylvania Medical Bulletin**, the reading matter is printed in double instead of single column, and, what is particularly creditable, all advertising matter has been excluded. The policy and scope of the publication are in no way affected by these changes, as it still continues to be the official organ of the Medical Department of the University of Pennsylvania. In its present form the publication is both attractive and dignified in appearance.

Nurse Obtains a Mandamus.—Miss Mariane H. Wood, a nurse at the Pennsylvania Hospital, was awarded an alternative writ of mandamus returnable March 25, compelling the Pennsylvania Hospital to reinstate her as nurse in that institution. Miss Wood was admitted to the Pennsylvania Hospital Training School for nurses on March 28, 1898, and it is reported that before her term of three years was completed, she was expelled on August 15, 1900, for slapping a patient. The nurse claims that she had received peremptory instructions to keep a powerful colored woman who had undergone abdominal operation on her back, and that the patient resisted by clutching the nurse's hair threatening to do herself injury. The impact of the nurse's hand against the patient's cheek in the attempt to keep the latter in a recumbent position is the "slap" which she says she is accused of inflicting.

The Sesqui-Centennial of the Pennsylvania Hospital.—The 150th anniversary of the founding of the Pennsylvania Hospital in this city will be celebrated in May of this year. On the 15th of that month an address will be delivered by Mr. John B. Garrett in the new assembly room in the old Pine Street institution. On the 18th of the month the contributors and invited guests will enjoy a visit to the department for the insane in West Philadelphia. The committee having charge of the anniversary is composed of Mr. Benjamin H. Shoemaker, chairman; Mr. John B. Garrett, Mr. J. Stewart Jenks, Dr. Thomas G. Morton, and Dr. John B. Chapin. The Pennsylvania Hospital is one of the most important and interesting of our pre-Revolutionary institutions, and its coming anniversary will doubtless attract wide attention. The occasion, it is hoped, will be a great success.

Obstetrical Society.—DR. GUY L. HUNNER, of Johns Hopkins Hospital, by invitation addressed the meeting of March 7. Dr. Hunner gave a thoroughly practical talk on **Streptococcus in Gynecology**. The localized forms of this infection were the types discussed. The various foci of infection, within the uterus, in the perimetrial tissues, etc., and the modes of infection were detailed and histories of cases given. Most of the infections from the uterine contents occur not through the medium of the tubes but through the uterine wall. Hence abscesses may be found anywhere in the pelvis. The diagnosis of streptococcal infection is considered to be sufficiently easy to render a mistake inexcusable. The history of the case is of the greatest importance in diagnosis, as streptococcal infection is almost always connected with the puerperium. Examination then confirms

the diagnosis which can be at least provisionally made from the history alone. Streptococcal infections are usually cellulitic in character. When operating to evacuate abscesses a cardinal rule to be observed is to keep out of the peritoneal cavity. The inguinal incision should be used, thus avoiding the peritoneum, or vaginal puncture anterior or posterior to the uterus. DR. WILMER KRUSEN spoke of the conservative operations of the present day and their efficacy in preserving the functions of the patient. The possibility of the reaccumulation of pus if only a vaginal puncture was made was mentioned. He asked Dr. Hunner if antistreptococcal serum was used at the Johns Hopkins Hospital and also how streptococcal was differentiated from gonorrheal infection. DR. HUNNER stated that antistreptococcal serum had been used but it is not considered of much value. Many cases get well without it and a favorable change may occur almost synchronous with its use and yet not be due to its effect. The user must be careful in drawing conclusions. Regarding the inefficiency of puncture to fully drain abscess cavities it was stated that when the abscess is between the uterus and bladder an incision is made; when posterior to the uterus or laterally a puncture is made and then enlarged by dilators. No irrigation is used in these cases, the operation being done by the dry method. Streptococcal and gonorrheal infections cannot be differentiated except by the history of the case. The subject was also discussed by Drs. DOWNES, ROSENTHAL, WILSON, HIRST, BOYD, and NASSAU.

DR. A. J. DOWNES read a paper on **Spinal anesthesia in cases strongly contraindicating general anesthesia**. Five cases, including a gastroenterostomy, two hysterectomies, and an extrauterine pregnancy were reported. The results warrant the use of this method in selected cases. DR. GEORGE ERETY SHOEMAKER stated that until surer methods of sterilizing the anesthetic were in use it was wiser to retain the old anesthetics. Very few cases will not bear general anesthesia. DR. FRANK HAMMOND expressed the same view. General anesthetics, particularly chloroform and oxygen, can be used in practically every case which may seem to contraindicate them.

Vital Statistics of Philadelphia for the week ended March 9, 1901:

	CASES.	DEATHS.
Total mortality		495
Inflammation of appendix 1, bladder 1, brain 11, bronchi 9, heart 2, kidneys 15, larynx 1, liver 1, lungs 80, pericardium 1, peritoneum 6, pleura 3, stomach and bowels 17, spine 2		150
Inanition 9, marasmus 13, debility 9		31
Tuberculosis of lungs		77
Apoplexy 14, paralysis 5		19
Heart—disease of 33, fatty degeneration of 3, dropsy of 1		37
Uremia 10, diabetes 3, Bright's disease 10		23
Carcinoma of colon 1, breast 2, stomach 7, uterus 2, liver 1, pancreas 2, rectum 2		17
Convulsions		14
Diphtheria	68	9
Brain—congestion of 1, disease of 1, hemorrhage from 1, softening of 4, tumor 2		9
Typhoid fever	85	6
Old age		6
Cyanosis		6
Scarlet fever	29	5
Influenza 9, abscess, back 1, abortion 2, alcoholism 1, asthma 3, anemia 1, atheroma 1, burns and scalds 3, casualties 7, congestion of lungs 5, cirrhosis of liver 2, membranous croup 2, erysipelas 2, fracture of skull 1, gangrene of foot 2, intussusception 2, indigestion 2, jaundice 1, neuralgia of heart 4, obstruction of bowels 1, edema of lungs 3, purpura hemorrhagica 1, rheumatism 1, sclerosis of liver 1, surgical shock 1, septicemia 3, suffocation 1, suicide 3, teething 2, tumor, uterus 1, neck 1, ulceration of stomach 1, whooping-cough 3		74

NEW JERSEY.

Beverly.—Scarlet fever has again made its appearance at Beverly, and all cases are being quarantined.

Muhlenberg Hospital.—A plot of ground with a frontage of 500 feet and 300 feet deep has been given to the Muhlenberg Hospital at Plainfield by James A. Martine. The value of the land is estimated at \$10,000.

Quarantine Removed.—For the first time in 2 weeks the churches and schools were again opened in Woodbury. Vaccination is being enforced.

Medical Library.—The medical and surgical library of the late Dr. William Pierson, of Orange, numbering 8,000 volumes, has been presented by Mrs. Pierson to the physicians of Orange, who have decided to organize the William Pierson Medical Library Association.

NEW YORK.

Acquitted.—The nurse in Bellevue Hospital who was charged with having been responsible for the death of one of the insane inmates, has been acquitted.

Changed to a Periodical.—The Annual Circular of the New York University will now be issued twice a month as a periodical containing in addition recent progress in the university.

New Scientific Quarterly.—A new scientific bulletin under the title of *New York University Bulletin of the Medical Sciences* will appear for the first time this month, edited under the auspices of the New York University Medical Society.

Nurses' Home.—Plans were filed for the nurses' home to be erected for the Presbyterian Hospital in New York. The structure will be 8 stories in height. Several months ago a benefactor, whose name was not disclosed, gave the hospital \$300,000 for the erection of this home, provided the institution would assume the maintenance of it.

Bellevue Maternity.—The Medical College and Dispensary Building of the Bellevue Hospital will be altered into a maternity hospital, dispensary and dormitory. The expense for altering the interior of the building has been estimated at \$20,000. The object of these alterations is to bring about a closer approximation of the various departments of the hospital.

New York Obstetrical Society.—Stated meeting, February 13, 1901. The president, DR. H. J. BOLDT, in the chair.

DR. BOLDT presented a case of **persistent amenorrhea**, the trouble dating back to the time of her first menstruation at the age of 13. Before marriage she menstruated at intervals of 3 or 4 months, since that time (3 years) she has menstruated only twice. The pelvic organs are normal, with the exception that the uterus is slightly smaller than it should be. DR. H. N. VINEBERG remarked that in some cases, after marriage, small uteri seem to diminish in size and lose their function rather than develop, as one might expect.

DR. GEORGE L. BRODHEAD reported a case of **cesarean section for fibrocystic uterine tumor**. The specimen here presented is one of fibrocystic growth of the uterus, removed from a patient upon whom the operation of cesarean section was performed February 2, 1901, 11 days ago. The history of the case was as follows: The woman first came under my observation on November 20, 1900, when she presented herself for examination in the lying-in service of the New York Postgraduate Hospital. The patient was 34 years of age, she had been married 2½ years, and her menstrual history prior to marriage and up to the time of the present pregnancy had been normal in every respect. There have been no symptoms at any time of uterine growth, and her general condition was very good. The last menstruation had begun on May 6, and had continued for 3 days, the usual amount of blood having been lost. Abdominal examination showed a uterus enlarged to the size of about 7 months' gestation, the fundus being higher than it should have been to correspond to the period of pregnancy as based upon the date of the last menstruation, namely, 6 months or a little over. The presentation was vertex, the head being high above the brim, and the position left occiput anterior. The fetal heart-rate was 148, and a loud uterine souffle was heard in the right upper quadrant. The pelvis was justo minor, the woman being of small stature, about 5 feet 2 inches in height, and weighing about 109 pounds. Vaginal examination revealed a tumor the size of an orange, of moderately firm consistency, well down in

the culdesac of Douglas, pressing the cervix well forward behind the symphysis. Thinking that the tumor might be one of the ovary, or a pediculated fibroid, which might be made to slip back into the abdominal cavity, the patient was placed in the knee-chest position, but the growth was so adherent that it could not be replaced. The patient was extremely anxious to have a living child, and therefore section at or near full term seemed indicated. Dr. Dudley, who very kindly saw the case with me, concurred both in the diagnosis of fibrocystic growth, and the advisability of performing cesarean section. On January 19, the position was found to be left sacro-anterior, the breech being well above the brim, and a loud, umbilical souffle was heard in the left lower quadrant of the uterus. On February 2, 1901, the operation was performed at the New York Post Graduate Hospital, the patient being within 10 days of full term. It seemed best to elect this time, for the reason that the child was of good size, and the uterus already well distended. In the operation, able assistance was rendered by Dr. Dudley and the house staff of the hospital, Doctors Boldt and Ward being present also. The technic of the section was that described by Dr. Dudley in the *New York Medical Journal* of November 3, 1900, in his article "The Modern Cesarean Section. An Ideal Method of Treatment for Placenta Previa." Under constant irrigation with a hot normal saline solution, an incision 6 inches in length was made in the median line, from a point just below the navel to just above the symphysis, and the uterus exposed. A rubber ligature was then passed over the fundus, and carried down to the lower segment of the uterus, just above the fibroid. While the uterus was held up and the ligature tightened by an assistant sitting between the legs of the patient, and while the abdominal walls were kept closely applied to the uterus above, an incision about 6 inches in length was quickly made through the uterine wall and the fetal sac opening. The breech of the child, found lying just beneath the incision was seized, the child lifted out and the cord clamped and cut. The amount of amniotic fluid was small. The uterus was followed down, and lifted out of the abdominal cavity, while the intestines were protected above. The child, a male, weighing six pounds seven ounces, was born five minutes after the operation was commenced, in good condition, and soon cried lustily. The placenta was found lying loosely in the uterine cavity, and was removed with its membranes, manually. The tumor was adherent to the rectum, but the adhesions were soon separated, and the growth lifted up out of the abdominal cavity. It was then found that during its removal, the cyst had ruptured, allowing a small quantity of yellowish brown fluid to escape. The mass was about the size of an orange, and was attached to the posterior wall of the uterus by a thin pedicle about 1½ inches in width. The growth was enucleated and the uterine wall closed with several layers of fine catgut sutures. Ten minutes had been occupied in the removal of the fibroid. A finger was then passed through the cervix from the uterine side, and the incision closed in layers with a continuous suture of fine No. 1 ten-day chromicized catgut. Beginning above, the mucosa was first closed, then from below upward, the muscular layer, and finally the peritoneal coat united. The ligature was now loosened, and several sutures passed to control slight oozing. As there was a moderate amount of bleeding from torn adhesions, a strip of iodoform gauze was placed in the culdesac, and the end drawn out of the vagina. The incision in the abdomen was closed in layers with catgut, and the patient put to bed in excellent condition, a little less than an hour having been consumed in the entire operation, and the blood loss having been very small. The child was well developed, and since birth has done well. The mother's recovery has been uninterrupted from the first. I take this opportunity to thank Dr. Dudley and the house staff for their valuable assistance and kindly interest in the case. DR. VINEBERG asked if it would not have been feasible to remove the growth per vaginam. DR. BRODHEAD stated that the patient was a primipara, 35 years of age, exceedingly anxious to have a living child and perfectly willing to undergo the operation at full term. Under these circumstances it seemed best to wait, as operation per vaginam would almost certainly have induced premature labor with the probable loss of the child.

DR. E. H. GRANDIN read a few Notes relating to cases of **ectopic gestation**. Dr. Grandin gave a most interesting talk on this subject, relating the clinical history of

many of his cases, seen both in his own and in consultation practice. It falls to the lot of comparatively few men to possess such a wealth of material from which to draw deductions which will be helpful to those interested in this most absorbing subject. His experience teaches him that many of the patients with whom he had to deal, give histories which are decidedly atypical, judging by the classic symptoms spoken of in the majority of textbooks. Dr. Grandin believed that when in doubt, it was advisable to make a posterior incision in the culdesac, for the purpose of establishing the diagnosis. The abdominal section could then be resorted to for the removal of the mass, if the posterior section were insufficient for the purpose. DR. GEORGE T. HARRISON in discussing the paper said that he thought the reader of the paper should have made a clearer distinction between cases where the ovum is dead, and those in which the ovum is living. In the latter class of cases, the extreme softness of the tumor lying near the uterus was a very characteristic symptom. Again, where the ovum is dead, the uterus is hard, whereas if the ovum is living the uterus is usually soft. He believed all cases of ectopic gestation should be attacked through the abdominal wall, and not by a posterior colpotomy. He thought that the rupture of the tube was a rare termination, while tubal abortion is a frequent termination. At least 80% of the cases terminate that way. After death of the ovum the picture changes, and the tumor becomes harder. He strongly advocated the abdominal section for such cases. DR. H. N. VINEBERG thought that in certain cases the incision in the culdesac for the purpose of diagnosis was a valuable one. In one instance he had removed a cystic ovary in that way where ectopic pregnancy was suspected. He believed that Dr. Mann had reported a case in which he lost the patient by making an incision in the culdesac. The patient bled so profusely that before he could find and catch the bleeding vessel, the patient died. In the second case, the right tube was removed by posterior section and bleeding was so great from the whole surface of the cavity where the mass had been lying that it was necessary to pack the cavity. Bleeding continued and it required very thorough tamponing to arrest the hemorrhage. After this she did well, but the case emphasized the point that the lower route is not a safe one through which to remove a tubal pregnancy. In the third case, the patient had been curetted twice, it being supposed that the case was of incomplete abortion. Dr. Cleveland diagnosed the condition as that of ectopic pregnancy and on operating he found an unruptured tubal pregnancy of $3\frac{1}{2}$ to 4 months. In removing the tube he had used Skene's electric clamp, for he prefers it because of the liability of ligatures to cut through the soft tissues. The patient recovered. DR. A. BROTHERS said that the pregnancy of ectopic gestation was to him alarming. He had had a case some weeks before in which the mass was so bound down by adhesions that it was necessary to remove the uterus. The patient made a good recovery.

NEW ENGLAND.

Donation.—The Yale Medical School, New Haven, has received an anonymous donation of \$100,000 to be devoted to the construction of a building consisting of a laboratory of clinical medicine and surgery.

Change of Meeting.—The State Medical Association of Maine, on account of the conflict of dates with the meeting of the American Medical Association, has changed the time of its annual session to June 12 to 14.

Donation to Anna Jaques Hospital.—The Anna Jaques Hospital, Newburyport, which for some years has been seriously cramped for room, will have a new and commodious structure through the munificence of the Hon. William C. Todd. The trustees received a letter from Mr. Todd in which he makes the offer of \$50,000 for a new building, and also offers as a gift a slightly and commodious site, valued at \$5,000. The trustees, in acknowledging the gift, state that the difficulty of providing better accommodations has long perplexed them, and that no gift would have been more generally and deeply appreciated than this. The gift will be used solely for the erection of a new building.

Hospital Site Proposed.—There appears to be considerable controversy among the citizens of Roxbury relative to the establishment of a hospital for consumptives on grounds in Marcella Street. The following resolutions were adopted and a committee appointed to wait upon the Mayor:

Whereas, the Mayor in recommending the transfer to the board of health department of the Marcella Street Home, Roxbury, for the purposes of a hospital for consumptives, and, whereas, the said property is unfit for such use, because of its unhealthy location, its low level, its proximity to a large city stable and its unsanitary condition, besides being a menace to the health of nearby residents and a cause for the decrease in the value of surrounding property; therefore,

Resolved, that, while we are heartily in favor of a hospital in the proper place, we are opposed to the site of the Marcella Street Home for such purpose.

Resolved, that we request the members of the city government to oppose this proposed location for a consumptives' hospital.

CHICAGO AND WESTERN STATES.

Appointment.—Dr. Z. T. Martin, of Lathrop, Mo., has been appointed physician to the penitentiary at Jefferson City, Mo.

Fined.—A magnetic healer of Moline, Ill., was fined \$100 and costs for practising medicine without a license. He refused to pay the fine and was committed to jail.

Death of Dr. Fernand Bazan.—It is reported that Dr. Fernand Bazan, a prominent physician who practiced for many years in San Francisco, died in Glion sur Montreaux, Switzerland, on March 6.

Smallpox in Kansas.—Doctor W. B. Swan, secretary of the State Board of Health, issued a bulletin stating that there are more than 1,000 cases of smallpox in the State. The worst infected district is Crawford and Cherokee counties. In these two counties there are not less than 500 cases of the disease.

The Western Ophthalmologic and Otolaryngologic Association will meet in its next annual session in Cincinnati, Ohio, April 11 and 12. A fine program has been arranged and the medical profession are cordially invited to attend the sessions. Dr. C. R. Holmes, of Cincinnati, is chairman of the local committee of arrangements. Dr. M. A. Goldstein, of St. Louis, is the president, and Dr. W. L. Ballenger, of Chicago, is secretary.

Bequests to the University of Michigan.—Mrs. Love M. Palmer, widow of Dr. A. B. Palmer, who was professor in the medical department of the University of Michigan from 1852 up to the time of his death, 15 years ago, died March 8. By the term of her will, she leaves \$85,000 to the university. It is understood that \$20,000 will go to build a new ward for the hospital, and \$15,000 to maintain free beds in that institution. Mrs. Palmer left \$10,000 with which to build a tower for St. Andrew's Episcopal Church in Ann Arbor, Mich.

Bubonic Plague in California.—The commission selected by Secretary Gage to investigate the plague situation in behalf of the Government has returned to Washington, but their report as yet has not been published. The commissioners are Prof. F. G. Nery, Prof. Simon Flexner, of the University of Pennsylvania, and Prof. L. T. Barker; the other commissioners being also attached to institutions of learning. They are in no way connected with the Federal service and were chosen because of their recognized ability as experts. The committee of citizens of San Francisco that had been in consultation with the Treasury Department regarding the bubonic plague in that city deny that the health affairs of San Francisco have been taken charge of by the Surgeon-General's Department. They furthermore state that the death list in Chinatown is now lower than it has been for years.

SOUTHERN STATES.

Buxley Professorship.—The professorship endowed several years ago by Dr. Henry Willis Buxley, of Baltimore, has been designated "the Buxley professorship of pathol."

ogy." The present incumbent is Prof. William H. Welch of the Medical School.

Charity Hospital.—An unconditional donation of \$50,000 has been received by the Charity Hospital, New Orleans, from an unknown source through Dr. Rudolph Matas. The money was donated for the purpose of increasing the nursing staff and providing a home for trained nurses.

Verdict of \$7000 for the Loss of an Eye.—In the case of the De La Vergne Refrigerating Machine Company vs. Stahl, in which a verdict of \$8000 was returned, the judge said that he will affirm the judgment if a remittitur of \$1000 be made from the \$8000, as the later is larger than in any discoverable case of a similar nature.

Memorial Tribute.—The Medical Society of the District of Columbia met on March 5 for the purpose of devoting a memorial tribute to the life and character of the late Dr. Samuel Busey. A memoir was read by Dr. W. W. Johnston, giving a sketch of Dr. Busey's life and an appreciative estimate of his life as a man, citizen, and physician.

Death of Dr. John Randolph Page.—Dr. John Randolph Page died at his home at the University of Virginia on March 11 of acute Bright's disease, aged 70 years. Dr. Page was educated at the University of Virginia, being graduated in 1850 with the degree of doctor of medicine, after which he was for some years a student in Paris. He was chief-surgeon in the Confederate service, first with Magruder, on the Peninsula, and afterward in Lynchburg. After the war he practised medicine in Baltimore, and later he became professor in the Louisiana Military Academy. From 1872 to 1882 he was professor of agriculture in the University of Virginia. Resigning his chair he went to Birmingham, Ala., and again entered upon the practice of his profession.

CANADA.

(From Our Special Correspondent.)

To Combine Toronto Medical Schools.—Steps are being taken to bring about the amalgamation of Trinity Medical College, Toronto, and Toronto Medical College. A committee composed of three members of each faculty was appointed to draft a definite basis of amalgamation.

The Medical Alliance of America, now attempting to do business with the medical profession in Toronto, Montreal, and other Canadian cities, has been disapproved of by the Toronto Clinical Society. One year ago the corporation secured a charter from the Dominion Parliament and at once set about exploiting the profession of medicine. The doctor is secured as an ordinary member of the Alliance, the same as any other individual, at the rate of 15 cents per week. He is then appointed by the Company one of the medical advisers of the Alliance. When an ordinary member falls ill, if he wishes to secure the benefits of the Alliance, he must call in one of the Alliance's physicians to attend him. The Company pays the doctor at the rate of \$1.00 per office consultation and \$1.50 for each house-visit paid—that is, if the fund set apart for that specific purpose will permit of such lavish distribution. At the regular stated meeting of the Toronto Clinical Society, on the evening of the 6th inst., the Society unanimously adopted a resolution unfavorable to the methods of the Alliance.

Winnipeg General Hospital has just published its annual report. The number of patients treated in the hospital during the past year amounted to 2,649; and in the out-door department there were 1,435 consultations. Of the in-door patients, 1,684 came from the City of Winnipeg, 785 from other places in the province of Manitoba, 150 from the other provinces and 30 from the United States. In the financial report appeared a deficit of \$4,510.50, which could be accounted for by the fact that the hospital had to contend with an outbreak of smallpox within its walls at the beginning of the year. Reference was made in the report expressing deep regret at the death of one of the nurses, Miss Lynch, who had contracted the disease while in the discharge of her duties; and also to the generosity of the Lake of the Woods Milling Company which donated \$2,500 to the institution.

The nursing staff of this hospital now consists of a lady superintendent, 5 head nurses, 1 district nurse and 50 pupil nurses. During the year 223 applications were received for admission to the hospital training school. Of these 23 were accepted on probation and 16 as pupils of the school.

Nova Scotia is to Have a Consumption Sanitarium.—A year ago the Legislature of the province passed a Sanitarium Act and appointed a committee to look into the matter during the recess of the House and make recommendations at an early date. Through sickness and other misfortunes this committee has not been able to report until the present time; and the other day Premier Murray laid before the Legislative Assembly, now in session, the report of the committee. It recommends that a single sanitarium be constructed on the congregate plan, capable of accommodating 20 patients; that no resident medical officer be appointed, but that there shall be regular specified visits made by two properly qualified medical men; that the site be either at Dutch Village near the city of Halifax, or else on the shores of Bedford Basin near the village of Bedford. The committee considers it advisable that any sanitarium for the treatment of consumption should be erected near the large centers of population; and that the Sanitarium Act of the province be amended so as to provide for municipalities wishing to construct and carry on these institutions, may receive aid from the Government. Dr. A. P. Reid, the secretary of the provincial Board of Health, favors the recommendations, but prefers to see a regular medical officer in charge; he also objects to the site on the Atlantic seaboard.

A new civic hospital for Montreal has long been contemplated, but after struggling with this question for the past one or two years, the city is no nearer the goal. Smallpox is even now on the outskirts of the city and there is no place provided for the reception of these patients. The present Civic Hospital is old and dilapidated, in fact, water-logged, has been universally condemned, by both prominent medical men and influential citizens, and even if available, could not be used as it is now full of scarlet fever patients, a disease which has been epidemic in Montreal almost since last September. The old smallpox pavilion contains four beds, and both it and the Civic Hospital are little better than ordinary barns. There are now two propositions before Council for the adjustment of this important question. One is for a single hospital for contagious diseases, to be under civic control, financially, but to be under the medical control of the leading French hospital, the Hotel Dieu, and the leading English hospital, the Royal Victoria. The other proposition favors two hospitals, one for the French and one for the English practitioners. Alderman Ames, who by the way is an advanced hygienist, now favors building one hospital, but so far has been unable to get Council to adopt any plan whatever. The Montreal Medical Society, composed of French practitioners, favors one hospital.

Gynecological surgery among the insane has reached the end of its sixth year in the London, Ont., Asylum, during which time the work has been carried on in a systematic manner, but without much encouragement from the profession or the alienists in Canada. In the annual report on the asylums of Ontario just issued a summary is given of this work. During the year closed 55 of these cases have been operated on. Of these patients, 17 have recovered, 16 have improved, none have died, and so far as yet heard from 22 of the cases are unimproved mentally. It is fully expected that several of the 16 improved will get quite well. During the period of this work at London, 286 female patients have been examined, generally under an anesthetic, and organic diseases have been found in some one or more of the pelvic organs in 243 of them. Only 43 of the entire number subjected to an examination have been found free from pelvic diseases. A total of 564 diseased conditions were found in 226 patients. "In the women's halls the average recovery rate, including cases improved, for the five years, 1886-91, calculated on the admissions, was 37.2%; in the next five years, 1891-95, it was 37.5%. But in the next five years, during which the gynecological work was a factor, that is, in 1896-1900, the recovery rate rose to 52.7%." The chief credit of this work belongs to Dr. A. T. Hobbs, who has recently resigned from the staff to enter private practice.

The operations were never performed merely for the insanity, but always for some actual, existing disease.

Lodge practice in British Columbia about a year ago seemed to be on the wane when the Victoria Medical Society adopted a strong resolution disapproving of the practice and deciding that they collectively and individually should have nothing more to do with it whatever. This of course raised a storm amongst the fraternal societies, and efforts were made to induce practitioners to come from the East, particularly from the province of Ontario, as well as from England. This proved ineffectual, as the Medical Act of British Columbia required that an examination had to be passed before any one could practise in the Pacific province. During the past summer, however, the fraternalists have not been idle. They appointed a special committee to take the matter in hand, and as a result petitions were circulated throughout the province praying that the Government would cancel the Medical Act, and permit of practitioners settling in British Columbia, provided they had an English degree, or a license to practise in any of the other provinces of the Dominion. This proved too much for the Victoria Medical Society, and they are now said to be seeking to propitiate the fraternalists. It would certainly be an indirect act of coercion if the Legislature, before whom the petitions now lie, should grant the prayer of these petitioners; and for the sake of the honor of the profession of medicine in the province of British Columbia it is sincerely hoped that the Medical Society of Victoria will continue to exhibit their Spartan courage.

MISCELLANY.

Scarlet Fever among Yale Students.—Two cases of scarlet fever have been discovered in a Yale University boarding-house.

Fellow Students of Bismarck.—Dr. Mitchell King, who recently died in Charleston, S. C., aged 86 years, was a fellow student of Bismarck, at the University of Göttingen, together with two Americans, John Lathrop Motley and Amory Coffin, of South Carolina. The three Americans ate a Fourth of July dinner at Göttingen in 1832 with Bismarck as their guest. Bismarck said that Germany would be united in 30 years. Coffin disagreed with him and a bet was made of a bottle of champagne which the loser was to carry to the country of the winner and drink with him. Bismarck lost, but as civil war was raging at the time, the whereabouts of Coffin could not be determined.

Obituary.—DR. JOHN B. McDONALD, at Spokane, Wash., on March 3, aged 63 years.—DR. JASON WALKER at Middot, Me., on March 7, aged 66 years.—DR. WILLIAM DAVISON, at Kenosha, Wis., on March 2.—DR. ASA BOWMAN, in Christian County, Ill., on March 6, aged 82 years.—DR. R. L. MAYFIELD, at Marble Hill, Mo., on March 5.—DR. SAMUEL MEGUIRE, at Trenton, Ill., on March 6, aged 76 years.—DR. ALONZO T. SMITH, at Syracuse, N. Y., on March 8, aged 81 years.—DR. JONAS C. RAYMOND, at Oakland, Cal., on March 3, aged 77 years.—DR. WILLIAM STIYES, at Washington, N. J., on March 8.—DR. ROBERT HEATH DODGE, at Bethesda, Md., on March 11, aged 29 years.—DR. J. A. SWARTZ, at Harrisburg, Pa., on March 10, aged 76 years.—DR. R. WILSON CARR, at Sedalia, Mo., on March 4, aged 70 years.—DR. J. D. SCOTT, en route to Villisca, on March 11.—DR. LLOYD ZANER, at Wilkesbarre, Pa., on March 12.—DR. H. B. HALL, at River-ton, Pa., on March 8.

To the Medical Profession of the United States.—The undersigned constitute a committee similar to those formed in several European countries for the purpose of receiving subscriptions for a monument commemorative of the distinguished scientific services of Prof. Leopold Ollier. Among the members of these committees are Lord Lister, Profs. von Bergmann, Czerny, Darante, and other leading men. The municipality of the city of Lyons has dedicated an open space adjacent to quarters of the various academic faculties on the border of the Rhone named in his honor, "Place Leopold Ollier."

The profession of this country are well aware of the great services rendered by Prof. Ollier, especially in the domain of plastic and osseous surgery. His labors have been most

fruitful in the domains of surgery, of physiology, and of pathology.

The committee hopes to raise not less than one thousand dollars (\$1,000) as a testimonial from the profession of America. Checks should be forwarded to W. W. Keen, 1729 Chestnut Street, Philadelphia, Pa., and at as early a date as possible.

Committee.
ROBERT ABBE, New York.
WILLIAM T. BULL, New York.
P. S. CONNER, Cincinnati.
A. T. CABOT, Boston.
HOWARD A. KELLY, Baltimore.
W. W. KEEN, Philadelphia.
RUDOLPH MATAS, New Orleans.
WM. J. MAYO, Rochester.
W. F. MCNUTT, San Francisco.
ROSWELL PARK, Buffalo.
CLAYTON PARKHILL, Denver.
MAURICE H. RICHARDSON, Boston.
NICHOLAS SENN, Chicago.

Health Reports.—The following cases of smallpox, and yellow fever, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended March 9, 1901:

SMALLPOX—UNITED STATES.			CASES.	DEATHS.
ALABAMA:	Mobile	Feb. 22-Mar. 2.	2	1
CALIFORNIA:	San Francisco	Feb. 18	8	
DISTRICT OF COLUMBIA:	Washington	Feb. 23-Mar. 2.	7	
FLORIDA:	Jacksonville	Feb. 23-Mar. 2.	3	
ILLINOIS:	Cairo	Feb. 16-23	6	
IOWA:	Ottumwa	Feb. 2-9	1	
KANSAS:	Lawrence	Feb. 23-Mar. 2.	2	
"	Wichita	Feb. 23-Mar. 2.	12	
KENTUCKY:	Lexington	Feb. 23-Mar. 2.	2	
LOUISIANA:	New Orleans	Feb. 23-Mar. 2.	7	2
MICHIGAN:	West Bay City	Feb. 23-Mar. 2.	5	
MINNESOTA:	Winona	Feb. 23-Mar. 2.	12	
NEBRASKA:	Omaha	Feb. 23-Mar. 1.	5	
N. HAMPSHIRE:	Manchester	Feb. 23-Mar. 2.	27	
NEW YORK:	Elmira	Feb. 23-Mar. 2.	1	
"	New York	Feb. 23-Mar. 2.	64	11
"	Yonkers	Feb. 23-Mar. 1.	1	
N. CAROLINA:	Charlotte	Feb. 1-28	16	
OHIO:	Ashtabula	Feb. 23-Mar. 2.	2	
"	Cincinnati	Feb. 22-Mar. 1.	2	
"	Toledo	Feb. 23-Mar. 2.	8	
"	Youngstown	Feb. 23-Mar. 2.	2	
PENNSYLVANIA:	Alleghany	Feb. 23-Mar. 2.	2	
"	Philadelphia	Feb. 23-Mar. 2.	1	
"	Pittsburg	Feb. 23-Mar. 2.	4	
TENNESSEE:	Memphis	Feb. 23-Mar. 2.	16	
"	Nashville	Feb. 23-Mar. 2.	17	
UTAH:	Salt Lake City	Feb. 23-Mar. 2.	31	
WEST VIRGINIA:	Huntington	Feb. 23-Mar. 2.	1	

SMALLPOX—FOREIGN.			CASES.	DEATHS.
CHINA:	Hongkong	Jan. 15-22	1	
ENGLAND:	Liverpool	Feb. 8-16	2	
"	London	Feb. 8-16	2	
SCOTLAND:	Dundee	Feb. 8-16	6	
"	Glasgow	Feb. 15-22	2	
MEXICO:	Vera Cruz	Feb. 19	1	
"	Yucatan	Feb. 20	Epidemic.	
RUSSIA:	St. Petersburg	Feb. 2-9	4	1
"	Warsaw	Feb. 2-9	1	
TURKEY IN ASIA:	Japa	Jan. 1-15	Epidemic.	

YELLOW FEVER.			CASES.	DEATHS.
CUBA:	Havana	Feb. 17-24	8	

Doctors Must Not Leave Patient.—The *Medical Record* publishes the following: Dr. P. H. Flood was ordered to pay \$2,000 damages by the Supreme Court recently. Evidence showed that over a year ago he was called to attend Mrs. Margaret A. Lathrop. An operation was deemed necessary by him. Her screams interfered with his application of the necessary instruments. He finally said that if she "did not quit he would quit." And leave he did, although the patient was in agony. The husband followed the physician to the door, begging him not to go. He refused to come back, and it was over an hour before another doctor was obtained, the woman in the meantime suffering dreadfully. The other surgeon performed the operation, saving the mother's life at the expense of that of the child. Mr. and

Mrs. Lathrope sued Dr. Flood and got a verdict for \$2,000 in the Superior Court. Dr. Flood appealed the case to the Supreme Court, and the latter affirmed the lower court's action, saying, in part: "It is the undoubted law that a physician may elect whether or not he will give his services to a case, but having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one or two conditions. First, when the contract is terminated by the employer, which termination may be made immediately. Second, when it is terminated by the physician, which can be done only after due notice and an ample opportunity afforded to secure the presence of other medical attendance. . . . He can never be justified in abandoning it (case) as did this defendant, and the circumstances show a negligence in its character amounting wellnigh to brutality." —[*San Francisco Examiner.*]

Changes in the Medical Corps of the U. S. Army, for the week ended March 9, 1901:

RAND, Captain IRVING W., assistant surgeon, is relieved from duty at Santa Mesa Hospital, Manila, and will proceed to Nagasaki, Japan, for the purpose of establishing a military hospital at that place.

DUTCHER, First Lieutenant BASIL H., assistant surgeon, U. S. Army, is relieved from duty at present station and will report to Captain Irving W. Rand, assistant surgeon, for duty.

PERSONS, First Lieutenant ELBERT E., assistant surgeon, U. S. Army, is relieved from duty at present station, and will report to Captain Irving W. Rand, assistant surgeon, for duty.

STRAUB, Major PAUL F., surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will proceed to Fort Crook for duty.

THOMASON, Major HENRY D., surgeon, recently appointed, will proceed from Albion, Mich., to San Francisco, Cal., for temporary duty, upon the completion of which he will proceed to Manila, P. I., and report for assignment to duty.

ZOUNER, Major ROBERT H., surgeon, is relieved from temporary duty at Columbus Barracks, and will rejoin his station at Fort Du Pont.

COWPER, Captain HAROLD W., assistant surgeon, recently appointed, now at San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty.

CARR, Major L. C., surgeon, will proceed to Santiago, Cuba, for assignment to duty.

JAMES, H. M., acting assistant surgeon, is granted leave of absence for 1 month, with leave to apply for an extension of 1 month, and to go beyond the limits of the department of Cuba.

KEEPERE, Captain MATTHEW, assistant surgeon, recently appointed, now at Fort Crook, will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.

The following named assistant surgeons, U. S. Volunteers, recently appointed, will proceed from the places hereinafter specified to San Francisco, Cal., and report for transportation to Manila, P. I., where they will report for assignment to duty: Captains JAMES S. KENNEDY, Fort Sam Houston; FRANK P. KENYON, Joplin, Mo.; DWIGHT B. TAYLOR, Columbus Barracks.

Changes in the Medical Corps of the U. S. Navy, for the week ended March 9, 1901:

EAKINS, O. M., assistant surgeon, detached from the "Ajax," when put out of commission, and ordered home to wait orders.

CORDEIRO, F. J. B., surgeon, detached from the "New Orleans" and ordered to the "Buffalo."

SPEAR, R., passed assistant surgeon, detached from the "Buffalo" and ordered to the "Isla du Luzon."

KENNEDY, R. M., passed assistant surgeon, detached from the "Newark" and ordered to the "Bennington."

STONE, M. V., assistant surgeon, detached from the "Isla de Luzon" and ordered to the "Buffalo."

SNYDER, J. J., assistant surgeon, detached from the "Isla de Cuba," and ordered to Pollock, P. I., with marines.

PAYNE, JR., J. H., assistant surgeon, detached from duty at Pollock, P. I., and ordered to the "Isla de Cuba."

HUNTINGTON, E. O., assistant surgeon, detached from the "Bennington" and ordered to the "Newark."

Changes in the U. S. Marine-Hospital Service, for the week ended March 7, 1901:

PERRY, T. B., passed assistant surgeon, granted leave of absence for 30 days from March 12. March 2.

BROWN, B. W., passed assistant surgeon, directed to report at Washington, D. C., for special temporary duty. March 5.

NYDEGGER, J. A., passed assistant surgeon, to assume temporary command of the Cape Charles Quarantine Station during the absence of Assistant Surgeon C. W. Wille. March 2.

CLARK, TALIAFERRO, assistant surgeon, granted 7 days' extension of sick leave from March 8. March 7.

TROTTER, F. E., assistant surgeon, relieved from duty as quarantine officer at the port of Cienfuegos, Cuba. March 1.

WILLE, C. W., assistant surgeon, granted leave of absence for 7 days from March 4. March 2.

BERRY, T. D., assistant surgeon, detailed as quarantine officer at the port of Cienfuegos, Cuba. March 1.

LONG, J. D., assistant surgeon, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to New York, N. Y., and report to Surgeon L. L. Williams, Immigration Depot, for duty. March 5.

MACDOWELL, W. F., hospital steward, granted leave of absence for 30 days from March 20. February 26.

GOODMAN, F. S., hospital steward, relieved from duty at Havana, Cuba, and directed to proceed to Washington, D. C., and await orders. March 6.

NEWBERN, JR., WALTER, hospital steward, granted leave of absence for 30 days from March 5. February 27.

Foreign News and Notes

GREAT BRITAIN.

Physician Honored.—Sir James Reid, Bart., K.C.B., has been appointed a Knight Grand Cross of the Royal Victorian Order, in recognition of his services to her late Majesty.

British Congress on Tuberculosis.—Professor Robert Koch, of Berlin, Professor Brouardel, of Paris, and Professor McFadyean, of London, have promised to hold addresses at the Congress.

Decorations Conferred upon Nurses.—King Edward has conferred the decorations of the Royal Red Cross upon Miss Marian Lambert, of the Church of England Mission, Sister Jessie Molyneux Ransome, Miss Lillie Emma Saville, M.D., London Mission, and Miss Abbie Goodrich Chapin, in recognition of their services at the International Hospital during the siege of the legations at Peking.

Medical Appointments to the King of England.

—The following appointments are announced:
Honorary Physicians to the King.—Dugal McEwan, M.D.; Sir James J. L. Dennet, K.C.B., M.D., Inspector-General of Hospitals and Fleets; Sir John Watt Reid, K.C.B., M.D., LL.D., Director-General of the Medical Department of the Navy (retired); Adam B. Messer, M.D., Inspector-General of Hospitals and Fleets; Henry C. Woods, C.V.O., M.D., Inspector-General of Hospitals and Fleets (extra).

Honorary Surgeons to the King.—Sir James Jenkins, K.C.B., M.D., Inspector-General of Hospitals and Fleets; Timotheus J. Haran, Inspector-General of Hospitals and Fleets; Sir James N. Dick, K.C.B., Director-General of the Medical Department of the Navy (retired); William H. Lloyd, M.D., Inspector-General of Hospitals and Fleets; Alfred G. Delmege, M.V.O., M.D., Deputy Inspector-General of Hospitals and Fleets (extra).

CONTINENTAL EUROPE.

Influenza in Sweden.—The influenza epidemic is becoming more severe. Prince Bernadotte, second son of King Oscar, is among the sufferers.

Virchow Collection Destroyed.—Fire recently broke out in the Pathological Institute at Berlin, during which the remarkable Virchow collection was entirely destroyed.

Anti-tuberculosis Society.—A society for the prevention of tuberculosis in the Baltic provinces of Russia has recently been founded. Professor Dehio is president, and the headquarters of the society are at Dorpat.

Italian Pediatric Congress.—The subjects selected for discussion at the Italian Pediatric Congress, to be held at Florence from October 15th to 20th, 1901, are: Infantile Atrophy (Athrepsia), to be introduced by Professor Fede, of Naples, and Professor G. Berti, of Bologna; the Respiratory System of Early Infancy, by Professor C. Mya, of Florence, and Professor Mensi, of Turin; and the Acute Affections of the Digestive Apparatus in Sucklings, by Professor Concetti, of Rome, and Professor R. Guaita, of Milan.

German Surgical Congress.—The German Surgical Society will hold its thirteenth congress in Berlin from April 10 to 13. Among the general addresses are the following: Renal Surgery in the Nineteenth Century—a Retrospect and a Prospect, by Professor Kuster, of Marburg; Castration in Tuberculosis of the Testis, by Professor von Bruns, of Tübingen; A Report on the Second Series of a Thousand Excisions of Goiter; On the Operation for Struma Intrathoracica; and on the Treatment of Goiter Without Operation, by Professor Th. Kocher, of Berne; The Wounds Caused by Modern Firearms, by Dr. Schjerning, of Berlin; The Various Methods of Anesthesia and their Indications, by Professors von Mikulicz, of Breslau, and Bier, of Greifswald; Pneumonia after Laparotomy, by Professor Henle, of Breslau; The Indications for Extirpation of the Uterus by the Vaginal and Abdominal Routes, by Drs. M. Jordan, of Heidelberg, and Schuchardt, of Stettin; The Building Up of Carcinoma, by Dr. W. Petersen, of Heidelberg; Cancer Parasites, by Professor Nils Sjöbring, of Lund; The Surgical Treatment of Appendicitis, by Dr. Rehn, of Frankfurt-on-the-Main; and the After-Treatment of War Invalids and Victims of Accident in Watering Places, by Dr. Ziemssen, of Wiesbaden.

The Imperial Council of Hygiene.—The regulations for the new Reichsgesundheitsrath (Imperial Council of Hygiene) have been published by the Federal Council. The Council has been instituted in conformity with the new laws relative to epidemic diseases to be a consulting body in connection with the Imperial Health Office. The members are elected by the Federal Council, and the president and vice-president are appointed by the Imperial Chancellor. The membership is an honorary office and is tenable for only 5 years, after which time fresh elections will take place. The Imperial authorities and also the authorities of the individual confederated States have the right to send representatives to the meetings. The Council is authorized to send commissioners to make inquiries in any part of the Empire where intervention in hygienic matters seems to be necessary. There will be nine special committees of the Council, the functions of which will be to take cognizance of the following subjects: (1) Public health, including hygiene of dwellings, ventilation, etc.; (2) hygiene of food; (3) water supply; (4) hygiene of factories; (5) epidemic diseases; (6) hygiene of hospitals; (7) the pharmacopeia; (8) hygiene of shipping; and (9) veterinary hygiene. The "plenum" of the Council will meet only when convoked by the Imperial Secretary of State for the Interior. The proceedings are not public. It remains to be seen whether this program will be realized and how often the Imperial Government will think it requisite to convoke the Council. Care must be taken to prevent the Council from coming into collision with the medical departments of the individual States, which are very anxious to maintain their prerogatives in this respect, and whose influence is the greater, as the executive is entirely under their control, whilst the Imperial Council of Health is only a consulting body, without executive functions. Of the members of the Council the following prominent names may be mentioned: Professor von Bergmann, honorary F.R.C.S. Eng., the well-known professor of surgery in Berlin University; Professor Binz, of Bonn; Professor Buchner, of Munich; Professor Flügge, of Breslau; Professor Fränkel, of Halle; Professor Gaffky, of Giessen; Professor Gerhardt, of Berlin; Professor Robert Koch, the bacteriologist; Professor Löffler, of Greifswald; Professor van Noorden, of Frankfurt; Professor Rubner, of Berlin; Professor von Ziemssen, of Munich; and many others.—[*London Lancet*]

MISCELLANY.

Acetic Acid.—Acetic acid is now made in Germany from the refuse material obtained from the sauerkraut factories. The enormously increased production will reduce the price of the acid to a merely nominal sum.

Appointments.—**BASLE:** Dr. Karl Haegler, Privat-docent of Surgery, and Dr. Friedrich Egger, Privat-docent of Medicine, have been appointed extraordinary professors. —**COPENHAGEN:** Dr. J. Fibiger has been appointed to the chair of pathological anatomy in succession to the late Dr. Lange. —**KIEL:** Dr. Theodor Kirchoff, Privat-docent of psychiatry, has been granted the title of professor. —**LEIPZIG:** A new dermatological clinic has been opened; it is replete with apparatus for Röntgen rays for urethroscopy, cysto-

scopy, and the Finsen light treatment, and it is under the charge of Professor G. Riehl. —**KIEW:** Professor A. Murato of Dorpat, professor of obstetrics and gynecology. —**VIENNA:** Dr. Anton Freiherr v. Eiselsberg, ordinary professor of the University of Königsberg, has been appointed ordinary professor of surgery and head of the first surgical clinic in the University of Vienna.

Plague in Cape Town.—Bubonic plague is developing to a considerable extent in Cape Town. Fifteen new cases and 97 old ones were officially reported on March 11. The disease is extending to the better classes. Several persons have died from the plague on the streets of Cape Town. It is reported that the German Government has established a plague quarantine against vessels coming from Cape Town.

Obituary.—**DR. THEODORE HUSEMANN**, professor of pharmacology, aged 68 years, at Göttingen. —**DR. WILHELM ZÖLLER**, aged 75, at Heidelberg. —**DR. HERMAN PFLEFFER**, of Darmstadt. —**DR. SAN CRISTOBAL**, rector of and formerly professor in the medical faculty of the University of Santiago, Chili. —**DR. IGNACIO QUINTINO DE AVELLER**, surgeon to the Hospital de S. Jose, of Lisbon, aged 82 years. —**DR. HEINRICH SCHAPIRO**, professor in the Grand Duchess Helena Pawlowna Clinical Institute, St. Petersburg, aged 48 years. —**DR. LEOPOLD WEISS**, extraordinary professor of ophthalmology in the University of Heidelberg, aged 51 years. —**DR. JULIUS HOMANN**, assistant in the Hygienic Institute of Kiel. —**WILLIAM POPE MEARS, M.A., M.D., M.R.C.S.**, in Edinburgh, on February 22, aged 46 years. —**MR. BAEON ALFRED RICE, M.R.C.S., L.R.C.P.**, at London. —**MR. HENRY WILLIAM SCRATCHLEY, M.R.C.S., L.R.C.P.**, at Poole, on February 6, aged 38 years. —**PROFESSOR VICTOR PASCHUTIN**, Chief of the Military Medical Academy of St. Petersburg, aged 56 years.

Postmortem Vitality of Bacteria.—In a recent number of a German journal, devoted to bacteriology, an interesting summary is presented of certain results attained by Dr. Klein in the course of a long series of experiments made lately in which Dr. Klein endeavored successfully to ascertain what becomes of disease germs after the death of their victim. These experiments had a very decided practical value, as the conditions which they proved to exist dispose effectually of one of the arguments which has been often used by advocates of cremation.

These latter have held that disease germs could retain their vitality for an indefinitely long period in the buried body, and that, therefore, cemeteries, in addition to being harmful because of the decaying organic matter which they contained, were positively dangerous because they acted as immense storage reservoirs for the bacteria of the different diseases.

Dr. Klein's results correct this mistaken idea. In order to carry out his experiments satisfactorily he buried animals which had died from certain known diseases, disinterred the bodies at the end of varying periods, and examined the organs for bacteria.

The bacillus of Asiatic cholera was still living at the end of 19 days, but after being buried for 28 no living specimen could be found. The typhoid fever bacillus was able to exist for about the same length of time, while the germ which causes the bubonic plague was able to survive an interment of 17 days, but was never found living at the end of 8 weeks.

The bacillus of tuberculosis lives but a short time after the death of its victim. Dr. Klein always found it without difficulty in the organs, but was never able to obtain a successful culture. What is perhaps of even greater importance he was never able to cause tuberculosis by injecting the bacteria thus found into the system of a healthy animal.—[*New York Herald*]

Treatment of Senile Pruritus.—Jaenicke (*Centralblatt f. innere Med.*, Dec. 1, 1900) finds that in this condition the skin showed a peculiar dryness, was ill-nourished, and shiny. He concludes that the condition might be due chiefly to a collection of ill-nourished superficial epithelium, and treated one case by actively rubbing the surface with a soft brush in order to remove the superficial epithelium. This was repeated three times a day, being carried out for from 10 to 20 minutes. The results in this case and in others were extremely good. [D.L.E.]

The Latest Literature.

British Medical Journal.

February 23, 1901. [No. 2095]

1. Remarks on the Conclusions of the Report of the Anesthetics Committee of the British Medical Association. GEO. EASTES.
2. A Criticism of the Report of the Anesthetics Committee of the British Medical Association. AUGUSTUS D. WALLER.
3. A Preliminary Note on the Etiological Agent in Vaccinia and Variola. M. FUNCK.
4. A Preliminary Note on the Cultivation of the Microbes of Vaccinia and Variola. S. MONCKTON COPEMAN.
5. Liverpool School of Tropical Medicine Yellow Fever Expedition. (Abstract of Interim Report.) HERBERT E. DURHAM and the Late WALTER MYERS.
6. The Margin of Error in Bacteriological Diagnosis. J. ODERY SYMES.
7. The Protection of the Observers in Cases of Infectious Sore Throat. ERNEST WAGGETT.
8. Two Cases of Typhoid Fever, with Abscess of Lung and Empyema. SIDNEY PHILLIPS.
9. A Note on the Phenylhydrazin Test for Sugar. G. LESLIE EASTES.
10. A Note on the Phenylhydrazin Test for Sugar. WALKER HALL.

1.—The report of the anesthetics committee of the British Medical Association is based on 25,920 cases, and includes the records of the administration of 43 distinct anesthetics, mixtures, or successions of anesthetics. But the administrations in over 21,000 cases were confined to chloroform, ether, gas and ether, A. C. E. mixture, and mixtures of chloroform and ether in various proportions. The complications under chloroform, and mixtures of chloroform and ether were more frequently of a dangerous character. Cases of danger were divided into two classes; those that recovered, 153; and those that died, 29. Under ether, gas and ether, and A. C. E., the proportion of complicated cases classed as cases of danger was, especially under ether alone, very far below the proportion of cases so classified under chloroform and mixtures of chloroform and ether. In 1,176 cases of the ether group, there was an average of 1 case of danger, due entirely to the anesthetic, whilst in the same number of cases of the chloroform group there were at least 6 cases of danger caused solely by the anesthetic. Probably the chief lesson taught by the report is that chloroform alone, or in combination, caused in the reported cases a danger-rate sixfold higher than the danger-rate produced by ether. The tendency for cases of complications and danger to arise was rather greater in the winter than during the rest of the year, especially under ether. This latter fact may possibly be due to the circumstance that bronchitis is far more prevalent after ether than after chloroform, and that bronchitis usually flourishes when the thermometer is low. The percentage of complications under all anesthetics together was greater in males than in females, whilst the percentage of danger cases was still higher in males than in females. The age period, from 11 to 15 years, had the lowest complication rates and danger rates under all anesthetics taken together; from this age onward there was a steady rise for each decennial period until the age of 50 in the complication-rate, and 80 in the danger-rate. Under chloroform the percentage of danger cases in the first 10 years of age was distinctly higher than in the second and third decennial periods. Of the 18 chloroform deaths, 3 were considered to have been due entirely to the anesthetic and 4 to the anesthetic principally, and the patient's condition secondarily. In the others, the patient's condition and the operation were held to be more or less contributory factors to the fatal termination. Of the 6 ether deaths not one was considered to be due entirely to the anesthetic. No method of administration of chloroform is free from danger, but an examination of the complicated cases appears to show that the occurrence of danger depends largely upon the administrator. In conditions of good health, chloroform is very much more dangerous than other anesthetics. In grave con-

ditions, chloroform still remains the least safe anesthetic, but the disparity between it and other anesthetics is far less marked than in health. Vomiting during anesthesia, which may lead to danger, seems to be more frequent under chloroform than under other anesthetics. The tendency for circulatory complications to appear increases directly with the relative amount of chloroform in the anesthetic employed. While vomiting is more common after administration of ether, severe and prolonged vomiting is more common when chloroform has been used. Circulatory depression following the administration of anesthetics is more common after chloroform than after ether. While the respiratory complications of anesthesia, as a whole, are of equal frequency in the ether and the chloroform groups respectively, yet those that occur under ether are mostly of a trifling and transitory nature, while those that occur under chloroform are more grave and persistent. After-vomiting is more common with ether than with other anesthetics, but it is usually transient. Bronchitis is much more common as an after-effect of ether than of chloroform. [J.M.S.]

2.—The article is a criticism of the report of the work of the anesthetics committee. [J.M.S.]

3.—Funk believes that vaccinia is not a microbic disease and that the etiologic cause of vaccinia is a protozoon, which he names sporidium vaccinale. In certain specimens of vaccine virus he took advantage of the large size of the cysts filled with spores to fish the latter out with a platinum wire onto discs of agar, and to make them into an emulsion with a sterile liquid. If under these conditions the author succeeded in reproducing the disease, it could no longer be doubted that he really had found the protozoon sought for. The spores were made into an emulsion with a drop of bouillon, and a calf was inoculated. About the sixth day, when the experiment was properly conducted, the characteristic pustules were observed. When calves are inoculated with fresh emulsions of the protozoon they are found to have become refractory to subsequent inoculations with vaccine. He also found that the variolous pustule contains a protozoon similar to the sporidium vaccinale, and concludes that the etiologic agent of vaccinia is identical with that of variola. [J.M.S.]

4.—Copeman attempted to cultivate the microorganisms of vaccinia and variola by employing collodion capsules, which, after being filled with beef broth and inoculated with a trace of glycerinated vaccine lymph, free from extraneous microorganisms, were sealed up and placed within the peritoneal cavities of rabbits and dogs. In successful cases the fluid contained no leukocytes, but it could be demonstrated, by the presence of an appreciable amount of serum albumin, that body lymph had managed to dialyze through the walls of the capsule. On making film preparations of the contents of an unruptured capsule, and examining them microscopically after staining with methylene-blue, in addition to flakes of epithelium numerous zoogla masses were visible, made up of bodies resembling spores, only the periphery of which took the stain. Apparently they represent the resting stage of the specific microorganism. The fluid contents of these capsules was, however, found to be capable of producing a typical eruption of vaccinia in the calf, although the contents of control capsules placed in test-tubes partially filled with beef broth and incubated at the body temperature for periods varying from a week to a fortnight gave no results. Dr. Fremlin and the author have recently demonstrated the presence of what appear to be similar microorganisms, often in extraordinary numbers, in the epithelium of vesicles in vaccinia of the calf and also in human smallpox. [J.M.S.]

5.—Will be treated editorially.

6.—All the cases of typhoid fever do not give the serum reaction, and the agglutinating property may not present itself until late in the disease; again it may be present at one period of the disease and absent at another. Horton-Smith estimates that it is absent in about 3% of all cases. The finding of the Klebs Löffler bacillus is of value in cases presenting doubtful clinical symptoms, but is of less importance when symptoms of disease are absent, or when the exact nature of the organism is doubtful. Failure to find the specific bacillus is only of value when confirmed by repeated examinations. In the case of blood-examinations failure to detect microorganisms cannot be accepted as proof of their absence, for the quantity of material examined is relatively

small. The chances of error with a positive result are, however, small and depend solely on the care and attention bestowed upon the sterilization of the syringe and skin. **Error in bacteriologic diagnosis** is frequently due to the fact that cultures only are taken and no films prepared. For example, an abscess is incised and some of the pus inoculated on culture tubes; no growth results, and the pus is regarded as having been sterile, whilst in reality it has been caused by an organism that does not grow on ordinary media, or that only grows under anaerobic conditions. Whenever possible, therefore, films should be prepared and stab cultures made in glucose medium. From neglect of these precautions, Symes has more than once failed to elucidate the cause of lesions that were probably due to such organisms as the *B. tuberculosis* and *B. capsulatus aerogenes*. Some organisms, too, such as the *diplococcus* of Fränkel, are far easier to recognize in fresh films than in cultures. [J.M.S.]

7.—Waggett describes an instrument for the protection of the observers in cases of infectious sore throat. [J.M.S.]

8.—Phillips reports two cases of typhoid fever, with abscess of the lung and empyema. [J.M.S.]

9.—The chief use of the phenylhydrazin-test for sugar is a confirmation or otherwise of the presence of sugar in urines, of which the total reducing power is equivalent to 5 parts per 1,000 or less. Before proceeding, however, to apply confirmatory tests the presence or absence of albumin should be ascertained. If more than a cloud is observed the coagulated proteid should be filtered off and Fehling's test again applied. This is essential, as Eastes has occasionally met with proteid-containing urines that react with Fehling's solution, the reaction not occurring after the separation of the proteid by heat and filtration. Should the reduction still take place we can then proceed with the phenylhydrazin test. Take of the filtered urine about 60 ccm. in a beaker of 100 ccm. capacity. Add 1 gram of sodic acetate and rather less of the phenylhydrazin hydrochlorate. Stir with a glass rod, which remains in the beaker throughout the entire operation. The beaker is then placed on a water bath and the urine gradually evaporated down to from 10 to 15 ccm. During this process the beaker should be occasionally removed, and any sediment collected on the sides of the vessel scraped off with the glass rod into the fluid. In this way none of the sugar is left by evaporation on the sides of the beaker. When reduced to the bulk above indicated the flame should be removed and the beaker, remaining on the bath, should be allowed to cool. This will take 2 hours or longer. When quite cold stir up all the sediment and with a pipette place some on a glass slide for microscopic examination. Ozonized crystals will have formed if there is one part per 1,000 or more of sugar in the urine. If no crystals are found it may be safely concluded that sugar (that is glucose) is absent. [J.M.S.]

10.—Hall describes a series of experiments to determine the exact times and quantities necessary to produce good crystals, and at the same time be sufficiently sensitive. From these it appears that 0.5 gram (7 to 8 grs.) of phenylhydrazin, 1.5 gram (22 grs.) of sodium acetate, and 5 ccm. (2 drams) of urine give the most rapid and satisfactory results with glucose, but that 10 ccm. should be taken if the solution contains maltose or lactose. Before adding the urine, the reagents should be dissolved by gently warming in a few cubic centimeters of water. When the urine is added the mixture is brought to the boiling point, and there maintained for fully 3 minutes with strong, and 5 minutes with weak solutions. The test tube need not be placed in cold water; it should be simply placed at rest. Within 2 to 10 minutes the crystals will be formed. [J.M.S.]

Lancet.

February 23, 1901. [No. 4043.]

1. A Clinical Lecture on a Quiet Effusion into the Knee-joints Occurring in Women and Young Girls. WILLIAM H. BENNETT.
2. Three Lectures on the Surgery of Pregnancy and Labor Complicated with Tumors. J. BLAND-SUTTON.
3. The Diagnosis and Treatment of Abscess in Connection

with the Vermiform Appendix. RUTHERFORD MORISON.

4. Points in the Classification and Diagnosis of Some Joint Affections. GILBERT A. BANNATYNE.
5. On Protective Inoculation and Serum-Therapy. J. L. BUNCH.
6. Persistent Metrorrhagia. J. INGLIS PARSONS.
7. Abstract of an Interim Report on Yellow Fever, by the Yellow Fever Commission of the Liverpool School of Tropical Medicine. HERBERT E. DURHAM and the late WALTER MYERS.

1.—Bennett describes a condition of quiet effusion into the knee-joint occurring in women and young girls. Although the effusion is greater on one side than on the other it is usually bilateral. Unless the part is injured there is very little pain. Excepting for a sense of weakness the patient is unaware of the existence of the swelling. The condition is limited to girls and women and is always associated with menstrual irregularity or uterine trouble, hence it is most common at puberty and at the climacteric. When the patient is standing the fluid occupies the lower part of the knee-joint and produces oftentimes a pouch like swelling at the lower and anterior part of the joint. Sometimes a slight injury will call attention to the existence of the effusion, and hence a diagnosis of traumatic synovitis is frequently made. Bennett reports a number of cases to illustrate his remarks. During the past four years he has seen 20 typical examples of this condition. It is practically never seen in other than the knee joints. No case recovered until the menstrual or uterine trouble had been corrected, but when this had been accomplished absorption of the fluid took place. Bennett bases a diagnosis on the presence of a painless effusion into both knee joints occurring in women associated with menstrual irregularity or uterine trouble, in which traumatism and other causes may be excluded. [J.H.G.]

2.—Bland-Sutton in his third lecture on *The surgery of pregnancy and labor complicated with tumors* takes up the subject of cancer of the neck of the uterus, tumors of the pelvis, misplaced viscera, and sequestered and quick extrauterine fetuses. He regards cancer of the neck of the uterus as the most appalling of all the complications of pregnancy. It is difficult to understand how a woman with this disease can conceive, but it is quite certain that it happens, and even when the disease is well advanced. He believes that cases in which uterine cancer offers obstruction to delivery are rare, and this for two reasons, namely: cancer of the neck of the uterus predisposes to abortion, and when it has advanced to such a stage as to occupy the vagina with an obstructive mass the effect of it upon the patient is such as endangers and often kills the fetus. It occasionally happens that even when the child is dead cancer may induce such changes at the neck of the womb as to render surgical interference indispensable. When pregnancy goes to term in such cases, cesarean section is the proper procedure to adopt. Tumors of the pelvis must be considered among the rare obstructions to labor. The ovoid shape of the tumors and their elliptical outlines are characteristic of all tumors which mould themselves in the true pelvis. Usually such tumors are chondromatous in nature. Dislocated kidneys and postrectal dermoids are occasionally encountered in advanced pregnancy or in labor at term. They may, and usually do, necessitate cesarean section. An enlarged and movable spleen is one of the rarest complications of pregnancy. It is a well-established fact that uterine and tubal pregnancy may run concurrently and both go to term. This may be described as the most dangerous combination to which child-bearing women are liable. In dealing with the question of concurrent, intra- and extrauterine gestation the cases require consideration in three categories: 1. Cases in which uterine pregnancy supervenes on a quiescent (sequestered) extrauterine fetus and goes to full term. In these circumstances it may end happily and even be successfully repeated. 2. An extrauterine and a uterine pregnancy begin simultaneously, but the complication is recognized in the early months and terminated by surgical intervention. 3. Uterine and extrauterine pregnancy running concurrently to term. All the recorded examples of this extremely rare combination have, with one exception, ended in disaster to the mother. [W.A.N.D.]

3.—Morison, discussing the diagnosis of appendicitis

with pus, urges the necessity of localizing, as far as possible, the exact position of the abscess, as the treatment to be instituted, as well as the prognosis, will depend upon the situation of the pus. In the diagnosis of pelvic cases of appendicitis, especially in women, difficulty is often met with, and the rectal and vaginal examination of such cases is strongly urged. When a diagnosis of pelvic abscess due to appendicitis has been made, Morison thinks that it is safer to drain such through the rectum in men, and through the vagina in women. When it is possible to do so in cases operated upon intraperitoneally, he thinks that not only the abscess should be drained, but the appendix should be removed in every case. When the abscess is found adherent to the parietal peritoneum, he prefers to open the abdomen above the abscess, to wall it off with gauze, and then open the abscess. In ligating the appendix and suturing it, he uses catgut. Drainage is always obtained through the posterior angle of the wound. Morison gives the mortality of appendicular abscess as 8% in the cases operated upon. [J.H.G.]

4.—Bannatyne, in an article entitled *Points in the classification and diagnosis of some joint affections*, states that no two men seem to agree as to the diagnosis of certain classes of disease. The author suggests the following classification: "(1) The bacterial or toxic arthropathies; (2) the nerve arthropathies and (3) the senile degenerative arthropathies." He divides all cases into two essential groups: (1) Those in which the principal symptom of the disease is the joint trouble, and (2) accidental arthropathies, the joint trouble not being the essential feature of the disease. In the first group may be included rheumatism, rheumatoid arthritis, gout, senile arthritis and pulmonary osteoarthropathy. In the second class he mentions the arthritis accidental to gonorrhea, scarlet fever, malaria and certain nervous diseases. He believes that microorganisms act as causes in nearly all forms of arthritis. From our present knowledge, the following classification is suggested: "(1) Bacterial or toxic arthropathies; (a) bacterial rheumatism, rheumatoid arthritis, gonorrheal and scarlatinal arthritis (and probably malarial arthritis); and (b) toxic, gout and pulmonary osteoarthropathy; (2) nerve degenerative arthropathies, such as occur in tabes, ataxic paraplegia, etc.; (3) senile degenerative arthropathies, such as senile arthritis." Attention is directed to 4 separate kinds of swellings or nodules which occur in various structures. Muscular rheumatism is regarded as a manifestation of the rheumatic poison. In this affection indurated patches in certain muscles are frequently observed; these areas represent interstitial changes in the muscle. In rheumatism, rheumatoid gout, etc., fibrous masses are not infrequently observed in the subcutaneous tissues. The subcutaneous masses have also been found in gonorrheal arthritis and malarial fever; the third variety of nodules consists of bursal swellings in connection with joint affections and occurs most frequently in chronic gout and chronic rheumatism; sometimes in rheumatism. Occasionally these swellings apparently have no relation to the joint. The fourth variety of swellings consists of osseous nodes, principally at the end of the phalangeal bones; these nodules occur in chronic rheumatoid arthritis and gout. Reference is made to the researches of Dr. Poynton and Dr. Paine, who have isolated a diplococcus from the joint fluids and joint-structures, in cases of rheumatism. Inoculation of this organism into animals gave rise to arthritis and other joint manifestations, as well as the other symptoms. The diplococcus was again found in the inflammatory lesions of the animal. The author believes that rheumatism is due to a specific bacterium. Two varieties of rheumatoid arthritis are mentioned; one being acute and the other chronic. Children and comparatively young adults are susceptible to the acute form; females being more frequently attacked than males, and the disease often follows such disorders as influenza, rheumatism, or tonsillitis. The clinical manifestations of the acute variety are swelling of the joints and an increase in the temperature. The joint becomes soft, or is distended with synovial fluid and bony formations do not appear. Vasomotor disturbances may develop in the neighborhood of the joint; pain in the varying grades of severity may be present and glandular enlargements are seen in the neighborhood of the involved joints. The chronic variety may follow the acute or develop insidiously. The joints gradually become crip-

pled, show great deformity, become enlarged and bony out-growths develop. The affection may spread to many joints, thereby causing pain, stiffness and deformity; in some cases even dislocation occurs. He mentions that von Dungern and Schneider have isolated a microorganism from the joints in cases of rheumatoid arthritis. When this bacterium was injected into animals the disease was reproduced and the microorganism was found in the joints. Dr. A. S. Wolmann and the author have isolated a specific bacterium. In the acute variety of rheumatoid arthritis muscular atrophy, which occurs in relation to muscles or certain groups of muscles, and increase in the tendon reflexes, have been observed. In the chronic form, the muscular atrophy was due to disuse, and tendon reflexes were not exaggerated. He believes that the joint manifestations of rheumatoid arthritis are not preceded by nerve troubles but arise secondarily; therefore, muscular atrophy seems to develop through reflex impulses. From a diagnostic standpoint, gonorrheal arthritis presents the following points of interest: The affection is always preceded by a gonorrheal attack elsewhere, most frequently in the urethra; the gonococcus produces the lesions in the joints and can be found in these structures. The severity of the primary attack has no relationship to the severity of the joint troubles. The joints of the lower extremities, particularly the knee-joints, are most frequently involved; great swelling without redness is the common character of the lesion, and cardiac complication is rare in gonorrheal arthritis. The diagnosis as a rule is easy when the gonorrheal discharge has been discovered, but it should be remembered that a vaginal discharge in women may be misinterpreted, and that gonorrhea may accompany gout; and it should not be mistaken for rheumatism. The salicylates, when administered, as a rule, point out the true nature of the affection. The arthritis, which is occasionally associated with scarlet fever, develops with the disappearance of the rash. The joints of the knee and elbows are most often involved in this affection and the disease rapidly subsides with the administration of salicylates. Arthritis, which occasionally develops with malaria, may have its origin either as true rheumatism, probably developing with the malarial affection, or it may be of malarial origin. He states that a point of interest is, that the occurrence of a gouty attack may cause one of ague; and further, that the administration of quinin in some cases of malaria seems to provoke a gouty paroxysm. The diagnosis of pulmonary osteoarthropathy may be attended with some difficulty, owing to its rarity and also because it may be confounded with akromegaly. In pulmonary osteoarthropathy the finger ends are clubbed and the carpal and metacarpal bones are thickened, and the disease is associated with such pulmonary affections as phthisis, chronic bronchitis and empyema. The author believes that the theory of a toxic condition of the blood or tissues seems to be the most likely solution of the determining agent in gout. The diagnosis of chronic gout from subacute and chronic rheumatism often presents difficulty. The joint involvement in gout is rarely symmetrical and is more liable to affect the joints of the lower limbs than those of the upper. The disease is more common in males, especially in the well-to-do, and often there are in association, digestive disturbances and irritability of temper. Little difficulty attends the diagnosis of arthritis which is due to tabes or other similar nervous affections. The arthritis of the senile is essentially a monarticular disease, especially affecting men and frequently following some injury; swelling is slight and redness does not occur. The author concludes the article by saying that arthritic troubles may develop from bacterial poison; from bacteria themselves acting upon the joint structures; from toxic poison, and from nerve degenerations and senile changes. [F.J.K.]

5.—Bunch delivered a lecture on "*Protective Inoculation and Serumtherapy*," before the North London Medical Society, on February 14, 1901. Reference is made to congenital immunity against scarlet fever, measles, and syphilis in animals; also that dogs are not susceptible to tuberculosis, and that fowls, rats, and pigeons are not susceptible to anthrax. He further states that field mice are susceptible to tuberculosis, while white mice are immune to this disease. Congenital immunity occasionally exists in some individuals as they may pass through epidemics of measles, scarlet fever, or smallpox, without contracting these diseases. It is also shown in the case of the negro, who

is not so liable to malaria. Attention is directed to the fact that immunity may be abolished or lessened in certain animals; for example, Charrin and Roger have shown that rats may lose their immunity to anthrax by exposing the animals to prolonged work, and thereby causing fatigue. Acquired immunity is brought about by passing through an attack of a disease, or experimentally by the inoculation of weak cultures which protect against more virulent cultures. Acquired immunity develops after smallpox, scarlet fever, and measles. Diphtheria, pneumonia, and gonorrhea, on the contrary, do not render an individual immune to subsequent attacks of these diseases. The various theories of immunity are considered. That of Pasteur and Klebs who believed that immunity to particular microorganisms is brought about because certain substances necessary for their growth were used up in the infected individual, thereby preventing a subsequent attack of a disease. Chauveau and Wernich hold that microorganisms produce certain substances which hinder the subsequent growth of these organisms. In this way the theory explains that diseases are brought to an end and subsequent attacks prevented. Buchner and Wolffberg believe that in certain infectious diseases, destruction of the weaker cell elements took place, the stronger cells being able to resist the invasion of the specific microorganism. Mention is made of Metschnikoff's phagocytic theory; also the researches of Nuttall, who demonstrated that certain fluids in the serous cavities of dogs have the property of killing anthrax bacilli. The blood-serum of white rats rendered immune to anthrax was shown by Behring to have lost the property of allowing anthrax bacilli to thrive unless large numbers are inoculated. Attention is also called to Ehrlich, who believes that antitoxins act by combining with toxins, similar to the chemical combinations of acids and alkalies. The author mentions that of late the phagocytic theory has been somewhat modified in that the leukocytes are believed to secrete a bactericidal substance which may inhibit the growth or destroy bacteria. The experiments of Buchner strongly support this view. In discussing the practical side of this question, the author mentions that artificial inoculation was probably practised thousands of years ago by the Chinese. Reference is made to the discovery of the protective action of cow-pox against smallpox, by Jenner, in 1798. This method has stamped out smallpox in many communities. Vaccination against swine fever by attenuated virus has stamped out this disease in some localities. In a similar manner anthrax vaccination has also been practised during the last three years with considerable success. Attention is also directed to the treatment of rabies. Injection of products elaborated during the growth of microorganisms has been attempted with the hope of curing certain diseases; tuberculin is given as an example; the treatment of tuberculosis with tuberculin has not, however, met with success. Recently protective inoculation has been tried with enteric fever. The method of Wright and Netley is mentioned. The observers use a culture of the bacillus typhosus which is rendered sterile by heating to a temperature of 60° C. and then adding a small amount of lysol to the sterilized broth-culture. The clear fluid is decanted and this is used for injections. The dose for an adult is 2 ccm.; a second injection is given as a rule, the dose being doubled. The symptoms following the injection of this fluid are frontal headache, shooting pains, rigors and syncope; at the site of the inoculation a certain amount of inflammation develops and some fever follows the inoculation. The inoculation cannot be considered satisfactory unless the agglutination test is positive afterwards. The author gives the statistics of Wright. Out of 11,295 individuals, one-quarter were inoculated against enteric fever; only 0.95% of the inoculated developed enteric fever and the death-rate among these was 0.92%. Amongst the uninoculated 2.05% developed typhoid fever; the mortality in this group was 0.31%. Reference is also made to 718 soldiers, out of which number 539 were inoculated; amongst the uninoculated 6.14% developed enteric fever, while amongst the inoculated ones the disease developed in 0.55%; the death-rate amongst the uninoculated was 3.35% against 0.27 of those who were subjected to protective inoculation. Mention is made of the researches of Behring and Kitasato on diphtheria immunity, and the statistics of Sidney Martin and Hunt are given, who have shown that the death-rate of diphtheria has been reduced from 28% to 17%. The author

states that the antitoxic serum treatment of plague has been followed with success by Calmette and other observers. The death rate at Oporto amongst 142 patients treated with an plague serum was 15%; 65 was the mortality percentage those not treated with the serum. [F.J.K.]

6.—Parsons remarks that there are certain well-recognized causes for metrorrhagia, such as fibromyoma, polypus retained products of conception, diseased appendages, or cancer. In this paper he discusses another class of cases which he says is not very uncommon, but about which very little is said in the text-books, namely, metrorrhagia, for which there is no obvious cause. Even when patients are examined under an anesthetic the surgeon fails to find anything wrong in the pelvis, and when the uterus is dilated there is nothing apparent to account for so prominent a symptom. Under these conditions the indication is to use the curet. In certain numbers of cases very little thickening of the endometrium is found, and then the metrorrhagia will often persist and perhaps be worse after the curetting than before. In such cases Parsons has been able to stop the hemorrhage permanently by the use of the constant current, and he advocates this method of treatment in preference to the risk of mutilation involved by hysterectomy. In those cases which are benefited by curetting the microscope shows the endometrium to be considerably thickened by an excessive glandular proliferation. The condition corresponds to that described by Wyder, of Berlin, as "interstitial endometritis." There is one other cause of menorrhagia to which Parsons refers, namely, retroversion of the uterus. The first indication here is to replace the uterus and keep it in its proper position. [W.A.N.D.]

7.—Durham and Myers have discovered a small bacillus in the organs of 14 yellow fever cadavers. The bacillus was found in the spleen, kidney, mesenteric, portal, and axillary lymphatic glands; also in great numbers in the lower intestine. Other microorganisms were not found in the organs. It is probable that Sternberg and other observers have not recognized this bacillus because it takes up stains with difficulty, and because it is also with difficulty cultivated on artificial culture media. Successful staining was accomplished with carbolic fuchsin solution diluted with 5% phenol solution. The bacilli stained after the solution had been applied for from 12 to 18 hours. Pure cultures were obtained in broth by inoculating this media with mesenteric glands the growth developed under a strict hydrogen atmosphere. The authors believe that the evidence in favor of this small bacillus, as being of etiological significance in yellow fever, is stronger than any that has been presented for any of the so-called yellow fever germs. [F.J.K.]

New York Medical Journal.

March 9, 1901. [Vol. lxxiii, No. 10]

1. Blood in the Urine as a Symptom, and the Diagnosis of its Source. JOSEPH WIENER, JR.
2. The Specific Treatment of Acute Dysentery. WILLIAM J. CRUIKSHANK.
3. The Pathology of Intrauterine Death. NEIL MACPHATTER.
4. Ichthyol in Treatment of Deep-seated Inflammations. WALTER T. SLEVIN.
5. Resorcin as a Preservative for Suprarenal Extract Solution. SEYMOUR OPPENHEIMER.
6. The Radical Treatment of Malignant Disease of the Larynx. ERNEST WAGGETT.
7. The Surgery of the Tubal Bodies, with a New Method of Operating. J. E. BOYLAN.

1.—Joseph Wiener, Jr., contributes an article upon blood in the urine as a symptom, and the diagnosis of its source. All cases of hematuria present a double problem for solution. First, the location of the bleeding point in the urinary tract, and, second, the cause. The family history frequently lends us valuable aid. For instance, in showing the tendency to tuberculosis or to the uric acid diathesis. The frequency and duration of the attacks should be determined. In renal hematuria the blood often appears suddenly and just as suddenly disappears. In cases of movable kidney and renal stone the hemorrhage follows a similar course. Long-standing attacks tend to exclude malignant disease. The effects of exercise, or rest, in the course of a

attack should be ascertained. In tuberculosis of the bladder here is a sudden appearance of bright blood which is not influenced by rest, while the hemorrhage due to calculi in the prostate bladder or kidney is generally more or less relieved by rest. A persistent hemorrhage, especially if it is more profuse at night, suggests tuberculosis, sarcoma or carcinoma. The author furnishes valuable tables of differential diagnosis between vesical tuberculosis and calculus. Also between primary renal tuberculosis and renal calculus. A table is also supplied giving the principal points of difference between the diagnoses of hemorrhage from the prostate, stone in the bladder, tuberculosis of the bladder, tumor of the bladder, stone in the kidney, tuberculous kidney and tumor of the kidney. An excellent bibliography is appended. [T.L.C.]

2.—Will be abstracted when concluded.

3.—To be abstracted when concluded.

4.—Walter D. Slevin recommends the following formula for the relief of superficial, as well as deep-seated inflammations. It consists of ichthyol, 45 grains; lead iodid, 45 grains; ammonium chlorid, 10 grains; petroleum, enough to make 1 ounce. It should be applied by rubbing upon the inflamed parts. The author has found the formula to be most effective when used in chronic conditions, inflammation, glandular enlargements, and ulceration, whether of specific nature or otherwise. [T.L.C.]

5.—Seymour Oppenheimer recommends a 1% solution of resorcin in sterile water as a preservative for suprarenal extract. The desiccated gland is added in the proportion of 60 grains to the ounce. [T.L.C.]

6.—Waggett discusses at great length the comparative merits of total laryngectomy and the operation of thyroectomy. He very much opposes the total removal of the larynx in cases of beginning malignant disease, as recommended by J. N. Mackenzie. He thinks that the less severe operation of thyroectomy is much to be preferred in these cases. Tables of statistics are given to show that both the death-rate and cures are better in this operation. He does not deny the use of the total extirpation in cases of far advanced cancer. He thinks that improvement in the treatment of malignant disease of the larynx will come with advancement in diagnosis, and the early institution of surgical treatment by opening the larynx and removing the diseased area. [J.H.G.]

7.—Boylan thinks that the best method of treating hypertrophy of the turbinals is by removing them by means of a cold wire snare or scissors or with a saw, rather than by the use of the cautery. In using the cautery more tissue is injured than that which is removed. He prefers a thin stiff wire and with this the tissues cut smoothly and with ease. [J.H.G.]

Medical Record.

March 9, 1901. [Vol. 59, No. 10]

1. The Period of Incubation of Yellow Fever. A Study from Unpublished Observations. HENRY R. CARTER
2. A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction. L. BOLTON BANGS
3. Acute Gastric Ulceration. H. NEWTON HEINEMAN.
4. Treatment of Acute Serofibrinous Pleurisy. CHARLES E. NAMMACK.

1.—Henry R. Carter, of the U. S. Marine-Hospital Service, contributes a valuable paper upon the period of incubation of yellow fever. In a study of 80 cases he has found that the shortest period of incubation recorded is 3 days; the longest 8½ days, while very few of the cases show over 6 days. Great pains has been taken to eliminate all sources of error in these deductions and they seem to be entirely trustworthy. [T.L.C.]

2.—Bangs in discussing the radical relief of prostatic obstruction relates his experience with the Bottini operation. He thinks the operation should always be regarded as a serious one and careful preparation should precede it. He thinks the operation can best be done with general anesthesia. Among the symptoms which follow the operation frequent urination is invariable. Hematuria is not infrequent, but usually subsides within two or three days. Particles of

burned tissue may be expected to appear in the urine after the first week. Fever is more or less frequent after the operation. Epididymitis occurs in a small number of cases. Bangs thinks that the post operative period is more nearly three than two weeks and emphasizes the fact that the after-treatment of these cases is as important as the operation itself. The patient should not be allowed to pass from observation until the urine is clear and all symptoms of irritation have passed, and if possible the bladder should be explored with the cystoscope. Among the complications which follow the operation incontinence of urine must be mentioned. It occurred in two cases out of Bangs' 86. Sixty per cent. of his cases have discontinued the use of the catheter; 20% have an increased amount of spontaneous urination and are able to reduce the use of the catheter from one half to only that which is required for occasional treatment; 20% received no benefit, or if any, but very little. The largest percentage of cures was among the patients wholly dependent upon the catheter. The time for voluntary urination to appear after operation varies. In some it occurred immediately following the operation, and the longest period was two months after operation. [J.H.G.]

3.—H. N. Heineman discusses the subject of acute gastric ulceration, basing the term upon the description of Dieulafoy to distinguish it from the well known gastric ulcer. Even when an arteriole only is involved, the hemorrhage may become serious. The great source of danger arises from the fact that the arteriole is eroded only to a small extent of its circumference, thus keeping it patulous and preventing retraction within the sheath of the vessel or formation of clot which would arrest hemorrhage. The arteries involved in 23 cases were the coronary gastric arteries in 6, and the splenic in 17 cases. The lesion can be described only as an acute ulceration of the mucous membrane, or of this, and the muscularis mucosae, unaccompanied by any bacterial invasion, and without other recognizable lesions of the walls of the stomach. The seat of the ulceration involves an area ranging in size of a pea to nearly ½ of an inch. It is most often found near the cardiac end in the grand cul-de-sac or the anterior wall near the greater curvature. As to etiology, gastric hyperacidity has been ascribed as the cause. It is regarded by others as an early stage of the chronic ulcer. Usually the sudden and excessive hemorrhage is the first sign. Exceptional nausea and gastric pain, vertigo, and syncope immediately precede and accompany the hemorrhage, the patient being previously in good health. Sometimes gastric pain, accompanied by nausea and vomiting, precedes the hemorrhage, while a slight elevation of temperature may also occur. As to treatment, the patient should be placed at absolute rest, and rectal alimentation resorted to for 3 or 4 weeks. An ice bag may be applied to the stomach, while nothing, not even water, should be given by the mouth. Intravenous or subcutaneous injection of serum should be used. Dieulafoy recommends 8 gm. of chloride of sodium and 10 cm. of nitrobenzoate of caffeine added to one litre of distilled water. The indications for operation are rather difficult to determine. If a patient has lost a half to one litre of blood upon several occasions within 24 hours, he is certainly in danger if not operated upon. The amount of blood lost is our best indication, but all clinical signs and symptoms should be considered. The author appends a valuable list of all surgical interventions for gastric hemorrhages bearing upon the condition described, and for chronic ulcer. [T.L.C.]

4.—Charles E. Nammack discusses the treatment of acute serofibrinous pleurisy with especial reference for the indications of tapping. He recommends this procedure, first, when life is directly threatened by asphyxia from compression or by cardiac weakness; second, when fluid has risen to the third interspace in front; third, in all lesser effusions when spontaneous absorption is unduly delayed. His medical treatment includes the local application of guaiacol, or of iodine when the effect of guaiacol on the heat-regulating and vasomotor centers is too pronounced. Internally he gives sulphate of magnesium in concentrated solution in sufficient doses to produce mild catharsis. It is important that the ingested liquids should be kept at as low a point as possible, and the consumption of as much table salt as the patient can be induced to take is recommended. Nammack states that in his experience progress is more rapid in those cases which are not tapped. [T.L.C.]

Medical News.

March 9, 1901. [Vol. lxxviii, No. 10.]

1. Our Duties Toward the Consumptive Poor. S. A. KNOPF.
2. The Intravesical Evidences of Perivesical Inflammatory Processes in the Female. FREDERICK BIERHOFF.
3. The Prevention of Insanity. HENRY WALDO COE.
4. The Tonometer and Its Value in Determining Arterial Tension. HENRY L. K. SHAW.
5. The Present Status of the Subarachnoidean Injection of Cocaine for Anesthesia (Corning-Bier Method). JOHN S. MILLER.

1.—Knopf in his article advises the early isolation of persons suffering from consumption in sanatoriums not only for the cure of the disease, but also to school them in the hygienic measures that actual experience gives in taking care of expectoration, how to protect themselves from reinfection, and what to do to get well and remain well. He also objects to institutions in which there are large numbers of these patients, and advises that a number of smaller sanatoriums would be better whether in the city or country. He also agrees with some authorities that there should be hospitals in the city used for the isolation of these cases and their treatment, and only the sanatoria situated at a distance should receive the incipient and more hopeful cases. [T.M.T.]

2.—Bierhoff calls attention to a peculiar change which is noted in bladder-walls under cystoscopic examination, which he regards as **intravesical evidences of perivesical inflammatory processes**. These changes are invariably confined to limited portions of the bladder wall, and occur in patients who present absolutely no obstruction to, nor difficulty in, urination. In the majority of cases, however, the patients, who were all women, had at some previous period suffered from parametritis or allied conditions. In a total number of 443 cases examined, in 214 a history of such an affection preceding the bladder-change could be obtained. In cases of perivesical inflammation of recent origin the bladder-wall will be seen to bulge inward over the side of the exudate. When the process is an old one and the exudate has gone on to organization, the cystoscopic picture is an entirely different one. The most characteristic appearance in these cases is the presence over parts of the bladder-wall of sharp scar-like formations, which arise to a greater or less extent above the surrounding wall, have a yellowish-white color, and tend to fimbriate at the end. The parts usually affected are the lower lateral and the upper posterior and postero-lateral portions of the bladder. These structures Bierhoff terms "pericystitic strands." Treatment of the recent processes usually results in the disappearance of the vesical changes. In the older cases the full resorption of the strands is yet undecided. [W.A.N.D.]

4.—Shaw states that the **tonometer** is by far the simplest and most satisfactory instrument yet devised for the estimation of the blood-pressure and describes it as follows: It consists of a pneumatic ring, mercury manometer, rubber ball and rubber tubing. The ring is made of metal and large enough to slip easily over and cover one of the phalanges. There is a hole in one side where the rubber tube is attached. The inside of the ring is covered with a thin rubber membrane and is air-tight, the only place that air can enter or escape being through the opening in the side. The manometer is simply a glass tube with a bulb filled with quicksilver. A scale is attached which registers up to 260 mm. The tubing is T-shaped with the ring, manometer and rubber ball attached on the free ends. These parts are separable, but by the use of leather washers the joints are made air-tight. Pressure on the ball forces the air into the mercury bulb and pneumatic ring, raising the mercury in the one end and distending the membrane in the other. To slowly regulate the pressure on the ball there is a small wooden press with a thumbscrew in which the ball is placed. The technic is simple. The pneumatic ring is slipped over the second phalanx of one of the fingers and the blood removed from the finger-tip by rolling a small rubber band down to the joint. The rubber ball is then compressed until the pressure exerted upon the digital arteries by the ring is greater than that of the blood in the arteries. The rubber band is withdrawn and the finger-tip should remain anemic. The pressure on the ball is slowly and evenly diminished until the finger-tip becomes intensely red. The height of the mercury in the tube is then recorded. [T.M.T.]

5.—Miller gives the following advantages and disadvantages of **subarachnoidean injection of cocaine** over general anesthesia: (a) that it has no effect on respiratory cardiac and renal organs; (b) that there is no danger from pneumonia in an old person after his prolonged etherization; (c) that there is no nausea or vomiting, inducing secondary hemorrhage in abdominal sections, brain or neck operation; (d) that the patient can overcome in a great measure by careful preparation of the patient and by an intelligent technic; (e) that the patient can confer with the surgeon during operation, if a modification of the original method is necessary. The disadvantages are: (a) uncontrollable headache, lasting sometimes a week; (b) nausea; (c) vomiting; (d) vertigo; (e) cyanosis; (f) elevation of temperature; (g) weakness; (h) relaxation of the sphincters, sometimes lasting seven days; (i) during operation patient may become restless. The drug must be sterilized and Keen's dose is 15 minims of a 2% solution of eucaine. [T.M.T.]

Boston Medical and Surgical Journal.

March 7, 1901. [Vol. cxliv, No. 10.]

1. Clinical Notes and Comments; Cancer of the Extremity of the Common Bile Duct. ROBERT T. EDES.
2. The Interpretations of Bacteriological Findings in Diptheria Diagnosis. Summary of Examinations—Interpretation of Results. HIBBERT WINSLOW HILL.
3. Destruction of Left Eye and Frontal Lobe of Brain from a Shotgun Explosion. EDWARD SWASEY.
4. Convulsions in Children. WILLIAM N. BULLARD and CHARLES W. TOWNSEND.

1.—Edes reports the case of a single woman, aged 48 years who had enjoyed good health up to June, 1898. Her appetite and digestion had been excellent, and repeated inquiries failed to disclose anything like attacks of gallstones. The patient had been in the country riding a bicycle and enjoying herself. One day she came home saying she was very tired and was going to bed. Within a day or two there was a loss of appetite, intense jaundice, and light-colored stools. Neither then nor at any other time was there any severe pain or tenderness on pressure. This condition lasted essentially unchanged until her death. During the course of the disease, which was more than a year, there was some swelling of the legs, which, however, later disappeared. Ascites was also present for which she was tapped 18 times about 12 or 14 quarts being drawn at each operation. At the autopsy, the gallbladder was found to be enlarged and to contain many cholesterol gallstones. The biliary passages were enormously dilated within the liver, and the hepatic duct and the common bile duct were also dilated to a point 2 inches from the duodenum, where there was an abrupt narrowing. At the point of narrowing there was a small rounded tumor, which proved to be an enlarged lymph-node. There was a very small **carcinoma of the papilla at the orifice of the common bile-duct**. A rapid, complete nonfebrile jaundice in a person over 40 or 45 years of age, preceded or accompanied by no severe and painful paroxysms and succeeded by a moderate amount of diffuse pain and tenderness, especially after it has lasted long enough to exclude catarrhal jaundice, is an adequate basis for a highly probable diagnosis of carcinoma of the bile-duct. If, late in the smooth nonnodular edge of the liver, with the gallbladder tense but not tender, presents below the ribs, it is also highly probable that the lesion of the ducts was primary. Unfortunately, the presence of painful paroxysms is not so decisive in one direction as their complete absence is in the other, for even if significant of gallstones, this does not exclude carcinoma. A distinction between a growth originating in the walls of the duct itself and a small malignant or other tumor in the head of the pancreas pressing upon it, and producing total occlusion there before giving rise to symptoms elsewhere, would certainly be very difficult to make. The important point is to determine as early as possible the exact location of the growth, and this cannot be done without an operation. [J.M.S.]

2.—In the city of Boston, in the management of **diphtheria cases**, 2 consecutive negative cultures for release from quarantine are required instead of one. Furthermore, each of the 2 consecutive negative cultures for release

must be taken from both the nose and the throat of the convalescent patient. The Board of Health does not take the position that a sick person is necessarily suffering from diphtheria simply because a positive culture has been obtained, although this is usually true. The board does insist, however, that such a person is a nucleus from which the bacilli may be spread, and remains such until the bacilli disappear. The board recognizes that the patient may be harmless, despite the positive culture, if the bacilli in his nose or throat are not actively producing toxins. But since the methods for determining that the bacilli fail to produce toxins are impossible of application in practice to large numbers of cases, the board feels justified in assuming that they are virulent on the strength of much evidence that shows that the error involved in the assumption is small. Hence it is, that a positive report on a case for diagnosis is considered sufficient evidence for the isolation of the sick person as infective. While a positive report indicates clearly the presence of diphtheria bacilli, a negative report is by no means such good evidence of their absence, particularly in laryngeal cases. A no growth report is used when for any technical reason the examination of the culture is a failure. The principle of release by culture in diphtheria is analogous to that of waiting for the desquamation to cease before release in scarlet fever. Release on one negative culture allows 30% of the total positive persons released to go out of isolation while the bacilli are still present. Extensive investigation has shown that if two consecutive negative cultures for release be demanded only 1% to 3% of those released will be still infective. [J.M.S.]

3.—Swasey reports the case of a boy, 16 years of age, who sustained a large, ragged wound, involving the left eye, eyebrow, and part of the frontal bones, the result of a gunshot explosion. The eye was enucleated and it was then found that the superior orbital plate was pushed down, and nearly filled the orbit. The breech-pin and screw were impacted in the wound in the frontal bone, and when they were withdrawn they were followed by a good deal of soft brain matter and blood. For a time the patient did very well and then headache, pain in the back of the neck, restlessness, convulsions, a state of stupor, and twitching of arm and leg developed. The left arm became paralyzed and the patient died. At the postmortem examination the whole frontal lobe of the cerebrum was found to be practically destroyed. The remaining portion of the brain appeared quite healthy, except that the left lateral ventricle contained pus and that there was evidence of a basilar meningitis. The author believes that the last two lesions were the sole cause of the fatal termination. [J.M.S.]

4.—A certain proportion of cases of convulsions in early childhood are but the beginning of true epilepsy. Bullard and Townsend conclude from a study of 7,180 case records: 1. That 1% of the children applying for treatment at the Boston Children's Hospital came for convulsions. 2. That 10% of children between 5 and 12 years of age gave a history of convulsions. 3. Cases that appear to be due to some manifest reflex cause may turn out to be true epilepsy. 4. Other cases in which the attacks occur frequently and without apparent cause, may suddenly recover, at least, for a considerable period. 5. That children who have had convulsions may be strong and free from nervous tendencies in later life, although the proportion who have nervous tendencies seems to be greater than in those that have not had convulsions. [J.M.S.]

Journal of the American Medical Association.

March 9, 1901. [Vol. xxvi, No. 10.]

1. Sanitation and Progress. WALTER WYMAN.
2. Results of Surgery in the Aged. JAMES P. TUTTLE.
3. Sarcoma of the Intestines, with Tables of 15 Cases of Resection. C. VAN ZWALENBURG.
4. Rest Treatment for Hysterical Diseases. JOHN K. MITCHELL.
5. Hereditary Subnormal Color-Perception. F. SAVARY PEARCE.
6. The Simplest Explanation of the Functions of the Nervous System. G. W. DRAKE.
7. Psychic Therapeutics. J. C. CULBERTSON.

8. Treatment of Deflection of the Nasal Septum, Complicated with Traumatic Deformity of the External Nose. E. B. GLEASON.
9. Extensive Laceration of the External Ocular Muscles; Diplopia; Spontaneous Recovery. WALTER L. PYLE.
10. Anastomosis of the Ureters with the Intestine. A Historical and Experimental Research. REUBEN PETERSON.

2.—Tuttle gives an interesting and instructive account of operations done in the aged. He reports 131 operations done in patients over 60 years of age, with a mortality of three. Two of these deaths were caused by pneumonia due to unavoidable exposure after operation, and the third was due to Bright's disease. The majority of the operations might be classed as major, 30 being for inguinal hernia; the three deaths occurred in this class. Thirty-five operations were done for hemorrhoids. There were two cases of appendicitis and two of resections of the intestine, both of these latter patients being about 70 years of age, and in one patient 21 inches of the small intestine were removed. Ether was used 83 times, chloroform 13 times and cocaine 30 times. Tuttle does not think that a small amount of albumen in the urine should be taken as a contraindication to operation, but that patients with fatty and epithelial casts should be rejected for operations of election. Organic valvular diseases of the heart, unless of the most marked character, are not a bar to ordinary surgical procedures, but fatty heart and degeneration of the muscles are contraindications. Fat, flabby old people are not good subjects for operation. He thinks that the utmost celerity consistent with good work should be had in operations upon old people. Shock was very seldom seen in his cases. The patients in this series were in a county institution and were not selected cases. [J.H.G.]

3.—Van Zwalenburg reports a case of sarcoma of the intestine, occurring in a 5-year old boy, and apparently having its origin in a traumatism. He resected the entire ascending colon with 5 or 6 inches of the ileum. At the time of operation the patient was in a very bad condition, emaciated and very anemic and running some temperature. Six months after the operation the patient was perfectly well, and had gained 17 pounds. The growth was a small round-cell sarcoma. It was about the size of a hen's egg, and surrounded the ileocecal valve. There was another growth which was smaller and occupied the small intestine 4 or 5 inches from the cecum. Van Zwalenburg presents a table classifying 15 cases of sarcoma of the intestine in which resection was done, all of which have occurred since 1882. He concludes that sarcoma of the intestine is more common than is generally supposed, and that it more frequently affects the small than the large intestine, the ileum being the favorite location, and that stenosis is rare, but dilatation is more frequent. [J.H.G.]

4.—Mitchell outlines the rest treatment for hysteria. He advises this plan of treatment in all cases of hysteria, except when complicated with certain acute diseases, especially uterine and periuterine. The earlier the treatment is instituted the more favorable the results, and, as a rule, well-marked cases of hysteria receive the most benefit by this treatment. Mitchell prefers to send patients to a private house rather than to a hospital or sanitarium. Great care should be exercised in the selection of a nurse; she must have certain personal accomplishments, such as being able to read aloud, which are not a necessary part of a nurse's education. Isolation he regards as a most important measure in the treatment. Only the physician, the nurse, the masseur and the servant should see the patient. If the patient be in a private room of the hospital, the resident physician should only make one daily visit. Isolation must be continued from six to eight weeks in an ordinary case, but the calendar must not be the index which regulates the duration, as some cases may require a much longer rest. Absolute rest in bed should be instituted. The ordinary diet may be given, but at the beginning milk is the best article of food. Massage is advised once daily, preferably given by some other person than the nurse. Daily use of electricity is recommended, more because it fills an hour or so of the day, which helps to keep the patient occupied. He treats insomnia with the cold-dip, the wet-pack, or an abdominal compress. At times massage at night, or the application of electricity, induces sleep. The use of drugs must be avoided

as much as possible. He emphasizes that the after-care of the patient is of great importance, and he has made it a rule to follow such cases for about six months. [F.J.K.]

5.—F. Savary Pearce reports a contribution to the study of **hereditary subnormal color-perception**. The patient, a man, could not distinguish red from green. Excepting chronic cystitis following hypertrophy of the prostate gland, and arteriosclerosis, no organic lesions could be demonstrated. There was slight accentuation of the aortic second sound. There was hypochondriasis and recurrent melancholia. Ophthalmoscopic examination was negative. Visual fields were neither contracted nor reversed. There were no optical defects. The patient had first noticed the abnormal color-perception while performing his duties as a seaman. The family history showed that one of the children had chorea, one daughter was very nervous, and another suffered from lateral curvature. A daughter of 15 years of age was the only discoverable case of diminished appreciation of red and green in the family. The patient's mental condition had always been peculiar. A year after he was first seen by the author he became afflicted with delusions of insanity, and died eight months thereafter in an insane asylum. [M.R.D.]

6.—Drake suggests that the name **neuricity** be applied to the specific energy peculiar to nervous tissue. He believes that giving this form of energy a distinctive name emphasizes its importance, and that it will simplify the study of its action, and the formulation of its laws. [F.J.K.]

7.—Culbertson, in an article on **psychic therapeutics**, states that the treatment by suggestion should form a part of a reputable physician's armamentarium, just as certain books, instruments, medicines, and surgical appliances form a part. Personal influence, he believes, is so powerful and important a therapeutic agent that it cannot go unrecognized. [F.J.K.]

8.—Gleason discusses the various operations for the **correction of deflections of the nasal septum**. He thinks that septal resiliency does more to prevent success than any other one factor. He then describes an operation which he has found very successful in 6 cases of lateral deflection of the whole tip of the nose. [J.H.G.]

9.—Pyle reports a case of **extensive laceration of the external ocular muscles, diplopia, spontaneous recovery**, occurring in a physician, aged 44, in good general health. The injury occurred while the patient was riding a bicycle, and was due to the end of a blunt splicing hook of No. 10 telephone wire penetrating the conjunctiva of the right eye near the inner canthus, and making its exit toward the external canthus, the line of injury keeping below the cornea. The sclera was not perforated. The wound healed kindly under antiseptic treatment. Diplopia followed, which a local optician could not relieve by any prismatic correction. There was crossed diplopia, due to injury of the inferior rectus, and homonymous diplopia pointing to injury of the inferior oblique muscle. Fusion of the images and single binocular vision were obtained while the patient was sitting erect in a straight position facing a small circle of light at about the level of his eyes, slightly lowering the chin and rotating the latter to the right until the head was inclined to the left at an angle of about 75 degrees. Removal of the blinder from the right eye, which the patient had been wearing, partially relieved the diplopia. Repeated attempts at correction finally resulted in obtaining comfort for the patient by prismatic correction. [M.R.D.]

Wiener klinische Wochenschrift.

February 14, 1901. [14. Jahrg., No. 7.]

1. Transitory Absence of the Knee-jerk after Cerebral Injury. A. PICK.
2. The Mechanical Treatment of Certain Forms of Vertigo. V. URBANTSCHITSCH.
3. Iodipin as a Means of Diagnosis. FRANZ WERNER.

1.—Pick reports 4 cases in which the knee-jerk was absent for some time following an injury to the head. The first man was kicked in the face by a horse; in his case knee jerks were obtained only a week later, for the first time. The second man had been struck in the head

by a locomotive. In this case the knee-jerks were not found until 5 days later. The third case received a stab-wound in the right parietal bone, after which the left knee-jerk failed until death 6 months afterward, though left hemiplegia followed. In the fourth case, a man who had been shot in the mouth, both knee-jerks were absent for 12 days. Pick considers that the amount of shock is the probable cause of the failure to elicit knee-jerks for some days after cranial injury. [M.O.]

2.—Urbantschitsch reports the case of a man in whom, following operation for caries, with otitis media, the semi-circular canals were opened. His vertigo was so great that he could not even go upstairs. Hearing was unaffected. As the vertigo was no better 10 weeks after operation, Urbantschitsch started **rhythmic head exercises**. Methodic movements of the head were begun and kept up. Then they were increased in frequency until but a slight instability remained, which the patient did not notice himself. Urbantschitsch has tried this treatment with much success, in many cases of vertigo due to ear disease. [M.O.]

3.—In using **iodipin for diagnosis**, the preparation must not contain free iodine. It must therefore be kept away from light, air, or heat. While, ordinarily, the saliva will not react with iodipin, causing the formation of free iodine, this reaction does rarely occur, though only after a long time. Nor is iodipin absorbed by the mucous membrane of the esophagus during its passage into the stomach. The normal stomach secretions, being acid, do not break up iodipin. Therefore, when iodipin is employed medicinally, no alkali should be given. From the fact that iodipin reaches the pylorus intact, and is only later broken up and absorbed in the intestines, in the presence of bacteria and the secretions of the glands of the intestinal mucous membrane, by the fluids from the gallbladder and the pancreas, comes the possibility of the use of iodipin as a means of diagnosis in 6 distinct affections. It is used to ascertain the gastric motor activity, iodipin appearing in the saliva in 45 minutes at the most (an average of 27 minutes), when the stomach is normal. The cause of its appearing after 45 minutes, due to a sluggish action of the motor function of the stomach, is generally gastric catarrh, from congestion in heart disease, fever, gastroparesis, etc. Motor activity is normal when the heart affection has not caused congestion. Iodipin will be especially useful here, in cases in which the use of the stomach-tube is contraindicated. Secondly, in insufficiency or incontinence of the pylorus, from cancer or ulcer, iodine will appear in the saliva in from 10 to 20 minutes after iodipin has been taken. When the bile or pancreatic juice is absent from the duodenum from any cause, the time before the appearance of iodine in the saliva is directly proportionate to the amount of jaundice present. In cases of total closure of the common bile duct, iodine only appears several hours after the iodipin has been ingested. Fourthly, widespread inability of absorption in the intestinal mucous membrane or mesenteric lymph system, from atrophy, amyloid disease, tuberculosis, peritonitis, or enteritis, will also be shown by the length of time after which iodine appears in the saliva. On tapping, in ascites, the presence of iodine in the fluid withdrawn will make the diagnosis ascites chylosus. Besides, the failure of iodine in the saliva and urine, after taking iodipin, with other causes excluded, will point to closure of the thoracic duct. Finally, in chyluria, whether from parasites or not, iodipin given per os will cause the appearance of iodine-fat in the urine. Five tables sum up the statistics of the 102 cases used in these experiments. On account of its unpleasant taste, iodipin should be given in capsule, or with peppermint. The article is full of details, with many references cited. [M.O.]

Deutsche medicinische Wochenschrift.

January 31, 1901. [27. Jahrg., No. 5.]

1. Woodenly Cellulitis. VON R. MÜHSAM.
2. A Case of Fatal Scalding of the Pharynx and Larynx. E. SCHMIDT.
3. Concerning Basophile Granulations of the Red Blood-Corpuscles. G. MORITZ.
4. The Development of Lactic Acid Bacilli from Granules. Preliminary Communication. A. P. FOKKER.

5. Investigations of the Bactericidal Action of Light from High Tension Currents, and an Improved Method of Making Use of the Bactericidal Action of Light from Voltaic Current. H. STREBEL.
6. Mastitis Adolescentium. R. ADLER.

2.—Schmidt reports a case of fatal scalding of the pharynx and larynx occurring in a child, 3 years of age, which had attempted to drink from the spout of a tea-kettle containing boiling water. A remarkable feature of the case was that immediately after the accident no local manifestations were present. During the night, however, there were evidences of dyspnea and dysphagia. Cutaneous emphysema next occurred, the dyspnea increased, requiring the performance of tracheotomy. The patient died on the following day from cardiac failure following a left-sided pneumonia, death occurring with high fever, accelerated pulse and coma. Postmortem examination confirmed the clinical diagnosis of pneumonia. The epiglottis was thickened and rigid. The mucous membrane on the laryngeal surface of the epiglottis as well as the mucous membrane of the larynx were necrotic as far as the false vocal cords. On a level with the endolaryngeal necrosis there was also found an area of necrosis at the point of transition between the pharynx and the esophagus. The ring of necrosis throughout showed an elevation of about 1 cm. The fact that the scalding was not followed by simultaneous pathological manifestations in the mouth and pharynx is explained as being due to the deep introduction of the spout of the kettle into the mouth, the bending backwards of the head in the attempt at suction and the entrance of the steam or the boiling water by reason of the deep inspiration caused in the attempt to scream. The frequency of tea-drinking in England has caused a number of these accidents and the author states that English literature on this subject shows an appalling amount of such cases. The complicating cutaneous emphysema is explained by the pathological findings in the larynx and the pharynx. In consequence of the necrosis of the mucous membrane at the transition from the pharynx to the esophagus the emphysema, analogous to similarly observed cases, may have originated from here as well as from the larynx. At all events, on account of the inflammatory swelling and constriction of the larynx, the resulting spasmodic, deep inspiration may have afforded the possibility for the entrance of air into the submucous tissue and still further through the interstitial tissue to the skin. [M.R.D.]

3.—Moritz has administered acetate of lead to rabbits, and after various doses has been able to produce basophile granulations in the red blood-cells. He also found that of 6 workers in a lead factory all showed typical granulations, and only one had any suspicion of intoxication. One had previously had lead poisoning. He considers that these granulations are of marked diagnostic value in the diagnosis of lead intoxication. He has also seen them in leukemia, malaria, sepsis, and the cachexia of carcinoma. [D.L.E.]

4.—Fokker states that more colonies develop from sour milk than one would expect from the number of bacilli visible upon microscopic examination, and the number of bacilli present is much larger when the sour milk is filtered hot; he considers therefore that there is some albuminous substance which has a vicarious action. This is very similar to casein. If heated to 22° or higher it coagulates, and produces soluble granules in alkaline fluids. The bacilli continue to increase on the second day, and since existing bacilli cannot reproduce by simple division, and since if the casein is filtered no further development occurs, he reaches the conclusion that the bacilli were developed from the casein. After the second day fermentative processes hinder the development of the bacilli. [D.L.E.]

5.—Strebel gives an elaborate discussion of the Finsen therapy and his own method, together with a technical discussion of the best method of accomplishing results. [D.L.E.]

6.—Adler describes an affection of the mammary glands, attended by considerable pain, swelling of one or both glands, and the development of considerable sensitiveness to touch. The malady usually occurs at the time of puberty. The treatment consists of applying tincture of iodine, mercurial ointment, and a protective bandage, and, in very marked cases, extirpation of the gland. The author recommends that, when

extirpation has to be resorted to, the nipple be left intact for cosmetic purposes. [M.R.D.]

Berliner klinische Wochenschrift.

January 28, 1901. [38. Jahrg., No. 4.]

1. Hygiene of the Eye in the Nineteenth Century. H. COHN.
2. Two Cases of Rectal Gonorrhea Following Evacuation of Gonorrheal Pus into the Rectum. W. KARO.
3. Concerning the Frequency of Sugar in the Urine of Obese Individuals. F. WOLFNER.
4. Mania with Depression. W. WEYGANDT.

1.—Will be abstracted when concluded.

2.—Karo describes two cases of rectal gonorrhea following the evacuation of gonorrheal pus into the rectum. The author concluded from the clinical course of his two cases that gonorrheal suppuration of the prostate gland may, upon spontaneous perforation into the rectum, give rise to rectal gonorrhea. This should be taken into consideration when an incision into such abscesses is contemplated. In one of the author's cases there was an acute spermato-cystitis which later also perforated into the rectum, causing rectal gonorrhea which, however, occurred without subjective difficulties.

3.—Wolfner examined the urine of 996 obese patients and found sugar present in 10% of them. He believes that the percentage of diabetics increases with the degree of obesity. [M.R.D.]

4.—See PHILADELPHIA MEDICAL JOURNAL, March 9, 1901.

Journal de Médecine de Bordeaux.

February 17, 1901. [31me Année, No. 7.]

1. Insane or Criminal? E. RÉGIS.
2. General "Tics Convulsifs" Cured by Respiratory Gymnastics. A. PITRES.

1.—In this article Régis comments upon a communication by Coriveaud and Sebileau, who, after examining an individual accused of having attempted murder, concluded that he was an alcoholic, irresponsible at the time, from alcoholic delirium; that he had recovered when they saw him; and that he could be liberated. A few months later he had another acute attack, gravely injured three people (one of whom died), and attempted suicide. At this examination he was found irresponsible, and taken to an insane asylum. Régis thinks these experts were correct in all but one particular, that is, that the patient should be observed for a long time before being liberated, in order to be sure that he is cured. Even then a return of the delirium is probable. He says that most insane patients are liberated too soon nowadays from the private institutions. [M.O.]

2.—Pitres presented a case of general "tic," occurring in a man aged 20 years. There had been no nervous diseases in his ancestors, but he had had convulsions with unconsciousness up to 7 years of age. The convulsive movements began at 9 years, after a fright. They were present in the body and grew gradually worse. At 10 years he had some internal treatment, after which he improved, the amelioration lasting to his seventeenth year. Then the "tic" began again and grew worse. The movements existed in the head, body, and extremities, from 1 to 20 a minute. With each movement a shrill cry was associated. They ceased during sleep. Regular breathing, singing, reading aloud, and lying down diminish them. He could not be hypnotized. For a month, with his back to the wall, for 10 minutes thrice daily, he tried respiratory gymnastics, breathing deeply and slowly, elevating both arms at the same time. The movements gradually decreased and he left the hospital. Since then he has kept this exercise up and is now cured. Even his fear and love of solitude, which had been so noticeable before, have disappeared. [M.O.]

Rattlesnake Venom as a Cure for Leprosy.—A Brazilian physician claims to have cured several cases of leprosy with rattlesnake poison. Several cases of leprosy that were claimed to have been cured by rattlesnake bites led him to make these investigations.

Original Articles.

STRANGULATED AND GANGRENOUS HERNIA. KELOTOMY AND LAPAROTOMY IN STRANGULATION, EXTERNAL AND INTERNAL; ARTIFICIAL ANUS—ENTEROSTOMY, PRIMARY OR SECONDARY RESECTION—ENTERECTOMY, AND END-TO-END OR LATERAL JOINTING IN GANGRENOUS HERNIA.*

By THOMAS H. MANLEY, PH.D., M.D.,

of New York.

DURING the past 20 years no single branch of surgical pathology has had so much attention bestowed upon it as visceral hernia of the reducible or incarcerated type.

Its etiology has engaged the attention of some of our most noted master-minds, as has also its clinical history, its course, treatment and termination. Almost numberless procedures have been devised for its operative cure.

It is somewhat remarkable, however, to note that while advance has been made in the therapy of reducible forms of hernia, but little if any departure is noted from antiquated methods in the treatment of that type of hernia that kills, the strangulated, in many modern textbooks and systems of surgery.

Radical revolutionary methods are adopted, very properly, by the profession, with great reserve, and the more ancient procedures, established and promulgated by eminent authority, are set aside with reluctance. We have not yet fully outlived that strange dread of the peritoneal membrane, nor, in strangulated hernia, can we forbear the vivid recollection of the harrowing mortality which so often followed kelotomy for its relief, in our student days. Of some 7 cases of kelotomy witnessed by myself in my own school and hospital courses, every one of them sank within 48 hours. So great, indeed, was the mortality from operative effort that every resource was exhausted before kelotomy was tried; hence the patient was often in mortal collapse before the scalpel was taken in hand. And though the patient realized the desperate chances he was taking, it is evident that the surgeon was also keenly alive to the trying ordeal before him, as Abernethy tells us that always before an operation for strangulated hernia, he felt like a man about to be hanged. The introduction of anesthetics seemed to make little impress on mortality, as the late Dr. Frank H. Hamilton, as recently as 1880, affirmed that the mortality from strangulation remained about the same as in the time of Hey; viz., 60 to 70%.

Practitioners yet held their patients back until surgery was nearly powerless to resuscitate dying individuals; the faulty, timid, imperfect methods in vogue in operating left a large number unrelieved, to die from adhesions of the coils, stricture, kinking, asphyxia, gangrene or perforation of the gut. In those days surgeons knew nothing of the technic of intestinal surgery, nor of aseptic methods; experimental surgery on modern lines was quite unknown, and, moreover, the echo of the warning of Peyronie, Richter and Duverger yet dinned in their ears; that "the deductions derived from animal experiments had no application on the human being."

PART I.

MORTALITY IN STRANGULATION AND SOME OF ITS CAUSES.

It strikes one as rather incomprehensible how so eminent a surgeon as the elder Gross should advise against early kelotomy, and that he should allege that operation was often premature and taxis would save more than the incision. The older authors regarded kelotomy, in a large measure, in the same light and submitted figures to prove it. Thus, Gosselin treated 53 cases by taxis and lost but two. He kelotomized 61 and lost 31.

At about this time Heusser, of Paris (1861-1865) recorded 227 cases operated, with 172 deaths, a mortality of 75.08%. Later, Tschering and McCready, in 1888, published statistics on this aspect of the subject; the former, 524 operated—29% mortality; the latter, cases collected from 1869-1888, operated—36% mortality. Hennegeler, in 1896, 296 kelotomies—23.02% mortality. Bochart, same year, 86 kelotomies 16 deaths—17.97% mortality. Hagedorn (1883-1890) 170 kelotomies—14% mortality.

The Causes of Fatal Changes in Strangulation of the Intestine.—Conditions which lead to grave or fatal symptoms in strangulation arise from numerous sources. Primarily, they are *anatomical*.

1. Enteroptosis, compression of the gut, with alimentary impediment, or asphyxia.
2. Torsion of the gut.
3. Stricture or partial stenosis.

The intestine, forced out of the abdominal cavity in slow stages, accommodates itself to its new abode; but when this occurs suddenly, as after a strain at stool or in making any violent effort, distressing symptoms may follow. Duplay and several other noted surgeons have insisted that a *torsion* or a twist in the coils of gut was one of the most prolific causes of strangulation; and it is noted in these cases, that the constriction at the neck of the sac is seldom great and that the circulation is not completely strangled. These are evidently the class in which the intestine preserves its vitality for several days after strangulation.

Direct stenosis with torsion of the coils or not, from constricting pressure at the neck, plays a wider role than any other anatomical factor.

The parts most actively concerned in nipping the bowel are all fibrous; but the aponeurotic structures above are all continuous with muscular elements, and are by them more or less influenced. Heretofore, but little attention has been bestowed on the consideration of the part which the intestine itself plays in the etiology of strangulation. The intestine is a muscular tube, highly vascular, with a thick mucous lining and serous investment. Its movements are serpentine and it will permit of more manipulation and abuse than any other organ, in a serous cavity. Its muscular energy is extraordinary, for an organ apparently so fragile and delicate. In many cases of strangulation, if not crushed and crippled by violent manipulation, it will tend to draw the coil which has slipped out, back into the abdomen; and when the grip is tight, it will yet maintain a tug on the trapped parts at the ring until it has totally freed itself from the herniated segment.

The small intestine is supplied by blood through the mesenteric ligament—a large, movable, loosely-organized structure, conveying numerous arteries and a great number of large veins. In all cases of strangulation the condition of the mesentery is a matter of dominant importance, as it is only when this is com-

* Read at the Pan-American Medical Congress, Havana, Cuba, February 4, 1901, before the Section on Gynecology.

promised by great or protracted pressure that the vitality of the intestine is threatened, and much depends on the state of the vessels in this structure at the time of operative reduction whether the gut is to perish or recover function.

Sex in Strangulation.—Berger, in the *Bureau Centrale*, of Paris, in the examination and record of 10,000 hernia cases in both sexes, found that strangulation occurred three times more frequently in the female than in the male; its symptoms were more grave, gangrene was more frequent, and its mortality was larger. Gibson observes that while women bear abdominal surgery with remarkable impunity, in resection for gangrenous hernia the mortality is larger than in men.

He collected 354 cases of gangrenous hernia operated between 1888 and 1898. One hundred and twenty died—34%. Males, 123; 34 deaths; mortality, 28%. Females, 209; 82 deaths; mortality, 39%. Dr. Gibson is inclined to believe that the anatomical difference in the structures of the female may account for the greater mortality, but this impression is lacking a rational confirmation, though clinically every surgeon well knows that every phase of strangulation in women is of a very grave character, and operative mortality has been very large. With women, the onset is more sudden and its progress towards death very often terribly rapid. This has been often verified in my own practice. In one case coming under my care, the woman, in the morning, while out in her garden, stooped to pick up a rake which had fallen from her hands. In an instant she was seized with all the symptoms of strangulation. In the evening of the same day she was sent to the hospital in a state of grave collapse.

Two hours after admission, while she was in a state of desperate exhaustion, she was operated under ether-anesthesia. But already the gut was the seat of gangrenous rupture and the sac filled with feces; before it was possible to divide the stricture and fix the broken-down bowel in the wound, she expired, 11 hours after the first symptoms.

Delay in Operating. Forcible and Protracted Taxis.—The statistics of Madelung and other investigators clearly demonstrate that the mortality after kelotomy is in direct proportion to the extent of delay in operating, and that sanguinous intervention offers little hope after symptoms of mortal collapse set in.

In former times when every description of peritoneal surgery was availed of only as a *dernier resort* this delay was perhaps justified, but at the present such a course is cruel, is indefensible, and places the responsible attendant *particeps criminis*, and reponsible in a great degree for the consequences. Some of the most harrowing examples of this have come to my own knowledge. In one instance the unfortunate woman was jostled into a cab *in extremis* and reached the hospital a corpse. In another, after three practitioners had exhausted themselves on the strangulated hernia of an old man, of ample means, he was hustled off in a driving snowstorm at midnight to a hospital, to sink, before hasty preparations for a kelotomy could be made. Another case was sent in, the patient, a middle-aged man, who suffered three days from strangulation with repeated and forcible taxis. When I saw him he was in profound morphin narcosis and moribund; but the hernia was reduced.

On autopsy the following day, it was found that a gangrenous gut had been ruptured and forced into the abdominal cavity, which was now flooded with feces.

Many other cases might be cited of a similar character. Certain it is that in some of this class of cases one is in a quandary to know what to do when operation is declined by the patient or family; but it should be plainly stated that at the proper time, in skilled hands its dangers are insignificant, and that protracted delay involves new risks and may remove all hope from any effort of relief. Protracted, or *maladroit* taxis probably more than any other cause augments the mortality in strangulation. Southam well observes that, "the high mortality in strangulated hernia is largely due to two causes: First, delay in operating, and, second, from the injury previously inflicted on the contents of the hernial sac by forcible, prolonged and repeated taxis." And yet, with our knowledge of the great harm inflicted by violent manipulation, it is curious to note that so distinguished an authority as Mr. Jonathan Hutchinson is still a champion of it; though, of course, since he is no longer an operator his views have little weight in this branch of surgery.

The Limitation of Taxis.—There are several eminent surgeons who go so far as to discount taxis altogether in strangulation. When there is no evidence of organic disease present and proper facilities are at hand for operating, in no case should taxis be employed in any stage of strangulation, but every time, there and then, the intestine should be liberated and the hernia radically cured by one of the many available methods. With patients averse to radical surgery, or other cogent reasons, judicious taxis alone, or combined with other resources, will often effect the reduction.

In nearly all cases sent to a hospital for operative relief, the most determined taxis has been employed, the extruded intestine has been crushed or lacerated, the mesentery has suffered in its nerve and vascular structures, the gut is crippled and palsied, reduced to a state bordering on gangrene if it is not already sphacelated in patches. On this head, a recent writer truly observes: "That in these modern days a strangulated hernia delayed for operation till, on an average, more than four days have elapsed, shows that there is still much missionary work to be done."

Incomplete or Antiquated Methods in Operation.—The mortality succeeding kelotomy for strangulated hernia in the past was greatly augmented by operating by methods which were established on mistaken, erroneous principles, or a lack of knowledge of the pathological changes. In the preanesthetic period we can well imagine the supreme importance of rapidity in operating; but since operating has become painless, and since wound-infection can be eliminated, it seems incomprehensible how any relic of an ancient kelotomy can yet survive; how anything can still justify the use of Cooper's herniatome, the blind incision, the unaccountable fear of hemorrhage, the leaving of a *closed* sac or the practice of pushing *en masse* the whole adherent or tangled, perchance devitalized intestinal loop back into the abdomen. No wonder, indeed, an enormous mortality is recorded.

The time has now arrived when the whole superstructure of surgical technic in operations for strangulated hernia must be remodelled, and one who operates here should be thoroughly trained in the art of intestinal surgery. Operations for simple, strangulated hernia, performed early and properly should have no mortality whatever; those late and complicated, in patients whose condition warrants it, should be followed by a mortality under 10%.

In every instance when symptoms point to complete stricture of the intestine, with systemic toxemia, the surgeon should have ample preparations made *before* he begins, to make an intestinal resection, a partial or complete enterorrhaphy, to laparotomize and freely explore the abdominal cavity. When we proceed to operate, Riedel advises that we must cast aside the herniotome and cut freely down on the constriction with a scalpel; and that no attempt at reduction should be made in gangrenous cases, until the intestine is freely exposed.

PART II.

MORBID ANATOMY AND PATHOLOGY.

In a general way it may be said that strangulation occurs in two varieties of ruptures; in those which were reducible and those which were irreducible before the accident; in the former, on exceptional occasions, in femoral hernia on its first appearance.

What is understood here as irreducible or incarcerated herniae are those not coercible to the truss or having adhesions.

Of strangulation we have essentially *two* types. One *primary*, or external, and *secondly*, the consecutive or internal, which *may follow* operative reduction, and which has so largely augmented mortality.

The primary dangers in hernial strangulation are from (a) a sudden interruption of a physiological process, a double occlusion of the alimentary canal, with fecal stagnation; (b) the interruption or arrest of the vascular supply to the trapped intestine; and (c) from gangrene or mortification of it.

The *temporary occlusion* of the alimentary current in a hernia is seldom productive of marked pathological changes, either local or general, except where the degree of constriction is so great as to induce violent reflex disturbances; something singularly common in female strangulation.

The contents of the intestine—it being quite invariably the ileum—in groin ruptures, are gases and liquids, sometimes pure blood. The impediment to the intestinal current, in itself, either through impeding digestion or inducing coprostasis, *per se*, cannot be regarded as a grave accident immediately imperilling life; the harm comes later, through the violent reflex disturbances; the reversing of the peristaltic wave, with agonizing distress and profound cardiac depression. But symptoms of grave omen are seldom in evidence until secondary changes have commenced in the hernia, which ultimately lead to partial or complete death of the intestine.

Pathological changes are accentuated through the mesenteric structures involved, through considerable and long-continued pressure on the bloodvessels, which lead:

1. To an intense engorgement of the walls of the intestine, very considerably increasing its volume.

2. By inflammation with large serous effusion into the sac or a fibro-plastic exudate firmly gluing the walls of the intestine together *above*, as well as below, the site of stenosis.

3. Unrelieved inflammation passes on into gangrenous changes; but we never find any considerable segment of intestine entirely mortified, though gangrenous processes are widespread. Here and there is thrombotic occlusion of an arterial radical in the mesentery; or those ramifications of it nearest to the convex surface

cease to convey blood, and mark the site of mortified patches.

The mucosum, the layer calling for the greatest vascular supply, is the first to part with its vitality, to erode and ulcerate, and, lying in immediate contact with decomposing ingesta, is a prolific source of infection, of inflammatory and gangrenous changes.

The free hemorrhage into the bowel before or after kelotomy, the uncontrollable diarrhea from ulceration, the stenotic contraction and subsequent stricture sometimes observed after herniotomies, usually result from a lesion of this delicate structure.

Lesions of the Mesentery and Intestinal Muscle.—The mesentery is the bond which unites the alimentary tube over its greatest length, conveying the blood and lymph vessels and nerves. It is a membranous structure made up of elastic fibrous tissue and smooth muscular elements. That it possesses contractile energy is apparent to anyone who has observed its movements in the living animal. In various pathological and traumatic conditions its tonicity is impaired or lost, when it permits of varying degrees of enteroposis or derangement in the movements of the intestine. Mr. Treves has called attention to the great role of the mesentery as an etiological factor in hernia; and again, we may observe here with advantage, the part a traumatized mesentery plays in some of those fatal cases recorded after kelotomy. A turgescient, edematous, pulseless mesentery, of a bronzed color and a granular or leathery feel, possesses but little if any functional activity. It is in very much the same state of vitality which we observe after the main arterial trunk of a limb has been suddenly occluded by a ligature or damaged by an injury. There is a very large and free anastomosis between the vessels of the mesentery, so that when one area of supply to the intestine does not exceed six or eight centimeters, the vitality of the segment cut off is supplied by the excess at either healthy end. When this fails, or reestablishment of the arterial current is too long delayed, the organ on the distal end is slowly, but surely, deprived of its vitality; it lies in the sac, or reduced in the abdominal cavity, as a foreign body.

In some types of strangulation the mesentery may suffer greater tension or compression than the intestine; so that on its return to the abdomen it is in a functionless, enfeebled state, permitting of a sagging, kinking or twisting of the bowel. It is, therefore, obvious that the mesentery deserves a critical consideration in aggravated varieties of strangulation; that the diseased part should be resected, that its elongation be obviated by tucking or imbricating its folds, and so adjusting it that its circulation may be unencumbered and it may promise the greatest support to the intestine.

The *intestinal muscle*, next to the mucosum, constitutes the most important anatomic physiological structure of the alimentary canal. If we examine under the microscope, a sagittal section of an injected specimen of gut, we will find that as the arteries split up in the submucosum numerous and large divisions pierce and ramify through the muscular fibers. In the full circulation of life we will find the muscularis about twice as thick as it is after death, when the arteries are emptied; and hence the reason that intestinal suturing is much easier on the living than the dead intestine in the human being. Physiologically the musculature of the intestine, its motor power, must be regarded as of vital importance in alimentation; in (a) in maintain-

ing the open lumen, (b) in moving on and reducing the ailment.

It is curious to note clinically, that inflammation involving its inner lining, the mucous membrane, accelerates its peristaltic activity, while peritonitis, or inflammation of its serosa, induces a diminution of peristalsis or entirely suppresses it. Traumatic muscular inertia, inflammation or gangrene of gut after section of the constriction and reduction, are those pathological conditions of a post-operative character which have so largely contributed to a fatal termination in strangulated hernia.

Paralyzed and powerless to contract, the damaged coil permits of no passage of the alimentary contents through it. Its now vitiated, pent-up contents, undergoing decomposition, set free infective bacteria, which readily penetrate the intestinal wall and invade the peritoneal cavity. In the greater number of cases, general invasion by infection is arrested by processes of nature, by the fibro-serous exudate of the peritoneum which seeks first to localize infection by adhesions, by a gluing and binding together of the condemned structures preparatory to their final destruction by suppurative or gangrenous processes.

In *external*, or primary strangulation nature's intervention may prolong life or even effect a cure; but in *secondary* or *internal*, after reduction, her efforts in this direction are practically abortive and in most cases only hasten the end. In all cases of recently acquired hernia there is no force so constant and effective in reduction of the extruded coil, as muscular retraction of the healthy, free ends within the abdomen. This is a potent influence in strangulated cases. Immediately on the nipping or occlusion of the intestine it is thrown into a state of tonic spasm with a great strain put on the neck of the imprisoned loop.

One case came under my care in the person of a young man, which again illustrated how this aid of nature may have disastrous consequences. A man of 24, was sent to the hospital by his family for the treatment of a strangulated hernia of 10 hours' duration. On entrance, a strangulated inguinal hernia was discovered. He begged not to be operated till the following day. No taxis was at any time employed. The following morning the hernia had disappeared, but he had all the signs of general peritonitis and sank two days later.

On autopsy, a perforated, gangrenous knuckle of the ileum was found, with large fecal leakage into the peritoneal cavity.

In one of my own cases of successful intestinal resection of gangrenous hernia, a 30-inch loop was spontaneously detached on one side, and nearly so on the other. Pressure, no doubt, was the main factor in effecting this spontaneous excision, but there can be no question that the severance was accelerated by intestinal retraction from above.

Tumultuous spasm or inflammation of the intestinal coils promptly induce what the French designate *peritonisme*, or muscular rigidity of the abdominal walls.

Rigidity or *simultaneous* clonic spasm of the smooth and striped muscle, therefore, comes into action as the first pathological phenomenon in actual cases of strangulation.

The Peritoneal Exudate.—The serous secretion of an aqueous consistence, from the peritoneum in health in various pathological states provoked by trauma, becomes of a glairy, gluey consistency and finally serves the purpose of a veritable cement or solder.

This gives rise to *adhesions*, that salutary provision of the economy for walling off the healthy from diseased tissue, but which so often in hernia involves troublesome complications, though plastic operations on the peritoneum, or intestinal jointing would be impossible without it; the rapid transmutation of this plastic exudate into solidly organized tissue, has no analogy in any other tissue of the body. The plasticity and effectiveness of the peritoneal secretion or exudate depends on a free circulation in the substratum of its endothelial layers, and hence the reason, that *below* the point of constriction in the sac of a strangulated rupture, although there is commonly a considerable quantity of serous effusion, there are rarely adhesions of the omentum and intestine or the coils themselves; though when pressure at the neck of the sac is not great or the stenosis of intestine is largely dependent on a torsion of the bowel in the upper segment of the sac, the hernial contents may be more or less glued together.

External and Internal Strangulation.—The fatal defect in the older operations for strangulation was largely dependent on the erroneous conclusion that *all* the danger attaching to this state emanated from the imprisoned intestine *outside* the abdomen, and that when the constriction was released and the protruding loop was pressed up inside the abdominal cavity, the resources of art were exhausted; when fatalities were set down as due to "shock or peritonitis."

In all cases of strangulation the primary, gross lesion is limited to the parts of the alimentary canal caught in the constriction and below it. But, when considerable delay is permitted, when there is torsion of the bowel and a large segment of the mesentery is carried down, having attachment to a portion of the gut above, this may suffer from the effects of ischemia equally with that projected outwards; therefore why so often symptoms of strangulation persisted after the ring of constriction had been freely divided, and an apparently healthy intestine had been reduced; coils of intestine above were matted together, were palsied and partly asphyxiated or on the verge of gangrenous perforation. But, unsurgical methods in the absence of better, in dealing with external strangulation, were the most fruitful source of the harrowing mortality after the antiquated kelotomy of the past; as now, at times; and what had been an *external* strangulation was soon converted into an *internal*, which became a grave post-operative lesion.

Simple external strangulation, dealt with promptly by skilled hands, has a low mortality, if any at all in healthy individuals. On the contrary, the *post-operative* or *internal* is a state of great gravity, quickly fatal very frequently in spite of all resources of modern surgery.

In *internal* or *post-operative* consecutive strangulation, when the element of collapse is absent, "toxine absorption or enteric paresis" are often makeshifts which will not explain its mortality. Delayed or incomplete surgical treatment in a larger measure than any other agency explains the former heavy death-rate in these cases resulting from incomplete reduction of the hernia, or the forcing up, into the abdomen of kinked, adherent, asphyxiated or gangrenous coils of intestine. Mr. Frederick Treves gives us a graphic and faithful description of some of these post-operative complications, in a recent contribution. After reduction, he says: "In the first place, the gut may lie in the abdomen *hors de combat*, so damaged that its coats are quite inert; it is an

irritant to the peritoneal nerves, it interrupts peristalsis and acts as an obstructing agent, as would a piece of rubber tubing introduced in the line of the living intestine. . . . Perhaps a laparotomy is performed and nothing is found to account for the persisting symptoms, and nothing abnormal save the listless dead or dying loop of intestine." He adds, that Mr. Potts records two cases in which, after reduction, he performed laparotomy for persisting symptoms and found no cause save that presented by the free but listless coils that had been treated too late.

From the testimony of this noted authority, as above stated, those lives were lost not only by delay, but also because a *crippled hernia*, an *asphyxiated*, a "dead or dying" *intestinal loop*, *supersaturated* with septic elements, was carried up into the abdomen, which should have been freely *resected*; and nothing but freely vascular and highly animated parts reduced. This would have obviated internal mortal strangulation.

Southam, in 1891, published the statistics in 85 cases keletomized for strangulated hernia. There were but 27 deaths. In 16 of these, *postmortem* examination was made. In 4 the bowel was found to be the seat of gangrene; in 10 ulceration and perforation had taken place at the site of constriction; 1 died of general peritonitis and one of diabetic coma. Here we find ample confirmation of the view taken of the most common cause of death after operation for the relief of strangulation; that it frequently results from preventable causes, viz., the return to the abdomen of infected, diseased segments of the intestine which at the time of operation should have been excluded or resected.

Incomplete Reduction and Atypical Anatomical Varieties.—Incomplete reduction may occur with a timid or inexperienced operator. Some years ago such a case was recorded by myself, in which I was called to see if anything could be done for a young man, dying 3 days after a kelotomy for strangulation. The case was reported in detail in the *New York Medical Record*, May, 1894.

On examination it was found that the unopened sac and contents were pushed up and fixed in the inguinal canal, the constriction not yet divided. Happily the opening of the sac under cocaine and free incision through the neck promptly relieved all symptoms.

Another case came under my notice on autopsy in which a middle-aged man died on the day following kelotomy. The operator, finding on exposure of the parts nothing save an apparently adherent epiplocele, divided the stenosis, leaving the omentum undisturbed. There was no amelioration in the symptoms, thence on to death. Freely exposing the part *post mortem*, a concealed gangrenous loop of intestine was found, just protruding through the ring and nearly divided by the tight constriction, undiscovered. This was another example of "shock and peritonitis." In the old days of blind cutting and hasty manipulation, similar cases were, no doubt, not uncommon.

Van Buren Knott has collected 66 cases of peritoneal and intestinal hernia. He observes that in all cases in which the tumor is of an unusual situation and form, incomplete reduction may occur, and, unless we observe special caution, we may assume reduction, yet strangulation remains. In all this class, we should operate, he says, whether they are strangulated or not. In this, certainly all surgeons are in full accord.

A *complete reduction* of a strangulated intestinal loop *always* presupposes a *complete liberation* of it from adhe-

sions. In a strangulated, old, large, incarcerated hernia both free liberation and reduction may be injudicious because of the menace to the vascular supply of the bowel in its new abode. But in all other than these exceptions, in old people, the freest possible liberation of the intestine is essential as a prerequisite to its reduction. Robaix and Duplay have at length described the complex character of these adhesions, so often formed in simple irreducible and strangulated hernia. Rather than risk the return of the volvulus, we should resect and joint.

In hernia *en bisac* we will often discover in old, chronic cases of the irreducible or incarcerated, that when they become strangulated they are a most complex and difficult class to deal with in a hurried operation. In one case of the femoral type coming under my care, the patient of Dr. John Gillespie, of this city, besides a small protrusion containing a short loop—a Richter hernia—there was an old, thick sac, nearly as large as a fetal head, containing the cecum and several loops of small intestine, not only deeply congested and bound together but also united firmly to the base and walls of the sac by organized adhesions and bridles of new tissue. In this case the ring was freely opened, all the adhesions removed and the wandering coils returned. Death followed on the third day, the symptoms of strangulation remaining unrelieved, the result of imperfect surgical methods. In the same season, the winter of 1893, a somewhat similar case of strangulation came under my care in the practice of Dr. John Plunkett, also of New York. The case was one of strangulation of a large, old exomphocele without a true peritoneal investment, in a woman of 60, in deep collapse. Here a free liberation of the adhesions at the ring was all that was ventured; a free drainage provided for the escape of peccant fluids and a loose dressing applied. Immediate relief of symptoms followed.

These two cases illustrate a large class of *adherent* hernia in strangulation, in which consecutive or post-operative symptoms of a grave character may be usually entirely obviated by *limiting our intervention to intestinal liberation* and in no manner disturbing widespread adhesions through which, now, the intestine derives its nutritive supply, in its new abode. However, in young subjects, invalided by their infirmity, a resection of the omentum and intestine is a justifiable means of cure.

PART III.

SYMPTOMATOLOGY.

One of the most prolific causes of dangerous changes in strangulated hernia is a tardy recognition of it; as there are no pathognomonic symptoms of this condition, and no features of a clinical character which distinguish internal enteric obstruction from stenosis of external constriction in strangulation; nay, more, acute gastric, hepatic or renal colic may simulate the agony of strangulation.

Dr. Gibson's tables on this subject include several desperate cases of strangulation in advanced pregnancy, wherein one certainly might be led to confound or mistake the hernial distress for labor-pains. Many a practitioner is, indeed, quite in the dark when he first sees one of these cases, until the patient calls his attention to a "sore lump" at the navel or groin.

I have seen an aged lady in the moribund state from

an unrelieved, strangulated umbilical hernia, who was supposed to be suffering from "gastritis."

In those advanced in years, and notably in females, there may be an absence of symptoms or they may be of a complex character. Mr. Carle, of Lyons, notes an interesting case of this kind in a man of 72 years, with no redoubtable symptoms, and yet, on exposure of the hernial tumor, a gangrenous patch of the cecum was found requiring resection, the size of a five-franc piece. A huge abscess had formed and from this a ball of feces as large as a hazelnut escaped. This indefinite symptomatology in strangulation also applies to its complications. Thus, in a recent case of gangrene of 19 inches of gut requiring resection, in my service at Harlem Hospital, the patient had no vomiting whatever. In another case seen by me in Dr. George V. Hahn's practice, in the aged father of a physician, the patient had *no pain*; but, recurring fecal vomiting led to a search for rupture, when a small inguinal hernia was found strangulated—Richter's. On division of the parts, a fecal abscess with a rotten intestine was found. In the greater number, acute constipation with violent colicky pains and vomiting lead us to suspect strangulation.

Diagnosis.—An early and accurate diagnosis is as important in strangulation as rational and definite therapy; and what leads up to this in a larger degree than any other aid, is a searching investigation into the history of the case and a careful examination of the abdominal portals. Hernial tumors are seldom painful, hence the patient deceives himself and others, not infrequently. For this reason, we must accept with reserve any statement of the patient not confirmed by a physical examination. Occasionally, we will encounter tumors in the groin, so similar to hernia that nothing less than an examination through an incision will reveal their true character. I have seen a young man who had a strangulated hernia which was opened by the scalpel under the mistaken impression that it was a bubo. This mistake cost the poor fellow his life. In another instance I was called to the hospital to operate for "acute internal obstruction" in a young woman. She was in deep collapse and everything was in readiness for a laparotomy when I arrived. A strangulated femoral hernia was easily made out; but she assured me she had the fulness from childhood and that a physician had informed her that it consisted of enlarged glands. A kelotomy under cocain saved her life.

Certainly, we may have inguinal adenitis or abscess with a strangulation, as we may also have neoplasmata—hydrocele, spermatocele, etc. In a case of a mixed character with complex symptoms, diagnosis should be definitely determined when urgent symptoms are present, by an exploratory incision.

In gangrenous strangulation with perforation of the intestine, lasting over several hours, there is certain to be diffuse cellulitis which may be accompanied with an extensive edema of the parts, purulent infiltration, and a pointing over the tumefaction with a gangrenous plaque of the integument on the point of giving way; in fact, the parts present all the common characters of a huge abscess. We can always readily differentiate here, if we take the precaution to carefully percuss the tumors, as invariably in gangrenous hernia we have an infiltrated loop of intestine which emits a tympanitic note.

In the femoral hernia of the female, with a large adipose development, the projecting knuckle of intes-

tine may be so small and so deep seated that it will elude detection in many cases, unless a most painstaking examination is made when the first symptoms of abdominal colic set in. In those advanced in years, devoid of acute sensation, any sudden, violent disturbance of digestion attended with colic should lead us to suspect strangulation.

Treatment of Strangulation; Palliative and Radical.—

In simple, reducible, congenital or acquired hernia the natural tendency in nearly all types is towards spontaneous return to the abdomen, or with but moderate mechanical aid. The same holds true in a considerable number of cases of strangulated. A loop of intestine is suddenly thrust out of the abdomen and tightly caught by parts acted on by muscles. The whole intestinal canal is immediately thrown into violent, tumultuous contractions with convulsive agony and great depression of the vital powers, the whole physical equilibrium has sustained a violent shock. Now, if the patient be placed on a comfortable couch and given a small dose of morphine hypodermically and left severely quiet, with free warmth to the body until immediate agitation passes off—say, for from two to six hours—in all other than exceptional cases moderate taxis will effect reduction in a large number; many will reduce themselves. But immediate, repeated and forcible taxis is disastrous in a large number and frequently fails. I have seen a case that resisted violent and repeated taxis, which was sent to the hospital for operation, and which, after a small opiate and a few hours rest disappeared of itself, and again others after anesthesia return with the greatest ease, on taxis. Some, surely enough, had disappeared to the chagrin of the operator before they were brought to the table. The relief of intestinal and muscular spasm should, therefore, be our *primary* aim; then, after reaction has set in, we may try taxis if operation is refused. Some cases of strangulation, however, are quickly mortal if not operated without any delay whatever, and even then they may not rally from shock and sink. An example of this lethal type I recently saw in a young man seized with strangulation on the sidewalk on his way from dinner. His agony was so great that he had to sit on a step until an ambulance was called. He was operated the same day at 5 o'clock and died before midnight. Deepening shock and fecal vomiting call for *immediate* operation. Local application of ether or ice on the seat of the strangulation are expedients of doubtful efficacy. They are supposed to overcome spasm and subdue inflammatory changes, but they depress the circulation and endanger the vitality of the intestine; they are really makeshifts of the incompetent. Inversion of the body, large clysters and violent force applied over the hernia are brutal and barbarous measures, the relics of ancient surgery which cannot now be permitted under any circumstances whatever.

Our responsibility with this accident is always great, and hence, in order to proceed with that course the most advantageous to our patient, we should resort to those expedients which have been well proven to be the safest as a general rule. And here, we must turn to operative surgery early or not at all. No reputable surgeon should attempt operation on the moribund sent in, in his dying moments, by the practitioner. He should simply do his duty and leave the case in the coroner's hands.

Kelotomy and Laparotomy.—The modern operation for strangulation is essentially a new creation, based on

scientific knowledge and extraordinary advances, especially in the art of intestinal surgery. It aims not only at *relieving the constriction*, but also at *repairing the damaged intestine* and permanently curing the hernia.

Preparation of the Patient.—The room chosen to operate in should be thoroughly cleansed, well lighted and warmed. Besides the anæsthetizer, the operator needs at least two capable assistants. It is needless to say that the most scrupulous antisepsis must be employed and every possible complication provided for before the first incision is made.

In exceptional, unusual cases, attended with profound collapse, wherein we venture only to quickly relieve the constriction, cocaine analgesia can be substituted for pulmonary anesthetics, greatly to the advantage of the patient, or we may cocaine up to the division of the stricture and then continue with pulmonary anesthesia.

It is important to remember that in most cases, immediately on liberation of the intestine the most alarming symptoms pass off. Dr. Lewis (*Columbus Medical Journal*, 1884, p. 156) records an illustrative example of this in a case of inguinal strangulation. The patient, he says, "was delirious, wearing the expression of great pain and anxiety so commonly noted in advanced cases; all of which disappeared on opening the sac and dividing the ring."

Inasmuch, however, as troublesome complications accompany the most of these cases, and much time will be consumed in making a complete operation, we should have a pulmonary anæsthetic at hand.

A preliminary irrigation of the stomach provides us greater security against the inspiration of vomited fluids of a septic character; but I believe that this is a rare accident, and, moreover, free gastric irrigation with a patient bordering on the moribund state is by no means a simple or safe procedure. The patient should be catheterized and given an enema as large and hot as can be borne, before the operation is begun.

Technic in Operating.—Anything like hasty, haphazard operating on parts within the peritoneal membrane is to be deprecated, while on the other hand, unduly prolonged anesthesia greatly depresses the vital powers; besides awkward, unskilful or long exposure of the peritoneum tends to deepen shock and paralyze the intestine.

It is, therefore, presupposed that one properly equipped to operate for strangulated hernia has mastered the technic of intestinal surgery, by practice on the cadaver, or, what is much better, by experimentation on the anesthetized animal.

Everything in readiness, we begin by making a long, free incision passing down over the tumor, in an oblique direction. This cut should begin from 3 to 4 inches above the internal ring in inguinal hernia. It should extend far enough down to permit easy manipulation of the sac. McBurney's advice to commence the deep dissection close to the neck of the sac and work downward, is a good one. When the general condition warrants it, the whole distended sac should be isolated and turned out before it is opened. This is usually a rapid and simple procedure. We now come to dealing with the structures after opening the sac. In several cases I have found that the constriction was not so tight, but the trouble rather depended on torsion of the bowel; though, again, we may sometimes find the constriction so extreme as to more or less completely cut through one or both coils; in some cases we will

find that the pressure has been so great as to quite freely induce an annular erosion through the fibrous coat, or even open the intestine. The division of the constriction should always be from without in, freely exposing this to the naked eye. There should be no more moping and cutting blindly with so-called "hernia-bistouries." All the divided vessels should be separately secured and ligated until the peritoneum comes into view, when the inner aperture—miscalled a "ring"—is divided with a blunt-pointed scissors. We now lay the neck of the sac widely open and draw the intestine *well out* and critically examine it. If there are any adhesions, they should be freely liberated; then, if the intestine possess full vitality, it should be carefully pressed up into the abdomen, the sac cut away, and a radical cure superadded, the latter prolonging the operation but a few moments and accomplishing the double purpose of relieving the strangulation and obliterating the hernia.

The second step of the technic for radical cure should be as simple as possible, as it appears from statistics that those who have survived the operation for strangulation at any time, have rarely, if ever, had hernia again. Ample drainage with scrupulous aseptic precautions will usually secure prompt union in recent, noncomplicated cases.

Laparotomy Incision.—In all cases of strangulation, in order that we may ascertain a full knowledge of the condition of the intestine, *above* the constriction, or internal to it, besides for the purpose of aiding manipulation in dealing with complications and rendering reduction easy, the scalpel must be carried freely up through the ring into the abdominal wall. Neglect to more freely explore in former times, cost the lives of a large number. Mr. Knaggs impresses the importance of completeness in operation in these, and records two instances within his own observation, in which failure resulted through neglect to examine and liberate the upper segment of the intestine. In one, gangrene from volvulus of the distal coil was found on autopsy. In another, a distended unrelieved loop was found which remained after operation.

A large, free incision has been avoided heretofore because it was thought to augment shock and favor ventral hernia, but there is no evidence to show that, when properly closed at the time of kelotomy, it is responsible for either.

Complications and Varieties of Strangulation and Their Treatment.—The great mortality following kelotomy in former times resulted from incomplete operative treatment in complicated cases; and strangulated hernia at any stage may be complicated. The diminished mortality of our time comes from earlier intervention with aseptic precautions and the deliberate and precise management of complications. As an evidence of reduction of mortality, a few recent statistics may be cited from recent contributors.

One writer has collected 227 cases of strangulated hernia operated from 1861 to 1864, giving a mortality of 75%. Benno Schmidt, in 1883, reported that at that time in the German hospitals there was 36% mortality. Tschering, of Copenhagen, in 524 cases, gives the death-rate as 29%. Southam and Bolby, in 1895, in the London hospitals, found that mortality ranged from 40 to 43%. Borchard and Dagot, of France, the former 17%, the latter 14%, when not complicated. Borchard sets the present mortality at 7% after kelotomy for strangulation. Gussenbaur said that anti-

septics had reduced the mortality to 39%. Hengeler, for 15 years prior to 1897, collected 1,491 cases of kelo-tomy, mortality 16.5%. I am sorry to say that no recent statistics under this head are published in America, as I am confident that they would show an average of less than 5% in noncomplicated cases. In my own early experience, fully 75% sank after operation; now, unless the patient is in deep collapse at the time of operation, recovery in all is quite the invariable rule.

Complications.—The complications attendant on strangulation are constitutional and local.

In many, especially the female, they are of an alarming character, from the beginning; pain is agonizing, vomiting is incessant, the circulation is enfeebled and great exhaustion sets in early. In others, again, strangulation runs into gangrene or even perforation without any violent disturbances of the system, until late.

General Condition.—The sudden and complete occlusion of the intestinal canal usually produces profound disturbances of the system; but fortunately in strangulated hernia, the obstruction is seldom immediate or total; when it is, mortal changes set in early.

The patient is first seized with agonizing pain over the abdomen, vomiting begins, the pulse quickens and is weak, signs of prostration set in early, the extremities become cold and damp. As the condition continues, reverse of peristalsis sets in and fecal vomiting commences, with great thirst; the tongue is livid, dry and crusted and the gums besmeared with sordes. The patient lies on his back, in deep melancholy or in a state of indifference.

To the inexperienced, many of these cases at first sight strike one as past any hope of relief or in no condition to warrant radical surgery. But I am acquainted with no serious condition that is so susceptible of effective and prompt remedy by judicious operative intervention, provided only that the pulse is regular and can be felt at the wrist. In extreme cases their transport to hospital by any sort of conveyance is a trying ordeal which greatly augments their exhausted state.

Pain has greatly enfeebled the heart, fecal toxemia is in operation, and the task before us is to release the intestine and restore the free movement of the intestinal current without augmenting shock.

Next to the rough transport of the body in a grave case of strangulation, the most potent cause of deepening shock is full, pulmonary anesthesia. With a knowledge of these facts, it therefore behooves us to send these cases into hospital early, revive the sinking powers by very warm, large, stimulating enemata and proceed with the first stages of the operation until the intestine is fully liberated, under ethyl chlorid and cocaine.

The fullest measure of success in the operative treatment will only be realized when special remedial measures are primarily directed toward combating grave constitutional conditions.

Unrelieved Strangulation Leads to Local Changes and Lesions in the Imprisoned Intestine.—1. Deep asphyxia or incipient gangrene. 2. Plaques of gangrene or ulceration of intestine. 3. The entire circumference of gut may be mortified. 4. Gangrenous perforation with fecal extravasation into the sac.

Intestinal Asphyxia.—What is the most embarrassing of all, is that comparatively large class of cases in which we are in doubt as to the vitality of the intestine. It is of a deep brown chocolate color, congested and

thickened; it has a leathery feel and seems to be devoid of circulation. The application of very warm water fails to elicit any positive evidence of circulatory stability. The gut is not healthy nor is it dead; but, as Treves says, is *hors de combat*, or rather, "knocked out." It is in a state of deep asphyxia and may recover its full functions, or may not. The intestine is in a state of impending gangrene, or is rather in the incipient stages of mortification. Jordan Lloyd well observes in this connection, that "the recognition of gangrene in a coil of intestine lying before us in an open sac is not always an easy matter. Few surgical complications are more perplexing than that of determining whether a coil of gut shall be returned to the abdomen or be treated where it lies. No judgment can be formed merely by the color of the coils, nor can any analogy be drawn from one's experience of gangrene of the outer surface of the body."

But we certainly cannot agree with this eminent surgeon when he continues and adds that, "the same amount of functional disturbance in the nutrition of an external part, as a finger or toe, for example, which necessarily will be followed by local death and putrefaction, may be entirely recovered from in the case of the intestine, if the cause of the disturbance be removed and the gut be returned to the peritoneal cavity under aseptic precautions."

We cannot remove the cause by the reduction of a mortally asphyxiated coil of gut, and function never returns to mortified tissues in any part of the body. The damaged intestine certainly does possess most remarkable properties in the way of spontaneous repair; but to return a strictured, crippled, dying or dead intestine, a foreign body, a septic structure into the peritoneal cavity is certainly to invite disaster. And therefore, we regard the advice of Mr. Carwardine as certainly not *en rapport* with modern rational treatment, when he says, in speaking of these doubtful cases, "When in doubt in strangulation, the belly is the best place for the gut."

There can be no question but resuscitation may occur in rare cases, that gangrenous patches may become innocuous by adhesions, that spontaneous anastomosis may occur, or, what is more remarkable yet, the dead segment of gut may find its way out through the anus.

What then should be our line of action in this class of doubtful cases? Clearly, with our knowledge of the physiology of the alimentary canal, that large segments of it may be removed with perfect impunity, we need not hesitate to amputate the suspicious part. And now that the technic of resection and jointing have become *au courant* procedures there should be no hesitation as to our decision. Only one thing will at all justify the return of a suspicious coil into the peritoneal cavity; and that will be lack of skill, or want of a practical knowledge of intestinal surgery, assuming of course, that the general condition warrants it.

Localized Patches of Ecchymosis, Abrasions, Contusions, or Gangrene of the Intestine.—In nearly all cases, which a surgeon is called on to operate for strangulated hernia, the patient has been subjected to repeated and perchance violent taxis before he sees the case. Many are only sent to the hospital when they are close to the moribund state. Happily these are much less frequently seen now than 20 years ago. In all these, with few exceptions, we will find the bowel more or less traumatized.

Deep Congestion or Incipient Gangrene.—In all cases of

acute hernial strangulation, there promptly sets in simultaneously, a double stasis; *first*, of the fecal current, and *second*, of the circulation. In the first, temporary intestinal exclusion is induced, a condition which of itself, if not protracted, is not a serious accident; its lethal influence only becomes obvious when the obstruction is maintained, when decomposition of the imprisoned, stagnant, alimentary contents begins, when an excess of gas is liberated and a fresh strain is put on the intestine from below. Actual intestinal asphyxia, or gangrene, can be said to only begin when vascular stasis is established; when the arterial feeders yet send the blood into the capillaries, but the efferent vessels are hopelessly obstructed; a condition gradually extending in a retrograde direction, and later inducing a general thrombosis of all the mesenteric radicles. When this stage is reached incipient gangrene is in operation, now in the presence of this condition in which the intestine is not completely killed, in which the gut is not dead, not mortified, and yet not sufficiently vitalized to functionate with certainty, should we, if in doubt, adopt the current custom and return it to the peritoneal cavity after complete relief of the strangulation? In this connection it may be well to note that in consequence of the complete and double stenosis of the intestinal and vascular canals, decomposition has begun, and the exuded serum in the sac emits an odor which assures us that the bacterium termo has commenced the work of decomposition and the extruded loop is *septic*; it is certainly temporarily crippled and functionless.

This is one of the most numerous class of cases in the past, which led to the appalling mortality; and what, indeed, can warrant or justify the practice of forcing these dead or dying structures up into the healthy peritoneal cavity seems beyond comprehension.

Immediate Resection.—In these dubious cases, the general condition of the patient permitting it, there is but one course to pursue; and that is an immediate and complete resection of the suspected loop, whether it be an inch or a yard in length, with simultaneous jointing of the divided ends. This course is simple, rational, and safe in skilled hands and a proper environment.

Intestinal Paralysis, Intestinal Toxemia, etc.—In Gibson's recent able contribution (*Annals of Surgery*, October and November, 1900), the author observes that the above terms "are usually used as a mask for peritonitis," the functionless, infected coil, with its wall collapsed, its musculature without tone, its mucous membrane edematous and detached, and its fetid, decomposed contents transuding through its destroyed serosa, lies doubled up as a block in the path of the alimentary canal, infecting and spreading widely its septic elements through every tissue it touches. Experimental investigation and clinical observation conclusively prove that full physiological function in digestion may be preserved with the total exclusion of a full third of the small intestine; and, moreover, we have ample evidence that the mortality of resection is in no manner dependent on the extent removed, provided it does not exceed the physiological limit.

Stricture, Ulceration, Hemorrhage, and Perforation after Reduction of Damaged Intestine.—The intestine may suffer serious pathological changes and yet not have advanced to gross gangrenous changes; in fact, if the mesentery escape very great compression, without a certain inspection, we may overlook mottled patches or compressed areas, the seat of subtle but positive or-

ganic changes. At the point of compression at the inner aperture all the coats of the intestine may have become so crushed as to later undergo repair, by leaving a cicatricial contraction. Persistent diarrhea from ulceration of a compromised loop has followed with a fatal ending in some cases (Malgaigne). Persistent and fatal hemorrhage *per rectum* has, too, occurred (Paget). In one of my own cases of resection the intestine was found filled with coagulated and fluid blood.

Mr. Kough (*London Lancet*, 1884, p. 636, vol. ii) records a case of death from enteric hemorrhage two hours after reduction of the intestine. The sac contained six feet of ileum with the cecum. On autopsy, when the bowel was opened, a pint of fluid blood escaped. The inner surface of the bowel presented several dark, slate-colored patches. Death from ulcerative perforation and peritonitis in former time was not an infrequent postoperative sequela in keloctomy, when the intestine of "doubtful" vitality was reduced.

Gangrene of the Intestine.—When gangrenous changes have advanced to the unequivocal mortification or death of the extruded loop, whether it appear in patches, involve the entire circumference of the intestine, or has advanced to perforation, the part involved must be isolated from the peritoneum. How this may be attained to the best advantage of the patient embraces one of the most important chapters in the history of intestinal surgery.

Twenty-five years ago resection for gangrenous hernia was comparatively unknown as a practical procedure, though there were some few rare cases recorded since the seventeenth century. At that time and until later, there was only one alternative in cases of complications in strangulation, when the intestine was not immediately reduced, which was, to secure it to the groin and make an artificial anus.

(To be continued.)

PERCENTAGE AND LABORATORY FEEDING.*

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It is safe to say that those physicians who have once accustomed themselves to what is known as percentage feeding, will never, if they can avoid it, use any other method. Yet considerable misconception exists, and mistakes often arise through a lack of understanding of what percentage feeding really is, and through a lack of the easily acquired knowledge of how to employ the method properly.

Let us contrast for a moment the old and the new, the empirical and the scientific plans of feeding. In the old way—the excellent way which we all followed with more or less success until we had a better plan—a physician thought of his milk mixture as consisting of so many tablespoonfuls of milk, so many of cream, so many of water, and so on. In his mind he had stored up a certain formula of this kind which represented what he considered about the proper food for a nursing child. Why we used this or another formula, the majority of us scarcely knew. We had merely learned it empirically, or oftener we had learned from some one else's experience that upon this formula the majority of children could be expected to thrive. As the babies grew older some of us often increased the

* Read before the Philadelphia County Medical Society, May 28, 1900.

proportion of milk or cream and diminished that of water in an absolutely unscientific way, forgetting that in human milk no such alteration occurs as time goes on, yet realizing that this change was sometimes necessary in our milk mixture. The real reason for the change we did not understand, and too many of us degenerated into the condition of mere manipulators of quantities by rule-of-thumb methods, saying to ourselves that at one week we would put so many tablespoonfuls of milk in the mixture, at 3 months so many more, at 6 months so many more, and so on, absolutely regardless of the individuality of the baby or its actual needs.

When the babies did not thrive upon the mixtures which rules said they should have, we made certain changes which again experience had taught to be useful in illness, but the reason for which we scarcely understood. For instance, we used whey, or barley water, or egg water as diluents instead of water, or we increased or diminished the cream or the milk in our mixture. Some of us were guided by a knowledge that curds in the stools perhaps suggested too much milk, sour vomiting perhaps too much cream, and so on, but this was about as far as we could go. In fact, it was impossible to go much farther. One family used cream of one strength from one sort of cow, while another had furnished them cream of another strength from another breed of cows. There was no certainty that the cream and milk furnished to a baby did not vary even from day to day. There was no knowledge of or control over the purity of the dairy product. It is evident that all a physician could do, and in many cases still can do, was to feel his way empirically, shifting numbers of tablespoonfuls up and down as seemed to him best. We all did it. Most of us do it yet. Often we are forced to do so. But, as I said, any one who has used the newer plan wants always to avoid this older one because the newer is so much more satisfactory in its results.

Yet studies meantime were constantly being made by scientific investigators into the relative composition of human milk and cow's milk, and all these results were published and were read by us without, it would seem, it even occurring to us that, since the results of analyses made were all expressed in *percentages* of fat and proteid, solids, salts, water and sugar, and not in *quantities* of milk and cream, it would be very much easier for us could we work directly with the decimal proportions these analytical studies had given us. This simply is what the percentage method of feeding is; the transferring of scientific analyses to practical feeding. One merely learns to think in decimal proportions instead of in teaspoonfuls or ounces. One says, "I will give the baby such a percentage of fat and such of proteids," instead of saying, "I will use so much of milk and of cream." This method greatly simplifies the whole process as well as making feeding more scientific and effectual. In the old way we might, for instance, have concluded that a child needed a richer food, but that it could not digest more curd. If, now, we added more cream to the mixture, we were at the same time increasing the curd strength and this we did not want, whereas if we substituted a certain part of milk by cream, we could in no way tell just what effect we had produced upon the proportions of the ultimate ingredients of the mixture. All is different if we think and work in percentages. We say we will increase the fat in the mixture from 3% to 4%, but leave everything else unchanged—and then we do

it accurately. Now should the mixture disagree, we know exactly what is wrong. Surely, the advantages of this must appeal to every one. Having tried both the old and the new, I can assure you that I get much better practical results with percentage feeding.

The method of calculation is easy. Any one with the slightest knowledge of figures can manage it. Several simple methods have been published. One of the most convenient and, for practical purposes, accurate, is that published by Dr. Baner, of New York. I carry his few equations with me, written on a card and kept in my pocket-book in case I should forget them. Dr. Taylor, of New York, has a modification of Baner's which is more accurate, and Dr. Westcott, of Philadelphia, has still another method. I will not occupy the time of the Society by going into the calculation. The papers of these writers explain it very clearly. For those physicians who would rather avoid even the simple calculations, convenient tables may be found in the text books of Rotch and of Holt, showing at a glance exactly how much milk, cream and sugar are required for many of the percentage formulæ oftenest used. One can readily make a copy of these and have it always at hand.

But to work in percentages it is necessary to have milk and cream of a definite percentage strength, and this is not always easy to obtain. We may, however, assume that in ordering herd milk the percentages of sugar and of proteid vary very little. The variable ingredient is the fat. In these days when the centrifuge for the examination of urine has become so cheap and so convenient, it is very easy for any of us to test a few times the fat strength of herd milk and cream, and then to calculate a formula which we can readily modify according to the needs of the baby. I do this myself repeatedly and yet am devoid of special knowledge of chemistry or mathematics. It is mere mechanical work.

Where cream and milk of definite guaranteed strength can be obtained, all the trouble of home analysis can be saved, and where a milk laboratory is accessible the physician may be spared even the labor of a calculation or the trouble of consulting a table.

This brings us to the consideration of the milk laboratories as managed by the Walker-Gordon Company in various of our larger cities. There is to some extent a misconception of the purpose and nature of these institutions. Some have even imagined that a special sort of milk-food is prepared there, like a patented food; and others talk of laboratory milk agreeing or disagreeing as though it were an entity, with its composition always the same. A milk laboratory is simply a place where you order for a baby anything you want in the way of a food, put up in any way you please. There is nothing whatever special or peculiar about it. The milk is just like all other milk except that unusual care is taken to have it clean and free from germs, and that its strength in the different ingredients is determined daily by analysis and is guaranteed. Such milk and cream can be procured by families at little above the ordinary rates, and the milk mixture made at home by the mother or nurse according to the directions of the physician and according to the formula furnished by him. Such guaranteed milk and cream can be obtained in some places from other dairies than those of the Walker-Gordon Company. The Philadelphia Pediatric Society is looking forward to a near future when it shall have completed arrangements by which guaran-

teed milk and cream can be obtained from many dairies of Philadelphia.*

But since even with definite-strength milk and cream the calculation of a formula by the physician is necessary, with a milk laboratory handy he can even, as I said, save himself this, and the mother the trouble of preparing the food, by having the mixture made at the laboratory, put into the different feeding bottles there and delivered at the home all ready for use. The physician in this case must write a prescription ordering the percentage of fat and of proteid, etc., and specify how many bottles are to be supplied and how many ounces these shall contain. Anything you please may be ordered in the mixture. Barley water or oatmeal water, malt extract, pancreatic extract, even patented foods if you wish. It is the laboratory's business to follow your directions just as a drug store would.

There has been some little talked and written about the milk and cream of the laboratory being "Separator" products and therefore, it was said, inferior. One should not forget that all cream from large dairies is nowadays separator cream. Milk-men do not any longer skim with spoons and hand skimmers and the like. The triviality of such an objection is therefore evident. Nevertheless, if you want skimmed cream from the laboratory, order it and you get it.

Finally, it is, of course, necessary, as with all infant feeding, to know what to expect from the different ingredients of the food, and to acquire by actual experience a little knowledge of the proportions which a baby is liable to require, and what changes a certain baby needs at any time.

One of the secrets, if we may call it this, of successful feeding of very young infants is to begin with low percentages. Woman's milk contains: Fat 4%, proteids 1 to 1½%, and sugar 7%. Yet, it is by no means advisable to start any baby upon this strength of a milk mixture. We must remember that we are not dealing with the natural food of the child. The proteid of milk is a complex substance which varies in different animals. That of the cow is distinctly different from that of the woman. It is unreasonable to expect, then, that a baby can take it in just the proportions found in human milk. This is the mistake which some physicians have made in their first efforts at percentage feeding.

The child in the first two weeks of life should not be started with over .50% proteids. In fact, even much later in the first year it is wise to begin percentage feeding with low proteids in the case of children who have been fed on food other than milk or who have been subjects of indigestion. In all cases where we find the existence of diarrhea with numerous curds in the stools, it is well to consider whether the proteids had not better be reduced at least for a time, although it is well to remember in this connection that these appearances are not infrequently composed of fat. It is the proteid element which is the hardest for most children to manage.

Then with regard to the percentage of fat. Here, too, it is well to begin with small amounts—2%, perhaps, instead of the normal 4%. When we find a constant tendency to rancid vomiting it is very probable that the fat is too high even though the vomit may contain curds. The sugar sometimes acts upon the bowels and in other cases causes gastric indigestion. Less than the normal 7% of sugar is good, then, for a beginning—possibly 5 or 6%.

For a very young baby, therefore, without signs of disease, or for a marantic child who has had constant symptoms of indigestion, such a percentage formula as fat, 2%, sugar, 5%, proteids, .50%, would not be amiss. Of course, it is not to be expected that this weak mixture will answer long. It must soon be increased and the method of increase will depend largely on circumstances. Other things being equal, it is generally my plan first to increase the fat by steps up to about 3%, then the proteids to .75 or 1%, and perhaps meantime the sugar as well, watching constantly for the development of any unfavorable symptoms and altering the formula according to the nature of these. Most important is it to weigh the child weekly or semiweekly. If increase in weight does not go on properly in spite of the existence of no symptoms of indigestion, it is nearly certain that the food is either not strong enough or not large enough in quantity. On the other hand, we must remember that there is no reason to increase the strength of the food when the child is gaining nicely. There should be absolutely no rule of thumb increase of the percentages of any of the ingredients dependent upon age alone. It is the condition of the individual child which must determine this. I cannot too strongly emphasize this point. Your rule should be, "Let well enough alone." Of course, one does not wait for actual failure of good condition to develop. But a little experience and judgment will soon teach how to proceed in most cases. One must remember, too, that failure to increase in weight may depend, not so much on trouble with the percentage formula, as upon the fact that the baby needs a larger quantity of nourishment. The baby at the breast, although it does not get stronger food, takes a larger quantity as it gets older.

An eminent writer, for whose knowledge of the diseases of children I have much respect, has recently expressed the belief that children raised upon milk mixtures furnished by a laboratory experienced difficulty in tolerating an increase in the percentage of proteids. As already stated, very many children have difficulty in digesting the proteids of cow's milk given in any way whatever; and, in any case, before these are increased we should be sure that such an increase is really indicated. That there should be any such special difficulty in the digestion of proteids in the case of laboratory milk, I find it impossible to conceive. My own experience is in accord with that of those physicians who have used milk laboratories very extensively in other cities, viz: that there is no special difficulty in increasing proteids or any other ingredients of laboratory milk mixtures more than with any other milk. That laboratory milk offers any especial difficulties seems to me to be an assumption lacking proof.

Of course idiosyncrasies of all sorts exist and all sorts of changes have to be made and expedients used in infant feeding, as we all know, but these are exceptions and not the rule. I once knew a baby who thrived only after its mother fed it exclusively on cornmeal mush. But this could hardly be our guide in practice.

After all, before we can come to any conclusion that percentage feeding or any other feeding is not succeeding in a given case, we must be sure that the error is not with our own formula or method. The following case illustrates my meaning:

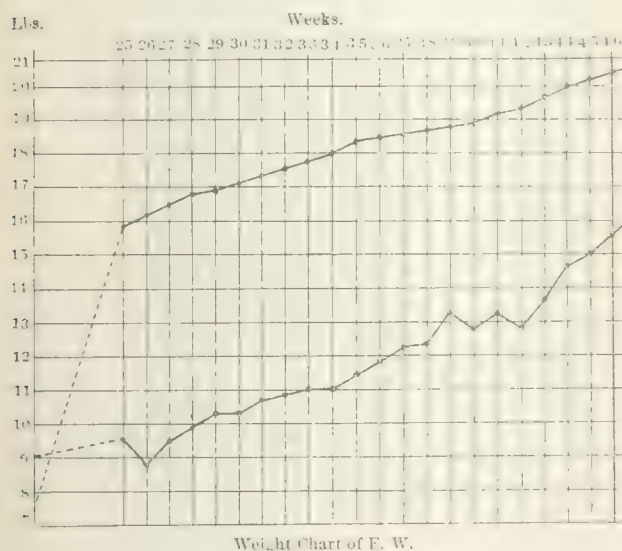
I was called to see a baby in consultation with a well known and able obstetrician of this city, who frankly acknowledged that the feeding of such a case

* Since this paper was written four dairies in the vicinity of Philadelphia are receiving certificates from the Philadelphia Pediatric Society.

was out of his line and asked me to take it in charge. The history is as follows:

F. W., born June 16, 1891. He weighed over 2 pounds at birth. Feeding had always been difficult. He had had malted milk and peptonized milk, but neither suited. Then he was put upon a laboratory percentage mixture at first of fat 3%, sugar 6%, proteid 0.50%; then fat 2%, sugar 5.50%, proteid .50%; then fat 3.50%, sugar 6%, proteid .28%; then fat 3.75%, sugar 6%, proteid .50%. But whenever the proteids exceeded .50% the child vomited. Colic was troublesome. I saw him for the first time on November 15, 1899, and found a very thin child of 5 months (22 weeks), weighing about as much as when born. His face was bright and his strength seemed very good. After some study of his history and condition, I gave it as my opinion that the trouble was not with the proteids, but with the fat being in excess. This seemed likely from the fact that the child showed a tendency to vomit, but never had diarrhea or the passage of undigested milk. I advised that the fat be reduced to 3% and the proteids increased to .66%; a greater amount than had been given for a long time. I also advised adding some barley water to the mixture, since experience shows that this often seems to render proteids more easily digestible. The sugar was also increased slightly in order to aid in overcoming constipation. The formula then read: fat 3%, sugar 6.50%, proteids .66%, $\frac{1}{4}$ barley water, $\frac{3}{4}$ water.

The further history of the child is one of almost uninterrupted gain except for a short time when it suffered from an intercurrent malady.



Weight Chart of F. W.

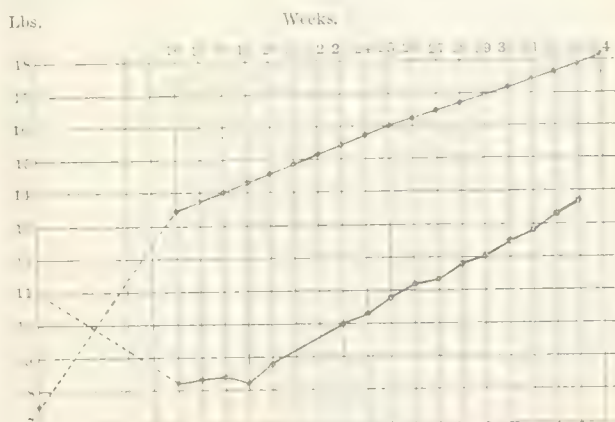
The changes in the food formula were as follows:

	F.	S.	P.
23 weeks	3	6.5	.66
29 "	3	6.5	.75
29½ "	3	6.5	1.
34 "	3.5	7.	1.
39 "	4.	7.	1.

Studying these and the weight chart conjointly is interesting. The loss in weight at 26 weeks was the result of a too great temporary dilution of food done through a misunderstanding on the part of the family. The cessation of increase about the 29th week was followed by immediate gain after the food-strength was increased. The same renewed gain occurred at 34th week. The cessation of gain from the 39th to the 42d week was the result of the intercurrent affection.

The following case is another instance of the folly of condemning a good thing which we have not learned to appreciate:

Mary C., born September 17, 1899. First seen December 29, 1899, when 3½ months (16 weeks) old. The 4 preceding children had all been cases of inanition, and had all died in the first 7 months of life. Only the first 2 children born, which had been breast-fed, survived. The child Mary, weighed it was said, 11 pounds when born. This is certainly an overestimate, but it must have been a large and plump baby. She was fed at first on barley water and milk, but did not grow, then was given a percentage mixture from the Walker-Gordon Laboratory, but did not do well, suffering either from diarrhea or vomiting. Four different formulae were tried. It should be stated, however, that the physician in charge had never proscribed percentage milk before, and did so now only on the insistence of the family. It seems likely from the bad results that he did not consider the relation of the different ingredients to the symptoms. At last, another physician was called in who prescribed Robinson's barley with condensed milk. With this food constipation replaced diarrhea and there was much colic, but there was no gain in weight. The child weighed only 8 pounds and 1 ounce when I first saw it. It was in a wretched condition, wrinkled, puny, and crying constantly from pain. I strongly urged the employment of a wet nurse, as I was doubtful about the recovery on other milk. The mother, however did not consent, owing to her prejudice in the matter. She had in any case made up her mind from her past sad experience that the recovery of the child was absolutely hopeless. I ordered for it a percentage mixture from the laboratory of the strength of F. 2%, S. 6% P., .50%; 8 four ounce bottles. Although this mixture was weak, I warned the mother that it might disagree badly, which it did, causing severe vomiting. After 24 hours' treatment with alternate egg water and barley water, the formula was changed to F. 1.50%, S. 5% P. .50%, with barley water. The fats were reduced on account of the tendency to vomit. This formula agreed nicely, colic nearly ceased and constipation was much less. The improvement has been nearly constant and brilliant, barring a few times when the child suffered from a bronchial catarrh.



Weight Chart of Mary C.

Changes in the formula were made from time to time as follows:

	F.	S.	P.
16 weeks	2	6	.50
16½ "	1.50	5	.50
19 "	2	5	.50
20 "	2	5	.75
24 "	2.50	6	1.
26 "	3.	7	1.
30 "	3	7	1.25
33 "	increased quantity merely.		

Comparing this with the weight chart we notice no gain of weight during the first three weeks of treatment. The only effort at this time was to accustom the child to milk. Of course, the formula was too weak for any material improvement to be expected. It is interesting to note the decided increase of weight which followed the slight increase of the fat percentage

at 19 weeks. The growth was now fairly satisfactory, the strength of the food being gradually increased toward the normal human milk percentages. The decided gain at the 33d week followed an increase in the amount of milk given without any alteration of the formula. The little girl now is like a different child. She is well filled out and gaining constantly. My plan is to increase the fat up to 3.50 or even 4 and the proteids possibly up to 1.50 according to the needs of the case. Later the proteids will require a still greater increase.

Still another case may be cited in illustration of the point I wish to make, viz: That we must bring our common sense to bear in feeding an infant by any plan, and not hastily condemn any method because it seems to fail. The following case was by far the most unpromising of any I have attempted to feed for some time.

L. M., born June 12, 1899. Seen by me January 27, 1900, at the age of 7½ months (33 weeks). The child was said to have weighed 11 pounds when born; doubtless an overestimate, but an indication of his excellent size and condition. He was fed on the breast and the bottle for the first two months and then was given the bottle alone, first of malted milk and then of condensed milk, but always suffered from diarrhea. Next he was fed upon some "sterilized milk," and then upon percentage milk prepared at the Walker-Gordon Laboratory. This was given for several weeks, but disagreed. I do not know the formula employed. The child then received a rather strong cow's-milk-and-water mixture, which he vomited. Next, for two months, he had barley water, brandy, and white of egg, and for the last month had Mellin's Food. With every sort of feeding he had diarrhea, and always passed curds if there was any milk in the food. He had lost weight constantly since birth, and for the last few weeks had some edema of the cheeks and feet.

Examination showed a wretched-looking marantic specimen. The abdomen was distended, the limbs very thin, the cheeks unnaturally plump from edema, and the feet and legs distinctly dropsical. I ordered him a formula from the laboratory of F. 1.50%, S. 5%, P. 50%, with the water one-half barley water, and of an alkalinity of 10%, i. e., $\frac{1}{10}$ of the whole mixture was lime water. The low percentages were chosen on account of the child's extremely weak digestion. An astringent mixture was also prescribed. By February 2 the child seemed better in every way. There were but two stools a day, but there was no gain in weight. An increase in the formula was made to F. 2%, S. 5%, P. 50%. By February 7 the child seemed clearly better and the flesh fuller, although the weight was apparently no greater. At this date it weighed 7 pounds 10 ounces. It is probable that the earlier weighings were incorrect and that the weight at the thirty-third week was little over 7 pounds.

Improvement was doubtless interfered with by the devel-

opment, about February 17 (36 weeks), of a very severe bronchitis with high fever, possibly a bronchopneumonia, and then a few days later of symptoms of scurvy. In spite of this, gain in weight went on, as the chart shows. The baby has improved wonderfully and is now in excellent condition, with every prospect of a complete recovery. It is, of course, still far below the normal weight for its age. The food is still weak for its age, as it is now almost a year old. I shall now increase the proteids of the food as rapidly as the digestion permits and the rate of growth indicates it necessary.

The various changes in the formula were as follows:

	F.	S.	P.
33 weeks	1.50	5	0.50
33½ "	2	5	0.50
35 "	2.50	5	0.75
36 "	2.75	5	1
37 "	3	5	1
37½ "	3.50	6	1
38½ "	4	7	1
47 "	3.50	7	1.25

Comparison of this table and of the weight chart requires some explanation in view of certain symptoms. From the 38th week to the 42d, gain in weight, though steady, was not as great as it had been, in spite of the increase in the strength of the formula. This appears to have been due to a continued slight indigestion following a severe attack of vomiting and diarrhea at 38½ weeks. After this was over the gain was striking with no alteration of the food-formula. The loss in weight at the 45th week was the result of a very severe cold with diminution of the appetite. The diminished rate of gain up to the 47th week seems clearly due to diluting the milk with water, not advised by me, but done by the mother on account of a tendency to vomit which the baby showed. I consequently ordered this dilution stopped and reduced the percentage of fat slightly although increasing the proteid. The resulting gain is shown in the chart.

I could detail many other cases showing how well children do either on percentage formulæ as prepared by the laboratory or on percentage mixtures made at home from definite-strength milk and cream; some of the children being fed from birth on percentage-milk, some doing finely after little success with other methods; many of them with weight-charts in which the curve is up to or even above the normal curve of healthy, breast-fed children. But I have limited myself to these three cases, partly because the children were such absolutely unpromising specimens which had been doing badly on all methods tried, largely, too, because all three of them had at different times been fed on laboratory prescription milk before I saw them and had done very badly indeed. One could easily have claimed that this was the fault of laboratory feeding. As a matter of fact it must have been the fault of the prescriptions which had been ordered. What I succeeded in doing for them of course any physician can accomplish. All that is needed is that he go about it with some common-sense idea of what he is trying to do.

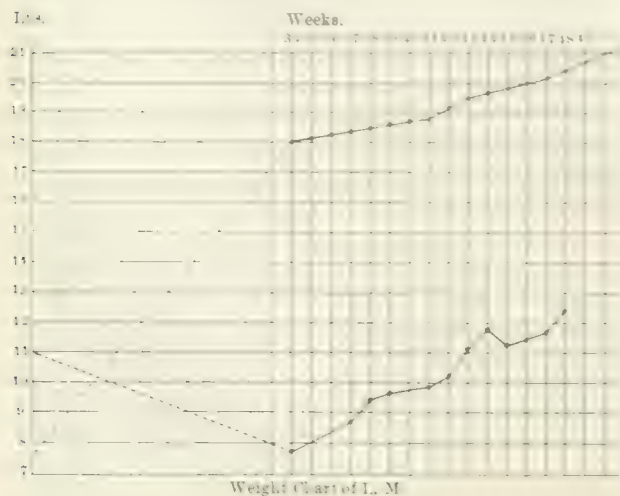
A CONTRIBUTION TO THE TECHNIC OF THE WIDAL TEST.

By A. ROBIN, M.D.

OF NEWARK, N.J.

From the State Board of Health, Newark, N.J.

The Widal test has already passed the experimental stage, and now is universally recognized as an almost



pathognomonic sign of typhoid fever. It is also being utilized for the recognition of infection with virulent *coli communis*, pneumonia and tuberculosis, and hog cholera in animals. The conditions necessary for the successful application of the test are a motile organism, or one which is capable of clumping either when the blood is added to a test-tube culture (macroscopic test) or a hanging-drop (microscopic test). Whenever these conditions are present the test can be employed for diagnostic purposes. The opinion is gaining ground that the reaction is one of immunity and not infection. Personal observations fully corroborate this view. The reaction has been observed in mild or so-called walking cases of typhoid fever, while on the other hand it bears no relation to the severity of the disease, and in one case submitted to the laboratory it was absent 24 hours before death occurred. It may also be absent until convalescence is well established. Add to this the fact that it is frequently observed in healthy individuals when the blood is diluted 1:5 or even 1:10 and that it persists for months and even years in persons who have suffered from an attack of typhoid fever, and we have an incontestable array of arguments in favor of the above view.

Those who still believe that they can make a diagnosis of typhoid fever without the aid of the Widal test will probably be surprised at the assurance that typical cases, as pictured in our text-books, are not met with frequently. Many lack one or more of the pathognomonic symptoms of the disease, making it impossible to arrive at a correct diagnosis during the first week or two of the attack. From the blanks filled out by the attending physicians, when submitting a specimen of blood for examination to this laboratory, we gather the following interesting data: Of the cases submitted during the first, second and a few the third week of the disease there was diarrhea in 30%, enlarged spleen in 32%, iliac tenderness in 46%, rose-spots in 27%, and delirium in 20%. We have no record of epistaxis, but it is well known how infrequent the occurrence of this symptom is. It is thus seen how difficult, nay impossible, it may be to make a correct diagnosis from clinical symptoms alone.¹

We often hear it stated that typhoid fever has undergone considerable modification within the last few years; the disease is milder than it used to be and the mortality is less. Is it not probable that besides the improved sanitation and treatment, the cause may be sought in improved methods of diagnosis? At present we recognize mild cases which in the olden times passed under the name of *bilious fever*, *bilious remittent*, or *remittent fever*, not to mention the cases frequently encountered in which the typhoid lesion is confined to some other part of the body besides the intestines, and which in times happily gone by formed medical puzzles. There are still physicians in Delaware who claim that they have never seen a genuine case of typhoid fever; their patients suffered from remittent fever, and yet during an experience of almost two years *plasmodium malariae* was demonstrated in the Delaware State Board of Health Laboratory only in half a dozen cases, while on the other hand every case of so-called remittent gave the Widal reaction.

The usefulness of the test, however, depends entirely on the *modus operandi*. Were we able to use both the

macroscopic and microscopic methods in every case, an error would be almost impossible, but the difficulties connected with the macroscopic method are sufficiently great to form a permanent barrier to its employment, and we must, therefore, rely upon the microscopic method, especially in municipal laboratories. This being the case, the technic must be faultless, or mistakes will occur with sufficient frequency to make the results unreliable. In municipal laboratories the chance for error is still greater, since the bacteriologists are mostly overcrowded with work and can devote but a few minutes to each specimen.

The problems confronting us in applying the test are: 1. The dilution. 2. The best way of obtaining a motile culture free from "natural" clumps. 3. The differentiation between a true and a pseudo-reaction. 4. The time limit.

1. The necessity for high dilutions (1:20 to 1:40) is made evident by the observations of bacteriologists in this country and abroad that the difference between normal blood and that of typhoid patients is one of degree and not of kind. In dilution of 1:5 or 1:10 even normal blood will at times produce agglutination. The typhoid reaction has also been obtained with the blood of tuberculous patients, even when diluted 1:25. On the other hand, no case is on record in which a positive reaction occurred with a dilution of 1:40. It is thus seen that the question of dilution is not a matter of indifference as some authorities claim. To obtain accurate dilutions various methods have been devised from time to time. It is hardly necessary to describe them. Suffice it to say that those which do possess a claim to accuracy are either cumbersome or applicable to bedside diagnosis only, while all the others are not free from error, which makes their *raison-d'être* doubtful. The method recently devised by F. D. Chester and myself² meets all the requirements, combining as it does accuracy with simplicity. It is essentially a modification of Cabot's medicine-dropper method from which it differs in the substitution of a mechanical appliance for the fingers and, what is more important, is being utilized for making dried-blood specimens. It consists of an ordinary medicine-dropper, a V-shaped piece of spring brass or nickel-plated steel and a medium-sized Hoffman clamp (see Fig. 1). The rubber bulb of the dropper is placed in the brass plate and the latter into the clamp. Each inward movement of the screw releases the bulb and draws up the blood, while an outward movement has the opposite effect. The advantages of the mechanical appliance are: (1) Not more than one drop of blood is required; (2) a single drop of blood can be drawn up without the formation of air bubbles, as is the case when the fingers are used; (3) if the puncture is not sufficient to cause a free flow of blood, a part of a drop may be drawn up, the dropper laid aside, the finger or lobe of the ear squeezed until more blood exudes, the additional portion again taken up, and the process repeated if necessary until a full drop is obtained. All this can be done without breaking the continuity of the column of blood in the dropper. (4) The parts of the appliance are to be found in every laboratory or easily obtained, and can be put together in a few minutes. The drop of blood thus obtained is expelled upon a



FIG. 1.—Appliance for drawing up one drop of blood.

¹ Dr. Katerer has kindly called my attention to the fact that the above statistics are not in accord with the observations of Murchison, Osler, Wilson and others. I am in no way responsible for the statistics above given. They were compiled from the blanks filled out by the attending physicians. I do not quote the statistics of the gentlemen mentioned, for the reason that I intended to give my personal observations only.

piece of heavy filter paper. The drop should be allowed to fall of its own weight. When the test is made the spot formed by the blood is cut out, placed in a watch glass provided with an accurately fitting cover made air-tight by a layer of vaselin, and 10, 20, or more drops of normal salt-solution, bouillon or distilled water added. In a few minutes all the constituents of the blood, except the fibrin, will be completely dissolved out and ready for the test.

2. To obtain a motile organism is not difficult. All one needs to do is to get from any of our bacteriologists a pure culture of typhoid bacilli well tried as to their motility. Such cultures may be kept in hermetically sealed tubes without impairing their motility. We keep our cultures in tubes sealed in the flame. The last one opened was sealed 8 months ago and the bacilli were found none the worse for this long confinement. To make the test it is necessary to have a fresh agar or bouillon culture which is made from the stock-culture and kept in the incubator for 18 to 24 hours. I found, however, that the incubator temperature is unnecessary and that just as good, if not better, results are obtained when the organism is grown at the temperature of a fairly warmed room. In the latter case the bacilli are longer and have a greater motility. My experience with the bouillon culture has been rather unsatisfactory, and I have long abandoned it, using a combination of both the bouillon and agar cultures, in the following manner: An agar culture is made and placed in the incubator or kept at room-temperature for 12 to 18 hours, when

3. The differentiation between a true and pseudo-reaction forms the most important and the most difficult part of the test. Natural clumps, as stated above, will form in bouillon even without any admixture of blood, and again some clumping will result upon the addition of normal blood. When the latter possesses, as it often does, bactericidal properties, the bacilli will be rendered immotile and a number of them will gather around debris, clumps of fibrin or blood-corpuscles, thus simulating a clump-reaction very closely. Only an expert eye is able to cope with such deceptive appearances. However, when the methods outlined above are followed,

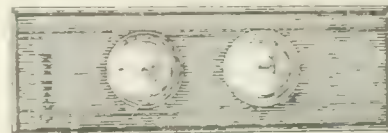


FIG. 3.—SLIDE WITH TWO CONCAVITIES.

the natural clumps will not be present nor will the fibrin and other foreign material which remain entangled within the meshes of the filter paper. To still further insure against the possibility of error the following method has been adopted: A slide with two concavities is employed (see Fig. 3), the edges of the latter being surrounded with a layer of vaselin. On each of two clean cover glasses is deposited a loopful of the culture; to one a loopful of the blood diluted 1:20 to 1:40 is added, while the other serves as a control. By shifting the slide from one cover glass to the other the slightest difference in the behavior of the bacilli can be easily noted. Furthermore, the lens is focused on the edge of the hanging-drop where the bacilli are more numerous and being nearer to the objective are seen more clearly. If the reaction is positive all or nearly all the bacilli will be found to gather in clumps of two, three or a dozen and will soon lose their motility while in a pseudo-reaction only a few clumps will form, the rest of the bacilli remaining separated. If killed by non-typhoid blood they become motionless but still remain single. The difference between the true and false reactions is well illustrated in Fig. 2, C and D. In case of doubt, or when the bacilli are very small, an oil-immersion lens will render valuable aid. In fact, the Widal test can generally be more satisfactorily performed with an oil immersion. The individual bacilli, the clumps and the entire field of vision can be seen to better advantage.

4. The time limit which determines a positive reaction is another very important point. Bacteriologists abroad make their dilutions 1:100 to 1:500 and extend the time of observation to 2 hours. If within that time clumping and loss of motility does not take place, the reaction is negative. In this country, where no accurate dilutions are practised, considerable difference of opinion exists as to time. Thus, while visiting some of our bacteriologic laboratories, the author found that in a few of them the time during which a positive reaction is to take place is set at 1 to 2 minutes, while in others it is extended to 1 hour. Such a divergence of opinion cannot but lead to erroneous results. Uniform results can only be the outcome of uniform methods, and it is to be hoped that before long a certain time limit will be universally adopted. The author would propose the following: Dilution 1:10, time limit 5 to 15 minutes; 1:20, 15 to 30 minutes; 1:40 to 1:100, 30 to 60 minutes; 1:100 to 1:200, 1 to 2 hours. That would

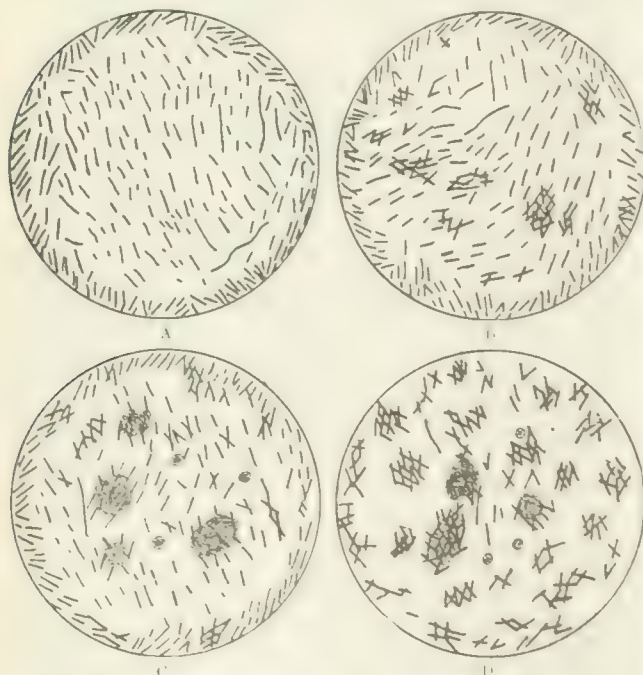


FIG. 2.—A. Pure culture of typhoid bacilli, hanging drop. B. Bouillon culture, 24 hours, showing false clumps. C. Pseudo-reaction. D. Typical Widal reaction.

either 2 or 3 loopfuls are transferred into bouillon until a marked turbidity results, or a small quantity of bouillon added to the agar culture, and enough of the growth scraped off to produce a uniform cloudiness. By this method the natural clumps so frequently observed in bouillon cultures (see Fig. 2 B) are entirely avoided. The addition of the bouillon to the agar culture is preferable to mixing a portion of the latter in a watch-glass for obvious reasons.

mean that if within the specified time a considerable number of bacilli are found actively motile or, if dead, fail to arrange themselves in clumps, the reaction is to be pronounced negative, irrespective of the clumps which have already formed.

In conclusion it may be stated that there is no reason why the general practitioner who is removed from municipal laboratories could not perform the Widal test himself. The culture tubes and other accessories can be purchased in any supply store, no incubator is necessary, and the skill is just such as should be possessed by any intelligent physician who had received his instructions in an up-to-date medical institution.

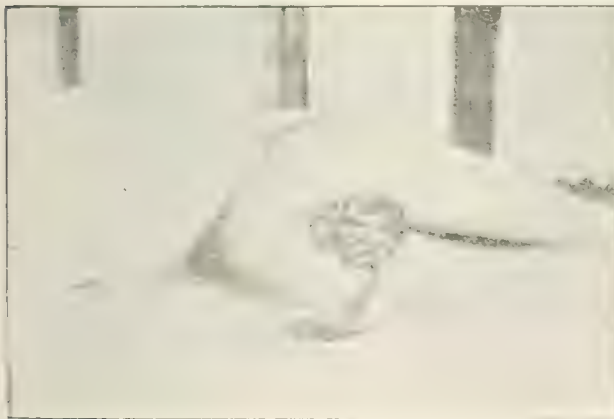
RUPTURE OF THE RECTUM AND HERNIA OF THE INTESTINES IN AN INSANE MAN.*

By A. R. MOULTON, M.D.,
of Philadelphia.

First Assistant Physician for Men, Pennsylvania Hospital, for the Insane.

The case which I report is that of a man 34 years of age who was admitted to the Pennsylvania Hospital for the Insane during the summer of 1892. His excitement, which was very intense, was followed in a few weeks by a condition of melancholia with stupor, which in turn was succeeded by dementia. His physical health was not good, and his vitality was low. The habits of the patient were uncleanly, and he acquired the ability to produce rectal prolapse, which he did by introducing his fingers through his anus and withdrawing them with the tips widely separated. Then, if he had the opportunity, he would cause an inversion of the rectum, sometimes fully 6 inches in length. The replacement of the parts was done with difficulty by manipulation, but they would return readily by the application of moist heat with rest in bed.

On the morning of November 20, 1900, the patient got up, was dressed, and took breakfast as usual, after which he went to the water closet. In a few minutes he was seen to cross the corridor, coming from the bath-



room, and to sit down on a sofa. He was pale, and his trousers appeared wet. Supposing he had soiled himself, the attendant was in the act of removing the patient's clothes when he discovered a loop of small intestine fully 2 feet long hanging from the man's anus. There was also protruding considerable mesentery. He

had ruptured the walls of his rectum, and through the opening the small intestines and mesentery had escaped. No inflammation occurred, but the shock was profound and death occurred 36 hours after the receipt of the injury.



The accompanying photographs, one taken before and one after death, show quite plainly the magnitude of the protruding mass.

REMOVAL OF THE RIGHT UPPER CERVICAL SYMPATHETIC GANGLION FOR THE RELIEF OF GLAUCOMA SIMPLEX.

By D. H. COOVER, M.D.,
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Professor of Ophthalmology in Grass Medical College, Oculist and Aurist to the Arapahoe County Hospital, St. Anthony's Hospital, and to the National Jewish Hospital for Consumptives, Denver, Colorado.

JOHN L., aged 65 years, consulted me March 15, 1900, with the following history: For the past year his vision had been failing very rapidly until at this time vision was reduced in right eye to only light-perception in the extreme nasal side of retina (temporal field), tension + 3, optic nerve cupped, pupils slightly dilated and fixed, arterial pulsation, and retinal vessels contracted. Left eye, vision $\frac{20}{500}$, tension + 2, nerve cupped, pupil slightly dilated, field contracted.

He never complained of pain or inflammation in either eye. Myotics were tried but had no effect upon the vision. I suggested the operation of sympathectomy to him, but before he consented I called in Dr. Melville Black; he agreed that it was a case of glaucoma simplex and would be a good case for the operation. I explained to my patient the operation and its possibilities. Dr. Leonard Freeman, of this city, removed the right upper cervical sympathetic ganglion. The operation was rather difficult, as the patient, a blacksmith, had a very short thick neck, the muscles being very large and the veins numerous and dilated almost to a condition of varicosity. The nerve was reached by dissecting down behind the sternomastoid muscles and turning up the sheath of the great vessels.

Results of the Operation.—It was performed at 5 P.M. of the 31st day of March, 1900. Immediately after the operation tension was lowered in both eyes. The following morning right pupil slightly contracted, slight lacrimation, which was noticeable during the day. Tension + 1 and more light-perception in the eye.

Second day—Tension + 1. Pupil slightly contracted and slight reaction. No pulsation of retinal arteries, vessels fuller, no lacrimation, counted fingers at three feet.

Third day—Tension + 1. Counted fingers at five feet, field of vision increased.

Fourth day—Tension + 1. Field of vision increased to median line, pupil reacted slightly.

* Read at Philadelphia County Medical Society, February 13, 1901.

ride of hundreds of miles, perhaps, on the trucks of a fast-going passenger coach, the front end of a freight car, or even to withstand the luxuries of an empty box car. Thus is accounted for the paucity of all the diseases peculiar to the female, which are so satisfactorily treated here. Again the same can be said of the poor rheumatics and paralytics and those suffering with stomach, liver, kidney, intestinal and bladder diseases, in fact, an absence of most all patient whose strength and vitality were well nigh exhausted from disease.

In this Chart are included 2 cases which have already been reported separately. One, that of a case of re-infection of syphilis, published in the *Journal of Cutaneous and Genito-Urinary Diseases*, in August, 1896; and the other a case of acute double hydrocele, due to secondary syphilis, published in *The Hot Springs Medical Journal*, in March, 1898.

Among the interesting and unusual cases, of which there were many, I have selected the following 6 which seem of sufficient importance to bear special mention. A detailed report of cases not being admissible at this time, I trust that in practising brevity it has not entirely robbed them of value.

CASE No. 715 was partial paralysis of the lower limbs, incontinence of urine, severe pain in the back, almost entire loss of power of erection, and a generally nervous and weakened condition of the entire system. A stricture at one-fourth of an inch from the meatus, which admitted a No. 18 French bulb, was cut, which on the following day enabled him to walk better than he had in 4 years, and in a short time all symptoms were relieved. The remainder of the urethra was entirely free from abnormal fibrous tissue.

CASE No. 149 was one of chronic serpiginous phagedena supplanted upon a chancroidal ulcer which had existed for 2 years when I saw him. The integument of all the lower part of the abdomen and pubes and probably some of the muscular tissue had been destroyed, but had granulated and healed. The penis was entirely gone, with an ulcer still remaining at the opening of the urethra, which was then at the scrotal junction. The scrotum and testicles were uninjured.

CASE No. 737 was also a venereal ulcer which began 3 years previous to his visit here. It had its beginning in the meatus and gradually, in spite of all medication, eroded its way through the dorsal portion of the glans penis, laying the entire glans wide open, then attacked the prepuce and had destroyed this tissue nearly around the entire organ to a distance of $1\frac{1}{2}$ inches from the corona. This may have been a case of mixed infection at the beginning, but I am of the opinion that it was a true chancre, as a clear syphilitic history dated from it, including the length of time after exposure before the appearance of the sore, and to this then was added the chronic serpiginous phagedena.

CASE No. 1040.—A strong healthy man; muscular system unusually well developed; very short in stature; with history of having had a bubo which was removed in its entirety 8 months before I saw him. While yet in the hospital he said a sore developed in his mouth, the exact location not known. He was given no medicine then and had taken none since. There had been no skin eruption so far as noticed. When seen the gums were swollen down on a level with the cutting edge of the teeth, and at places even beyond, were tender and had the appearance, especially behind the molars, of severe pyalism. This condition had been gradually developing since he left the hospital. The gums were quite firm, were not ulcerated, no granulations and no tendency to bleed except where they came in contact with the teeth; congested, bluish in color, and to a certain extent fibrous-like in appearance. The teeth were firm and continued so. Mercury and potassium iodid in enormous doses, with some local astringent applications, persisted in for 4 months, had relieved the trouble almost entirely when he left the city. I am unable to find this condition described; it was certainly syphilis, but was not a gingivitis gummosa as described by Morrow. It was a diffuse hyperplasia, a gingivitis interstitialis.

CASE No. 901.—Male; was one of most extensive condylomata about the anus. This condition followed a gonorrhea of the rectum which was contracted from a male friend. The growths were removed under anesthesia by the clamp and cautery where possible, and by the cautery alone where impossible to use both. There was no return.

CASE No. 886, with diagnosis of acute pemphigus vulgaris. The patient was a laborer, aged 31, who gave a possible history of syphilis 10 years previously; was not strong. From the time the eruption began until death occurred only 10 days elapsed. This condition is stated by all authors to be extremely rare, and by Zeisler to be classified rather as a febris bullosa, while Morrow in his *Atlas* describes it and classifies it as pemphigus, and reports a case in a man aged 33, but in his *System of Genito-Urinary Diseases, Syphilology and Dermatology* he says: "They would better be termed unprejudicedly as febris bullosa."

Below are given Charts II and III, in which is tabulated information that will show, to say the least, that gonorrhea is a very prevalent disease, and that it is contracted early in life.

CHART No. II.

	NUMBER	PER CENT
Number of males who had when seen, existing gonorrhea, or at some previous time had had the disease.	818	70.8
Number of males who had never had an attack of gonorrhea.	337	29.2
The above facts not ascertained in	229	
Females	27	
Total	1411	100
Number of attacks of gonorrhea as ascertained in 784 men	1886	
Average number of attacks to each individual	2.4	

CHART No. III.

	AGE.	NUMBER OF INDIVIDUALS
The age at which each individual first contracted gonorrhea	10	1
	12	1
	13	3
	14	2
	15	13
	16	38
	17	61
	18	36
	19	85
	20	75
	21	77
	22	62
	23	49
	24	39
	25	33
	26	20
	27	19
	28	14
	29	11
	30	10
	31	6
	32	6
	33	4
	34	4
	35	7
	36	4
	37	1
	38	1
	39	1
	40	1
	41	1
	42	5
	43	1
	44	2
	45	1
	46	3
	48	1
	49	1
	50	1
Number of attacks not ascertained in		38
Total number of individuals		818
The average age at which gonorrhea was first contracted	21.8 yrs	

The information given in these tables was so unsatisfactorily obtained in some and seemed so unreliable

that the numbers were necessarily cut down considerably.

On a basis of 1,155 cases there were 818, or 70.8%, who had when seen or at some previous time had had an attack of gonorrhea, and 337, or 29.2%, had remained free from an infection by the gonococcus up to that time. In 229 the fact was either not ascertained or was deemed unreliable and in the 27 females it was not attempted; however, there were 17 out of the 27 women that were syphilitic subjects.

An attempt was also made to determine the number of attacks to each individual, from which it was deduced, that in 784 men there had been 1,886 cases of gonorrhea, an average of 2.4 attacks to each man. As these patients were of all ages, from puberty to old age, this gives, I think, a fairness in the average. Again, taking as a basis the 784 cases in whom the number of attacks was ascertained and the 337 who were found, if not virtuous, to at least have escaped gonorrheal infection, which seems to be abundantly liberal, there having been 34 discarded who were known to have had gonorrhea but the number of times not ascertained, we still have the appalling average of nearly 1.7 attacks to each individual.

It would seem that the memory of the first attack of gonorrhea would have impressed itself so indelibly upon the minds of each that the age at which it occurred could have been recalled at will; however, there were 58 discarded as being unsatisfactory. This leaves 760 to determine the average time of life at which the disease was first contracted, which gives us the age of 21.8 years. It will be noticed by referring to the chart that the age of 10 is the first on the list; I have seen one case in private practice, of a little boy 8 years old who had contracted the disease from a girl aged 12. We have another recorded at 12, three at 13, two at 14, and then the list rapidly swells until we reach 18, at which age the largest number of victims are recorded. It is a picture to the mind's eye of a perfect avalanche of boys, rushing pell-mell, in their eagerness to be the first to receive, to nurture and to propagate in the interests of posterity, the trouble-making germ known as the gonococcus. From 18 to 22 there is an apparent wavering, haste and eagerness have been partially supplanted by caution and fear. The early and unbounded passions of youth have been, to some extent, superseded by thoughts of employment, of gaining a livelihood, of the general responsibilities attendant upon manhood and finally of marriage. From 22 on down the list, as age increases, the number of first attacks rapidly decrease; however, we still have examples even up to the age of 57, and I may add that nearly all of the older patients recorded are of men who had contracted the disease after losing by death or otherwise their life-companions.

Many of the cases seen were lingering attacks that had existed oftentimes for years, in fact most all of the cases that come here for treatment do so because they have failed to be cured elsewhere. It will be noticed that in Chart I there were 76 cases of gleet and gonorrhea, the proportion of chronic cases were so much in advance of the acute that it is scarcely worth our while to mention the latter. Experience teaches us that a gonorrheal inflammation of the urethra, continued over a long period of time, or even but a comparatively brief time, if very severe, will and does cause granulations which as time passes become fibrillated and later begin to shorten or contract as in an ordinary scar. The

urethral caliber is then encroached upon and the balance existing between the expulsive force of the bladder and the friction of the stream along the urethra is disturbed and symptoms follow. A constant irritation and inflammation is then kept up by this beginning contraction as I have pointed out.¹ I referred then to the mechanical obstruction, the chemical irritation, and to a mechanical irritation and "by mechanical irritation I mean the encroaching upon and squeezing of the nerve-endings in the mucous membrane by the newly formed fibrous tissue." As the urethra is claimed by Civiale to possess a sympathetic sensitiveness independent of the local, then through the third agent—mechanical irritation—we ascribe as being the principal, if not the entire cause, when he refers to this sensitiveness "being aggravated it may awaken sympathetic response in every organ and function of the body." Aside then from the suffering and inconvenience attendant upon the disease *per se* we have a grave complication, or result, in stricture as evidenced by the simple case No. 715 reported above, in which, even the act of urination should not have been interfered with to a noticeable degree. This case was an example in which the mechanical irritation "awakened the sympathetic response" and produced the symptoms he had and relief began as soon as the hard, fibrous tissue was divided which allowed of the relaxation of each fiber and a consequent inability to produce pressure. The question arises then why we do not have these or similar responsive symptoms in every case of stricture, and I would answer that we do almost invariably and more especially if the stricture be an annular one and located in the fossa navicularis. It is rare that we have a stricture within one-half inch of the meatus that we do not have symptoms other than the interference with the passage of the urine. To determine the validity of this point I made several examinations and found, that out of 194 patients examined for stricture, that condition existed in 184. Some of these had discharges at the time and others were only suffering from the resultant conditions of that discharge, but all had symptoms pointing to a urethral stricture, otherwise the examination would not have been made.

A word here may not be out of place in reference to the treatment of chronic gonorrhea at this resort and why it is successful. It is not an uncommon occurrence, in fact a very frequent one, for visitors who have been here a few days, using the waters, to call the attention of their physician to a slight urethral discharge, making the statement, that several weeks or months before they had had an attack of gonorrhea, but thought it entirely cured. In others a slight, but noticeable discharge would be increased. I would account for this by the well-known fact that these waters are stimulating to the urethra and during the first few days of its internal use decidedly so. In an acute case the hot water is to some extent harmful, although that from many of the cold springs is very beneficial as soothing diluents. It is also an established fact, that a low-grade inflammation, such as we have in gleet, demands a stimulant to bring about a healthy reaction, and this we get, in various degrees, from the use of the hot waters, by increasing or decreasing the amount used as the case may demand, and to this then is added the local treatment.

¹ See discussion of urethral stricture in History of the Hot Springs of the Philadelphia Medical Journal, Vol. 1, No. 1, 1900, p. 128.

In taking up the remaining subject, that of syphilis, we will begin by giving Charts IV, V, and VI.

CHART No. IV.

	AGE.	NUMBER OF INDIVIDUALS.
The age at which each patient contracted syphilis	15	3
	16	8
	17	20
	18	41
	19	38
	20	51
	21	77
	22	84
	23	65
	24	51
	25	59
	26	38
	27	42
	28	43
	29	30
	30	27
	31	27
	32	12
	33	10
	34	13
	35	17
	36	13
	37	9
	38	9
	39	6
	40	4
	41	5
	42	3
	43	1
	44	3
	45	1
	46	4
	47	2
	48	3
	49	1
	52	2
	53	2
	54	1
	57	1
	60	1
	63	1
	65	1
Inherited syphilis		2
Total		831
The average age at which syphilis was contracted	25.7	

In comparing Chart IV with the similar one for gonorrhea we see that infection begins at the age of 15 instead of 10, it reaches its greatest number at 22 instead of 18, and is also continued to a more advanced age, 65 instead of 57. The ratio we find to be pretty constant all the way through. The reason for this being so, can be accounted for by gonorrhea being of more frequent occurrence; by boys in their first amours being led by the bolder women that frequent the streets. These women take little care of their persons and practically all have a partially cured gonorrhea, while they do not all have syphilis, being trained in the art of observing their victims for their own protection, which can be done better ordinarily in syphilis than in gonorrhea, hence they become sources of great danger. Later, too, the men become more bold and make victims of comparatively innocent parties, and these women from ignorance, and real or assumed modesty, are unable to protect themselves, hence contract syphilis easily and likewise distribute it as easily among other "special friends." Care also in postamour ablutions and a lesser susceptibility of the urethra to the action of the gonococcus in the older subjects has its influence.

In Chart V is given the most important data we have to offer. When we glance at it and see the great number who have had syphilis for so many years, and to know that the greater proportion of them were still suffering from the activity of the disease, it is, to say the least, discouraging. I am not willing to say that they were all suffering from syphilis direct, many were

CHART No. V.

	LENGTH OF TIME.	NUMBER OF INDIVIDUALS.
The length of time syphilis had existed in each patient when seen, counting as accurately as possible from date of chancre	1 week.	2
	2 weeks.	4
	3 "	1
	4 "	10
	5 "	4
	6 "	10
	2 months.	28
	3 "	41
	4 "	40
	5 "	31
	6 "	24
	7 "	22
	8 "	24
	9 "	11
	10 "	17
	12 "	53
	14 "	16
	16 "	11
	18 "	28
	20 "	14
	2 years.	61
	2 1/2 "	28
	3 "	65
	4 "	50
	5 "	31
	6 "	22
	7 "	28
	8 "	16
	9 "	10
	10 "	26
	11 "	8
	12 "	12
	13 "	7
	14 "	5
	15 "	4
	16 "	6
	17 "	2
	18 "	4
	19 "	1
	20 "	9
	22 "	1
	23 "	2
	24 "	2
	25 "	2
	29 "	1
	30 "	1
	34 "	1
Number in whom there was no certain knowledge of a chancre		30
Cases of inherited syphilis		2
Total		831
The average time that each patient had been affected with syphilis when seen	3 years and 7.8 months.	

CHART No. VI.

	NUMBER.
Urethral chancres seen, including those of meatus	10
Number of syphilitic patients in whom there was no certain knowledge of a chancre	30
INTRAGENITAL CHANCRES.	
Chancre on tongue	1
" " tonsil	1
" " lip	1
" " chin	1
MULTIPLE CHANCRES.	
Two chancres	3
Three "	4

suffering from the effects of its poison, possibly more from the effects of its irrational treatment, and still others from the thoughts of having had it. To at once appreciate the magnitude of the working forces of this disease, let us make some deductions from the cases I present, taken as a standard. There were 799 cases whose average time of battling with the infection was over 3 years and 7 months. Reduce this to years for the whole number and we have a little over 2,916 years. Again, taking the data furnished by Gihon, who estimated that there are at one time 2,000,000 cases of syphilis in the United States, and from this at the same ratio of existence in each case of the disease, we have 7,300,000 years; and as Buret has traced the disease back nearly 7,000 years, and we come to compute for

the whole world for that length of time including the terrific ravages of the plagues, we find ourselves completely lost in the immensity of numbers—and yet this little something that has given so much trouble and for such a great length of time is not even known. By stealth these victims keep the knowledge of their suffering from the public gaze, but that monstrous reaper—tuberculosis—almost pales into insignificance in comparison. After years of constant attack of the poison of syphilis upon the system, whatever it is, it is true its forces are depleted and attenuated, but likewise are the opposing forces in the human victim, and we have left a constitution eminently fitted for furthering mortality.

The fact, of course, is to be considered that many of the older cases we see here are the exceptions, and that we must not lose sight of the fact that there are hundreds who never see and apparently never know of any inconvenience from the disease a few months after infection, and it will again be necessary to keep in mind the class of patients reported. Neglect in the early and proper treatment, continued over a sufficient length of time, even in the absence of symptoms, is so often neglected by these people that it becomes a greater factor of harm than in private practice.

I also tabulated the special features of those cases that had had the disease for 4 years and over, to see what the prevailing ailments might be, and while I found a great variety of results there were special lines very noticeable, and at the same time convincing proof that the man who contracts syphilis may indeed be impressed with the idea that his troubles in life have well begun, and as time goes on, he too often is further made to believe, from experience, that they increase as he grows older. Among these features were gummatous ulcers in various locations, indefinite pains, rheumatism, anemia, many bad stomachs, necrosis of bone, rupia, and a point noticed particularly was the number in whom the glands were markedly enlarged, even for a period of 8 or 10 years or more. Ulcers were seen in great numbers, and small multiple sores well distributed over the entire body were much more frequent than I had been led to believe they would be. The points other than enlarged glands, weakened stomachs, anemia, and indefinite pains will be passed by, merely having been mentioned.

A marked glandular enlargement, noticeable several years after infection, is quite frequent and possibly more so among these patients than in private practice, and is probably due, when dependent upon this disease, to the fact that treatment in the early stages is not persisted in until they are reduced, they then become permanently enlarged from a new growth of interstitial fibrous tissue which resists, to a great extent, all treatment. These glands are not of especial value as a diagnostic sign, so late in the disease, in determining whether it is still present or not, and, of themselves, do not demand treatment. In the laboring classes the inguinal and epitrochlear glands are often enlarged, hard labor itself being the only tangible cause, and the former are most always permanently enlarged in patients who have had protracted attacks of gonorrhea.

The other conditions—weakened stomach, anemia, and indefinite pains—follow each other naturally. It is the custom of many physicians to prescribe potassium iodid in the early disease, even in large doses, along with mercury in some form as a routine treatment. If this is not done, often the patient him-

self, especially the dispensary patient, goes to the druggist and obtains a bottle of iodid and begins to treat himself. He has heard of what a wonderful walking barometer he may become, by mercury being deposited in his bones, should he take that drug. He soon finds by experience that potash will produce pimples on the skin, and concludes at once that it is "ridding the system of bad blood." Every tramp you see basking in the sunshine on the mountainside has a small pocket mirror which he consults frequently to see the progress of his pimples. Like the ancient Sun Worshipers they worship them because they can see them. A few weeks or months after experiencing this eruptive process for a considerable time, some real or imaginary symptom causes him to reproduce it. Again and again this is repeated until his stomach begins to rebel under the weight of the *potash habit*. From a generally inactive stomach, the proper amount of nourishment is not supplied to the system and anemia follows. In the trail of anemia may then revive the latent forces of syphilis, and attack any organ or tissue of the body. The mental capacity is lessened, the nerves assert themselves, and we have the *indefinite pains* spoken of above. These pains are indefinite as to intensity, location and time of occurrence. The intensity of the pain varies very much, but is usually not severe and is aching in character; they are inconstant as to their persistency in any one part; they are not influenced to any extent by the hour of the day, but the changes in the weather have much to do with their occurrence and severity. That the potassium iodid is the prime factor indirectly in developing these conditions I do not doubt, but that it is a cause direct, I do doubt, for mercury will relieve them; however, this may be due to some extent to its rapid tonic action on the blood in this condition. By avoiding mercury and by abusing the use of the potassium iodid this condition is brought about, yet is always, by the patient, attributed to mercury. He connects it with mercury from the fact that the pains are more severe during damp and cloudy weather. The pain often seems deep-seated, his bones ache and he imagines the barometric state has been reached. He comes here to bathe for the purpose of getting rid of the mercury, of which he has taken a little perhaps years before, but always includes his usual course of potassium iodid, which seems as essential to him as does the cocktail to the habitual rounder. Finally, when he is disappointed at not obtaining relief, he consults a physician and usually refuses to take mercury, but when it is given to him secretly he is relieved. This may be an example of *similia similibus curantur*, but I think instead, it is a case of syphilis meeting with its proper antidote. Where we may possibly see one injured by the use of mercury we see hundreds that are injured irreparably by the uncalled for and irrational use of the potassium iodid.

Health of the Army.—The Surgeon-General has received a report from Col. Greenleaf, chief surgeon of the division of the Philippines, regarding the health of the army in that locality. The report which was dated Manila, January 15, 1901, showed that at that time the strength of the command was 67,415, and the percentage of the sick was 7.49. The consolidated weekly report of hospitals in Manila and the military hospitals in the division shows 2,400 sick, of which 390 were cases of malaria, 1 fever, 326 dysentery, 258 wounds and injuries, etc. There were 83 deaths among the troops during the month ended January 15.

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The Oxytocic Action of Lumbar Injection of Cocain.—Since the startling innovation of lumbar puncture with subarachnoid injection of cocain for purposes of general anesthesia the medical journals have from time to time published reports of cases so operated upon. This method of anesthesia has especially received support on the continent and by the French surgeons in particular. The records of Tuffier, who has probably experimented on the subject more extensively than any other individual operator, are not encouraging. The very decided mortality attendant upon cocain-injections into the spinal canal would not warrant the general adoption of such an apparently dangerous method of anesthesia save in those cases in which other anesthetics should be contraindicated.

Following shortly upon the general surgical use of lumbar injections of cocain came the suggestion of its employment in labor for purposes of anesthesia. Under the action of the drug the labors were found to progress without suffering on the part of the patients and, according to the published reports, without any evil consequences to mother or child. It was noted, however, by several of the experimenters that there developed a tendency to uterine and abdominal inertia, the former from a direct benumbing action on the uterine muscles and the latter probably as a consequence of the loss of suffering on the part of the patient who experienced no stimulus to bear down and thereby hasten the delivery of the fetus. Thus, Marx, of New York, in a series of 40 cases thus treated, was compelled to hasten delivery by the application of forceps in 16 instances,—an unusually high percentage of operative cases.

Recently, however, the distinguished French obstetrician and gynecologist, Doléris, has presented papers before various well-known societies, including the Académie de Médecine, the Paris Society of Obstetrics and Gynecology, and the Medico-Chirurgical Society of Paris, in which he strongly advocates the use of lumbar injections of cocain as an efficient oxytocic. Coming from such a source, and directly antagonizing the former published records as to the action of the drug thus administered, these communications must elicit considerable interest the world over. Doléris states that while anesthesia is complete, there is no diminution in the intensity of the uterine contractions, which are of rapid occurrence and normal duration, and

produce a speedy and progressive dilatation of the os with normal obliteration of the cervix. After delivery of the fetus has been accomplished in these cases, the uterine retraction and contraction are normal. This was especially noted in a case of Cesarean section for pelvic contraction, which was performed by Doléris on the eighth of October last, the Säger operation being selected and the results being all that could be desired. In fact, Doléris remarks that in no other Cesarean operation performed by him had he noted such complete and persistent uterine contraction, and he further suggests that in cases of labor in which the operation of version would have to be performed, this firm contraction resulting from the action of the drug might contraindicate its use.

Kreis, however, who had performed version under cocain anesthesia secured through lumbar puncture, experienced no difficulty from this source. Contrary to the general experience of the experimenters thus far Doléris would suggest the use of cocain-injections as the proper course to pursue in the treatment of uterine inertia. He maintains that even in small doses of one centigram of the cocain solution there follows a positive action on the motor uterine nerves whereby efficient labor-pains are induced. He even goes so far as to say this might eventually become the accepted method of induction of labor.

Remarkable as are these statements of the eminent French obstetrician we feel that without further confirmation from other equally reliable sources this method of treatment cannot conscientiously receive the endorsement of obstetricians any more than could the suggestion of Lawson Tait, published immediately prior to his death, that Cesarean section should be adopted as the proper treatment for placenta previa. With the evident mortality that has attended the use of subarachnoid injections of cocain in general surgery one would hardly feel justified in exposing his parturient patients to risks that legally as well as morally would not seem warranted. The profession will await with interest the future developments in this line of experimentation.

The Differential Determination of Human Blood from that of Animals.—The determination of a satisfactory method of differentiating human blood from that of animals is a problem of recognized medico-legal

importance. The spectroscopic examination will prove merely the presence of hemoglobin, but will furnish no clue as to the derivation of the blood. The character of the crystals of hemoglobin varies in different animals, but from a medico-legal point of view, this difference cannot be utilized owing to the fact that a considerable quantity of fresh blood is required. The study of the relative differences between the red blood-corpuscles is comparatively fruitless, for within the limits of size of a human red blood-cell there might be included those of the dog, rabbit, and perhaps other domestic animals. Equally uncertain is the test of the time of coagulation of fresh blood. We are indebted to a French observer, Bordet, for a decidedly practical advance in this direction. In 1898 he showed that after injecting into an animal the defibrinated blood of a different species there were developed in the blood of this animal two substances which he termed *agglutinin* and *hemolysin*. The former of these possesses the property of agglutinating the red cells; the latter disintegrates them. Their peculiar properties are exerted only upon the particular blood with which the animal was inoculated. Following this investigator Uhlenhuth, of the Institute of Hygiene of the Faculty of Medicine of Greifswald, performed a series of experiments upon rabbits, first with bovine blood, then with human blood. He injected into the peritoneal cavity of these animals 10 cc. of defibrinated beef blood, and after five injections the serum of the rabbits' blood was so modified as to cause agglutination and to possess hemolytic properties towards the blood of beef exclusively. He then prepared a series of dilutions of human blood and the blood of nineteen different animals, principally the domestic animals. This was allowed to settle, or was filtered and an equal quantity of saline solution was added to each tube. By means of a pipette, six to eight drops of serum of the rabbit, which had received the injections of the defibrinated beef blood, were added to each tube. In all the tubes save the one containing the blood of beef, the liquid remained absolutely clear, but in the tube containing this blood a flocculent precipitate was formed. The same experiment was repeated with the serum of rabbits which had received injections of defibrinated human blood. It was found upon adding a dilution of human blood to tubes similarly prepared that no precipitate was formed except in that containing the serum of the rabbit which had received the injections of human blood. More recently and independent of Uhlenhuth's work, Wasserman and Schütze, of the Institute for the Study of Infectious Diseases in Berlin, pursued similar investigations. At intervals of two days they injected into the peritoneal cavity of rabbits 10 cc. of human blood-serum deprived of its cellular elements. After five or six injections the animals were bled from the carotid. The blood was collected carefully and allowed to separate at low temperature. Upon adding to the serum of the rabbit a weak solution of

human blood diluted with physiological salt-solution, or distilled water, a precipitate was immediately formed. These observers declare that the action of the serum of rabbits so treated is specific, for the reaction is not observed with any other than human blood. Uhlenhuth has found that this specific reaction may be obtained with a drop of blood which had been dried for four weeks upon a board.

We hope that these investigations may have an important medico-legal bearing and may furnish us finally with an absolute, as well as thoroughly practical, differential test. A résumé of these experiments from the pen of L. Cheinisse appears in *La Semaine Médicale* of February 27, 1901. Bordet's original paper was published in the *Annales de l'Institut Pasteur*, October, 1898; Uhlenhuth's in *Deutsche medicinische Wochenschrift*, February 7, 1901; and the paper of Wassermann and Schütze will be found in *Berliner klinische Wochenschrift*, of February 18, 1901.

The Crusade Against Cigarettes.—According to *The Outlook*, measures directed against the sale of cigarettes have occupied much attention in the various State Legislatures this past winter. One of the most radical measures is that adopted by the lower house of the New Hampshire Legislature. This law provides that hereafter no person, firm or corporation shall make, sell or keep for sale any form of cigarette. It makes even the gift of a cigarette to a minor a misdemeanor. The penalty is a fine of ten dollars for a first offense and fifty dollars for any subsequent offense. The magazine from which we quote says that this act is a sample of those which have been presented to most of the State Legislatures. It seems that eleven States have already passed laws against the cigarette, and that only two States—Louisiana and Wyoming—have not given the subject some attention. These measures seem to win support very largely from the fact that there is such a widespread belief that this particular use of tobacco is especially prevalent among boys and young men, and that it is doing incalculable injury to many of the rising generation. Even among legislators who are themselves smokers it is not difficult to win support for such bills, because they put this abuse on the same plane as the sale of liquor to minors. The more rational reformers who are frankly opposed to the use of cigarettes (not only by minors but also by adults, and especially by women) will very much doubt the expediency of such stringent legislation as that adopted in New Hampshire. It is notorious that sumptuary and prohibitory legislation generally over-reaches itself, and in the end falls a dead letter. We ourselves doubt whether men and young society women can be legislated out of the use of cigarettes. We even believe that such a law, when aimed at adults, is essentially tyrannous and that it is a specimen of the worst form of paternalism. In the case of minors the question is, of

course, different; and the attention of law-makers should be limited to devising means to stop the sale of cigarettes to this class, just as the law aims to stop the sale of liquors to it. The best preventive after all is a sound public sentiment, and this can be directed against adults of both sexes, as well as against boys. There is doubtless a prejudice abroad against cigarettes, but it seems to be based in part upon nothing higher than the dislike which most normal persons have for the fumes of burning paper.

The Antitoxin-Treatment of Diphtheria.—While it is within the bounds of moderation to state that the mortality from diphtheria has been reduced about one-half in consequence of the employment of the antitoxin in treatment, it is generally recognized that the best results are obtained the earlier in the progress of the disease the treatment is instituted. It has also been learned that maximum doses should be injected at once and be repeated in accordance with the indications in the individual case. Certain differences are observed, also, if the cases are classified in accordance with their character. Thus, Escherich (*Berliner klinische Wochenschrift*, 1901, No. 2, p. 38) recognizes three varieties of diphtheria: (1) The local variety, with slight susceptibility to the action of the toxin, and locally limited superficial predisposition; (2) the progressive variety, with slight susceptibility to the action of the toxin, extensive superficial predisposition, and extension to the air-passages; (3) the toxic-septic variety, (A) with marked susceptibility to the action of the toxin, and circumscribed local lesions (hypertoxic variety), (B) with marked susceptibility to the action of the toxin and local mixed infection, (a) with pyogenic cocci (phlegmonous, necrotic, septic variety), (b) with putrefactive processes (fetid variety), (c) with gangrene (gangrenous variety), (d) with the hemorrhagic diathesis (hemorrhagic variety). An analysis of the cases under observation, classified according to this plan, shows that in the preantitoxin period, from 1890 to 1894, there were treated 115 cases of diphtheria, with a mortality of 45.2%. Of these cases, 30 were classified as localized, 74 as progressive (croup); 11 as septic-toxic, the mortality in each group being, respectively, nil, 55.4% and 100%. In the succeeding, antitoxin, period, from 1894 to 1899, there were treated 1,147 cases, with a mortality of 13.08%. Of these, 593 were localized, 378 progressive, 176 septic-toxic, and the mortality was, respectively, 0.17%, 19.58%, and 42.62%.

Anti-Diphtheritic Serum.—In a recent article in the *Münchener medicinische Wochenschrift*, January 15, 1901, by Trumpp, certain facts regarding the action of anti-diphtheritic serum are stated that are not generally known, and, if true, are of considerable importance.

Trumpp had under his care a child to whom 3 doses, each containing 1,500 units, were given without the

least influence upon the rapid course and fatal termination of the disease, and as the first dose was given at the very commencement of the symptoms, it seemed to him that there should be some reason why in this particular instance the effect had been so entirely negative. There could be no doubt about the diagnosis because the organisms were found in considerable numbers, and there was no reason to suppose that mixed infection existed, for nothing in the bacteriological examinations or in the clinical course of the disease suggested this. Then it occurred to him that possibly the serum might be at fault. Upon inspection, however, it seemed normal, and there was no local reaction at the point of injection. On examining the label, however, he found that the serum had been prepared 10 months previously, and he suspected that possibly it had lost its potency on account of prolonged keeping; but upon inquiry he found that it was still legally efficient, as it was not yet time to retire it in accordance with the German law upon this subject. He, therefore, applied to the "Höchster Farbwerke," where the serum had been prepared, and received a reply from Dr. Libbertz, in charge of the protective serum department. In this Libbertz states that although it is true that serums do diminish in effectiveness after keeping, this diminution occurs in the first two or three months and is probably due to the action of the antiseptics. Later, they can be kept for years without any impairment of their potency. He also stated that in view of this diminution it is customary to mark the serums with a rather lower potency than they actually possess so that the minimum value always exceeds that stated upon the label. In conclusion, however, Libbertz states that in consequence of the impairment in anti-diphtheritic serum, quantities of it are from time to time withdrawn from commerce.

Trumpp very pertinently inquires whether these experiments upon which the first statements are based, were made upon animals or human beings? and further, what conditions give rise to the loss of potency?

The whole question is an exceedingly interesting one, and of the gravest importance to clinical medicine, because upon the effectiveness of the first dose of serum depends, in all probability, the outcome of the case.

It is a pity that some of our bacteriological laboratories in America, which, on the whole, produce such a relatively small amount of original work, can not thoroughly thrash out this subject.

The Value of Alcohol as Food.—This subject is apparently one that will not stay settled. Not long ago Prof. Atwater thought he had settled it for a while when he stated that alcohol is a food in the sense that it supplies energy to the body, although not in the sense that it goes to form tissue. This, in fact, has been the teaching of physiology, if we mistake not, for

a good many years. Now M. Chauveau, a French physiologist, reports a series of experiments which he had made, and which, he claims, tend to prove that the value of alcohol as a food has been much overestimated. He thinks (*Revue Scientifique*, January 12 abstracted in the *Literary Digest*) that he has established that very little energy, if any, is derived from ingested alcohol. We are not prepared to criticise M. Chauveau's opinion, but we cannot help suspecting that a little of the uncertainty that clings to this subject comes from the ambiguity of this term "energy." His object, apparently, was to discover whether in the case of a laboring man the muscles are caused to contract by deriving the necessary energy from the combustion of alcohol. This seems to us to be somehow a rather inadequate statement of the question. We should suppose that a muscle's "energy" was not derived from an outside source but from its own inherent nutritive function. For the sustaining of this nutritive function it, of course, requires a food from a source outside of itself. M. Chauveau seems to think that ingested alcohol can participate only in a feeble degree in this process. He, therefore, thinks that alcohol is not a food so far as the production of force is concerned, and its introduction into the ration of a worker is a physiological contradiction. He contends also that the organism, even when not actively at work, does not use alcohol as a food in any of its physiological processes. The results of all experiments, he says, show this; especially the enormous deficit in its combustion shown by its elimination, especially through the lungs. After all, these profound and somewhat obscure physiological speculations do not invalidate the conclusions of practical clinical observers that in some particular way alcohol has distinct value as a therapeutic agent. Call it a food, an energy, or merely a stimulant, its place is probably quite definitely fixed in practical therapeutics.

A Study of British Genius.—Mr. Havelock Ellis has been publishing in the *Popular Science Monthly* a paper on this subject which contains some items of special interest for medical readers. As a study in heredity and environment the paper has, of course, a general interest for the limited class of physicians who concern themselves with these topics; but it also contains things here and there which challenge the attention of all medical men because of what we may call a personal or professional bearing. Mr. Ellis' first care, of course, in making a statistical study was to select his material, and it is right at this point that he excites criticism. He proceeded, according to a law of his own, by picking from the "Dictionary of National Biography" the names of such Britons, in all fields of mental activity, as seemed to himself to have been endowed with genius. He finds that the doctors make an "unexpectedly small group." He discovered that Great Britain has produced no fewer

than 859 men of more or less genius (according to Havelock Ellis and the aforesaid "Dictionary"), but in this goodly sized group there were only 7 doctors. This alleged fact is all the more depressing because the group is not confined to moderns but goes all the way back to St. Boniface and Duns Scotus. These 7 doctors are Linacre, Caius, Mead, Pott, Sydenham, Cheselden, and Cullen. We know not what assistance Mr. Ellis had, if he had any, in making this selection, and we must acknowledge that these names are fairly representative, but we cannot see by what principle of exclusion the names of Harvey, Jenner, John Hunter, and Lister, not to mention a few others, were left out of this list of medical men. Mr. Ellis explains that eminent physicians sometimes win fame in the domains of pure science, and cannot be strictly classed with their profession. This was true of Huxley, who is not included anywhere in the lists, but it certainly was not true of the four just named, all of whom are listed by Mr. Ellis with the men of science. Sir Thomas Browne is placed among the men of letters, but his profession will not let him go without a remonstrance. Erasmus Darwin also was an M.D. We protest that all this is unjust to the medical profession, and goes far to invalidate Mr. Ellis' conclusions.

Among these conclusions is one respecting the percentage of 640 of these men of genius. But 2.9% of them had physicians for fathers, while 12.5% were the sons of clergymen, and 5.4% were sons of lawyers. The inferences to be drawn from these figures are somewhat problematical, but the figures should not be taken to imply (as Mr. Ellis might lead one to do) that doctors do not procreate as brainy sons as do clergymen and lawyers. This inference, based on such figures, would be preposterous. The social status and customs in England probably influence these results. This is shown by the fact that the church outnumbers all the other professions together—law, medicine, and the army—in this matter of begetting men of genius. It is curious, perhaps, that not an eminent doctor was the son of a doctor, although army officers and clergymen are often the fathers of sons eminent in these respective professions. But Charles Darwin was the son of a physician, as was also Landor, the man of letters—at least, so we infer from Mr. Ellis. Edward Forbes, the naturalist, was a student of medicine. In the case of Oliver Goldsmith, who was a physician, we perhaps have no right to set up much of a claim.

Medical College Libraries.—There can be no question that a well-stocked medical library is a most important adjunct to a medical college. Neither is there any doubt that such a library should be housed in a convenient and attractive way so that medical students in their odd and leisure hours would feel inclined to patronize it. A collection of old medical books in a cold and barren room is not the ideal for such a library. We learn from the *Jeffersonian* that the

library in Jefferson Medical College (which attains a proper ideal) is thoroughly appreciated by the students. This is evident from the rapid month-by-month increase in the number of books taken out. The library report shows an average of more than 50 volumes a day for each working day of the month, while the largest number was 100 on one day. This indicates the cultivation of a studious habit and the formation of a literary taste which from some standpoints are just as important as the results obtained from routine work. In our great universities the library is properly made the central figure of the campus; it is the central luminary about which the intellectual life of the university revolves. The University of Pennsylvania well supplies this want, while at Harvard and Princeton it is as good as giving an education to give a student free access to the University Library. Our medical colleges would all be fortunate to have such advantages.

"The Clinical Value of Astereognosis, and its Bearing on Cerebral Localization."—(Abstract of Dr. Walton's paper before the Philadelphia Neurological Society, February 25).

The writer dwelt on the importance of testing the stereognostic sense in cerebral disease. Impairment of this sense is not rare. Lasting astereognosis is common in hemiplegia. (Abba found $\frac{1}{3}$, Dercum nearly $\frac{1}{3}$, the writer $\frac{1}{3}$.)

Four cases were reported of lesion in the Rolandic area, three with operation. Astereognosis was present in all with no loss of pain or temperature senses, and in only one case, slight impairment of touch sense. In one case motor paralysis, previously limited to the lower extremities, spread after operation to the hand which then became astereognostic. The astereognostic patient cannot tell, if the foot is affected, whether the pencil is applied transversely to the sole or only the point is used, though the touch sense may be normal.

These cases, with others reported, tend to show that the Rolandic region is an important seat of the stereognostic sense. This assumption is not contradicted by the numerous cases reported of Rolandic injury unaccompanied by sensory loss, for in such cases the examination has not, as a rule, included the stereognostic sense. When this sense has been tested in such cases it has been found defective.

In view of the strong evidence for both the Rolandic region and the parietal lobes and gyrus fornicatus as sensory areas it seems desirable to reconcile, if possible, the views of Mills and Dana. The writer suggested a theory adaptable to clinical experience and analogous to a mechanism already accepted, namely that of language.

In studying this question we need not limit the number of neurons involved, for it is as logical to suppose these processes complicated as to assume that they are simple. The theory suggested included:

1. Structures receiving simple cutaneous sensations.
2. Centers for appreciating the qualities of the objects touched (corresponding to the center for mind vision).
3. Kinesthetic centers assembling these and other sensory stimuli. The centers of the third order are probably seated principally in the postcentral gyrus. For diagrammatic purposes the writer placed the centers of the lower order in the parietal lobes and gyrus fornicatus for the upper and lower extremities respectively. Astereognosis might result from lesion in the parietal region through disturbing the mental picture.

The fibers conveying muscle sense probably follow a more direct course from the internal capsule or thalamus to the kinesthetic centers. These centers may represent the aggregation of associative memories stimulating so-called voluntary movements. Though the whole hemisphere may take part in mental processes, lesions in certain regions are perhaps specially liable to disturb these processes when exercised in certain directions on account of the aggregation of associative memories. From this point of view cerebral localization is not altogether incompatible with the psychology of Loeb.

Reviews.

Therapeutics: Its Principles and Practice. By HORATIO C. WOOD, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Penna., etc. Eleventh edition. Remodelled and in greater part rewritten by Horatio C. Wood, M.D., and Horatio C. Wood, Jr., M.D., Demonstrator of Pharmacodynamics in the University of Pennsylvania. 8vo, pp. xxxi, 850. Philadelphia and London: J. B. Lippincott Co., 1900.

Dr. Wood's Therapeutics, which for 25 years has been a standard work, appears in the present edition very much altered in appearance and in the arrangement of the subject matter. The authors have done a great service to the student by endeavoring to present the articles according to a uniform plan, and by putting the less important portions in smaller type. The text also has been made more readable by removing the references to the end of each chapter. The doses are given according to the metric system and in apothecaries' weights and measures. Of course there are new articles on the newer drugs. Moreover, by judicious excision, conciseness of statement, and rearrangement of the text it has been possible to reduce the size of the volume. There can be no question that the changes have improved the book, good as it has always been, and that it will continue to be a trustworthy guide to therapeutics. [H.B.A.]

The Year-Book of the Nose, Throat, and Ear. The Nose and Throat edited by G. P. HEAD, M.D. The Ear edited by ALBERT H. ANDREWS, M.D. Chicago: The Year-Book Publishers.

This volume is one that should meet the approval and encouragement of those working in the specialty indicated by its title. It comprises a resumé of the more recent articles on the subjects with which it purports to deal, and contains a large amount of information of value both to the specialist and to the general practitioner. In its preparation the editors have culled from over three hundred periodicals and reports and they have succeeded in giving a very fair resumé of the year's literature. No attempt is made to argue pro or con on the various articles abstracted, and when authorities differ equal credit is given to all. There is a good working index of twenty pages.

The book bears much evidence of either haste in preparation or carelessness in editing. It is far from being an up-to-date specimen of the printer's and bookbinder's art and there is not shown the care in systematizing the various subtitles that there should be. Some of the English, particularly in translated articles, is not as smooth and accurate as one has a right to expect. There is no excuse for such a sentence as "Recurrence in five months, which was removed" (page 174), or "The patient could swallow good, . . ." (pages 175-176). It is to be hoped that in future editions these more glaring faults will be eradicated and also that there will be added a table of contents, almost a necessity in a book of this character. [D.B.K.]

Handatlas der Anatomie des Menschen. Bearbeitet von WERNER SPALTEHOLZ mit Unterstützung von WILHELM HIS. 3te Auflage. Leipzig: 1901.

The favorable reception accorded the first volume of Spalteholz's admirable "Handatlas" on its first appearance, now something over three years ago, was by no means limited to Germany, and its excellence was promptly appreciated by American teachers of anatomy. The subsequent issue of the second and the first part of the third volume strengthened this estimate and widely extended the circles in which the work has become a favorite. The purpose of the editor is to cover in about 800 drawings the most important parts of descriptive anatomy; to this end a large number of original drawings have been made from special dissections and preparations, the illustrations of the "Handatlas" representing a selection of those which seemed most instructive and helpful to the student.

The first 200 illustrations of Vol. I, representing the bones, are, taken as a whole, the least satisfactory; not from lack of faithful or capable drawing, but rather from the unsuitableness of the half-tone process to preserve the rugged vigor of line essential in conveying a true impression of bony masses. In addition to lack of spirit, the pictures of the bones, in not a few cases, are marred by unnecessarily intense shadows which add nothing to plasticity and certainly mask details. The areas of muscular attachment are very clearly indicated in color on supplementary outline sketches of the more important bones. An excellent feature is the representation of the smaller skull bones *in situ*, the surrounding osseous parts in relation being indicated in outline.

The illustrations of the joints are especially good, unusual clearness being imparted to the ligaments by the delicate contrast-tint laid over the bones. While, probably, the student may be disappointed in some instances in failing to find the ligaments on his subject presenting the sharply defined forms that the drawings portray, he will have, nevertheless, before him a most clear and comprehensive guide to their study.

Vol. II, including the muscles, the heart, and the blood-vessels, is very satisfactory by reason not only of the attractive and artistic drawings, but also of the excellent judgment with which the dissections have been made, and the views selected to illustrate the parts under consideration. The representations of the arteries are particularly good; those of the veins are somewhat less successful, since they are often marred by unwarranted depth of shadows. An interesting section across the cavernous sinus shows the artery about midway between the lateral and mesial walls of the venous space, the sixth nerve lying in close relation to the artery below, with the ophthalmic division of the fifth, within the lateral wall, extending considerably below the level of the sixth nerve.

It is, however, to Vol. III, devoted to the thoracic and abdominal viscera, that we turn with greatest interest, since the close association of the author with Prof. His, whose work has advanced so materially our appreciation of the true form and relations of the organs, naturally suggests the exercise of unusual critical judgment in the preparation of this part of the subject. Nor have we reason for disappointment, since the drawings, with very few exceptions, are excellent, interesting, and well chosen. They faithfully represent the digestive, respiratory, and genitourinary organs as these appear after careful hardening *in situ*, by which their true form and relations are preserved with, at least, a fair degree of accuracy. That viscera so treated should appear very different from the representations accepted without challenge before the missionary work of the His models is to be expected; that anatomists should have failed so long to appreciate what now is so evident seems incredible. Another valuable feature is the reproduction of the semi-microscopical appearances, as seen under the hand lens, as those of the mucous membrane of the various parts of the digestive tube. Such pictures are most instructive and emphasize the close relations between the gross appearances and the histological details.

The text accompanying the illustrations is not only descriptive of the particular drawing under consideration, but includes the salient points in the anatomy of the parts represented, so that it is, in many cases, an acceptable epitome. The terminology is that of the B N A.—*Nomina Anatomica*—adopted by the Anatomische Gesellschaft at its meeting at Basel in 1895, now generally followed in all recent German works. In this connection it may be of interest to note that W. Krause, with the collaboration of Professors His and Waldeyer, has undertaken a systematic text, based on C. Krause's "Handbuch der Anatomie," especially intended for use with Spalteholz's "Handatlas;" an additional and broader purpose was the demonstration of the advantages of the new nomenclature by putting it to consistent use in a brief although systematic textbook. Reinke is accomplishing a similar object in the text which he is preparing to be used with the recent atlas edited by Toldt. The appearance of the English translation of Spalteholz's Handatlas, by Professor Barker, has brought the B N A terminology to our American students in such an attractive form that its advantages, with slight encouragement on the part of teachers, cannot fail to be appreciated.

In its full classical form, as seen in Krause's text, it is

doubtful whether the B N A will make marked headway in America and England, since the often apparently formidable and truly cumbersome array of words appeals neither to student nor teacher seeking the most convenient and concise mode of expression. Neither, as a matter of fact, does the German student often resort to the Latin terms when his native language is so rich in simpler, and often most expressive, synonyms. As is well known, for a number of years the efforts of the Association of American Anatomists have been directed towards the simplification of anatomical terminology by the pruning of all superfluous words; this worthy desideratum, however, it seems to us, is not incompatible with profiting by the many desirable features of the new terminology. Notwithstanding the truism, "Names but stand for things," there is every reason for preferring terms that shall be consistent and logical and, as far as possible, universally used. That the terminology at present followed in our anatomical textbooks only imperfectly meets such requirements few will deny. Careful study of the B N A shows that when shorn of their somewhat formidable appearance by being Anglicized, the terms in the great majority of cases correspond closely with those usually employed by our own students; that in those cases where more radical differences do exist, the newer terms, in the Anglicized form, might be adopted with profit and great gain in accuracy. One important advantage of the B N A is the substitution of terms indicating the location and relations of parts for those embodying the surnames of investigators. The reaction against this growing evil—and none have been greater offenders in this respect than our Teutonic colleagues—is most timely. While some may be loath to abandon such a time-honored friend as Poupart's ligament in favor of *inguinal ligament*, there is little doubt as to which best expresses the general position of the structure. Association suggests an example of the greater consistency of the newer terminology in the case of the bloodvessels and closely related nerves of the thigh. While we have abandoned the name "crural" as applied to the femoral artery and vein, it is still retained in connection with the anterior crural nerve and the crural branch of the genitocrural nerve. These nerves according to the B N A consistently become the femoral nerve and the femoral branch of the genitofemoral.

This digression is offered in no sense as a defense of the new terminology, which, although it has defects as well as merits, is established on a lasting foundation. It has been rather with the purpose of suggesting to those of our readers who are interested in anatomy and surgery the desirability of acquainting themselves with the undoubted advantages to be derived from the adoption, in a modified form, of many terms of the B N A which will add to the uniformity and accuracy of our anatomical nomenclature.

The last part of Spalteholz, including the nervous system and the organs of special sense, is yet to appear. The beauty and clearness of the work, as far as published, warrant the anticipations of a most interesting and instructive fasciculus when the remaining section is issued. While the German student is to be congratulated on possessing so admirable an atlas, the completion of Dr. Barker's translation of the book will introduce, before long, into our own dissecting rooms a guide which will surely become a favorite. [G.A.P.]

Uterine Fibromyoma.—Dr. Kiewsky (*Gazeta Lekarska*, November and December, 1900) employed intraspinal cocaine (2% solution) in eleven cases. The ages of the patients varied from 18 to 60. Only in one case of uterine fibromyoma did the method result in failure, in spite of an injection of 1.5 cc. In all others anesthesia was produced in from 4 to 8 minutes and lasted from 1 to 3½ hours. In three cases no untoward effects whatever were observed; in the others vomiting and frequency of the pulse were the only unpleasant complications. [A.R.]

A New Cause of Intestinal Obstruction.—Dr. Krawtshenko calls attention in the *Medical Chronicle of the Government of Cherson* to the frequent attacks of intestinal occlusions observed among peasants, owing to their habit of swallowing shells and seeds of fruits. He cites four cases. In two the large intestine was occluded by grape seeds, while in the other watermelon seeds formed the offending cause. [A.R.]

Correspondence.

THE USE OF NITROGLYCERIN IN AFFECTIONS OF THE NEWBORN.

By SAMUEL WOLFE, M.D.,
of Philadelphia.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the publication of my paper on "The Causes and Treatment of Urgent and Serious Condition of the Newborn," I appear to advise the use of doses of $\frac{1}{2000}$ of a drop of 10% solution of nitroglycerin. My intention was to advocate $\frac{1}{20}$ of a drop of 1% solution. The error most probably occurred in the original manuscript, and was overlooked in the proof-reading. If you will publish this in correction, I shall appreciate the favor.

THE CASE OF GENERAL CRAWFORD, U. S. A., SIMILAR TO THE CASE OF GENERAL WOOD.

By G. TOTTEN McMASTER, M.D.,
of New Haven, Conn.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN your issue of February 23, 1901, page 358, second column right, you say under the section "A Doctor a Major General," "This is noteworthy because the appointment is in the line," further "it is unprecedented so far as we can recall."

Now this is wrong. One of the best officers of the U. S. Regular Service during the Civil War was Brevet Major-General S. W. Crawford, U. S. Army, who was a surgeon.

Assistant Surgeon S. W. Crawford was appointed from Pennsylvania. For gallant services at the bombardment of Fort Sumter he was raised to Major of the 13th U. S. Infantry (line), and served under Major-General Rosecrans in the West Virginia campaign. He served upon his staff as Inspector-General of the Department until Floyd retreated and the campaign closed with success to the United States.

S. W. Crawford (major) was one of the two officers named by General Rosecrans in response to a request from Washington for promotion to the rank of Brigadier-General and was assigned to duty in the Army of the Shenandoah. He was present at the second battle of Winchester and commanded the advance to Culpeper, and to Cedar Mountain, where in the attack upon it he lost one-half of his brigade. His corps being incorporated with the Army of the Potomac, he was present at South Mountain, and commanded a division at the battle of Antietam after the death of General Mansfield—his corps commander—and was severely wounded.

He rejoined the army on the march to Gettysburg, having been placed in command of the Third Division of the Fifth Corps (Pennsylvania Reserves), participating in the battle upon the left of the line at the Round Top.

Upon the expiration of the term of service in this organization he was placed in command of the regiments of the old (reliable) First Corps, then incorporated with the Fifth as the Third Division of that corps.

This division he commanded through the Rapidan campaign, from Bethesda Church through the siege of Petersburg, the battle of Five Forks and the surrender of Lee's army at Appomattox.

For gallant and meritorious services at the battle of Gettysburg he was breveted Colonel in the regular army; Briga-

dier General for gallant and meritorious service at the battle of Five Forks, Major-General of Volunteers for conspicuous gallantry in the battles of the Wilderness, Spotsylvania Court House, Jericho Mills, Bethesda Church, Petersburg and Globe Tavern (Weldon Railroad) and for faithful service in the campaign; Major-General in the regular army for gallant and meritorious service in the field during the war.

He became Colonel of the 16th U. S. Infantry in 1869, and upon the reduction of the army, which immediately followed, he was transferred to the 2d Reg. U. S. Infantry, and was on duty at Huntsville, Ala., under the Reconstruction Act, for 3 years.

His disability increasing, he made application for retirement, when he by a special enactment was retired Brigadier-General U. S. A., February 19, 1873.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

Opening of New Building.—The new building at the State Hospital for the Insane at Harrisburg, Pa., has been opened with an accommodation for 300 patients.

St. Joseph's Hospital.—Drs. Randle C. Rosenberger and Alfred Hand, Jr., have been appointed pathologists to St. Joseph's Hospital, each to serve 6 months yearly.

Tetanus Following Vaccination.—A man in Harrisburg recently died from tetanus, which it is said was caused by vaccination. After he was vaccinated the arm became very much swollen and shortly thereafter tetanus occurred.

Philadelphia Academy of Medicine.—A meeting and dinner of the Philadelphia members and those of neighboring localities were held at the Stratford Hotel, March 16, 1901. The object of the meeting was to promote the local interest in the association, and to enlarge the local membership.

Proceeds of Charity Ball.—A balance of \$11,200 left after the payment of all expenses connected with the twenty-first annual Charity Ball will be equally distributed among the hospitals of the University of Pennsylvania, the Jefferson Maternity, the Philadelphia Orthopaedic Hospital and Infirmary for Nervous Diseases and the Samaritan Hospital.

A Private Hospital.—Ground has been broken at the corner of North Second and Hamilton streets for a private hospital which is being built by Dr. E. L. Shupe, of Green and Hamilton Streets, this city. The new hospital will be 44 feet front on Second street and extend back 68 feet, will be 3 stories high and will have accommodations for the treatment of from 30 to 40 patients.

Wills' Hospital Ophthalmic Society.—At the suggestion of DR. CHARLES A. OLIVER, the surgeons and assistant-surgeons of Wills' Hospital, met on the evening of February 26, 1901, and formed a society for the presentation and discussion of ophthalmic cases. It was decided to admit to membership the surgical staff and all the clinical assistants. Meetings will be held at 8.15 P. M. in the Hospital building on the second and fourth Mondays of each month. They will be open to physicians who may be invited by members.

Philadelphia Academy of Surgery.—At the meeting of the Philadelphia Academy of Surgery to be held April 1, Doctor John A. Wyeth of New York will read a paper entitled "Amputation at the Hip Joint for Sarcoma; the Tendency to Recurrence." The meeting will be held at the Hall of the College of Physicians, 13th and Locust streets, and any of the members of the medical profession who will be interested in the subject are invited.

Death of Dr. Given.—Dr. S. A. Mercer Given, superintendent of the Burn Brae Sanitarium for Mental and Nervous Diseases, near Clifton Heights, in Delaware County, Pa., died

recently in diabetic coma. Dr. Given had been associated with the late Dr. J. Willoughby Phillips, and succeeded his father, the late Dr. Robert A. Given, in charge of the Burn Brae Sanitarium. He was born in Carlisle in 1860, and graduated from the University of Pennsylvania in 1887. His father, the elder Dr. Given, founded the Sanitarium many years ago, and was widely known in the United States for the success with which he managed this useful institution. The son succeeded to many of his father's admirable personal qualities, and his death, at the early age of 41, will be greatly regretted by all who knew him. His brother-in-law, Dr. Phillips, died only recently.

A Century of Medicine in America.—In an address at Houston Hall on March 15, before the John B. Deaver Surgical Society of the University, Professor James C. Wilson, of Jefferson College, spoke of "A Century of Medicine in America," and told of the great work accomplished by the leaders in that science for its development to a high position. The address was remarkable for its literary treatment of a scientific subject. Though the past century was conspicuous for advance in many lines of thought, he said, medicine probably accomplished greater progress than any other science. The New World is now in a position to repay the Old for many points of advance granted in former years, and is in many respects a leader. America's great surgeons and physicians of the last century were compared favorably with the great names of the Eastern Continent. In a historical sketch of the American Medical Association, Dr. Wilson exhorted his hearers to strive for membership in it, as one of the greatest of assistances to a young practitioner.

Vital Statistics of Philadelphia for the week ended March 16, 1901:

Total mortality	CASES.	DEATHS.
Inflammation of appendix 6, bladder 4, brain 14, bronchi 16, heart 1, kidneys 21, larynx 3, liver 1, lungs 72, pericardium 1, peritoneum 5, pleura 5, stomach and bowels 16, spine 2		167
Inanition 15, marasmus 15, debility 9		39
Tuberculosis of lungs		83
Apoplexy 19, paralysis 15		34
Heart—disease of 27, fatty degeneration of 1, neuralgia of 1		29
Uremia 15, diabetes 3, Bright's disease 7		25
Carcinoma of breast 1, stomach 4, uterus 2, jaw 1, liver 1, rectum 1		10
Convulsions 15, puerperal convulsions 1		16
Diphtheria	33	6
Brain—congestion of 1, disease of 1, softening of 5		7
Typhoid fever	28	3
Old age		11
Cyanosis		3
Scarlet fever	114	9
Influenza 12, abscess of liver 1, aneurysm of aorta 1, alcoholism 2, asthma 2, anemia 1, atheroma 2, burns and scalds 2, casualties 11, congestion of lungs 5, childbirth 1, cirrhosis of liver 4, membranous croup 3, diarrhoea 1, drowned 2, extrauterine pregnancy 1, erysipelas 5, catarrhal fever 1, gangrene of leg 2, homicide 1, hemorrhage from bowels 1, hemorrhage from uterus 1, obstruction of bowels 2, edema of lungs 1, creosote poisoning 1, purpura hemorrhagica 1, pyemia 2, rheumatism 1, sarcoma of stomach 1, sclerosis of spine 1, septicemia 4, suicide 2, teething 3, ulceration of stomach 1, ulceration of foot 1, whooping-cough 2		85

Pediatric Society.—The regular monthly meeting was held March 12, with the president, Dr. T. S. WESTCOTT, in the chair.

DR. J. A. SCOTT read a paper upon **intestinal sand**. The literature of this comparatively rare pathological condition was reviewed and three cases reported. The first case was a woman of 40. The feces contained small regular sand-like bodies which were partially crystalline and somewhat resembled uric acid. There was also some resemblance to bile but no cholesterin was found. It was thought that the appearance of these bodies bore some relation to fruit eaten by the patient. The theory of fruit formation was not borne out by the second case, however, which occurred in a child of 3½ years. The child had periodical attacks of catarrh of the duodenum and ileum and for three or four days after

these attacks the stools would contain fine, reddish, sandlike particles. In the third case what is commonly termed biliary sand was found. Dr. Scott believes that a careful examination of the stools of persons having gastrointestinal or liver disease will finally show the origin of these materials. The pathology is supposed to be practically the same as that of gallstones or urinary calculi.

DR. GEO. MCCLELLAN read an instructive paper on the **Anatomy of childhood**, and afterward illustrated his remarks by stereopticon views. Dr. McClellan spoke of the modifications which occur in the anatomy from birth to puberty. The most important periods in the infant are from birth to the seventh month, and from the seventh month to the end of the second year. In childhood the important changes are confined to the periods between the second and seventh years, and from the seventh year to puberty. Special stress was laid upon the differences in the abdominal contents as found in children and adults. It is a mistake to suppose that the intestines in a child are merely the reproduction in miniature of the arrangement found in the adult. The colon is differently placed, and the sigmoid flexure especially is totally unlike that found in older individuals. The stereopticon views illustrated graphically the relations of the thoracic and abdominal organs.

Pathological Society.—The first scientific business at the meeting of March 14 was an address by DR. JOSEPH MCFARLAND, whose subject was **Some remarks on snake-venom**. A brief review of the researches into the nature of venom and immunizing serums was given, the work of Calmette being dwelt upon particularly. Dr. McFarland then gave the results of his experiments upon 3 horses with cobra and rattlesnake venoms. Heated venom was first used, then unheated venom subcutaneously, and finally, unheated venom was injected into a vein. One horse died from local symptoms, a slough being caused. The tests made with the serum showed that it yielded the best results when large doses of venom were used intravenously. It seems proven that it is impossible to immunize against the local effects of the globulins of venom, but with the peptones it is possible. The possibility of the interchange of serums was also proven. It was not proven that antivenene will protect against the globulins of venom. DR. PACKARD asked if the effect on the heart produced by the venom was such as to justify the popular belief that whisky is a valuable antidote in cases of snake bite. DR. MCFARLAND said that death generally was due to paralysis of the respiratory centers. He also stated that it was safe to say that whisky did more harm than good in cases of rattlesnake bites. These cases are not often fatal in this country under any circumstances, not more than 5% of them proving fatal. Whisky is not a physiological antidote, strychnin better fulfilling the indications. The treatment of snake bite as determined by Calmette is to ligate the part, suck, or draw out the poison, inject chloride of lime solution, 4 drops in each of at least 10 different places near the wound, give strychnin and other stimulants as needed.

DR. DAVID ELSALL read a paper on **The carbohydrates of the urine in diabetes insipidus**. The case studied was a man of 27 who was brought to the hospital in the early stages of typhoid fever. Marked polyuria was proved to be due to diabetes insipidus. The benzo esters of the urine were estimated daily for 2 weeks. There was no increase in the unfermentable carbohydrates. Experiments were then made to determine if the amount of the benzo-esters was caused by diuresis itself. To this end the liquids ingested were reduced until only 68% of the usual amount of urine was secreted. The benzo esters then fell to 62% of their former quantity, thus showing a causative relation. The amount of urinary nitrogen also fluctuated fairly regularly with the benzo esters. The influence of water drinking on the nitrogen of the urine was then studied, the nitrogen being reduced when the water was reduced in quantity. An important conclusion reached is that diet plays the largest part in determining the excretion of carbohydrates.

DR. W. M. L. COPLIN spoke on: 1. **A convenient method of staining a number of sections on one slide**. Four or more sections are mounted on one slide and stained. When counterstaining, one or two of the sections are immersed in one stain, washed, and then the slide reversed and other stains used. In this way each of the sec-

tions are stained by a different method. Care must be taken to wash the slide with alcohol before counterstaining to prevent the stain spreading to the next section. 2. **A modification of the staining methods of Claudius and Van Gieson.** The former method is employed first and Van Gieson's used as a counterstain.

County Medical Society.—The meeting of March 13 was devoted to the consideration of obstetrical topics.

DR. WALTER L. PYLE read a paper on **Postpartum metastatic panophthalmitis with a clinical and pathological study of a case.** This condition is rare since the days of asepsis. It usually comes on from 5 to 15 days after labor, loss of vision often being the first symptom. Enucleation during the activity of the process is not without danger of meningitis and should be deferred. The case reported had developed 10 days after forceps delivery of a woman who had been in labor 56 hours. Rupture had taken place before enucleation was done, a notable point being that it was so far posterior that the front of the eye was left intact.

DR. RICHARD C. NORRIS read a paper entitled **Remarks on the obstetrical forceps employed by the general practitioner.** The technic of forceps deliveries was first considered. Forceps should be boiled in water for at least 10 minutes. The toilet of the patient should be preparation as for a surgical operation. The vagina should not be douched unless there is a known virulent discharge. The operator's hands should be thoroughly disinfected and then covered by rubber gloves. The special topic of the paper was **the management of arrested posterior positions of the vertex.** An accurate diagnosis is the first step, insufficient flexion of the head being the most usual cause of delay. When the head is above the brim of the pelvis one of four procedures is to be chosen: 1. External manipulation, with posture, etc. 2. Internal manipulation, with posture, etc. 3. The application of forceps. 4. Podalic version. In the hands of the general obstetric practitioner podalic version will, as a working rule, give the best results. Forceps must be used in some cases. In cases where the occiput is arrested in front of the sacrum, Dr. Norris has during the past 3 years used forceps as rotators with satisfactory results. This manipulation has been done repeatedly without producing extensive lacerations of the soft parts and with no greater danger to the child than is incurred in other procedures. Reversed forceps applications should not be made even by skilled operators. Rotation by forceps has been condemned very generally, but three years' use has proven its practicability. Dr. Norris uses the Tucker solid blade instrument for this purpose. The handles are deflected toward the side enough to keep the tips of the blades always in the median line of the pelvis. Rotation and traction are used until the R. O. A. position is reached. The forceps are then unlocked and readjusted if necessary. In cases where the head is low down the solid blades are applied to the sides of the head and gradual rotation applied, taking care to keep the head well flexed. The danger in these cases is that the trunk will not rotate. The head must be held after rotation until several expulsive efforts have been made and the trunk rotated. These manipulations were demonstrated on a manikin.

DR. CHAS. P. NOBLE presented a paper on **General considerations of the treatment of placenta previa.** The three dangers of placenta previa are sudden profuse hemorrhage, moderate loss of blood long-continued, and infection. The induction of premature labor is the most important single step in the treatment. Prior to the seventh month of gestation there is but little danger to the mother and viability of the child should be waited for unless in special cases. Bipolar version is of great value in cases of severe hemorrhage. A tampon is to be used only as a temporary expedient while further preparations are being made or assistance summoned. The most rigid asepsis should be used, rubber gloves being especially commended.

DR. GEO. M. BOYD, presented a paper on **Indications for cesarean section in placenta previa.** Placenta previa at present seems to be more frequent than during the past, judging from the statistics of some of the older writers. Of the 2,887 deliveries at the Philadelphia Lying-in Charity there has been 1 placenta previa to every 107 cases. This large proportion may be due to the fact that this institution treats a great many emergency cases. Dr. Boyd places the

maternal mortality at from 10 to 12%. The fetal mortality at the Lying-in Charity has been 81.5%. Any measure which will decrease this high fetal mortality without increasing the danger to the mother is justifiable. Cesarean section will lower fetal mortality and at the same time check hemorrhage from the mother. If hemorrhage comes on before the period of viability, forceps delivery or version may suffice; after viability cesarean section is indicated.

The discussion on the papers of Drs. Norris, Noble, and Boyd was opened by DR. BARTON COOKE HIRST. Dr. Hirst considers it rather unfortunate to exaggerate the dangers of occiput posterior presentations. The general practitioner has a dread of this condition which is unfounded. It occurs in but 25% of all cases, and rotation fails finally to occur in only 4%. Dr. Hirst does not agree with the principle of securing rotation by forceps. He would rather deliver the child by forceps with injury to the soft parts than to rotate by them first. It is possible for the head to rotate without the trunk and not injure the child, but the injury produced by this torsion of the neck has proved fatal in some cases. Regarding placenta previa, Dr. Hirst has met with 24 cases with no fatalities to the mothers. The percentage of mortalities, as given by previous speakers, seem too high. Any one who attends enough cases to be called a specialist should look for a mortality in mothers of less than 1%, and the infant mortality should be under 50%. Cesarean section on account of the infant mortality alone is not justifiable, and he would not at present consider it as a treatment for placenta previa, because it increases the risk to the mother. DR. REYNOLDS WILSON said that forceps blades as now made allow motility of the child's head within their grasp, hence it is immaterial whether they are applied to the sides of the head or the sides of the pelvis. The rotation of the head in occiput posterior presentations by high application of the forceps is not a safe procedure in every instance. The injury to the mother is perhaps greater than to the child. Clinically, placenta previa are of 2 kinds: 1. Those seen early in pregnancy in which the management is fairly easy. 2. Those seen as emergency cases where a total placenta previa has been bleeding for perhaps a week. The majority of the latter are fatal. Full surgical procedure seems dangerous. In these cases the shock of the delivery of the child is a cause of death as well as the hemorrhage. In such a case if the patient was not in too serious a condition, Dr. Wilson would not attempt to separate the placenta, but would penetrate it, do version and use the child as a tampon. When this is accomplished it is advisable to give ergot. Dr. NORRIS stated that his remarks did not apply to cases of occiput posterior that finally rotated, but to arrested cases where something had to be done. The two dangers of forceps rotation are failure of the trunk to rotate and laceration of the soft parts, but the procedure can be successfully accomplished. He does not commend cesarean section for placenta previa. In cases of total or nearly total placenta previa use the tampon only as a temporary expedient, but do not leave the woman until she has been delivered. The statistics of specialists regarding cesarean section have a bad influence on general practitioners. The subject was further discussed by Drs. PRICE, FISHER, COLES, NOBLE, and BOYD.

Wills' Hospital Ophthalmic Society.—Meeting was held March 11, 1901. Dr. S. D. Risley in the chair.

DR. FRANK FISHER presented a case of sympathetic ophthalmitis coming on after a panophthalmitis which had followed a cataract extraction, the patient being 64 years of age. He laid especial stress on the age at which the ophthalmitis had developed and the long period of time elapsing between the condition and the cataract extraction. DR. WILLIAM ZENTMAYER inquired whether it is not rare for the disease to evidence itself in cases in which there is panophthalmitis. In answer to DR. JOHN T. KARLL's question whether the fundus of the sympathizing eye had been examined, Dr. Fisher stated that when he saw the case the eyeground had become invisible. DR. RISLEY asked whether subconjunctival injections of solutions of chloride of sodium had ever been tried by any of the members of the staff. DR. WALTER L. PYLE believed that the occurrence of sympathetic inflammation after panophthalmitis depended upon the amount of destruction of the globe. He believed that if there was decided scleral rupture and escape of most of intraocular contents, sympathetic ophthalmitis was not likely to follow. DR.

CHARLES A. OLIVER had found that all attempts to do useful iridectomy in such cases were futile, the iris-tissue being brittle and friable, while any obtained good results are rapidly lost. He had been successful in several instances by either the Critchett-Story operation or Tyrrell's method of drilling. He had never employed subconjunctival injections to any advantage, nor as yet had made use of large doses of the alkalies, but thought if lymph-formation and circulation are good, the former method might be of assistance.

DR. GEORGE C. HARLAN presented a case of false maculae. The patient, a white man of 23 years of age, whose family and personal histories were negative, had squinted since childhood. He could use either eye. On February 23, 1900, he was admitted to the hospital with an esotropia of 40° preferably fixing with the left eye. A tenotomy of the right internal rectus muscle with an advancement of the corresponding external rectus was done, leaving a residual squint of about 10°. Two weeks later similar operations were performed on the left eye with the result of an overcorrection of 10°. On January 23 of this year, the perimeter showed 10° of esotropia. Maddox rod gave 20° of crossed diplopia. At this time a tenotomy of the right external rectus muscle was done allowing both eyes to fix centrally, but the crossed diplopia remained the same. One week later it was found that the esotropia of 10° still persisted. There was not any monocular polyopia. During fixation with both eyes a crossed diplopia of between 8° and 16° with a hypophoria of one-half to two degrees could be determined. DR. ZENTMAYER made mention of a case of divergent squint with homonymous diplopia occurring in a bright student. DR. RISLEY stated that it was not infrequent to find diplopia after the correction of a divergent squint. He reported a case of cataract extraction on an amblyopic convergent eye in which vision after the operation equalled six twelfths of normal. A later operation upon the fellow previously fixing eye in which vision was brought to more nearly normal, resulted in the patient afterwards having diplopia. DR. FISHER reported a case in which a patient with marked divergence could at will associate the images of the two eyes and dislodge them to his greater comfort. DR. OLIVER gave the details of a case of marked esotropia in early life with want of binocular fusion that through operative interference and want of proper correcting lenses was transferred in early adult life into a case of pronounced though comfortable divergence with good vision in each eye. Recently, for cosmetic purposes, a colleague had so successfully attempted to bring about a parallelism in the two organs that a most troublesome series of diplopias took place, necessitating an operation to restore the originally induced condition of comfortable divergence. DR. BERENS mentioned neuro-muscular memory as being one of the factors in this type of cases and desired to see careful studies from the standpoint of the psychologist made.

DR. BERENS presented a case of successful extraction of a foreign body from the vitreous chamber with a resultant vision of $\frac{5}{6}$ of normal. The patient, a 38-year-old man, came to the hospital on February 12, 1901, with the history of having been struck in the left eye one hour previously by a clipping from a hammer. The external wound, which was vertical and 3 millimeters in size, was situated in the cornea 5 millimeters distance from the nasal limbus. There was a corresponding wound in the iris. The pupil was 4 millimeters in size, and central, and the iris reacted well. Under atropin the pupil enlarged to 8 millimeters. There were numerous vitreous opacities anteriorly, and some posteriorly. The details of the eyeground were slightly veiled. Far down and to the inside two semilunar areas, one of which at first showed a suspiciously bright point could be seen. Under Dr. Berens' guidance, the senior residence surgeon enlarged the corneal wound down and in, did an iridectomy, and placed a magnet tip towards the side of the retinal laceration. Three unsuccessful attempts being made in this direction, Dr. Berens took the tip and inserted it twice, the second time down and out, recovering a piece of steel from that locality. Atropin was instilled and a bandage was applied. On the next day there was slight reaction but there was not any pain. Two days later there was a moderate injection. At this time the patient could tell time on a watch at $\frac{1}{2}$ meter's distance. In 8 days' time the eye was quiet, and vision equalled $\frac{5}{6}$ of normal. The eyeground could be distinctly seen. Four days after this, vision had risen to $\frac{5}{6}$ of normal, and the eye was quiet.

DR. OLIVER exhibited a case of double coloboma of the iris, choroid, and optic nerve, with unusually small cornea in a 16 year-old Italian girl. As far as could be ascertained, there was not any history of inheritance, nor were there any other signs of congenital malformation present. The colobomata were in their usual positions downward and slightly inwards, those of the right eye being the larger. The characteristic curvilinear extension of the retinal vessels along the borders of the colobomatous areas could be plainly seen. The surfaces of the fundus colobomata, which were on a much deeper level than the rest of the eyegrounds, were quite ectatic in places. Refraction in the uninvolved macular regions was myopic and slightly astigmatic. Corrected vision equalled about two-thirds of normal. The visual fields showed defects corresponding with the fundus abnormalities. Both optic nerve heads were considerably enlarged. The retina in the colobomatous areas were visible as thin, almost transparent membranes over and in which a few small vessels could be traced. The case was particularly interesting in the fact that in spite of the apparent microphthalmus, the eyeballs were enormously lengthened in their anteroposterior diameters, giving high degrees of myopic refraction. Dr. Oliver also showed a patient from whom a chip of iron had been spontaneously extruded from the eyeball two years after its entrance into the crystalline lens through the cornea and the iris. No reaction followed the expulsion of the foreign body. The lens itself had been studded with brilliant cholesterine crystals for more than a year's time.

DR. BERENS presented a case showing the recent effects of a plastic operation for symblepharon in which the conjunctiva of the upper lid had been adherent to the cornea over more than two-thirds of its surface, entire freedom of motion being restored to the globe.

DR. OLIVER gave a brief account of a case of interstitial keratitis occurring in the left eye of a 24 year-old man, suffering from other stigmata of hereditary syphilis. He had treated and cured the patient's right eye for a similar attack of keratitis some six months previously. The point of interest in the case consisted in the fact that at the time of the patient's second admission to the hospital, some three weeks previously, the senior resident surgeon, Dr. Van Epps, discovered a sloughing chancreoid involving almost the entire foreskin of the patient's penis, necessitating excision of the sloughing part of the organ.

NEW JERSEY.

Appointed Railroad Surgeon.—Dr. Francis W. Bennett has been appointed surgeon and physician to the Pennsylvania Railroad Company, at Atlantic City, N. J.

DELAWARE.

Resignation.—Dr. Jean M. Wilson, pathologist to the Delaware Hospital for the Insane, has sent in his resignation.

Varicoid.—An epidemic is raging in the lower part of Delaware, in Dover and vicinity. Dr. Knowls, of Dover, is among the victims. The epidemic is mild, the disease lasting only 3 or 4 days.

Licensing Without Examination.—The bill providing for licensing without an examination graduates from the University of Pennsylvania and other reputable institutions was killed by the general assembly of Delaware.

Delaware State Hospital.—The Legislature passed a bill appropriating \$125,000 to the Delaware State Hospital for the Insane, at Farnhurst; also a bill increasing the appropriation for the State Pathological and Bacteriological Laboratory, located at Delaware College, Newark, to \$2,500.

NEW YORK.

Appointment.—Dr. William Browning has been appointed consulting neurologist to the Long Island State Hospital at Flatbush.

New Hospital.—A new brick and brownstone hospital building, five stories in height, will be erected in One Hundred and Thirty-sixth Street, near Amsterdam Avenue, for

the Hebrew Benevolent and Orphan Asylum Society, at an estimated cost of \$70,000. The new hospital will be used for emergency purposes.

Dr. Delafield will Resign.—Dr. Francis Delafield, one of the leading pathologists in the country, will give up the chair of the practice of medicine in the College of Physicians and Surgeons, on June 1. He asked to be relieved of the professorship some time ago. Dr. Walter Belknap Jones has been appointed lecturer on the practice of medicine.

Female Nurse Appointed.—Secretary Root has appointed Mrs. Dita Hopkins Kinney, of New York City, superintendent of the female nurse corps under the army reorganization act. Mrs. Kinney has been superintendent of the nurses in the Long Island Hospital, at Boston, and has been connected with hospitals in St. Paul, San Francisco and New Mexico. She was selected to be superintendent of the hospital that was proposed to be established at Nagasaki during the Chinese troubles. Recently she has been in charge of the army nurse corps in the War Department.

New York Academy of Medicine—Section on Orthopedic Surgery.—Meeting of February 15, 1901, DR. GEO. R. ELLIOTT, Chairman. The subject of the evening's discussion was a symposium on Clubfoot. DR. H. W. BERG read a paper entitled "The Etiology of Congenital Talipes Equinovarus." He devoted a part of his paper to again calling attention to views elaborated and published by him in 1881. He said it was a fact that talipes equinovarus was a morphological stage in the normal development of the lower extremity of every human fetus. In early fetal life the leg as a whole rotated outwards and this outward rotation was accompanied by an exaggerated varus and later an equinovarus. This outward rotation reached its maximum as soon as the joints were formed. The thighs were flexed upon the body and the legs partially flexed upon the thighs. The wide border of the thigh and the tibial border of the leg pressed against the abdomen of the fetus, the legs crossing each other. All intrauterine pressure was thus brought to bear directly upon the outer border of the thigh and leg. As a result the foot was rotated in and extended (equinovarus). This then was a stage in the normal development of every healthy fetus, and were the extremities to remain in this position all children would be born club-footed. Nature provided against this by an inward rotation of the extremity carrying the leg away from its position against the abdomen of the fetus. The soles of the feet came to lie against the uterine walls and intrauterine pressure was exerted directly upon them producing extreme flexion and outward rotation of the foot—thus was antagonized the varus or equinovarus which had hitherto existed. This inward rotation began about the second month, was to a great extent accomplished by the fourth month, but not complete till the fifth or beginning of the sixth month. Now if this inward rotation, this second rotation stage did not occur or was incomplete the child was born more or less club-footed. The different stages of rotation were illustrated by fetal specimens from the museum of the New York Hospital. Dr. Berg denied that his views were those of Eschricht as some had claimed. He said Eschricht himself had said that talipes equinovarus was a stage in the development of the lower extremities of the human fetus, but Eschricht had not explained how it was produced. There was no embryological data at that time (1851).

DR. J. E. KELLY's paper dealt with the mechanism of the foot and the advantages to be derived from the anatomical study of the factors and treatment of talipes. He called attention to the erroneous idea which persisted as to the existence of a transverse arch in the foot. We said it was impossible, as it had no internal abutment; it bore a greater resemblance to a "flying buttress," the upper and inner extremity of which was supported by the so-called longitudinal arch. In reality it was a semi-dome which, with its fellow foot, constituted a dome upon the apex of which the weight of the body rested. He called attention to the benefits obtained by utilizing the stability of the margins of the semi-dome in walking, especially in those tending to pes planum and talipes valgus. He dwelt on the fact that the factors in the third and fourth degrees of talipes equinus, varus and equinovarus had best be divided into hyperextension, adduction,

torsion, and longitudinal folding, and with the exception of the last, which results from the simple approximation of the internal and external margins of the foot, each of these factors is complex, and may occur in two or more anatomical sites and in different degrees, thus accounting for the infinite variety of talipes. He reviewed the different factors in detail—action of the muscles and resistance of ligaments, and observed as a summary that the factors in hyperextension, or vertical deformity, are the retraction of the heel, luxation downwards and forwards of the astragalus and the plantar flexion at Chopart's articulation. Adduction is due to the curvature in the neck of the astragalus, displacement of the scaphoid and the traction exercised by the severed tendons and muscles on the inner aspect of the foot. The torsion is caused by the rotation of the scaphoid on its anteroposterior axis, the traction of the tibialis anticus on the inner margin. He pointed out that the peculiar facilities of section, resection and dissection were afforded in the two margins of the foot, and indicated the positions from which the different structures could be most easily reached. He said, owing to the direction of fibers of the plantar fascia, it was best to divide it posteriorly near the tubercle of the os calcis, where the flexor dig. brevis, the flexor accessorius and the long plantar ligament might be divided. The division should be obliquely forward and outward, parallel to the ext. plantar vessels and nerves. Should the external septum need special section, it could best be approached from the external margin. He advocated the division of tendons close to their insertion. Owing to the slight importance of toes in ordinary locomotion, he suggested dividing the numerous digital tendons close to the metatarsophalangeal articulation. Owing to his observation on the perfect restoration of ligaments of great mechanical importance, he thought it expedient in subluxation of the astragalus to consider as an alternative to resection, the free division of the lateral and posterior ligaments and the replacement of the bones which should, under the persistent influence of the modelling pressure and adaptive shortening, result in a restoration of the articular functions.

DR. E. D. FISHER, in speaking of the neurological aspect of talipes, said, that the only class of talipes interesting to the neurologist was that class originating from lesions of the brain, spinal cord, or peripheral nervous system. The two main causes of talipes of this class were diseases of the motor tracts of the brain and spinal cord. Another form of talipes was that due to infantile spinal paralysis. Certain definite symptoms differentiate true congenital clubfoot from that of cerebral or spinal origin. In the deformity resulting from central nerve disease were found reflex disturbances, usually exaggerated reflexes associated with spastic conditions of the muscles, and commonly the Babinski symptom—the extension of the toes on irritation. This latter phenomenon associated with exaggeration of the patellar and knee-jerk always pointed to disease of the pyramidal tracts and present whenever there was disease of the lateral tracts; in cerebral hemiplegia in the later stages; in the secondary changes following myelitis; in lateral and multiple sclerosis. In congenital clubfoot, on the contrary, there was no central nerve disease, therefore no disturbances of the ordinary physiological actions of the spinal cord and brain, hence no disturbances of the reflexes. In making a differential diagnosis between the congenital type of clubfoot and clubfoot due to infantile spinal paralysis he said the muscular electrical reaction determined the diagnosis. Referring to treatment, he said of late years interesting experimental work had been done. In cases of spastic paraplegia for a long time neurologists were opposed to operation, but now he recommended section of tendons, and putting patients in a condition to walk. He referred to transplantation of tendons to opposite muscles or muscles of opposed functions, such as transplanting a flexor tendon to an extensor muscle or vice versa. He referred to a boy with central hemiplegia who could not extend his hand. The extensor tendon was transplanted with the result of giving boy a useful hand.

DR. NEWTON M. SHAFFER spoke of the nonoperative treatment of clubfoot. He said he was accustomed to divide his clubfoot patients into three classes: Vertical, antero-posterior, and transverse. By careful study of each case and by making each instrument an individual prescription to fit the given case, he had achieved results which at first appeared impossible. The necessity for operation was getting further

and further away. He said in the first class of cases of ordinary clubfoot, without much deformity, good results could be accomplished by manipulation, massage, electricity, or perhaps some form of walking apparatus. The careful carrying out of nonoperative treatment in these cases should result in cure in a year's time. In the second class, where the deformity is greater, especially in equinovarus, we meet with resistance which may be osseous, or fibrous. Experience here was necessary to determine whether operative or non-operative measures should be adopted. It was difficult to give any positive rule, however; he was inclined to agree with the elder Doctor Sayre and not operate if we could trace our lesion to cerebral source. The rule had exceptions. In the third class—the resistant—usually some form of operative procedure was indicated. This class fell into the hands of the general surgeon. Referring to cutting the tendo Achilles, he said he did not cut when, in taking hold of the foot, he felt the resistance gradually give away.

DR. A. M. PHELPS in speaking of the operative treatment of clubfoot said that in considering when and why to operate nothing had been said regarding age of patient. If a rigid foot occurred in a child two months of age, and that same rigid foot in a child of six years, there was a vast difference. In the two months' old baby the condition could be cured by the mechanical nonoperative treatment; in the older child such a thing was impossible. For that reason he believed all cases should be divided into classes according to age and deformity. In a certain type of talipes in newborn children the human hand was the best instrument, and the deformity could be cured by manipulation before the child was nine years old. In other cases, even after four months, there was great resistance and operation was required the same as at the age of six years. Operations on the soft parts are all that were indicated up to a certain age and to a certain degree. In a child of four months a subcutaneous tenotomy was all that would be required in the majority of cases, but having once commenced to operate the foot must be straightened at the expense of a more extensive operation. At the age of two or three years, instead of applying apparatus for a year or so, he advised subcutaneous tenotomy observing the rule to get the foot straight. Regarding open operation he said frequently surgeons neglected to carry out the necessary after-treatment. He objected to the operations when bone was removed, such as removing the astragalus which caused shortening of the leg; or the removal of a V-shaped portion from the tarsus which shortened the foot. He said he resorted to subcutaneous tenotomy, and if this was not sufficient to allow of straightening the foot, he made an open wound and cut whatever resisted. Occasionally he found it necessary to take a V out of the os calcis; occasionally the deformity was so great that nothing short of amputation was indicated. He advocated thorough operative measures rather than spending years with mechanical appliances and subcutaneous tenotomies.

Dr. Phelps presented a boy, 16 years old, upon whom he had performed the open incision operation four weeks previously. The boy was born with extreme equinovarus of the right foot and had worn various mechanical appliances. He cut the tendons necessary to straighten the foot and pulled it into position.

DR. SAYRE cited a case of his own some years ago in which both feet were deformed. He operated on one, taking out the astragalus. Later, he did not like the condition of the foot and when he came to operate on the other, the worst one, he did not remove the astragalus but divided by subcutaneous incision and wrenched the foot into place, getting a better result than by taking out the astragalus. The patient was a man 26 years old, who was deformed since birth. The question then came up as to whether the foot should be brought to a right angle by means of an operation through the bone of the tarsus or by going above the tarsus. The idea of going through the tarsus was abandoned for the reason that by years of walking in an abnormal position the foot had adjusted itself to a peculiar formation of the facets of articulation of the bone, and it seemed better to allow this confirmation to remain and to cut through above the malleolus, taking out a piece of the tibia and fibula. A wedge of the tibia was therefore removed and the result has enabled the patient to walk very comfortably.

In the discussion, DR. ELLIOTT said he agreed with Dr. Shaffer that in certain forms of congenital clubfoot delayed

muscular growth seemed to call for some cause beyond the mechanical one described by Dr. Berg. Dr. Berg had clearly demonstrated that equinovarus was a stage in the development of every human fetus. He failed to believe that nature so frequently failed in her unfolding process, without some pathological reason, as the great number of clubfeet would indicate. This lack on the part of nature to unfold properly was contrary to her workings throughout the animal and vegetable kingdom. Regarding the treatment of clubfoot he thought Dr. Phelps had struck the keynote to the successful treatment in dwelling upon the advisability of dealing with resistance which could not be overcome by manipulation by operation. Those who had seen many cases of clubfoot in babies could not fail to have noticed that many were easily cured by manipulation while others resisted all manipulative procedures. Any foot left short of the flaccid state was certain to relapse.

DR. BERG said he considered Dr. Shaffer's lateral traction shoe a most admirable device and he thought Dr. Phelps' open incision was also the treatment par excellence for certain cases. In regard to Dr. Sayers' question as to why external rotation of the lower extremity remains and why internal rotation does not occur, he did not think it applied at all. It made no difference why it happened thus; the fact remained just the same. We are satisfied to know what form of arrested development causes hare lip or spina bifida without inquiring why such arrest of development occurs. In his paper he had purposely avoided theory as much as possible.

DR. PHELPS said in regard to the traction shoe that if a muscle was pulled upon for years atrophy was sure to follow and said further that he had observed atrophy so produced in hundreds of cases. On the other hand if you divided a tendon the normal nutrition of the muscle was preserved.

DR. SHAFFER stated that he had kept records of a series of cases that had been stretched as to muscles and he wished to say that Dr. Phelps was entirely mistaken. In his experience the muscles had become stronger by stretching. He wished this remark recorded. He stated that in a long series of cases extending over years of practice he had not once seen atrophy. In regard to Dr. Phelps' statement about "stretching muscles for years" he would like to ask who did such a thing. He also said that he had patients who wore the traction shoe for a short time in the morning in the winter because after it the foot kept warm all day; he did not think that the state of things indicated atrophy.

NEW ENGLAND.

Smallpox at St. Alban's.—Dr. A. H. Barbe, secretary of the State Board of Health, received an official report of 49 cases of smallpox and 4 recent deaths from the disease at St. Alban's. The epidemic has existed for 3 weeks.

CHICAGO AND WESTERN STATES.

Appointment.—Dr. W. D. Zoethout has been appointed laboratory professor of neurology in Rush Medical College, Chicago, Ill.

American Medico-Psychological Association will hold its annual meeting in Milwaukee, Wis., June 11, 12, 13 and 14, 1901.

Indians Dying of Diphtheria.—It is reported that 7 deaths from diphtheria have occurred among the Indians at the Flathead Reservation. The Indians are ignorant of the nature of the affection and consequently intermingle indiscriminately.

Cleveland German Medical Society.—The following officers were elected for the ensuing year: President, Dr. C. Schmitz; vice president, Dr. I. Ballowski; secretary, Dr. M. Kahn; corresponding secretary, Dr. Leo Reich; and treasurer, Dr. I. J. Propper.

Endowment for a Library and Pathological Laboratory.—Dr. William E. Quine gave \$25,000 to endow a library for the College of Physicians and Surgeons of Illinois, and Dr. D. A. K. Steel \$25,000 for the establishment of a pathological laboratory.

Appointment.—Dr. Frederick C. Schaefer has been appointed gynecologist to St. Elizabeth's Hospital, and surgeon in chief to St. Hedwig's Hospital, Chicago.

Death of Dr. James A. Ewing.—Dr. James A. Ewing, treasurer of the St. Louis Hospital Association, St. Louis, died on March 16, at the hospital, aged 33 years. He returned two weeks ago from Las Vegas, N. M., whither he went last September to recuperate.

Medical Practice Bill Passed.—The Senate of Missouri has passed the Hall medicine practice bill, which has been strongly opposed by the Christian Scientists of Missouri since it began its course early in the session. The bill has been signed by the Governor.

Village for Epileptics.—A bill introduced in the House of Representatives of Indiana provides for a village for epileptics, to be erected by the State. The sum of \$40,000 is to be appropriated for the purpose of purchasing a tract of not less than 1,000 acres of land, and not more than \$160,000 for the erection of buildings. No site has yet been selected.

Exposed Himself to Contagion.—A physician of Appleton, Wisconsin, has made himself notorious by visiting smallpox patients, breaking the pustules, and smearing the contents over his face, hands, and clothing, in an attempt to prove that the disease is not contagious. He was caught by the health authorities, confined, and quarantined. There was so much public excitement in Appleton that he came very nearly being mobbed.

Hospital for the Treatment of Incipient Tuberculosis.—A bill has been introduced into the legislature of Wisconsin providing for the establishment of a hospital for the treatment of incipient tuberculosis to be known as the Wisconsin State Sanitarium. The bill provides that "All persons afflicted with incipient pulmonary tuberculosis may be admitted to said hospital after such examination into their condition as is required to be made to determine the condition of persons who are alleged to be insane and for whom admission is sought to the State hospitals or county asylums for the insane. All the provisions of law relating to the examination and commitment of such alleged insane persons, shall, so far as practicable, apply to persons whom it is sought to have committed to the hospital for those afflicted with incipient pulmonary tuberculosis; and all powers conferred upon the judges of the several courts as to such alleged diseased persons, and all duties devolving upon such judges in relation to their examination and commitment shall be exercised in the examination and commitment of persons to said hospital, so far as such powers and duties are applicable.

SOUTHERN STATES.

New Central State Hospital.—The new Central State Hospital at Petersburg, Va., has recently been opened, with accommodations for 160 patients.

Old Dominion Hospital.—This hospital in Richmond connected with the Medical College of Virginia, is about to be enlarged so as to accommodate forty more patients.

Orphans' Home.—An Orphans' Home for physicians' children is being established at Bristol, Tenn. Dr. N. H. Reeve, of that place, is the secretary of the board of trustees.

Legislature on Cocain.—The State Legislature of Georgia, at its last session, passed a law imposing a fine on any dealer guilty of selling cocain except on a prescription of a physician.

Plan Revised for a Municipal Hospital.—Health Commissioner Bosley's ordinance appropriating \$25,000 for the establishment of a municipal hospital for infectious diseases was introduced in both branches of the Baltimore City Council and referred to the Committee on Health.

University College of Medicine Hospital.—This hospital, adjoining the Virginia Hospital of Richmond, is nearly completed. It will have a capacity of some sixty or more patients. Its clinical amphitheater is built on t' e

most approved plans, having all the convenient arrangements for demonstrations, etc.

Death of Dr. George C. Venable.—Dr. George Carrington Venable died at his home in Lynchburg, Va., on March 13, aged 73 years. He was born in Charlotte county and was the only son of Dr. Paul C. Venable and Emily Eaton Carrington. After his graduation in medicine at the University of Pennsylvania in 1847 he practised in his native county and continued there until 10 years ago, when he came to Lynchburg.

Death of Dr. J. W. H. Lovejoy.—Dr. James W. H. Lovejoy, one of the best-known members of the medical fraternity of Washington, died at his residence in Washington, aged 76 years. Dr. Lovejoy was chairman of the executive committee of the Children's Hospital, and also served several terms as president of the Medical Society of the District. He was one of the incorporators of Garfield Hospital, and had been president of the faculty of Georgetown University Medical School. Dr. Lovejoy came from one of the oldest families in the District, and his father and grandfather lived in the house in which he died. At an early age he took up the study of medicine and graduated from Jefferson College in Philadelphia. He practised in Washington for a good many years.

Louisiana State Medical Society.—The following is the list of officers for 1901: President, Dr. F. W. Parham, New Orleans; vice presidents, First Congressional District, Dr. C. J. Landfried, New Orleans; Second Congressional District, Dr. John Callan, New Orleans; Third Congressional District, Dr. C. M. Smith, Franklin; Fourth Congressional District, Dr. T. G. Ford, Shreveport; Fifth Congressional District, Dr. O. M. Patterson, Bastrop; Sixth Congressional District, Dr. R. C. Webb, Rayne; recording secretary, Dr. H. B. Gessner, New Orleans; corresponding secretary, Dr. A. G. Friedrichs, New Orleans; treasurer and librarian, Dr. H. S. Cocram, New Orleans.

SECTIONS.

Surgery.—Dr. E. D. Martin, chairman, New Orleans. Subject for discussion, Treatment of Fractures of the Long Bones of the Upper and Lower Extremities.

Genito-Urinary Surgery.—Dr. Charles Chassoignac, chairman, New Orleans. Subject for discussion, Treatment of Cystitis.

Materia Medica and Therapeutics.—Dr. L. Sexton, chairman, New Orleans. Subject for discussion, Is the Tendency Toward Prescribing Proprietary Medicines Increasing; Its Final Effect upon the Professions of Medicines and Pharmacy.

Ear, Nose and Throat.—Dr. O. Joachim, chairman, New Orleans. Subject for discussion, The Middle Ear Inflammations of Childhood and their Consequences.

Ophthalmology.—Dr. E. A. Robin, chairman, New Orleans. Subject for discussion, When Not to Operate in Anomalies of the Extrinsic Muscles of the Eye.

Dental and Oral Surgery.—Dr. A. G. Friedrichs, chairman, New Orleans. Subject for discussion, The Care of Children's Teeth.

Nervous Diseases.—Dr. P. E. Archinard, chairman, New Orleans. Subject for discussion, Alcohol in Its Relation to Nervous Diseases.

Sanitary Science.—Dr. E. Souchon, New Orleans, chairman. Subject for discussion, The Prevention of the Spread of Contagious Diseases.

Quarantine.—Dr. J. N. Thomas, Port Eads, chairman. Subject for discussion, The Period of Incubation of Yellow Fever.

Dermatology.—Dr. J. N. Roussel, chairman, New Orleans. Subject for discussion, Dandruff.

Practice of Medicine.—Dr. W. Glendower Owen, White Castle, chairman. Subject for discussion, Scarlet Fever.

Medical Jurisprudence.—Dr. C. D. Simmons, Dutchtown, chairman. Subject for discussion, Board of Lunacy, with Especial Reference to the Examination of Patients for Commitment in the Insane Asylum.

Obstetrics and Gynecology.—Dr. E. S. Lewis, New Orleans, chairman. Subject for discussion, Lacerations of the Cervix and their Consequences.

MISCELLANEOUS SUBJECTS.

In the final program it is the object of the committee of arrangements to have these topics called for at any session where the general discussion on any section has been completed, thereby adding to the interest of each session of the Society.

1. Overaction of the Heart from Administration of Hyoscin, by Dr. Parsons, of Minden, La.
2. Thirty cases of Acute Lobar Pneumonia, with 29 Recoveries, by Dr. Edward D. Newell, St. Joseph, La.
3. Otitis Media Neonatorum, by Dr. O. Joachim, New Orleans.
4. Affections of the Nose and Throat as Factors in Diseases of the Bronchi and Lungs, by Dr. W. Scheppegegrell, New Orleans.

CANADA.

Vital Statistics.—Winnipeg's vital statistics for February were: 110 births, 62 male and 48 female; 71 deaths, 40 male and 31 female; marriages, 39.

Held on the Charge of Graveyard Desecration.—The *Canada Lancet* states that a third year medical student in Queen's College, Kingston, was recently arrested at Peterborough for robbing a grave in order to secure a body for dissection. The charge of robbery was withdrawn by the prosecution, as there was nothing in Canadian law governing such an offence, there being no property in a dead body. He is held for trial, however, at the Assizes, in bonds of \$2,000, on the charge of graveyard desecration and offering indignity to the dead. The police magistrate, in giving judgment, held that while Canadian law did not cover this point, English law, which makes it a punishable offence, would probably be applicable in the present instance. Since more ample provision of dissecting material has been made under the Anatomy Act, cases of this kind in Ontario have fortunately been of very rare occurrence.

MISCELLANY.

A Useful Millionaire.—Alexander Graham Bell, the inventor of the telephone, has been serving as a special agent of the Census Bureau in charge of the enumeration of the deaf, dumb, and blind population of the country, and is now preparing his report. Mr. Bell is a millionaire several times over, but is entitled to \$6 a day from the Government while he is employed in this work. In his early life he was an instructor in a deaf and dumb asylum, and a large part of his time is now spent in the investigation of means for promoting the education of deaf-mutes and sightless people.

Obituary.—DR. CHARLES H. BOWEN, at Washington, D. C., on March 12, aged 65 years.—DR. R. R. HALL, at Fayette County, Ky., on March 14, aged 85 years.—DR. E. H. DAVIS, at Plainfield, Conn., on March 15, aged 56 years.—DR. HENRY N. LOVELACE, at Apex, Mo., on March 15, aged 60 years.—DR. HENRY M. SMITH, at Escondido, Cal., on March 16.—DR. S. R. McCLANAHAN, at Culpeper, Va., on March 19, aged 70 years.—DR. J. J. SMITH, at LaCrosse, Wis., on March 16, aged 63 years.—DR. JOHN SARGENT, at Jefferson County, N. Y., aged 87 years.

Changes in the Medical Corps of the U. S. Army, for the week ended March 16, 1901:

Notice.—Candidates for appointment as Dental Surgeons in U. S. Army will be examined in the following named branches:—Anatomy; physiology; histology; physics; chemistry; metallurgy; dental anatomy and physiology; dental materia medica and therapeutics; dental pathology and bacteriology; orthodontia; oral surgery; operative dentistry, theoretical; prosthetic dentistry, theoretical; operative dentistry, practical; prosthetic dentistry, practical. An average of 75% will be required in each subject for theoretical examination, and 85% in the practical examinations.

KNAPP, GUSTAV, hospital steward, a patient in the Army General Hospital, Presidio, will be sent to the Army and Navy General Hospital, Hot Springs.

SKINNER, First Lieutenant IRA A., assistant surgeon, is granted leave of absence for 1 month, with permission to apply for an extension of 1 month.

HALL, HENRY M., acting assistant surgeon, is relieved from temporary duty at the Army General Hospital, Presidio, and will report for temporary duty at Major Lockwood's camp of recruits and casuals on the Presidio reservation, awaiting transportation to the Philippine Islands.

SUMMERALL, W. B., acting assistant surgeon, is granted leave of absence for 1 month, with permission to go beyond the limits of the department of Cuba.

PLUMMER, GEORGE R., acting assistant surgeon, now on duty at Battery No. 5, Havana, Cuba, will proceed to Hamilton Barracks, Matanzas, Cuba, for temporary duty during the absence of Acting Assistant Surgeon W. B. Summerall.

ERCK, PHILIP F., hospital steward, will be granted a furlough for 6 months, by the commanding officer of Fort Monroe, with permission to leave the United States, to take effect about April 10.

MITCHELL, JAMES, acting assistant surgeon, will proceed to his home, Lancaster, Pa., for annulment of contract.

LEHARDY, JULIUS C., acting assistant surgeon, will proceed to his home Savannah, Ga., for annulment of contract.

ATHEY, WILEY L., acting assistant surgeon, will proceed to his home, New York, N. Y., for annulment of contract.

ADAIR, Major GEORGE W., surgeon, is granted leave of absence for 1 month, upon being relieved from duty at Fort Sheridan.

The following named assistant surgeons, U. S. Volunteers, recently appointed, now in San Francisco, Cal., will report to the commanding general, department of California, for transportation to Manila, P. I., where they will report to the commanding general, division of the Philippines, for assignment to duty: Captains ELMER S. TENNEY, and CLARK I. WERTENBAKER.

WILLIAMS, CHARLES F., acting assistant surgeon, will proceed from Yorkville, S. C., to Fort Screven, for temporary duty.

ANDREWS, Captain CHARLES H., assistant surgeon, recently appointed, now at the Presidio, will report for transportation to Manila, P. I., where he will report for assignment to duty.

CHAFFER, First Lieutenant JEROME S., assistant surgeon, recently appointed, will proceed from Dover Plains, N. Y., to Columbus Barracks, for duty.

HICKS, JOHN R., acting assistant surgeon, is granted leave of absence for 21 days, with permission to apply for an extension of 7 days.

BOYCE, NEWTON J., acting assistant surgeon, is relieved from duty on the transport "McClellan," and will proceed from New York City to San Francisco, Cal., and report for assignment to duty with troops en route to the Philippine Islands, where he will report for assignment to duty.

DRIVER, G. S., acting assistant surgeon, is granted leave of absence for 6 days.

LAINE, Major DAMASO T., surgeon, is granted leave of absence for 10 days, on surgeon's certificate.

GORGAS, Major WILLIAM C., surgeon, is granted leave of absence for 14 days, with permission to go beyond the limits of the department of Cuba.

GILHULEY, JOHN J., acting assistant surgeon, is relieved from temporary duty at Fort Columbus and will proceed to Fort Terry, and relieve Acting Assistant Surgeon Arthur I. Boyer.

BOYER, ARTHUR I., acting assistant surgeon, will proceed to Fort Columbus for duty.

PENROSE, Major GEORGE H., surgeon, leave of absence granted February 11 is extended 1 month, on surgeon's certificate.

COX, Captain FREDERICK W., assistant surgeon, recently appointed, will proceed from Vermillion, S. D., to San Francisco, Cal., for transportation to Manila, P. I., where he will report for duty.

CONN, FREDERICK A. W., acting assistant surgeon, is granted leave of absence for 1 month.

WHITNEY, Major WALTER, surgeon, recently appointed, will report at Fort Walla Walla, for duty.

POND, Major ARLINGTON, surgeon, recently appointed, will report at Fort Preble, for duty.

POND, Major ARLINGTON, surgeon, is relieved from duty at Fort Preble to take effect upon the arrival at that post of Acting Assistant Surgeon Ernest W. Fowler, and will then proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.

POND, Major ARLINGTON, surgeon, is granted leave of absence for 14 days, to take effect upon his being relieved from duty at Fort Preble.

DISNEY, Captain FRANK A. E., assistant surgeon, recently appointed, now at San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty.

SHIMER, First Lieutenant IRA A., orders of February 25 relating to him are revoked.

HUTTON, First Lieutenant PAUL C., recently appointed, now in Washington, D. C., will proceed to Fort Thomas, for duty.

FOWLER, ERNEST W., acting assistant surgeon, will proceed from New York City to Fort Preble, for duty, to relieve Major Arlington Pond, surgeon.

Changes in the Medical Corps of the U. S. Navy, for the week ended March 16, 1901:

McCLANAHAN, R. K., assistant surgeon, detached from the "Indiana," and ordered to wait orders for sea duty.

EAKINS, O. M., assistant surgeon, resignation accepted, to take effect from April 15.

MORSE, E. T., pharmacist, detached from the Boston Navy Yard, and ordered to the "Michigan."

HURD, I. N., pharmacist, detached from the "Wabash" and ordered to the Boston Navy Yard.

Changes in the U. S. Marine-Hospital Service, for the week ended March 17, 1901:

BAILHACHE, PRESTON H., surgeon, is relieved from duty at the bureau and directed to Stapleton, N. Y., and assume command of the service, relieving Surgeon G. W. Stoner. March 8.

STONER, G. W., surgeon, upon being relieved by Surgeon Preston H. Bailhache, is to proceed to immigration depot, New York, N. Y., and assume command of the service, relieving Surgeon L. L. Williams. March 8.

CARTER, H. R., surgeon, upon being relieved by Past Assistant Surgeon G. B. Young, is to proceed to Baltimore, Md., and assume command of the service, relieving Passed Assistant Surgeon B. W. Brown. March 8.

GLENNAN, A. H., surgeon, is granted leave of absence for 11 days from March 6. March 8.

WILLIAMS, L. L., surgeon, upon being relieved by Surgeon G. W. Stoner, is to proceed to Washington, D. C., and report at bureau for duty. March 8.

YOUNG, G. B., passed assistant surgeon, upon being relieved by Assistant Surgeon C. H. Lavinder, is to proceed to Louisville, Ky., and assume command of the service, relieving Surgeon H. R. Carter. March 8.

BROWN, B. W., passed assistant surgeon, upon being relieved by Surgeon H. R. Carter, is to proceed to Evansville, Ind., and assume command of the service, relieving Passed Assistant Surgeon J. H. Oakley. March 8.

NYDEGGER, J. A., passed assistant surgeon, is relieved from duty at Chicago, Ill., and directed to assume command of the Cape Charles Quarantine Station, relieving Assistant Surgeon C. W. Wille. March 11.

The official list of changes dated January 17, 1901, is amended so that leave of absence granted Passed Assistant Surgeon Nydegger for 30 days shall read, "leave of absence on account of sickness." March 13.

OAKLEY, J. H., passed assistant surgeon, upon being relieved by Passed Assistant Surgeon B. W. Brown, is to proceed to Cairo, Ill., and assume command of the service, relieving Assistant Surgeon J. M. Holt. March 8.

MATHEWSON, H. S., assistant surgeon, is to proceed to Washington, D. C., for examination for promotion. March 8.

LAVINDER, C. H., assistant surgeon, is to proceed to Delaware Breakwater and assume command of the service, relieving Passed Assistant Surgeon G. B. Young. March 8.

FOSTER, M. H., assistant surgeon, is granted leave of absence for 20 days from April 1. March 11.

KING, W. W., assistant surgeon, is to proceed to San Juan, Porto Rico, for special temporary duty. March 8.

HOLT, J. M., assistant surgeon, upon being relieved by Passed Assistant Surgeon J. H. Oakley, is to report to him for duty. March 11.

TROTTER, F. E., assistant surgeon, is granted leave of absence for 26 days from April 9. March 11.

WILLE, C. W., assistant surgeon, upon being relieved by Passed Assistant Surgeon J. A. Nydegger, is to report to him for duty. March 11.

DUDLEY, D. E., acting assistant surgeon, is relieved from duty at Havana, Cuba, and assigned to duty in the office of the United States Consul at Vera Cruz, Mexico. March 1.

HODGSON, S. H., acting assistant surgeon, is relieved from duty at Vera Cruz, Mexico, and assigned to duty in the office of the United States Consul at Progresso, Mexico. March 1.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended March 16, 1901:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
ALABAMA:	Mobile	March 2-9	1
CALIFORNIA:	Los Angeles	Feb. 24-March 2	5
"	Oakland	Feb. 24-March 2	1
"	Sacramento	Feb. 24-March 2	1
ILLINOIS:	Chicago	March 2-9	7
INDIANA:	Evansville	Feb. 24-March 2	2
KANSAS:	Wichita	March 2-9	23
KENTUCKY:	Lexington	March 2-9	1
LOUISIANA:	New Orleans	March 2-9	14
MASSACHUSETTS:	Lowell	March 2-9	1
"	Somerville	March 2-9	1
MICHIGAN:	Detroit	March 2-9	1
"	Grand Rapids	March 2-9	1
MINNESOTA:	Minneapolis	Feb. 24-March 2	2
"	Winona	March 2-9	4
NEBRASKA:	South Omaha	Dec. 25-Feb. 5	5
N. HAMPSHIRE:	Manchester	March 2-9	21
NEW YORK:	New York	March 2-9	54
OHIO:	Cincinnati	March 2-9	2
"	Cleveland	March 2-9	52
"	Dayton	Nov. 2-9	1
OREGON:	Portland	Feb. 1-28	2
PENNSYLVANIA:	Erie	March 2-9	2
"	Philadelphia	March 2-9	1
"	Steelton	March 2-9	1
TENNESSEE:	Jackson	Jan. 1-31	20
"	Memphis	March 2-9	10
"	Nashville	March 2-9	11
"	San Antonio	Feb. 1-28	16
UTAH:	Ogden	March 2-9	18
WASHINGTON:	Tacoma	Feb. 25	6
WEST VIRGINIA:	Huntington	March 2-9	11
"	Wheeling	Feb. 24-March 9	4
WISCONSIN:	Milwaukee	March 2-9	2

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Jan. 9-23	14
	Vienna	Feb. 16-23	1
BELGIUM:	Antwerp	Feb. 9-23	2
CANADA:	Sudbury	Feb. 22	Prevalent.
Ceylon:	Cairo	Jan. 26-Feb. 2	1
EGYPT:	Cairo	Jan. 28-Feb. 4	2
GREAT BRITAIN:	London	Feb. 16-23	1
	New Castle on Tyne	Feb. 16-23	1
SCOTLAND:	Dundee	Feb. 16-23	2
"	Edinburgh	Feb. 16-23	1
	Glasgow	Feb. 22-March 1	13
INDIA:	Bombay	Jan. 29-Feb. 12	6
"	Calcutta	Jan. 26-Feb. 9	235
"	Karachi	Jan. 27-Feb. 10	15
"	Madras	Jan. 26-Feb. 8	8
ITALY:	Naples	Feb. 20	Present.
MALTA:		Feb. 16-28	1
MEXICO:	Progresso	Feb. 19-28	16
PHILIPPINES:	Manila	Jan. 5-19	4
RUSSIA:	Moscow	Feb. 2-66	10
"	Odessa	Feb. 8-23	26
"	St. Petersburg	Feb. 8-16	7
"	Warsaw	Feb. 8-16	6

YELLOW FEVER.

COLUMBIA:	Honda	Jan. 7	Epidemic.
	Guaduas	Jan. 7	Epidemic.
CUBA:	Cienfuegos	March 4	1
	Havana	Feb. 25-March 4	2
MEXICO:	Vera Cruz	Feb. 16-23	2

CHOLERA.

INDIA:	Bombay	Jan. 29-Feb. 12	12
"	Calcutta	Jan. 26-Feb. 9	33
"	Madras	Jan. 26-Feb. 8	22
STRAITS SETTLEMENTS:	Singapore	Jan. 12-26	35

PLAGUE—FOREIGN AND INSULAR.

AFRICA:	Cape Town	Feb. 16-26	14
CHINA:	Hongkong	Jan. 19-26	2
INDIA:	Bombay	Jan. 19-Feb. 12	1711
"	Calcutta	Jan. 26-Feb. 9	176
PHILIPPINES:	Manila	Jan. 5-19	2

foreign News and Notes.

GREAT BRITAIN.

Appointment.—Lord Lister has been appointed Sergeant-Surgeon in Ordinary to His Majesty.

Reelection.—Dr. Parry has been reelected president of the Royal Medical and Chirurgical Society for the ensuing year.

Honors for Americans.—The appointments of Mmes. George Cornwallis West and Jennie Blow as Ladies of Grace of the Order of St. John of Jerusalem, and Mr. J. J. Van Alen as an honorary Knight of Grace is announced, on account of their work in connection with fitting out the American hospital ship *Maine*, and a field hospital for South Africa.

Astley Cooper Prize.—Under the will of the late Sir Astley Cooper, Bart., a sum of money was left in trust, which should yield £300, to be awarded to the author of the best essay or treatise on "The Pathology of Carcinoma, and the Distribution and Frequency of the Secondary Deposits Corresponding to the Various Primary Growths." This prize is awarded triennially, full particulars of which will be found on reference to the advertising columns of the *Medical Press and Circular*. The competition is open to all members of the medical profession, except to the staffs of Guy's and St. Thomas' Hospitals. Particulars regarding other conditions to be complied with can be obtained on application to Dr. Newton Pitt, Guy's Hospital, London.

Two Dispensing Accidents.—A terrible triple mishap is reported from Normanton (Yorks), where three children have succumbed after taking powders supposed to contain santolin, but which there is reason to suspect contained

strychnin. The powders were dispensed in the surgery of a local practitioner, and, on suspicion being raised, it was found that the strychnin bottle stood in close proximity to that containing santonin. The dispenser declares, however, that he made no mistake, and the inquest has been adjourned for an analysis of the viscera. A somewhat similar accident is reported from Sketty, near Swansea, where a young mining engineer died from the effects of carbolic acid sent out in error for medicine.

Lead in Drinking Water.—At a recent meeting of the Hunslet Rural District Council, the principal subject discussed was the alleged presence of lead in the water-supply of Middleton. The question had been raised by Dr. Buck in his annual report, which stated that the Middleton water, supplied from Morley, still acts on the lead when standing in the pipes overnight. Various samples had been taken during the year, and no improvement had been perceptible, and he was of the opinion that the matter should be brought before the Morley Corporation, with a view to its abatement. After discussion, it was agreed that the inhabitants of the district be informed that it was not desirable to use the water in the morning without first opening the tap and letting it run some time. The chairman said they must prepare themselves for a considerable waste of water.

CONTINENTAL EUROPE.

Appointment.—Dr. Karl Haeger and Dr. Frederick Egger have been appointed extraordinary professors of medicine in the University of Basel.

Hospital for Skin Diseases.—Through the liberality of Madame Andre Nottebohn a hospital for skin diseases, which included a department for light-treatment, has been established at Antwerp. Dr. Francois has been appointed directing physician.

A Woman-physician Leads in the Race.—In the province of Novosibkov, Russia, occurred four vacancies for district physicians. Over 80 applications were received. Among those selected was also a woman, Mrs. Lishin, who graduated from the Medical Faculty of Paris.

Italian Recognition.—The Italian Government has tendered Dr. Eugene Wasdin, of the United States Marine-Hospital Service, the Cross of Officer of the S. S. Maurizio et Lazzaro, in recognition of his services in verifying and confirming the Italian studies and discoveries regarding the nature of yellow fever.

Death of Dr. Rocha.—Dr. Augusto Rocha, professor of clinical medicine in the University of Coimbra, and editor of the *Coimbra Medica*, has recently died of aneurysm of the ascending aorta. He was born at Coimbra in 1849, studied medicine in the university of that city, and took the degrees of licentiate, and a few months later of doctor, in 1876. He was appointed professor in 1882. He was the author of numerous contributions to medical literature, among which may be mentioned monographs on the Intravenous Injections of Chloral in the Treatment of Tetanus, an Investigation of the Typhoid Bacillus in the Drinking-water of Coimbra, Studies on the Nervous System, and papers on medicolegal subjects.

Meeting of the Medical Society of the City of Zurich, held on February 2, 1901.—Prof. Schlatter presented a 17-year-old girl on whom, on October 5, 1894, (that is, more than 6 years before) he had resected a 10 cm. piece of the lower jaw because of a myelogenous sarcoma. At that time a prosthesis modelled according to Claude Martin's suggestions of vulcanized, hard rubber fitted to the natural jaw was inserted and fastened at either end by outer and inner platinum plates screwed to the bone. This first prosthesis (*prothèse immédiate*) was removed on November 3. Then on December 3, 1894, the patient received—after wearing a substitute prosthesis for several weeks—a definite prosthesis with teeth. This grasped at either end the rear molar teeth which alone were left. The fastening showed itself secure. After each meal the prosthesis was removed (at first by the nurse, later by the patient herself), cleaned and replaced. This final prosthesis has been renewed 4 times during the 6 years in order to keep pace with the

growth of the surrounding bones. The present results, both from a cosmetic and medical standpoint, are excellent. The only thing noticeable is the scar in the submental region. The functional results are so good that the patient can bite through an apple. Professor Schlatter, in discussing the advantages and disadvantages of the Martin *prothèse immédiate*, considered that its worst point was not so much the difficulty of disinfection as the dependence of the surgeon upon the dentist. The Bönnecken, Bartsch, and Stoppani models of jaw supports were then exhibited and discussed. Professor Schlatter prefers the Stoppani aluminum model. This is not simply composed of metal plates, but pierced strips, the lower edges of which are bent,—to give chin a support and to prevent its falling in. The advantages of the Stoppani prosthesis are: (1) The surgeon is always prepared without the help of a dentist to insert the primary piece, no matter how great the resection; (2) it prevents the falling in of the chin; (3) it permits easy cleaning and supervision of the wound surface; (4) it permits the taking of a cast of the jaw without removal.

In conclusion Prof. Schlatter presented a 34-year-old patient on whom he resected both maxillary bones on September 7, 1897. The cause was sarcoma, from which there has appeared no recidive. The peculiarity of the operation was that the right common artery was temporarily ligated to perform the operation. (Prof. Schlatter's article on this operation is soon to appear in the *PHILADELPHIA MEDICAL JOURNAL*). The patient has wore for three years without trouble a prosthesis which acted as substitute for the right and part of the left hard palate, which supported the left bulbous and to which was attached a Schiltaky obturator. The result has been excellent. The nasal cavity is completely separated from the mouth. The double seeing due to the sinking of the left eye was cured by the projections on the prosthesis. The "lallend" speech, due to a drawing of the soft palate to the front, was also cured by the prosthesis. Prof. Schlatter has ligated the carotids in two other maxillary resections. Once the ligature of the external carotid sufficed to stop the bleeding; in the other case the ligating of the internal carotid was also necessary.

Further, Prof. Schlatter reported a case of true bone growth in the thyroid (struma calcarea), in which he performed strumectomy. The 45-year-old patient (woman) had suffered since her twelfth year with a hard goiter. Because of the terrible dyspnea she was forced to seek surgical aid. Because of the severity of the attack the operation was hurried as much as possible. Local anesthesia by 4 Pravaz syringesful of 1% cocain-eucain solution, and 1.01 of morphium. Patient was in sitting position. Incision from one sterno-cleido to the other. The upper thoracic aperture was entirely filled by the bone-like tumor. While seeking to draw this up and out the patient became so asphyxiated that her head fell back, the face became pale, and the breathing ceased, the pupils dilated, the pulse became small. Thereupon tracheotomy was performed with difficulty, the operator piercing the goiter, and found the trachea, which was compressed into a ribbon against the spinal column. A König canula was inserted and pushed behind the tumor-mass down into the thorax and artificial respiration according to Silvester was begun. With the spontaneous respiration (after about 6 minutes) a hemorrhage occurred, which was stopped by ligatures. The goiter was now literally dragged up out of the thorax, which caused a fearful venous hemorrhage from the jugular. By manual compression and finally ligatures this was controlled and the operation completed, leaving the tracheal canula in place. The patient made an uninterrupted recovery. The examination of the goiter showed therein a dissemination of true bone.

Professor Schlatter reported further 3 cases sent to him for operation as appendicitis and which proved to be (1) perforated pyosalpinx; (2) duodenal ulcer, and (3) extra-uterine pregnancy. The first and third were cured. In the second case the perforation was not found and the patient died. An old appendicitis had caused the intestines to become so attached to each other and to the peritoneum that a clear conception of the case was impossible and the trouble was believed to have been due to these old processes. The Bode drainage was used, but in spite of this the patient died after about 24 hours. This is the third case in Zurich where the Bode drainage for diffuse purulent peritonitis has proven ineffective.

The Latest Literature.

British Medical Journal.

March 2. [No. 2096.]

1. A Clinical Lecture on Some Points Relating to Varicocele. WILLIAM H. BENNETT
2. Ad Terram. II.—The Earth and the Soil. SIR FRANCIS SEYMOUR HADEN.
3. The Milroy Lectures on the Influence of the Dwelling upon Health. JOHN F. J. SYKES.
4. Painless Calculous Pyonephrosis without Fever; Nephrectomy; Recovery. ALBAN DORAN.
5. The Treatment of Puerperal Eclampsia by Saline Diuretic Infusions. ROBERT JARDINE.
6. Case of Puerperal Eclampsia and its Treatment by Morphin. GEORGE ELDER.
7. A Case of Multilocular Cystoma of the Omentum; Removal; Recovery. N. PERCY MARSH and KEITH MONSARRAT.
8. The Campaign Against Ague. HERBERT E. DURHAM.

1.—Bennett in this lecture discusses particularly **varicocele** associated with certain nervous symptoms. As to the frequency of varicocele it is found to occur in about 7% of all males. Eighty per cent. are affected on the left side only, limitation to the right side only is extremely rare. The varicocele itself usually produces no inconvenience and no pain unless injured. The distressing symptoms and those which make operation most frequently necessary are the melancholy states of the patient's mind. Bennett finds these patients to be always unmarried, and to whatever class they belong they are sensitive and intelligent beyond the average. He has never known a dull, stupid, or uneducated person to suffer from these symptoms. Masturbation cannot be considered a cause of varicocele. He describes varicocele as of two kinds: First, that consisting of large tortuous veins generally confined to the cord, and, second, that consisting of masses of small veins clustered around the testicles. This latter variety checks the growth of the testicle. The small testicle is often thought to be due to atrophy, but this is not the case, for the organ has never been developed. In the hypochondriacal cases arguments from the moral point of view are of little benefit unless "in the first instance the conditions of life ordinarily led are entirely changed." If the patient himself is convinced that operation and cure of the defect will bring about relief, operation can generally be recommended without hesitation and with a good prospect of cure in 60% of cases. If relief does not follow the first operation no secondary one should be done. At the earnest written solicitation of two patients and their friends, Bennett has twice performed castration after operating for varicocele, but in each case, as he predicted, the patients were not benefited. In operating for varicocele the veins are not denuded of the fascia covering them, but are tied *en masse*. He advocates very strongly the ligation of the spermatic artery, maintaining that the vessels which accompany the vas deferens, together with the few small vessels which are derived from the subvaginal tissue, are sufficient to nourish the testicle. Bennett thinks that the ligation of the spermatic artery tends to prevent the fatty degeneration which is occasionally seen after operation for varicocele. [J.H.G.]

3.—It may be assumed that beyond a certain point, increasing density of population upon a given area, in the absence of hygienic measures, would result in increasing mortality, and that in proportion to the application of these measures, the mortality would diminish. It is recognized that the most important factor in the spread of pulmonary tuberculosis is predisposition, and predisposition can be acquired as well as be innate, and further that by hygienic measures the acquired predisposition and the innate disposition, and even the communicable entity of the disease itself, can be so controlled as to be kept in abeyance, and even to be permanently subdued. It is further recognized that the conditions under which it may be acquired are residence in impure air, particularly such as is not renewed often enough, crowding of persons together, absence of sunlight, and dampness. In susceptibility to phthisis, the power of resistance appears to be even more important than the power of

infection, or in other words, the prevention of loss of vitality or energy is most important. In cities the average **dwelling space of the inhabitants** has a closer relationship to their health than any other condition of health which is capable of statistical expression. If we could obtain a classification of only a portion of the population according to the amount of measured cubic space occupied and the ages and causes of mortality, we should perhaps be able to draw more definite and exact conclusions still. Typhus was formerly very prevalent under conditions of gro's overcrowding, and not only typhus, but other infectious diseases tend to diminish in prevalence with increase of cubic dwelling space. The phthisis death-rate shows a close relationship to density of persons in cubic space, and phthisis appears to stand almost in the same relationship to respiratory pollution as typhoid does to filth pollution. The respiratory diseases, apart from phthisis, are also influenced by impurities of the air, and afford some measure of their effects, just as diarrheal diseases, apart from typhoid, are regarded as bearing a relationship to impurities of the soil. The effects of insufficiently separating street blocks from each other—that is, of allowing streets to be made too narrow, displays itself as one of the causes of unhealthiness of unsanitary areas. The occupants of stable dwellings have a high birth-rate, a high mortality at all ages, and high death-rates from pulmonary diseases both of infants and adults, and from the zymotic diseases, especially diarrhea and diphtheria. These facts point to the effects of the vicissitudes of temperature affecting adults, and unhealthy conditions at home affecting young children in tropical countries. [J.M.S.]

4.—Doran reports a very interesting case of **pyonephrosis**, occurring in a woman, 38 years of age, in which the usual symptoms of pain and fever were entirely absent. The patient was well nourished, able to do all her housework, and only suffered pain and nausea when she put on her corsets. Blood had never been passed in the urine, and she had never had any symptoms of renal colic. Examination revealed a large movable kidney, not tender, and apparently containing fluid. This organ was removed through the peritoneal cavity and upon examination was found to be filled with pus, to contain a free calculus in the pelvis and several others in the calices. There was complete obliteration of the ureter. The patient made an excellent recovery. Doran does not think that this is a case of an original floating kidney with kinking of the ureter. [J.H.G.]

5.—Jardine repeats his former statement that in the **treatment of puerperal eclampsia by saline diuretic infusions** the essential part of the method is the infusion. His aim is to dilute the poison and get rid of it as quickly as possible—that is to treat the cause and not a mere symptom. He has recently had under treatment some half dozen cases of marked dropsy and albuminuria of pregnancy. By prompt purging with salts and the use of diuretics and milk diet they all except one escaped eclampsia. If by the establishment of diuresis one can prevent the fits, it is reasonable to suppose that they can be cured by the same method. Besides the diuretic effect when the drugs are given subcutaneously, there is obtained a dilution of the poison and a stimulation of the patient. In other words the same effect is obtained as in the treatment of septicemia by saline infusions. As to the obstetric treatment of the condition, Jardine's experience teaches him not to interfere if labor has not begun. During the first stage, if the fits cease, dilatation may be left to nature, but if they recur the uterus should be emptied as quickly as possible. During the second stage delivery should be effected at once. Kerr has collected all the cases of puerperal eclampsia treated in the Glasgow Maternity Hospital during the last fifteen years. The death-rate among the cases treated by chloroform, chloral bromide, and veratrum viride, was 47%. Since the saline-infusion has been added to the treatment the rate has fallen to 17%. [W.A.N.D.]

6.—Eder records a case of **puerperal eclampsia treated by morphin** successfully. He claims that when the medical attendant is brought face to face with a patient in convulsions, whether these be before, during, or after labor, no remedy is so quickly and certainly sedative as morphin hypodermically administered. [W.A.N.D.]

7.—Marsh and Monsarrat report a case of **multilocular cystoma of the omentum**, occurring in a child aged one

year and eight months. This case was at first looked upon as one of tuberculous peritonitis, as the fluid seemed to be free in the peritoneal cavity, producing dullness in both flanks. The abdomen was tapped repeatedly and quantities of light colored serum removed. At the last two tapings blood was found in the fluid. After the last tapping the flanks were found resonant, although there was still the evidence of fluid in the upper part of the abdomen, hence, laparotomy was advised and done. There was found a large cyst of the omentum with many smaller ones involving nearly the whole of this portion of the peritoneum. The child made a very good recovery. [J.H.G.]

8.—In undertaking the use of chemical culicidal agents it appears that the most profitable time for their employment would be during the dry season. During the wet season, with heavy rains much actual washing away or dilution would occur; however, nature's own culicicides, in the form of tadpoles, water beetles, etc., may be enabled to spread from pool to pool, and assist in the **destruction of anopheles larva**. Koch has been the chief advocate of the proposal to effect the **ridance of ague** by means of quinin. It is generally admitted that although the administration of quinin causes a rapid disappearance of the malaria parasite in its asexual form from the blood, the sexual forms can still be found, even after long periods of quinin-taking. It is clear, therefore, that some better drug than quinin is needed for stamping out ague, inasmuch as it is by the sexual forms that the disease is spread by means of the gnat. Durham believes that arsenic is the drug that has best repute for compassing the destruction of these forms. In the treatment of an individual suffering from ague in a region where he is likely to be a danger to his fellow men, every endeavor should be made to prevent the development of sexual parasites in his system. For the patient's own safety he must be given quinin in some form or other; at the same time, for the safety of the community, the administration of some drug, such as arsenic, should be commenced. [J.M.S.]

Lancet.

March 2, 1901. [No. 4044]

1. The Milroy Lectures on Public Health and Housing; the Influence of the Dwelling Upon Health in Relation to the Changing Style of Habitation. JOHN F. J. SYKES.
2. On the Influence of Ozone on the Vitality of Some Pathogenic and Other Bacteria. ARTHUR RANSOME and ALEXANDER G. R. FOULERTON.
3. On the Quantitative Estimation of the Bactericidal Power of the Blood. A. E. WRIGHT.
4. Result of Major Amputations Treated Antiseptically in the Royal Infirmary, New Castle-upon-Tyne, during the Year 1899, and for a period of 21 Years and 9 Months—viz., from April 1, 1878, to December 31, 1899, Inclusive. H. BOUNTON ANGUS.
5. A Method of Distinguishing Bacillus Coli Communis from Bacillus Typhosus by the Use of Neutral Red. WILLIAM HUNTER.
6. Note on a Case of Influenza with Meningitis as a Complication. ARTHUR FOSTER.
7. Three Cases of Cervical Spina Bifida Treated as Out-patients by Open Operations. JAMES H. NICOLL.
8. A Case of Fracture of the Sternum. J. SACKVILLE MARTIN.
9. A Case of Cerebrospinal Meningitis. FRANCIS RILEY.
10. Four Cases in which Pain was Relieved by Suprarenal Extract. E. A. PETERS.
11. History of Renal Surgery. DAVID NEWMAN.
12. Ad Terram. SIR FRANCIS SEYMOUR HADEN.

1.—The abstract will appear when the lectures are completed.

2.—Ransome and Foulerton in an article defined "**the influence of ozone on the vitality of some pathogenic and other bacteria**." They review the literature of the bactericidal action of ozone, laying special prominence on the work of Downes and Blunt, who have shown that the blue and violet rays of the spectrum have a greater influence upon destroying the vitality of the bacteria than the red rays. The authors have conducted a number of experi-

ments, first to determine the action of ozone upon the vitality of certain bacteria, and second to ascertain whether the virulence of the tubercle bacillus is influenced. The first experiment consisted of subjecting cultures of various bacteria to a current of ozone and atmospheric air. Control tests were made at the same time. These experiments showed that the growth of two out of seven species of bacteria was slightly retarded upon exposure to the ozone. The second experiment consisted of exposing bacteria to ozone in the absence of organic matter. Small blocks of plaster-of-Paris were inoculated with stock cultures of different bacteria. The blocks were then placed in culture tubes and subjected to a current of ozone. Control experiments were also made by inoculating plaster-of-Paris blocks; then placing these in culture tubes, and subjecting them to a current of air. The ozone had no effect upon the vitality of the microorganisms. The third experiment consisted in exposing various cultures of bacteria, after having placed these upon porcelain, to the action of ozone, produced by passing oxygen under pressure from a cylinder over a powerful ozonizer. The bacteria were not affected; their growth was not impaired, and the chromogenic organisms did not lose their power of producing pigments. The fourth experiment consisted of passing ozone through fluid cultures of microorganisms. Milk was used as the culture media. This experiment showed that the bacteria lost their vitality. The fifth experiment was made in order to determine whether or not ozone had any influence upon modifying the virulence of the bacillus tuberculosis. It was shown that the virulence was not changed. The authors have drawn the following conclusion: That ozone in a dry state does not affect the vitality of the bacteria experimented with to any appreciable degree; nor does the action of ozone modify the pathogenic virulence of the bacillus tuberculosis; and, finally, the activity of bacteria is hindered when ozone is passed through a fluid medium containing the microorganisms in suspension. [F.J.K.]

3.—Will be considered editorially.

4.—Angus gives the results of major amputations in the Royal Infirmary, Newcastle-upon-Tyne, during the year 1899. There were 67 amputations, 32 for injury and 35 for disease. The mortality for the whole was 9.03%. Of the 32 cases of injury four died, a mortality of 12.05%. Of the 35 amputations for disease two died, a mortality 5.07%. [J.H.G.]

5.—Hunter in an article entitled **The method of distinguishing bacillus coli communis from bacillus typhosus, by the use of neutral red**, comes to the following conclusions: (1) That the power of reducing neutral red is possessed by the bacillus coli communis to a marked degree, and superb canary yellow fluorescent color of the culture media is produced; (2) this same reaction is produced by the so called bacillus enteritidis of Gaertner; (3) this reducing power is not possessed by the bacillus typhosus; (4) the reaction is not given by other pathogenic microorganisms; (5) with accuracy, the diagnosis as to the presence of bacillus coli communis is possible within from 12 to 24 hours, by means of the neutral red reaction. The author, so far as his experience goes, states that by means of the neutral red it is possible to diagnose the true coli group from the typhoid group of microorganisms. [F.J.K.]

6.—Foster reports a case of **influenza complicated with meningitis** in a woman 54 years of age. The illness began on January 29, with pains in the back and legs, sore throat, and headache. On the following day the symptoms were more pronounced, the temperature was 103.5° F., the pulse-rate was 95 per minute, and the respirations were 25 per minute. On February 1 the headache became more intense, and nausea and vomiting developed; the temperature was 104° F., pulse-rate 90, and the respiratory frequency 36. On the evening of the same day the temperature fell to 97° F., and the patient had some difficulty in speaking and swallowing. On the following day the temperature again rose to 103.5° F., the pulse-rate was 72, and the respiratory rate 50. Rigidity of the muscles of the neck developed, the patient was unable to talk or swallow, and a state of stupor set in. There was partial paralysis of one-half of the face, strabismus appeared, and there was a muscular tremor involving the face, arms, and legs; retraction of the head was striking; death occurred on the morning of the third of February. The author states that there was no doubt as to the diagnosis of influenza, followed by meningitis. A post-mortem examination was not made. [F.J.K.]

7.—Treated editorially.

8.—Sackville reports an interesting case of fracture of the sternum, due to pressure exerted on the two shoulders. He calls attention to the peculiarity of the force which produced this fracture. The line of fracture was obliquely across the manubrium and only gave rise to pain when the pectoral muscle was in action. [J.H.G.]

9.—Riley reported a case of **cerebrospinal meningitis** in a girl of 5 years of age, who had always been in fairly good health. The disease developed suddenly with the symptoms of vomiting and headache followed by convulsions; the temperature rose to 103.5° F. and remained high several days. On the fourth day retraction of the head and slight opisthotonos developed. The superficial and deep reflexes were abolished except that Babinski's sign was present. The spleen was not enlarged and the abdomen was retracted. A mixed erythematous and petechial rash appeared on the trunk and extremities. This rash appeared on the fifth day. The patient complained of pain in one knee and there was a slight swelling of the dorsum of the foot. The optic discs were congested and pupillary reaction to light was somewhat retarded. During the acute stage of the disease the temperature range was of the inverse type, but as the patient began to improve, the morning temperature was lower than the evening temperature. For a while the respirations were of the Cheyne-Stokes type. Slight ptosis of the left eyelid and photophobia developed. As the disease progressed the reflexes returned, and the skin became hyperesthetic, but retraction of the head increased; vomiting was an occasional symptom. The symptoms began to subside 4 weeks after the onset; during this period great emaciation developed; the total duration of the disease was 3 months. The treatment consisted in the application of ice-bags to the head and neck and in the administration of potassium bromid and iodid; small quantities of brandy were given as a stimulant, and during the period of vomiting, food was administered per rectum, small doses of calomel were used to keep the bowels opened. The case is of interest because Babinski's sign was present, herpes labialis and headache were absent after the onset of the disease. The origin of the illness was very obscure. [F.J.K.]

10.—Peters advocates the use of **suprarenal extract for the relief of pain** in some conditions. He reports 4 cases in which pain was relieved by the administration of this animal extract. He found that the most efficient preparation was obtained by dissolving tabloids of the dried gland in boiled water; the solution was then filtered and this was administered. The author advocates a 10% watery extract; the first case in which he used this preparation was one of recurrent scirrhus of the breast in a woman, 89 years of age; the local application of suprarenal extract in this case gave the patient much relief. The second case was one of stricture of the esophagus occurring in a woman; pain developed after the passage of a bougie, which was relieved by a teaspoonful of the 10% aqueous extract of suprarenal capsule; the dose was repeated every evening before going to bed. The third case was one of tuberculosis of the larynx, occurring in a man 34 years of age; the suprarenal extract was used in the form of a spray. The fourth case was one of periodontitis; the extract was applied every two to six hours; the patient in this way was given much relief. [F.J.K.]

New York Medical Journal.

March 16, 1901. [Vol. lxxiii, No. 11.]

1. Congenital Dislocation of the Shoulder with Report of Two Cases of Dislocation Posteriorly. DANIEL W. MARSTON.
2. The Representation of Biliary Calculi by the Röntgen Rays. CARL BECK.
3. Substitute Feeding of Infants upon Milk Modified According to Prescription in Laboratories. W. P. NORTHRUP.
4. The Specific Treatment of Acute Dysentery. WILLIAM J. CRUIKSHANK.
5. The Pathology of Intra-Uterine Death. NEIL MACPHATTER.
6. Angelioma Cysticum of the Nose. HENRY LEWIS WAGNER.
7. A Simple Apparatus for Modifying Cow's Milk. CHARLES HERRMAN.

1.—Marston discusses the pathology of **congenital dislocations of the shoulder**, and reports 2 cases of posterior dislocation. He thinks this condition due to traumatism at birth or in utero, or to some prenatal diseased condition of the joint. He does not think that paralysis is a primary etiological factor of the dislocation, but rather a result of the condition. When the patient is under 3 years of age reduction by manipulation should be attempted. Failing in this, the operation suggested by Phelps (Transactions American Orthopedic Association, 1898) should be employed. [J.H.G.]

2.—Carl Beck, of New York, claims to have showed the first undisputed **skiagraph of cholelithiasis** in living patients. A further experience in making these skiagraphs has enabled him to modify the principles he originally set forth. The correctness of the statement that the **chemical composition of the calculi** will have much to do with their clearness of definition has been found to be correct to some extent only. He has succeeded in fixing the **common biliary calculi** even when they are as small as the head of a pin. Even calculi of the hepatic ducts are shown. The **mixed bilirubin calculi** are less permeable to the rays than all the other varieties. Those of pure cholesterin show well, while the **stratified cholesterin calculi** show less permeability to the rays. He attributes this success to the excellent quality of the tubes he employs. They must bear a 15 inch spark for 5 minutes without coming too hot. The tubes he has used for reproducing biliary calculi display their energy only as long as they are new. The position of the patient is an important factor. He should lie on his abdomen with three pillows under the clavicles, for this elevation permits the protrusion of the gallbladder, and brings the calculi nearer to the photographic plate. The direction of the rays should be such that they should form an angle of about 70° with the plate, and the tube should be as near the abdomen as possible. The disadvantage of oblique irradiation is that the calculi appear larger than their natural size. When a protrusion palpable in the region of the gallbladder indicates that it projects from the liver, direct irradiation is to be preferred. The bowels should be thoroughly evacuated before irradiation. [T.L.C.]

3.—Northrup publishes his views upon the substitute feeding of infants with milk modified according to the prescription in laboratories. He emphasizes the necessity for a thorough examination of the sources of all milk for general use and insists that the laboratories supplying this milk should be under the most careful supervision. The modification of milk consists in the transformation of the proportion of cow's milk to the proportions of woman's milk, and in transforming a slightly acid milk to one of slightly alkaline reaction, in preserving it from contamination and making it as nearly as possible like a mother's milk. It is to be remembered that cow's milk is approximately 4% of fat, 4% of sugar, and 4% of proteids. In consequence then it is necessary to remember three formulas: (1) Feeding for the newborn, adapted to the majority, should comprise 2% of fat, 5% of sugar, 0.75% of proteids; (2) "Low-average breast-milk" should contain 3% of fat, 6% of sugar, and 1% of proteids; (3) "high-average breast-milk," 4% of fat, 7% of sugar, and 2% of proteids. These modifications should be changed gradually and frequently by small fractions from one to another. At the age of from 8 to 10 months it is time to make the proportions approximate that of the whole cow's milk; in other words, wean the child. The feeding should be all milk for the first year, and mostly milk for second year. [T.L.C.]

4.—W. J. Cruikshank concludes his paper upon the **specific treatment of acute dysentery**. His conclusions are that dysentery is a disease of great gravity, and that it is both contagious and infectious; that it is caused by the introduction to the system through food, drink, and also through the air, of a specific microorganism, the identity of which seems to be still in doubt. He states that dysentery is one and the same disease in whatever latitude it may be found, and its varieties represent merely the difference of intensity of the morbid process. The majority of therapeutic agents which have been employed are useless, and even harmful. Sulphate of magnesium, properly administered, in the acute form of dysentery acts as a specific. [T.L.C.]

6.—Henry Lewis Wagner has devoted considerable

time to the study of the classification of the various cysts of the nose. His cases were studied in a boy of 9 years and a woman of 28. Both presented practically the same condition. Microscopically the nasal passages present no pathological condition other than a single bluish gray tumor obstructing the entire posterior portion of one side of the nose and protruding somewhat into the nasopharyngeal vault. The tumor shows greater elasticity to the touch than any other found within these limits. It is movable and attached to a small base. It will rapidly form again after removal unless the seat of the cyst is thoroughly destroyed, as with the galvanocautery. Microscopically the ciliated columnar epithelium covered nearly the whole of the external part of the growth with the exception of a small portion which consisted in squamous epithelium, probably produced by pressure or by continuation of the mother-stratum. No glands are to be found in any of the sections, but there are a large number of venous bloodvessels, some of them enlarged and running parallel with the sac. Some large venous sinuses are also seen. On this account he terms this growth angioma cysticum. Upon chemical analysis the fluid of the cyst is found to possess an alkaline reaction and a specific gravity slightly lower than that of blood-serum. It has a brown color that is partly due to **lupien** and partly derivative from hemoglobin. Serum albumin was found in larger quantities; only a few red blood-corpuscles were detected. A coagulation of the whole fluid occurred a very short time after removal. [T.L.C.]

Medical Record.

March 16, 1901. [Vol. 59, No. 11.]

1. The Treatment of Gonorrhea with Frequent Irrigations of Hot Decinormal Salt Solution. CHAS. E. WOODRUFF.
2. A Whistle in the Esophagus. A. E. ISAACS.
3. The Treatment of Colitis by Valvular Colostomy and Irrigation. P. R. BOLTON.
4. The Ovary; Its Relation to Normal Functions and to Pathological States. S. W. BANDLEY.
5. The Use of Suprarenal Capsule in Hemoptysis. WILLIAM B. KENWORTHY.

1.—Charles E. Woodruff recommends frequent irrigation with hot decinormal salt-solution in the treatment of gonorrhea. He employs a simple short glass tube and has seen no harm come from using as much as a quart of hot salt-solution every hour. He has found that if the discharge keeps up for more than 10 days under this treatment, the irrigations are not properly done. In a study of 98 cases he has found that the average time of cure is 12½ days; about 30% lasts 7 days; 30% 11 days; 20% 17 days; 10% 20 days, and 10% over 3 weeks. Though the actual duration of the symptoms is less than this, as each case remained in the hospital 2 or more days after the symptoms disappeared. In 5% all symptoms disappeared within 2 days. As a rule there was marked reduction within a week and total cessation in from 10 to 14 days. It is well known that early cessation of the discharge is really a danger in any treatment, but it may be overcome by carefully explaining the conditions to every man. Woodruff gives each patient an astringent injection to use for 2 or 3 weeks after leaving the hospital. In his 98 cases there were not more than 6 or 8 relapses. [T.L.C.]

2.—A. E. Isaacs, of New York, reports a case of a child who swallowed a whistle 2 days before he saw him. At first the symptoms had been very urgent, but when seen they had so much improved that what remained could be very well accounted for by the irritation from previous attempts to dislodge the foreign body. A radiograph showed that the whistle was lodged in the esophagus, although an esophageal bougie and a bristle brobang were used without revealing the foreign body. After expere menting with various instruments, Isaacs succeeded in removing the whistle with a "coin-catcher" or a "hinged-bucket" [T.L.C.]

3.—P. R. Bolton discusses the treatment of colitis by valvular colostomy and irrigation. In 1885, Keith recommended the treatment of some forms of colitis by diverting the fecal current and sparing the mucous

membrane of this part of the intestine from contact with it by establishing an artificial anus in the cecum, which should also facilitate local applications to the mucous membrane. This plan has been carried out with gratifying results in a number of cases. The treatment, however, is radical and there are positive risks entailed. The writer reports the following case, in which a modified form of the treatment outlined was employed. The patient was a male, of 42 years, with negative family history. Eight weeks before being admitted to the hospital, and without assignable cause, he developed a **severe diarrhea accompanied by fever and prostration**. This persisted in spite of all treatment. The stools were blood-stained and contained a great deal of mucus, and numbered from 16 to 23 in the 24 hours. No amebae were found. The patient lost 31 pounds in weight. The first step in the treatment consisted in performing of a **cecal colostomy**. A 1½ inch incision was carried through the abdominal wall parallel with the right Poupart's ligament, and an inch internal to its outer part. The cecum at once presented. A point was chosen in its anterior band and the intestine opened sufficiently to admit a fair-sized soft-rubber catheter. Three tiers of sutures placed above and below this orifice served to enclose the cecal wall. The ends of those last introduced left long and carried through the margin of the abdominal incision, brought the cecum forward into close contact with the abdominal wall, and were utilized to close the external wound, being reinforced by a silkworm gut suture at each angle. Healing of the abdominal wound occurred promptly. The after treatment occupied 4 weeks, but the patient was confined to bed for only half this time. The diet at first was composed entirely of **proteids**, and **salol** and **castor oil** were given every 3 hours in small doses. Toward the close of the treatment a mixed diet was allowed. Irrigation of the colon was begun at once. Several quarts of **.01% solution of silver nitrate** were injected through the catheter. This was followed by a **.5% salt-solution**. For the first 3 days this washing was done twice a day, for the next 11 days once a day, and the strength of the silver solution increased to .02% for the remaining time every other day. The catheter was removed after the seventh day except at the periods of washing, and in the intervals there was absolutely no leakage. His weight increased 10 pounds. Complete recovery followed. A small ventral hernia has appeared at the site of the operation, which has led to the author's decision to adopt in future the intermuscular incision of the abdominal wall. [T.L.C.]

4.—Bandley has made an exhaustive study of the **ovary and its relation to the normal functions and to pathological states**. He remarks that one of the functions of the normal ovary is the production and expulsion of ova capable of being fecundated. It is probable that after birth no new ova are formed from the germinal epithelium. After puberty the vitality of the ovary is revealed by its ability to bring these ova to a stage which may be called **right**. For the expulsion of an ovum from the **graafian follicle** a gradual increase in size of the follicle takes place depending partly on an increase in the amount of liquor folliculi. The cells of the follicle epithelium undergo fatty degeneration, and the internal layer (the tunica interna) shows an increase in the size of the cells and a decided development of the bloodvessels. As a result of this fatty degeneration the ovum is freed from the cumulus oöphorus. The most prominent point of the follicle is poor in blood-supply and furnishes the so-called stigma folliculi, at which place an opening is formed for the escape of the ovum. After ovulation the ovum is thrown out into the abdominal cavity, ultimately finding its way into the uterus. It is not necessary that the tube should grasp or surround the ovary. Lode has shown that an ovum finds its way through the tube into the uterus in 30 hours. Menstruation is the periodic loss of blood from the uterus or from any mucous membrane and may be divided into three periods: the premenstrual, the menstrual, and the postmenstrual. The premenstrual period is characterized by a swelling of the endometrium, which may measure from 6 to 7 mm. in thickness. During the menstrual period the superficial capillaries are greatly dilated, and an exit of blood-elements not dependent upon a bursting of the capillaries goes on for several days. The bleeding occurs partly through diapedesis, and in strong bleedings through rhexis. There is little or no destruction of the mucosa, only a very slight fatty

degeneration of the epithelium of the uppermost layer. The changes in the tubes, if any, are slight. The postmenstrual period comprises 14 days, during which the mucous membrane returns to a thickness of 3 mm. During this time all cells not capable of further growth are thrown off, and the epithelium, only partially denuded, is regenerated. A regeneration concerns the stroma, the glands, and surface epithelium, reaching its height on the fourteenth or fifteenth day after the beginning of menstruation. Ovarian secretion is the direct cause of this periodic swelling of the mucosa, and it continues, if fecundation has not taken place, to exert not only a local but likewise a stimulating influence on the general and sexual organs. On the occurrence of pregnancy this secretion causes a further development of the uterus and the decidua and plays an important part in the process of labor. It stimulates the functions of the breasts, exerts a decided constitutional stimulation and is the cause of many of the pathological conditions occurring before and during labor. Ovulation and menstruation are related only in that both are the result of the secreting functions of the ovary, and are in no wise connected as regards cause and effect. Ovulation as a rule occurs from 4 to 8 days before menstruation, but it may occur at other periods, as ripe ova may be present at almost any time. Since ovulation may occur without menstruation, but the latter never without the former, we have here an evidence that a certain functional activity of the ovary is necessary to stimulate the mucous membrane from its periodic changes. Menstruation is simply an evidence that a fecundated ovum is not present in the tube or in the uterus. A proof of the direct influence which the ovum exerts upon the decidua is shown by the manner in which the space formed by the embedding of the ovum is filled up. It may be taken for granted that the ovum embeds itself in the decidua, and that an active growth of the latter up to and surrounding the ovum, with a formation of the so-called decidua reflexa, by no means takes place. Another of the functions, then, of ovarian secretion is to be found in its stimulation of the round cells of the stroma to growth and to the formation of decidua cells. This secretion is a stimulus likewise to uterine contractions, and is the probable cause of the contractions normally occurring during labor. The action upon the uterus at the end of pregnancy of this accumulated secretion is probably the cause of labor-pains. The action of the ovarian secretions upon pulse-tension and its effect upon the mucous membranes of the body generally are evidenced by the congestion of the vocal cords during menstruation, so that during this time the singing voice is poor. The secretion of intestinal mucosa is also greater, there is increased perspiration, the lower turbinated bones are swollen, and the eyes suffer limitations in power. Bandley also emphasizes the trophic action of the ovarian secretion as evidenced by the numerous experiments upon transplantation of the ovaries. It is also shown in the various disorders of menstruation, such as amenorrhea, in which case there are frequently found poorly-developed ovaries; menstruation, if present, is unaccompanied by pain, and the girls have irregular, weak, or eventually no menstruation. Although these persons may be well-developed, yet they show poorly developed genitalia. The frequent occurrence of amenorrhea and uterine hypoplasia in chlorotic girls is an interesting link, associating the ovary as a secreting organ with the vital functions of the body. A further evidence of the influence of ovarian secretion upon the body in general may be found in its relation to osteomalacia, occurring as the disease does so frequently in pregnancy. Bandley also believes that the ovarian secretion is responsible for the development of eclampsia, and for the occurrence of chorea, especially developing at the period of puberty and in the early months of pregnancy. [W.A.N.D.]

5.—William B. Kenworthy reports a case of hemoptysis treated by suprarenal extract. Kenworthy states that in the 14 cases in which this remedy has been used to control hemoptysis in no case did it fail to accomplish its purpose, and in only one case did the hemorrhage continue for 15 minutes after the administration of the first powder. In his own case he administered the drug in 3-grain capsules, one every half hour until 3 were taken. Then one every two hours until 3 more were taken, then one three times a day for a week, to be taken dry on the tongue, chewed and swallowed without water. [T.L.C.]

Medical News.

March 16, 1901. [Vol. lxxviii, No. 11.]

1. Recent Experience with Erythromelalgia. HENRY L. ELSNER.
2. The Treatment of the Heart in Typhoid Fever and Other Infectious Diseases. ALBERT ABRAMS.
3. A Report of Three Cases of Thoracic Aneurysm Treated by Subcutaneous Injections of Gelatin. LEWIS A. CONNER.
4. Observations upon the Amebae Coli and Their Staining Reactions. CHARLES F. CRAIG.
5. A Preliminary Note on the Relation of the Form of the Tubercle Bacillus to the Clinical Aspects of Pulmonary Tuberculosis. HENRY SEWALL.
6. Rhinoscleroma. H. JARECKY.

1.—Elsner, in his recent experience with erythromelalgia, reports 3 cases associated with Raynaud's disease, and gives the great variety of diseases which claim erythromelalgia as an attendant. Schwenck's case, with ascending degeneration of the posterior columns of the cord; Woodnut's case was associated with myelitis; Collier reports 10 cases associated with various spinal, system, and indiscriminate lesions; Auerbach reports 2 cases, in one of which a postmortem examination revealed degenerative changes in the posterior nerve-roots of the lumbar and sacral nerves without degeneration in the cord substance, while the bloodvessels were found normal. This is the only postmortem of a case of erythromelalgia on record. Neider reports a case of erythromelalgia with eye symptoms prominent, choked disc with vascular dilatation; Eulenberg, one case of brain tumor with hemorrhagic retinitis and consequent changed visual field; Hoffman mentions an interesting case of akromegaly associated with erythromelalgia, in which the patient was 23 years of age. She had had erythromelalgia since her sixth year, when finally the characteristic changes in the hands and feet followed; Henoch's case was one of erythromelalgia following hemiplegia and hemihyperidrosis, death finally resulting from angina pectoris; and Levy reports a case resting on a hysterical basis, cured by hypnosis, in which erythromelalgia was associated with Raynaud's disease. [T.M.T.]

2.—In Abrams's treatment of the heart in typhoid fever he sets forth the following theories in explaining the action of the cold bath treatment: (1) It possesses a powerful stimulating action on the circulatory apparatus and nervous system; (2) it exerts an antipyretic action; (3) it stimulates the nerve centers presiding over the functions of respiration, circulation, digestion and excretion; (4) the flux and reflux of blood between the periphery and viscera are facilitated; (5) leukocytosis is produced. He advocates the use of the carbonated bath (S. Holt method) in place of the cold bath and knows no means better adapted for maintaining the vigor of the heart in typhoid fever, pneumonia and other infectious diseases. The reduction of temperature after the carbonated baths is relatively slight, and such reduction is evoked by dilatation of the subcutaneous vessels. If, however, we regard temperature reduction as a necessity, then we may alternate the carbonated with the cold baths, or we may even incorporate the ingredients necessary for generating the carbonic acid in the cold bath. He also describes the friction bath as follows: The patient is first rubbed or sponged with alcohol and this is followed by vigorous cutaneous friction until the skin glows. In nearly all cases where the friction bath was employed in lieu of the cold bath the temperature reduction was slight, but the stimulating effect upon the heart and nervous system was pronounced. Another treatment is the siphon method in which the patient is prepared in the usual manner for taking a sponge bath. The siphon bottle containing the carbonated liquid is gradually discharged over the surface of the body, notably in the thoracic region. The siphon may be immersed in hot water if desired. This method has reduced the pulse 10 to 20 beats a minute, which rate is maintained for a varying period of time. [T.M.T.]

3.—The results of Connor's study of three cases of thoracic aneurysm treated by subcutaneous injection of gelatin have not been very satisfactory. In two of these cases three injections were given, in the other seven. In the first two it was discontinued on account of the severe pain following. In the other the pain was only slight. In

the case that received seven injections there was very slight improvement. In one case a slight increase in the symptoms was noted, while the third case died of rupture of the aneurysm while under treatment and the autopsy showed no evidence of recent thrombosis formation, although the condition, that of large sac with a small communication with the aorta, was an especially favorable one for clotting. His experience in these three cases has convinced him that, whatever the curative value of the treatment, its usefulness is seriously impaired by the severe pain which frequently follows the injection. [T.M.T.]

4.—Craig in his observations upon the amebae coli and their staining reactions demonstrates the following: (1) That vacuolization is a degenerative process, as the young amebae show no vacuoles, the full grown healthy ones, few, while the amebae in which they are the most numerous are degenerate bodies, showing neither a nucleus nor inclusions of any kind; (2) that there occur in all but the degenerate forms of amebae, small, round, or oval unstained areas, uniform in appearance, and most numerous in the large full grown forms, and entirely absent in the vacuolated shells of amebae. The areas resemble similar areas observed in stained, segmenting malarial plasmodia, which are, in them, due to the young spores, which take the stain but faintly. Reasoning from analogy, it may be that these areas in the amebae are also spores; (3) that in the protoplasm of the amebae there occur peculiar structures, evidently not bacterial in nature, the significance of which it is impossible to decide. It may be that they are certain crystals which occur in the feces and which have been absorbed by the amebae; (4) that degeneration of the amebae takes place in two ways, *i. e.*, by vacuolization and by fragmentation. [T.M.T.]

5.—Sewall, in his studies on the relation of the form of the tubercle bacillus to the clinical aspects of pulmonary tuberculosis, comes to the following conclusions: That short, deeply-staining rod or chain of rods of moderate length is the usual form in many active cases. The long rods, particularly if irregularly broken, betoken a milder process, and the chains of sporelike beads characterize the very chronic cases which make us wonder at their tenacious hold on life. If there be a good form of the tubercle bacillus it is, as seems to us, a rather long, slender rod, ill-staining, or staining irregularly, as if the body of the microbe were irregularly corroded on the sides. It is found in cases apparently passing on to cure. Sputa of the same individuals examined month after month have seemed to me to vary in their bacillary characters with the state of the patient as regards the disease. [T.M.T.]

Boston Medical and Surgical Journal.

March 14, 1901. [Vol. cxliv, No. 11.]

1. The Story of the Boston Society for Medical Improvement. J. G. MUMFORD.
2. Notes from the Neurological Department of the Massachusetts General Hospital. W. E. PAUL.
3. Intestinal Anastomosis. CHARLES G. CUMSTON.

2.—Paul reports the case of a woman, 51 years old, who was suffering from bulbar paralysis with hemiplegia and astereognosis. Eleven years previous to the author's examination, the woman suddenly became unable to talk, but in brief time the disability disappeared, leaving no traces of the attack. A year later, speech was arrested in the middle of a sentence, she felt dizzy, and the left arm became numb and powerless. Consciousness was retained, vision was not disturbed, and there was no vomiting. At the end of 3 months she was up and about with some improvement in all her symptoms. Ten years after the attack, the patient talks in a mumbling fashion; she cannot whistle, and she drools on her pillow at night. There is typical bulbar speech; the left hand cannot make fine movements; pain sense is decidedly blunted over the left upper extremity; space sense is not lost but is impaired; pressure sense is altered; muscle sense is preserved; objects are unrecognized by the left hand; the knee-jerks are normal, there is no ankle clonus, and the plantar reflex is absent in both feet. [J.M.S.]

Journal of the American Medical Association.

March 16, 1901. [Vol. xxxvi, No. 11]

1. The Study of Anatomy. LEWELLYN F. BAKER.
2. Paresis of the External Recti Associated with Irregular Tabes. G. ORAM RING.
3. The Amount of Myopia Corrected by Removal of the Crystalline Lens. EDWARD JACKSON.
4. On Certain Clinical Features of the Epidemic of Influenza. HOWARD S. ANDERS.
5. Surgical Circumcision. FERD. C. VALENTINE.
6. Treatment of Laryngeal Tuberculosis at the Montefiore Home for Chronic Invalids. W. FREUDENTHAL.
7. Treatment of Atrophic Rhinitis by Electrolysis. And Some Experiments to Determine the Efficiency of Needles of Different Metals. CAROLUS M. COBE.
8. The Nature and Treatment of Vertigo. J. LEONARD CORNING.
9. The Pharmacologic Assay of Drugs and its Importance in Therapeutics. E. M. HOUGHTON.
10. The United States Pharmacopeia for 1900. PROF. JOS. P. REMINGTON.
11. Astigmatism, its Detection and Correction. H. BERT ELLIS.
12. Urine. Experiments to Determine the Truth of the Recently Announced Discovery by Moor of the True Cause of Uremia. JOHN WEATHERSON.
13. Anastomosis of the Ureters with the Intestine. A Historical and Experimental Research. REUBEN PETERSON.

2.—G. Oram Ring reports a case of paresis of the external recti associated with irregular tabes occurring in a man, aged 30, otherwise healthy and with a negative family history. Within a period of two years the only ocular manifestation was paresis of the left external rectus muscle. The affection was supposed to be dependent upon a specific infection, although the iodides had but little effect. The best result, although only palliative, was obtained from chloride of gold and sodium. [M.R.D.]

3.—Edward Jackson makes a plea for a more complete and exact study of ocular refraction and corneal curvature before and after extraction of the lens for myopia. He presents a table showing the diopters of myopia before operation, the anticipated theoretical change for axial myopia, the average change noted, the maximum and minimum changes, and a number of cases of each degree of myopia, the cases varying from 10 diopters to 35 diopters. The author furthermore discusses the optical changes produced by removal of the crystalline lens in myopia due to excessive corneal curvature, in that due to excessive refractive influence of lens, and in myopia due to increased length of axis. [M.R.D.]

4.—Howard S. Anders, in an article on the clinical features of epidemic influenza, gives his observations, which are based upon an analysis of 128 cases. The most common onset includes certain symptoms common to the cerebrospinal and respiratory forms. The early symptoms are headache, pain in the back and limbs, and extreme prostration for the first 5 or 7 days. Especially those cases characterized by symptoms relative to the respiratory tract showed intense prostration. Congestion of the conjunctivae was a symptom well characterized at the onset. In the mild cases there was no fever, while in the more severe form the temperature rose above 102° F., its elevation continuing during the first 2 or 3 days. The highest temperature reached was 105° F., occurring in 2 uncomplicated cases, one in an infant 14 months old, the other in a woman 72 years of age. The decline of the fever was by rapid lysis, and in only one case was the fever continuous for a period covering 10 days. During convalescence, subnormal temperature was of frequent occurrence. The symptoms referable to the cerebrospinal system were the following: Severe pains in the loin-nerves, and muscles; soreness of the sternocleido-mastoid and other muscles of the neck; cephalalgia; inflammation of one or more of the intercostal nerves, suggesting pleurisy; and in one case, there was enteralgia. Neuritis, affecting the plantar nerves of the left foot, occurred in one case; otalgia, facial neuralgia, and mental disorders were also observed. Conjunctivitis was a frequent concomitant of the influenza epidemic; 13 cases showed hyperemia and watering of the

eyelids; in 4 there was suppuration. In 2 cases purulent otitis media occurred; one developed in an infant, the other in an adult male. Many of the cases began with faucial, tonsillar and pharyngeal inflammation; severe laryngitis was the prominent manifestation in 7 of the cases; in almost every instance bronchitis developed, being especially severe in 23 cases; bronchopneumonia was associated in 5 cases, and dry pleurisy also in 5 of the cases. The symptoms referable to the gastrointestinal tract were the following: Anorexia was associated in nearly all the cases; the less important manifestations were coated tongue, nervous irritability of the gullet and stomach, precordial and epigastric distress, flatulency and sluggishness of the bowels. Palpitation of the heart, with signs of dilatation, occurred in two children and in an adult; bradycardia was frequently noted during the period of convalescence; vasomotor disturbance, in the form of depressing flushes, was a symptom observed in 3 women; only 2 cases of acute nephritis developed; herpes labialis was noted in 30% of the cases. The most important complications were lobar pneumonia, nephritis, peripheral neuritis, emphysema and cardiac dilatation. Dry tubercular pleuritis was of rare occurrence. Intermittent tertian malarial fever developed during the height of the disease in two instances, and recurrence of the attack of influenza occurred in 4 persons. The important sequels were the following: Unilateral sweating of the right side of the face occurred in one case; phlyctenular keratitis in a boy 3 years of age; erysipelas of the face in a middle-aged woman; melancholia in a female 52 years of age; total deafness in a girl 3 years of age; neuritis in one case. Many of the patients complained of marked physical prostration and lack of ambition after convalescence was established. From the standpoint of diagnosis, it was found necessary in some cases to exclude acute muscular rheumatism, follicular tonsillitis, measles, intermittent malarial fever, cerebrospinal meningitis and enteric fever. The author concludes the article by mentioning the climatic conditions favorable to the epidemicity of influenza. [F.J.K.]

5.—Valentine thinks that general anesthesia should be employed in all children under the fifth year unless some cardiac or pulmonary condition exists which is a contraindication. In older children local anesthesia is often very satisfactory. In the Hebrew race he thinks it would be much better if the operation were performed by a Hebrew doctor capable of observing the proper aseptic precautions. [J.H.G.]

6.—Freudenthal suggests the following plan of treatment for laryngeal tuberculosis: Relief may be given by the application of saccharated suprarenal gland to produce local anesthesia. Menthol-orthoform produces a longer local anesthesia, and has also curative properties. For the relief of dysphagia he recommends olive, almond or sesame oil; he has not as yet reached final conclusions as to the efficacy of phototherapy; heroin is recommended for the bronchial cough. He concludes the article by urging further investigation in this large field. [F.J.K.]

7.—Cobb mentions the value of electrolysis in the treatment of atrophic rhinitis. In typical cases it has a curative action so far as preventing the tendency to crust-formation and lessening the odor, but the discharge or the odor is not modified when nasal empyema is present. The best results are obtained by placing the needles comparatively near together; improvement in the condition is especially noticeable in the area corresponding to the application of the positive pole, and that improvement is due to the liberation of oxygen and chlorine or the acid reaction produced thereby; and finally, he cautions us never to introduce the needle of the negative pole beneath the membrane of the septum. [F.J.K.]

8.—The nature and treatment of vertigo are investigated by Corning. After a number of experiments, the author draws the following conclusions: 1. Primarily, vertigo is a derangement of perception. 2. Some impairment of consciousness is always associated with a derangement of perception. 3. Confusional conditions engendered in contiguous centers of higher mental action—cortical centers—produce the impairment of consciousness by the impairment of the functions. 4. Direct impairment of functional efficiency of the centers of perception without intervention of the afferent nerves, may produce vertigo. 5. The clinical causes of vertigo have this in common: that they are

capable of interfering directly or indirectly with the cortical function. 6. From experimental and clinical data, vertigo is regarded as essentially a cortical derangement, of either direct or indirect origin. 7. Vivid impressions, particularly those of sound, may inhibit milder forms of rotary vertigo. 8. Impairment of consciousness, caused by the interference with cortical function, is in direct ratio to the severity of the vertigo. From a standpoint of treatment, the author believes that we should use such drugs that will cope directly with the vertigo itself. [F.J.K.]

9.—Houghton advocates the use of animal experiments in determining the dosage of certain drugs, when the chemical active principles can not be isolated. He emphasizes the fact that the strength of certain drugs varies, on account of the different processes of manufacture; also, for the reason that the amount of active constituents contained in the crude drugs varies from season to season, and is modified by habitat, climatic influences, and the method of handling, collecting, storing and curing. [F.J.K.]

10.—Remington states that the decennial convention for the revision of pharmacopeia assembled in Washington on May 2, 1900. Delegates were present from 28 States, representing various medical, pharmaceutical and national organizations, and delegates from the Navy, Army and Marine Hospital Service. Fifty-seven medical colleges and 89 colleges of pharmacy sent delegates. The following officers were elected to preside: President, Dr. Horatio C. Wood, Philadelphia. Vice Presidents, Professors A. B. Prescott, Ann Arbor, Michigan; O. A. Wall, Drs. R. W. Wilcox, New York; N. S. Davis, Jr., Chicago, and A. L. Langfeld, of San Francisco. Secretary, Dr. H. M. Whelpley, St. Louis. Assistant Secretary, Dr. W. G. Motter, District of Columbia, and Treasurer, Wm. M. Mew, of Washington. The Committee on Revision consisted of Charles Rice, of New York, chairman; Dr. H. C. Wood; H. A. Hare; John Marshall; Profs. Remington, Sadtler and Kraemer, of Philadelphia; Drs. J. J. Abel; R. W. Wilcox; Profs. Virgil Coblenz, Gregory, E. H. Squibb, of New York; W. R. Scoville, of Boston; Prof. Caspari and Dr. Dohme, of Baltimore; Drs. N. S. Davis, Jr., W. S. Haines; Profs. Oldberg and Helberg, of Chicago; Prof. Jas. M. Wood, of St. Louis; Dr. George F. Payne, of Atlanta; Prof. Kremers, of Madison, Wisconsin; Prof. L. E. Sayre, of Lawrence, Kansas; Prof. A. B. Stevens, of Ann Arbor, Michigan, and Prof. C. Louis Deal, of Louisville. The author concludes the article by saying that a very successful meeting was held, and that the Pharmacopeia of 1900 will probably appear in three years from now and will receive the same welcome as has been accorded to its predecessors. [F.J.K.]

12.—Weatherson concludes that by his own experimental research he could not confirm the discovery of ureine by Moor. He closely followed the method advanced by Moor; not being successful, he began a series of experiments by more improved methods of research, and finally made investigations to prove that ureine is not a constituent of urine; he was more successful in proving the latter. [F.J.K.]

Wiener klinische Wochenschrift.

February 21, 1901. [14. Jahrg., No. 8]

1. The Question of Phosphorus in Oily Solution. KONRAD STICH.
2. Carcinoma Following Pyloric Ulcer. ANTON KROKIEWICZ.
3. Lipoma of the Small Intestine. ERNST FUCHSIG.

1.—Stich's experiments to decide whether the solution of phosphorus in oil, generally cod liver oil, is really useful or not, are divided into four sections. First.—He found that, with air added, 0.0002 gram of phosphorus is shown by Mitscherlich's method. Secondly.—Weak solutions (1:1000) will keep their phosphorus for some time; but in strong solution (1:100) the phosphorus will diminish, oxidation and the production of yellow phosphorus lowering the strength. To keep phosphorus, it should be dissolved in oil (1:100) and the bottle then filled with carbon dioxide. After cooling, the solution should be diluted 1:1000, and put away in small bottles. These will keep well, and will always be ready for use. Thirdly.—To determine the amount of phosphorus in a given sample of oil containing phosphorus, benzol is added, and the phosphorus precipitated with argentic acetate solution.

The superfluous silver can be withdrawn by the addition of hydrochloric acid. Finally.—When phosphorus in oil is kept in half filled bottles, oxidation will occur, with the production of amorphous phosphorus. [M.O.]

2.—Krokiewicz reports a case of **cancer following gastric ulcer**, in a laborer, aged 34 years. First he had the typical symptoms of pyloric ulcer. Five months later he grew much worse, from which time the cancerous cachexia started increasing till death, after 6 weeks more. His age, the evident connection between the pyloric ulcer and the succeeding carcinoma, the early marked acidity of the gastric contents, with the presence of free hydrochloric acid, and the rapid development of the tumor and its cachexia, all make this case one of great interest. The literature is given. [M.O.]

3.—Fuchs reports an interesting case of **lipoma occurring in the small intestine**, causing invagination, cured by laparotomy. A man, 47 years old, had abdominal pain off and on for a year. Acute attacks of colic then began, with constipation and great distention of the abdomen. Vomiting followed. Laparotomy for invagination was performed 3 days later, showing clear fluid in the peritoneum. All the folds of the intestines were dilated. The invagination was easily reduced, and a tumor, about the size of a walnut, found in the small intestine, which on removal was diagnosed a **submucous lipoma**. The patient recovered slowly. The etiology is unknown. Diagnosis and prognosis depend upon the symptoms of invagination, etc., should they occur. Operation alone will settle this. He cites the literature of the subject. [M.O.]

Deutsche medicinische Wochenschrift.

February 7, 1901. [27. Jahrg., No. 6.]

1. On the Bacteriology of Acute Articular Rheumatism. F. MEYER.
2. A Method for Distinguishing Different Forms of Blood; in Particular for Determining the Presence of Human Blood. H. UHLENHUTH.
3. A Case of Volvulus of the Stomach which had Produced Complete Closure of the Cardia and Pylorus, and Acute Fat Necrosis. WIESINGER.
4. Pathology and Treatment of Cicatricial Contraction of the Bladder.
5. Concerning Some Gouty Phenomena. ADLER.
6. The Bactericidal Action of Light from High Tension Currents, and an Improved Method of Making Use of the Bactericidal Action of Light from the Voltaic Current. H. STREBEL.

1.—Meyer, after having without success investigated the joint exudate in cases of rheumatism, turned his attention to the tonsils and found in the **mucus from the tonsils diplococci** which grew as streptococci, and which produced in animals a peculiar arthritic affection which had close resemblance to rheumatism. The diplococci were very similar to those described by Wassermann, but were apparently not absolutely identical with them. The conclusions which he reaches are, that he was able to find these organisms in the tonsillar mucus in cases of rheumatism, but not in other cases; that they produced a seropurulent, usually sterile, exudate in the joints which did not proceed to sepsis; that the bacteria have a peculiar affinity to the serous membranes and the endocardium in particular, and that this makes it probable that they have a close relation to actual articular rheumatism, but that the number of cases as yet investigated has been too small to allow of any definite decision concerning this matter, and there is as yet no justification for stating whether or not we have in this organism the only cause of rheumatism. [D.L.E.]

2.—Uhlenhuth makes the interesting statement that by **injecting cows' blood into rabbits** at intervals of 6 to 8 days he found that after about 5 injections the serum of the rabbits was found to contain some substance which, when added to a perfectly clear, very dilute, solution of cows' blood, caused a turbidity in this solution. The reaction was found to be absent in experiments on a large series of blood from other animals, and was evidently specific for cows' blood. A similarly specific action was found after injecting various other forms of blood into rabbits, and after injecting human blood the reaction was specific for human blood

alone. The reaction was also observed with human blood that had been dried for weeks and subsequently dissolved in physiological salt solution. Uhlenhuth considers it a specific reaction for various forms of blood. [D.L.E.]

3.—The interesting case occurred in a man of 41, who was taken ill, immediately after a dietetic indiscretion, with the **clinical appearances of intestinal obstruction** associated with enormous distention of the epigastrium and left hypochondrium. There were attempts at vomiting, but nothing was brought forth. The distention increased, and operation was undertaken on the fourth day while the patient was in extremely bad condition. The large mass in the epigastrium proved to be the stomach. It was suspected at first that this was merely pressed forward by a cyst (possibly pancreatic) lying behind the stomach, as the mass felt like a cyst. The stomach was punctured and the contents drawn off, and it was found that the whole mass consisted of the tensely distended stomach. The pancreas itself was found to be normal excepting for perhaps some enlargement. There were widespread areas of fat necrosis. The stomach was found twisted at an angle of about 180° and fixed in this position. The cardia and pylorus were completely closed. There was beginning peritonitis. The stomach was replaced in proper position, and the wound closed. The patient recovered completely, and had subsequently no digestive disturbances. The case was notable for the complete cure of the fat necrosis. The latter condition was probably due to pressure upon the pancreas by the enormously distended stomach. The occurrence of volvulus of the stomach was attributed to the displacement of the colon above the stomach resulting to the abnormal length of the mesocolon; after a partial volvulus had occurred this was increased by the enormous secretion which took place in the stomach. [D.L.E.]

5.—Adler makes some remarks on gout, based upon pure theory. He thinks that the **reason the deposits occur** in the cartilages about the joints is due less to the fact that the circulation is poor than to the tendency that cartilages have to attract deposits. They normally attract a deposit of calcium salts, and Adler thinks this natural tendency is also exerted upon uric acid. He considers that perhaps diarrhea, the free secretion of saliva seen in gout, may be due to an effort to rid the blood of an excess of uric acid. [D.L.E.]

6.—Strebel presents reasons for believing that only the ultraviolet rays and the rays beyond kill bacteria, and that it is the invisible rays that are chiefly active. He describes various experiments which he has carried out with the ultraviolet rays, using various lenses. [D.L.E.]

Münchener medicinische Wochenschrift.

January 15, 1901. [48. Jahrg., No. 3.]

1. A Case of Cerebrospinal Meningitis and the Diplococcus Intracellularis. BONHOFF.
2. Free Openings in Operations for Gallstones. KUHN.
3. Subcutaneous Rupture of the Spleen and Its Treatment. JORDAN.
4. A Case of Usefulness of Both Stumps After Reamputation of the Legs Without Osteoplasty. GOSNER.
5. Contribution to Diphtheria of the Conjunctiva (Conjunctivitis Crouposa, Caused by Diphtheria Bacilli) Pemphigus Serum. SCHLESINGER.
6. Progressive Fatal Diphtheria with Early Serum Treatment. TRUMPF.
7. The Employment of Sand for the Rapid Filtration of Nutrient Agar. PAUL.
8. The Corset Treatment of Tabes Dorsalis. BADE.
9. Dessener's System of Röntgen Instruments. WIESNER.

1.—Bonhoff reports the case of a woman, 57 years of age, who was attacked with sudden pain in the back of the head. She became delirious, had fever, and retraction in the neck. A lumbar puncture showed the presence of pus cells and bacteria in the fluid. The patient died, and at the autopsy there was found that aside from a very slight congestion, the membranes of the brain were normal, but there was a considerable amount of yellowish-green turbid fluid in the membranes of the cord, and a grayish-green infiltration of the pia about 2 mm. in thickness. It is interesting to note that there were no other cases in the patient's neighborhood either before or after her sickness. Cultures upon Löffler's blood

serum caused a growth of typical *meningococci*. These Bonhoff believes to be perfectly distinct from other forms, partly by their morphological and cultural peculiarities, and partly by their very limited pathogenicity. They have a very slight effect upon guineapigs, kill mice very readily, and it is practically impossible to immunize rabbits, although in those animals to whom ascending doses of the cultures were given, some protective power existed in the blood-serum. In addition, a peculiar bacillus was found, which occurred quite frequently in the cultures, and somewhat resembled the one described by Stadelmann. This appeared first on the fifth day, but later appeared 48 hours after reinoculation. They are non-motile, and do not ferment grape sugar. Although he is not certain that they are the same as Stadelmann's bacillus, he regards them as a form of pseudo diphtheria bacillus that has no influence upon the disease. [J.S.]

2.—Kuhn calls attention to the great importance of securing free openings in all operations for the removal of gallstones. He mentions a case in which the patient was apparently relieved, but at the second operation the gallbladder was found filled with clear bile, and a single faceted stone, evidently overlooked at the previous operation, blocked the opening of the cystic duct. He also mentions another case in which only after prolonged palpation a similar concrement lying in the neighborhood of the duodenum and completely blocking the duct was found. Finally he describes the case of a woman in whom a permanent biliary fistula occurred as a result of adhesion of the connective tissue bands including the common duct. At the third operation it was found that there was stenosis at the pylorus, and a fistula between the gallbladder and the duodenum was made, as a result of which the patient readily recovered. In these cases he used a spiral sound having a bulbous extremity with great success. [J.S.]

3.—Jordan reports the case of an officer, 23 years of age, who was thrown from his horse and received a severe blow in the left side from the handle of his sword. There was immediate, intense pain and a feeling of weakness, requiring his immediate removal to the hospital. Here he was seized with vomiting, progressive collapse, severe anemia, and contraction of the muscles of the abdomen. As these indicated internal hemorrhage, it was decided to perform immediate laparotomy, when a considerable effusion of blood was found in the peritoneal cavity, evidently a result of a **rupture of the spleen**, from which blood was still pouring. The spleen was, therefore, extirpated, and the wound closed. It was noted that part of the intestines were still in a state of spasm as a result of the injury. In the course of 2 months the patient had recovered sufficiently to leave the hospital, and undertake a bath-cure. Four months after the injury the leukocytes were slightly increased, the hemoglobin and red blood-cells, slightly decreased. There were no evidences during recovery of vicarious hypertrophy of the lymph-glands or the bone marrow. Examination of the spleen showed that the rupture had occurred upon the concave side. One hundred and thirty-five cases of this injury are on record, with the following results: 5 healed spontaneously; 16 were saved by extirpation of the spleen; and 104 died. Of these, 3 died from abscess, and the rest from hemorrhage. Jordan draws the conclusion that, if after severe secondary anemia produced by hemorrhage, a man can recover almost completely, although his spleen has been removed, it is not likely that this organ is of great importance in the formation of blood. [J.S.]

4.—Gossner reports the case of a man who attempted suicide by starvation. At the end of the twelfth day pain drove him from his place of concealment and he was carried to the hospital unconscious. Both legs became gangrenous and were amputated above the ankles. The stumps suppurated, and some months later another amputation was performed, without forming any periosteal flaps. Suppuration again occurred in the stumps, but gradually the surface granulated and healed, and the patient was able to walk without support of any kind, and even to go up and down stairs. Gossner reports the case as an illustration of the hopefulness of amputation through the legs, in spite of the most untoward complications. [J.S.]

5.—Schlesinger reports 2 cases of **pseudo-membranous conjunctivitis**. In the first case diphtheria bacilli were not obtained in the cultures; nevertheless, an injection of antitoxic serum was given, and in addition vigorous local

therapy with antiseptic solutions was employed. The patient recovered completely. In the second case numerous diphtheria bacilli were found. The same treatment was employed, and the results were again excellent. The advantage in the employment of the antiphtheritic serum was that it hastens the separation of the membrane, as well as that it improves the general condition of the patient. It should be used in this condition, as in all others, at the earliest possible moment. [J.S.]

6.—See editorial.

7.—The difficulty of the **filtration of agar** has caused many ingenious schemes to be devised, the majority of which depend either upon using pressure or suction force, or the employment of some filtering substance with larger pores. A few have endeavored by various means to render the agar solution more fluid. To the second group belongs the method of Paul. It occurred to him that sand, on account of the fixity of the size of its pores, would probably be a most desirable substance. His apparatus consists of 2 vessels, one containing a perforated bottom resting upon the rim of the other. The sand, of course, is placed in the upper one, a layer of gauze retaining it in position. The arrangement is rather peculiar. There is first a layer of large pebbles 3 cm. in thickness, then one of small pebbles, 2 cm. in thickness, then 6 cm. of sand, and the 2 layers of pebbles in inverse order. Each layer is separated by gauze. The filter is first thoroughly washed with boiling water, is then placed in an ordinary steam sterilizer and heated until it reaches 100° throughout. The agar is then poured upon it and filtration commences. With this apparatus Paul has filtered 30 litres of agar in 2 hours, and the amount of loss is very slight. [J.S.]

8.—Bade believes that a properly fitting **corset** exercises a favorable influence upon the course of **tabes dorsalis**; why, he is not clear. The corset, as usually prepared, has certain unpleasant features, particularly the supports of the arms, and the portions over the hips. Unless these fit exactly they cause great discomfort and often the formation of serious sores. All these disadvantages Bade has endeavored to overcome by the employment of a corset made of leather, carefully fitted so that it rests firmly upon the hips. There is also a special band made for the waist, which binds firmly the upper and lower portions of the corset together, and enables the body to move freely at this point. A partial support is given to the back by springs. [J.S.]

9.—Wiesner describes the Röntgen-ray apparatus of Des-sauer, which is distinguished for its simplicity and effectiveness. The reproductions of the pictures that have been taken with it have, unfortunately, been omitted. [They are given in the following number. J.S.]

Berliner klinische Wochenschrift.

February 4, 1901. [38. Jahrg., No. 5.]

1. Fatigue and Recreation. M. VERWORN.
2. Observations on the Treatment of Puerperal Fever with Marmorek's Antistreptococcus Serum. M. BLUMBERG.
3. A Case of Hysterical Sensory Aphasia in a Child. L. MANN.
4. Hygiene of the Eye in the Nineteenth Century. H. COHN.

2.—Will be abstracted when concluded.

3.—Mann reports a case of **hysterical sensory aphasia** occurring in a girl 7 years of age, with negative family and personal history. It was elicited, however, that within 2 days previous to the onset of the affection the child had become vexed and cried considerably. The mother stated that for 4 weeks she had noticed that the child had been speaking indistinctly, and this progressed so rapidly that within 3 days the child's utterances became unintelligible. According to the mother the child became at the same time completely deaf. The author upon examination coincided with the physicians who had previously examined the patient, namely, that the child was completely **deaf**. She would not respond when addressed, no matter how loud she was spoken to, peered into vacancy or shook her head, at the same time speaking unintelligently in a manner that seemed to indicate that she did not understand. A noticeable feature, however, was the intelligent, attentive, and interested expression, and also, according to the mother, there seemed to have been no diminution

in the intelligence of the child while performing her daily duties. After a few days, when the confidence of the child was obtained, the author found that no real deafness was present, but that the child was unable to understand spoken words, and that the perception of ordinary noises was fully preserved, it being, therefore, a condition of so-called "word deafness" or sensory aphasia. In the absence of other cerebral symptoms and on account of the peculiarities of those present the author believes that this was an hysterical manifestation with a not yet described symptom-complex. Upon isolation, painful faradization and systematic practice in articulation, improvement soon set in with complete recovery. The persistent suggestive treatment applied for some time before a result was obtained, seems to indicate that an isolated symptom of hysteria may persist for some time, to ultimately disappear under suggestive treatment. [M.R.D.]

4.—Cohn reviews the hygiene of the eye in the nineteenth century and could not find anything in literature before 1800 on the subject, with the exception of Bartisch's work which contains a few facts that are recognized even at the present time. All the years of consequence in ophthalmic hygiene are considered *seriatim*. [M.R.D.]

Centralblatt für Gynäkologie.

December 22, 1901. [No. 51.]

1. The Prevention of Purulent Inflammation of the Eyes in Newborn Children. P. ZWEIFEL.
2. Test of Lysoform as a Method of Hand-Disinfection. F. AHLFELD.
3. Gangrene of the Lower Extremities in the Puerperium. GEORGE BURCKHARD.

1.—Zweifel presents an exhaustive paper upon the **prophylaxis of purulent inflammation of the eyes in newborn children**, with especial reference to Credé's treatment by silver nitrate solution, 2%, and the more recent silver salts which have been employed in this disease. He draws attention to the difference experienced between patients as met with in clinics and in private practice, the greater number of cases occurring in children delivered by midwives. He agrees with the other obstetricians in attributing the vast majority of cases of the ophthalmia of the newborn children to Neisser's gonococcus. The secret of the prevention consists in an immediate cleansing of the eyes after birth with sterile water followed by the instillation of the remedy that is to be employed. He remarks that in a number of these cases the lochial secretion will not show the characteristic gonococci, but every mother whose vaginal secretion appears in the slightest degree suspicious should be placed on prophylactic douches and the eyes of the child be treated in the manner mentioned. For some years Zweifel had employed a 3% solution of boric acid as an eye-wash and had obtained very satisfactory results. In another group of cases he employed a 1% solution of formalin, one drop being instilled into each eye at birth; of 120 children so treated, but 4 presented inflammatory changes in the eyes, that is 3.3%. Since 1895 the newer silver salts have been employed, also such solutions as salicylic acid by Bischoff, chlorin-water by Schmidt-Rimpler, thymol by Schirmer, boric acid by Credé-Wecker, potassium permanganate by Valenta, and carbolic acid, mercuric chlorid, and sulpho-carbolic acid of zinc. Olshausen while using a 1% solution of carbolic acid had 8% of ophthalmia; with the 2% solution he had but 3% of ophthalmia. Späth with 1% carbolic acid had 1.4% of ophthalmia, while Krukenberg with a 2% solution had 13.4% of ophthalmia. Schröder with a sublimate solution had from 4% to 6% ophthalmia and with sulpho-carbolic acid of zinc he had but 3% ophthalmia; finally Erdberg with a 1 to 7000 sublimate solution had but 4% of ophthalmia. The acetate of silver has been employed with boiled water with comparatively satisfactory results, as has also silver nitrate; thus he treated 43 children with this salt and had but two cases of ophthalmia, or 4.6%. Zweifel gives the results of some experiments which were made by him with these newer preparations. [W.A.N.D.]

2.—Ahlfeld has instituted a series of experiments upon **disinfection of the hands by lysoform**. Eighteen of his pupils have repeatedly made use of this substance, 6 with

a 3% solution and 12 with a 4% solution. The entire 18 have primarily employed the usual methods of cleansing the hand followed by the use of hot water, soap and brush for 5 minutes. The lysoform is then rubbed in with a brush for 5 minutes, after which the hands are immersed in sterile warm water. Notwithstanding this thorough testing, Ahlfeld is inclined to believe that the method is no better than the methods usually employed, although the germs are destroyed probably as well as by the methods generally recommended. [W.A.N.D.]

3.—Burckhard has been able to collect from literature 14 cases of **gangrene of the lower extremities during the puerperium**. He reports 2 cases which have come under his own observation. The first patient, 38 years of age, passed through a difficult birth at the end of the seventh pregnancy, the child occupying a transverse position. Examination showed that the lower uterine segment was considerably distended and uterine rupture threatened. The right shoulder lay deep within the pelvis, while the right arm of the child had prolapsed and protruded in a deeply cyanosed condition from the pelvis. The back of the child was directed posteriorly while the head projected over the symphysis. Decapitation was performed by Braun's hook and after the extraction of the child there was a profuse hemorrhage from the placental site. An incomplete uterine rupture was found on the left side, the hemorrhage from which was arrested by means of an intrauterine tamponade. The puerperium was practically normal until the twelfth day, when the temperature arose and the toes of the left foot became anesthetic. The latter condition steadily progressed up the foot to the ankle and gangrene began, which necessitated an amputation after the method of Grritti. Examination showed that the popliteal vein had been thrombosed. The second patient was 32 years old in her fifth labor. Kolpurysis was employed and the child extracted by version. The maternal pelvis was flattened and the child, which was stillborn, presented a spoon-shaped depression on the right parietal bone. On the second day of the puerperium the patient experienced severe pain from the symphysis down the left limb; the foot became cyanotic and anesthetic, a line of demarkation formed across the malleoli, and amputation was required of the left leg in its upper third. Examination showed that thrombosis of the posterior tibial artery had occurred. Burckhard remarks that in the 17 cases of this complication collected from literature endocarditis was observed twice. [W.A.N.D.]

Centralblatt für innere Medicin.

January 12, 1901. [25. Jahrg., No. 2.]

1. Concerning the Influence of Morphia upon the Stomach. ALFRED HIRSCH.
2. The Effect of Thyroidin Preparations in Certain Rare Cases. ARTHUR JAENICKE.

1.—Hirsch found that the **subcutaneous injection of 1 cg. of morphia per kilo of body-weight in dogs resulted in the complete retention of fluids in the stomach**, while under normal circumstances these left the organ within an hour and a quarter. The secretion of HCl continued. The expulsion of the fluid was still markedly decreased 10 or 11 hours after the injection, while the secretion of HCl had much increased. While listening over the stomach it was found that there was a loud noise in the region of the pylorus similar to that made when the pyloric portion of the stomach is attempting to drive air or fluid through the pylorus. This indicated peristalsis of the stomach, but since, in spite of this marked activity of peristalsis, no gas or fluid escaped, it seemed evident that the cause of the condition was a tonic contraction of the pylorus producing temporary obstruction. The fundus of the stomach seemed to remain quiet. The condition of the pylorus and the marked increase of the peristalsis were considered to be due to excitation of the contraction centers per the pylorus and pars pylorica in the corpora quadrigemina. The HCl secretion was decreased in the beginning, probably from the fact that the morphia injected subcutaneously is excreted by the gastric mucosa. The subsequent hypersecretion was thought to have a central origin. The results, then, of morphia injection were to produce difficulty in emptying

the stomach; first a decrease and then a marked increase in the HCl; the influence of the drug increased progressively with increase in the dose; the use of the drug subcutaneously produced more marked effects than use by the mouth. As to atropin he found that it produced less marked but still notable disturbance of expulsion which lasted for at least 6 hours. HCl was completely absent during the first hour, but was again normal after 6 hours. There was at the latter period a marked flow of bile which is never observed after morphia. Hirsch also observed in narcotizing a dog with ether that the ether and morphia seemed to act antagonistically.

2.—The first case described was that of a woman who had a **mammary tumor** which was at first thought to be malignant. Thyroidin was given and there was a rapid decrease in the size of the tumor, and it ultimately practically disappeared. Similar effects were observed in 2 cases in which there were **large lymphomata**, and also in 3 cases of marked **splenic enlargement** without increase of leukocytes. The histories are given somewhat in detail. It is noted that one patient took within 6 years more than 4,000 tablets, containing 5 grains each, of thyroidin, without bad effects. [D L E]

Vratch.

January 6, 1901. [Vol. xxii, No. 1.]

1. The Participation of the Spleen in the Formation of the Albumin Ferment of the Pancreas. A. A. GERTSEN.
2. On Writer's Cramps. I. W. ZABLUDOWSKY.
3. The Diagnostic and Prophylactic Significance of Koch's Tuberculin. PH. A. DOMBROWSKY.
4. Electrolysis in Cicatricial Stricture of the Esophagus. N. W. SLETOW and P. I. POSTNIKOW.

1.—Gertsen devotes his paper to a critical reply to Dr. Popelsky, who published in the *Vratch* of 1899, No. 25, the results of some of his experiments intended to disprove the assertions of Shiff, Pachon and the author to the effect that the spleen is intimately associated in the formation of trypsin from protrypsin. The author, who has done considerable experimental work on the subject, finds no difficulty in showing that not only were the experiments of Popelsky useless but that they actually establish the very facts against which they were directed. Gertsen's contentions are: 1. The amount of trypsin in the pancreatic juice or an infusion of the pancreas is proportionate to the swelling of the spleen which takes place at the height of digestion. 2. In dogs and cats, receiving their food only once in 24 hours, the swelling of the spleen and the increased formation of trypsin begin simultaneously five hours after the ingestion of food, reaching the maximum at the seventh hour, when they disappear gradually. 3. Animals from which the spleen has been removed not only do not show such increase in the secretion of trypsin, but the latter disappears entirely from the pancreatic juice or an infusion of the pancreas. 4. By adding to a solution of trypsin, *i. e.*, an infusion of the pancreas in a state of rest, an equal quantity of an extract of spleen in a state of physiologic activity, the protrypsin is at once converted into active trypsin. 5. The same results are obtained with the venous blood of the swollen spleen. 6. If half of the pancreas be removed from a dog from which the spleen had been removed, and an intravenous injection made of a watery extract of a swollen spleen, *i. e.*, one removed at the height of digestive activity, and 20 minutes later the second half of the pancreas be removed, an infusion of the first half will not digest any albumin while the second half will show great digestive powers. These claims are substantiated by a considerable number of careful experiments, some of which are described by the author. [A. R.]

2.—Will be abstracted when completed.

3.—Dombrowsky has employed Koch's tuberculin for diagnostic purposes with very satisfactory results. The reaction when present was always marked, the temperature-elevation varying from 0.7 to 1.5 C. Of 12 patients 3 reacted after the first, 6 after the second and 3 after the third injection. No albuminuria or diazo-reaction followed. The method employed by the author is one described by Fränkel and is essentially as follows: 0.1 c.c. of tuberculin is mixed with 10 c.c. of sterile water. Of this mixture one division of a Pravaz syringe, *i. e.*, 0.1 c.c. of the mixture, or 0.001 of

tuberculin, is injected subcutaneously. If no reaction takes place the injection is repeated on the third day, increasing the dose to five divisions of the syringe or 0.5 c.c.; if still no reaction follows the entire contents of the syringe, or 0.01 of tuberculin, are injected. The reaction is considered positive when the elevation of temperature reaches at least 0.5 C. Both prior and after the injection the temperature is taken every three hours, except between 9 in the evening and 6 in the morning, for three consecutive days. The prophylactic value of the tuberculin test the author sees in the early recognition of the disease afforded by it. A claim for its perfect harmlessness is made. [A. R.]

4.—Sletow and Postnikow treated successfully by electrolysis two severe cases of stricture of the esophagus, resulting from taking ammonia. The diagnosis was established beyond doubt by several specialists, and the various mechanical means employed to dilate the stricture resulted in failure. The authors achieved success promptly by means of olive shaped electrodes introduced into the esophagus, using a current of 5 to 10 m.a. for 1 to 5 minutes. The beneficial effects of electricity in such cases the authors explain by the theory that the current, coming in contact with the cicatrix, produces certain chemical changes which soften and dissolve the new-formed tissue. The assertion of some authorities that the effect is due to cauterization is proven to be erroneous by a simple mathematical calculation of the thermic value of the current as well as by the fact that the electrode is practically cold when removed. The authors prefer an olive-shaped electrode, as it is much more certain to come in intimate contact with the cicatricial tissue. This should be made of brass, nickel or silver plate, $\frac{1}{2}$ to 2 c.m. in diameter. The method employed is described, but does not differ essentially from those generally practised. [A. R.]

January 13, 1901. [Vol. xxii, No. 2.]

1. On the Collection of Thorough Information about Cancerous Patients by the Aid of Question-Blanks. L. L. LEWISHIN.
2. Poisoning by Cream-Tarts in Charkow. P. N. LASHENKOW.
3. On the Question of Determining the Oxidizability of Water by Means of Permanganate of Potash. A. PH. DRSHEWETSKY.
4. On Writer's Cramps. I. W. ZABLUDOWSKY.

1.—Considered editorially.

2.—Will be abstracted when completed.

3.—Will be abstracted when completed.

4.—Zabludowsky devotes an exhaustive paper to the subject of the etiology and treatment of writer's cramp. He deprecates the indiscriminate use of the term, irrespective of the cause or extent of the abnormality present. Many of the so-called cures may be ascribed to the laxity of nomenclature. He divides the affection into the following forms: 1. Ascending form, due to diseased conditions of the muscles and nerves of the upper extremity. Under this heading he considers (a) Paralytic manifestations, such as partial or complete paralysis; (b) inflammatory conditions, such as neuritis, neuralgia, and myositis; (c) tremor; and (d) spasms. 2. Descending form, brought about by diseases of the central nervous system, such as apoplexy, tabes, unilateral degenerations of the spinal cord. 3. Disturbances of the central nervous system produced by such conditions as hysteria, neurasthenia, Graves' disease, senile degenerations, and cardiac diseases. 4. Mixed forms. In making a diagnosis, the patient should be subjected to a careful physical examination to ascertain the cause. He is then told to write in the presence of the physician, as well as bring several specimens of his writing done at home under more favorable circumstances. The treatment and prognosis vary, of course, with the form of the affection. Generally, however, it resolves itself into writing exercises, massage, Swedish movements, and in the correction of any faulty habits of writing, such as improper position, manner of holding the pen, etc. In the graver forms the use of mechanical appliances intended to relieve the strain on the digital muscles or do away altogether with the use of the fingers is to be recommended. The employment of the typewriter is advisable, especially since it affords a gentle exercise to the fingers. As a prophylaxis, the author lays stress on the proper position to be assumed while writing, and other details pertaining to calligraphic hygiene. [A. R.]

Original Articles.

THE TOXICOLOGY OF TELLURIUM COMPOUNDS, WITH
SOME NOTES ON THE THERAPEUTIC VALUE OF
TELLURATES.By WILLIAM J. GIES, M.S., PH.D.,
of New York.

Instructor of Physiological Chemistry, Columbia University.

A. Action on Plants and Microorganisms.—The earliest as well as most important researches on the biological influence of tellurium compounds were conducted on domestic animals and on man. It was not until 1885 that the results of a study of their action on plants was announced. Knop, in that year, after an investigation of the influence of various substances on growing plants (maize) by the water-culture method, reported that telluric acid¹ to the amount of 0.05 to 0.1 gm. per litre of nutrient fluid, (0.005–0.01%), exerted no observable influence on their development, although analysis of the plants showed that tellurium had been absorbed.

Bokorny, a few years later, working with tellurous oxide and potassium tellurite, found that aqueous solutions containing only a trace of the very insoluble oxide had no effect whatever on algae and infusoria, even after 5 days' treatment, and that 0.02% solutions of potassium tellurite (containing, also, 0.1% of dipotassium phosphate) were likewise without toxic influence, although the algae had been kept in the fluid for a week. Under the microscope the cells were seen to be perfectly normal in all outward aspects. Even with a 0.1% solution of potassium tellurite (containing a trace of potassium hydroxide), only one form of spirogyra seemed to be affected. All of the rest vegetated normally, even at the end of a week of treatment. Continuing his experiments, Bokorny, in the following year, reported that when various algae, such as *Spirogyra communis*, *S. nitida*, *conferveae*, *diatomaceae*, etc., and also infusoria, were placed in 0.1% solution of telluric acid and kept there in diffused light for some time, little, if any, influence was exerted. At the end of 48 hours the Algae remained perfectly normal, and the infusoria swam about in very lively fashion. Even after 14 days some of the algae were still growing, in spite of the fact that the faintly acid solution contained no mineral or other nutrient material. Potassium tellurate (slightly alkaline in reaction), in like quantity, was just as innocuous.²

Scheurlen, very recently, wishing to grow *bacillus anthracis* in pure cultures, and in the absence of atmospheric oxygen, sought a medium which, containing loosely bound oxygen in oxyhemoglobin-like combina-

tion, would be almost as favorable to their growth as blood itself. Having previously found that selenious acid on warming with organic substances is reduced and red selenium deposited, he experimented with sodium selenite and also with sodium tellurite, which on similar treatment yields grayish black metallic tellurium. He found that not only *B. anthracis* but also all of the growing bacteria he worked with were colored by reduced metal in the presence of sodium salts of these acids. The bacteria themselves were colored, not the nutrient medium. They were grown on 10 cc. of a meat infusion peptone agar with 1 to 3 loopfuls of a 2% solution of the salts.

These results led directly to the detailed work conducted by Klett, who studied the growth of numerous species of bacteria and some moulds under the influence of selenium and tellurium compounds, and found that the development of various forms, such as *staphylococcus pyogenes aureus* and *B. mesentericus vulgaris*, as well as the various moulds, was not materially hindered by slight quantities of sodium tellurite, although several others, such as *B. fluorescens liquefaciens*, were strongly retarded in growth by only traces of the tellurite, which seems to be more inhibitory than the selenite. Yet a few, such as the bacillus of malignant edema and of symptomatic anthrax, which are markedly arrested in growth by selenite, not only reduce tellurite, but appear to continue their development in the presence of a larger proportion of the latter salt. Most of the experiments were made on 10 to 12 cc. of nutrient medium (gelatin, agar-agar), containing 1 to 3 loopfuls of 2% solution of the tellurite. Increasing amounts of tellurite wrought more destructive effects, of course. The colonies in all cases, as in Scheurlen's experiments, were colored grayish black by metallic tellurium, the intensity of the coloration having been proportional to growth. Grayish particles were deposited within the bacteria. Since the colonies only were pigmented by the metal and the surrounding medium was left entirely colorless, Klett concluded that the reduction took place in the protoplasm of the bacterial cell and not outside the cell by secondary action of metabolic products. For this reason, then, he considers tellurites, with selenites, the most satisfactory reagents for detecting and determining accurately reducing action on the part of bacteria. It was observed, further, that the oxygen set free from tellurite during the reduction could not be utilized by aerobic bacteria in anaerobic environment, nor was the presence of tellurite favorable to the growth of anaerobic forms. Klett found, also, that tellurite, in the quantities used, did not decrease the virulence of such forms as *B. anthracis*. Sodium tellurite was the only tellurium compound tried in this connection. Sodium selenate in slight quantity was found to have little or no effect on the growth of bacteria and was not reduced. Klett appears to have concluded, from analogy, that tellurates, also, would not be reduced by them.³

B. Effect on the Human Body.—Chr. Gmelin appears to have been the first to give special attention to the action of tellurium compounds in the animal body. Early in the last century he experimented with tellurous acid on a dog and a rabbit. The former he gave 3 grains (0.2 gram) in a single dose; the latter, 14 grains (0.9 gram) in the course of three days. The dog lost its sprightliness at first and

¹ Tellurium was discovered in 1782 by Müller von Reichenstein, and identified and named (from *tellus*, the earth) by Klaproth in 1798. The metal is silver-white of lustrous crystalline structure, with strong metallic lustre. Its atomic weight is still uncertain, but it is estimated at 127. Tellurium is very nearly related chemically to sulphur and selenium. Its chemical qualities have been studied the most problematically in the numerous discovery, and at first it was designated as *paradoxum* and *metallum problematicum*. It is one of the rarer elements and occurs in nature mostly as telluride in combination with bismuth, lead, mercury, silver, and gold. The following formulae show the composition and relationships of the tellurium compounds referred to in this paper:

Tellurous oxide	TeO ₂
Telluric oxide	TeO ₃
Tellurous acid	H ₂ TeO ₃
Telluric acid	H ₂ TeO ₄
Sodium tellurite	Na ₂ TeO ₃
Sodium tellurate	Na ₂ TeO ₄
Hydrogen telluride	H ₂ Te
Methyl telluride	(CH ₃) ₂ Te
Ethyl telluride	(C ₂ H ₅) ₂ Te
Potassium tellurate	K ₂ TeO ₄

² Further reference to effects on lower animals is made farther on in the reviews of Hofmeister's and Czapek and Weil's work.

³ The author is greatly indebted to Dr. P. H. Hiss for the references to the work of Scheurlen and Klett, and for suggestions to connect it with this review of their results.

also its appetite, but in a few days recovered both. The rabbit's appetite remained normal throughout the experiment, but on the fourth day it died. On post-mortem examination of the poisoned animals Gmelin noted that a peculiar garlicky odor proceeded from the abdominal cavity; that the mucous membrane of the stomach and intestines was much swollen and covered with a thick layer of tough mucus; and that from the pylorus to the rectum the walls of the intestines were very black. The liver was covered with minute red spots, the blood-serum colored violet, the gallbladder widely distended and the heart full of coagulum.

A more extended series of experiments was next carried out by Hansen, who, working in Wöhler's laboratory, found that 0.3 gm. of potassium tellurite, introduced directly into the stomach of a medium-sized dog, was followed almost immediately by an unpleasant, garlicky odor in the breath, similar to that which Gmelin had noted on opening the bodies of the poisoned animals and which Wöhler and his pupils had attributed to ethyl telluride. Twenty minutes after dosage repeated vomiting ensued. The symptoms noted by Gmelin (languor and loss of appetite) were also observed and recovery was not long delayed. The same dose twice on the following days, morning and afternoon, induced identical results, while the odor in the breath became stronger each day and persisted long after the conclusion of the experiment. The vomit and feces were slimy and black with tellurium granules.

In a second experiment on a dog of average size, 0.5 gm. of tellurous acid *per os* on two succeeding days caused no toxic symptoms, although the odor of the breath became more and more marked, and the feces were blackened by metallic tellurium. On the third day, 0.7 gm. of acid potassium tellurite induced vomiting of grayish-black slimy material in addition to the previous results, and the odor of the breath rapidly grew stronger. On the fourth day another dose of 0.7 gm. of the tellurite caused vomiting, and considerable thick mucus ran from the mouth. On the seventh day 0.5 gm. of the same potassium salt, in solution, was injected into the jugular vein. Convulsions resulted at once and death followed in four minutes. The body cavity gave off the characteristic odor and the alimentary tract as well as the kidneys and all other glands, except the spleen and parotids, were colored bluish-black. The liver was not covered with the inflammatory spots, nor was the blood-serum colored violet, as Gmelin had previously found. The lungs, brain and spinal cord retained their normal appearance. The pigmentation of the glands, etc., was caused by deposition of microscopic granules which were shown to consist of tellurium. The peritoneal cavity contained a small quantity of serous fluid, but neither hyperemia nor inflammation was observed. The wall of the urinary bladder was bluish in color and the urine, acid in reaction, contained the odoriferous compound. The right side of the heart and the vena cavae were swollen with blood. In the crystalline lens of each eye, as reported by Hansen's friend, Dr. Schrader, there was a deposit of chalky granules of varying size. They were least in quantity in the center. The cataract was greatest in the left eye. The humours of the eye gave off the odor of garlic. Tellurium was separated from the urine, liver, stomach and intestines. Two additional experiments on dogs gave results that were identical with the above in practically all particulars. The blood-serum was normal in color in each case.

Hansen concluded his paper with the opinion that the pigmentation of the contents of the gastrointestinal tract was due to deposition of tellurium by a process of reduction and that direct absorption of the metal through the intestinal wall was indicated by the bluish-black color of the mucous membrane. He suggested, further, that the violet color of the blood-serum, noted by Gmelin, was due to the presence of absorbed metal in suspension, and that it was not observed in his own experiments because there had been time in each for the tellurium to be deposited in the tissues.

Kletzinsky,⁴ also, in experiments on animals noted that administered tellurium was eliminated, in part, in the urine. Rabuteau, 15 years after Hansen's results had been recorded, found tellurium to be exceedingly poisonous and considered it very similar in its action to selenium, although stronger. This deduction was based on the results of only one experiment, however, with sodium tellurite. Following an intravenous injection of 0.08 gram of that substance in a dog, vomiting ensued within 2 hours, after which profound dyspnea set in, with anesthesia, opisthotonus, and finally death from asphyxia in 4 hours. Postmortem examination 12 hours after death showed marked congestion and ecchymosis of the whole of the intestinal canal; also of the liver, spleen, lungs and especially the kidneys. The latter were almost black as a consequence and the tubuli were studded with fat globules. In the heart the right side was filled with blood, the left side on the contrary was empty.

The contents of the right side of the heart, and also of the larger bloodvessels, held a multitude of small prismatic crystals of unknown chemical composition—0.002 to 0.004 mm. in width and from 5 to 10 times as long—which, in the opinion of Rabuteau, presented a mechanical obstacle to the movement of the blood and thus eventually caused the death of the animal in asphyxia. These crystals were apparently identical with those Rabuteau reported he had found under similar conditions after intravenous injections of sodium selenite and administrations of the same *per os*. They were not produced, he says, by selenates—only by selenites and tellurites. Rabuteau states, further, that they were more numerous than the corpuscles. He says nothing about their color, but his sketch of them suggests that they may have been hemoglobin or some derivative of it. Radziejewski⁵ seems to entertain this opinion.

It should be remarked, in passing, that Chabrie⁶ and Lapique⁷ were unable to find these crystals in the blood of animals poisoned with sodium selenite and, also, that Czapiek and Weil, whose work with tellurium is summarized farther on, obtained the same negative result, both with selenites and tellurites, after intravenous injections. Rabuteau's observations in this connection have never been confirmed. Consequently, his theory that death after injection of tellurites results from a "mechanical poisoning," which produces asphyxia, cannot be accepted. Rabuteau makes no reference whatever to the work of Hansen, or any of his predecessors, and says nothing definite about odor in the expired air of the dog to which he had given tellurite.⁷

⁴ Kletzinsky: Ueber die Ausscheidung der Metalle in den Secreten. *Beitr. z. chem. Med.*, 1858, viii, 355.

⁵ Radziejewski: In abstract of Rabuteau's paper, *Compt. rend. Acad. Sci. Paris*, 1873, vii, 146.

⁶ Chabrie et Lapique: Sur l'action physiologique de selenite et de tellurite. *Ann. Chim. Phys.*, 1890, xix, 152.

⁷ The odor caused by selenites Rabuteau mistakenly ascribed to hydrogen selenide instead of methyl selenide. He mentions, where extraneous facts are referred to on a subsequent page, assumes that the odor was hydrogen selenide by Rabuteau, and, from analogy apparently, that it was referred in error to hydrogen telluride.

Czapek and Weil, in perhaps a more thorough research than any of the preceding, learned that, in its toxicological influence, tellurium behaves very much as does its close chemical relative, selenium, although the symptoms it induces appear later and are, for the most part, weaker—just the reverse, in the latter respect, of Rabuteau's deduction. Sodium tellurite, in quantities of 0.002 gm., under the skin, caused the death of frogs within 48 hours; 0.01 gm. of sodium tellurate was required to produce the same result. In cold-blooded animals these quantities of tellurium gradually brought about paralysis of the central nervous system and death. The heart was arrested in diastole, apparently because of paralysis of the so-called excito-motor ganglia. Atropin did not restore the beats, and the heart-tissue itself remained susceptible to mechanical and electrical stimulation. The garlic odor was detected about the animal in most of these cases. Muscular fibrillations were almost always observed in frogs into which tellurium had been injected, but neither clonic nor tetanic convulsions followed its introduction in the quantities employed.

In warm-blooded animals these same observers found that 0.02 gm. of sodium tellurite, and 0.05 gm. of sodium tellurate, per kilo of body-weight, gave very toxic effects.⁸ Dogs very soon became restless. Vomiting quickly ensued, followed by diarrhea, weakening of the reflexes, somnolence, unconsciousness, general paralysis, stoppage of respiration, and death after convulsions. Within five minutes of the time of administration of the poison, the garlic odor in the expired air was intense. There was no muscular fibrillation as in the case of frogs, and, with the exception of the spasm just before death, no clonic or tetanic convulsions. In all cases a lowering of blood-pressure followed the injection of tellurium salts. This was due, not to central influences, but to direct peripheral action on the blood-vessels, resulting in impaired tonic contraction, for the vasomotor center remained sensitive to stimulation and the vagi were able to carry impulses. The abdominal capillaries, particularly, were very greatly distended.

The blood from animals poisoned with tellurium was dark-colored and had a distinct garlic odor. Spectroscopically it was normal and the corpuscles showed no change. Czapek and Weil could not confirm Rabuteau's observation in this connection. Postmortem examination showed profound changes in the intestinal mucous membrane, in which edema, congestion, and extravasations were especially prominent. Desquamation of the villi was also observed in most cases. Destructive changes were the rule in the tubules of the kidneys. The urine was bloody now and then, and frequently tellurium could be detected in it. Nearly all of the body parts, in the cold as well as warm-blooded animals experimented on, were colored grayish by metallic tellurium, but no deposit of the metal in granules was observed, on microscopic examination, in any of the tissues. It seemed to be in solution. The muscles of the poisoned animals retained their susceptibility to stimulation.

Tellurium was found to differ from selenium, in toxicity, mainly quantitatively.⁹ Czapek and Weil concluded that the difference between the two lies in the different modes of elimination. Tellurium salts are less toxic, they think, because the tellurium is quickly transformed by

reduction to the metallic state and so is rendered comparatively passive at once. The results of their experiments indicate that in its toxic action tellurium behaves much as do selenium, arsenic and antimony.¹⁰

Although the garlic odor in the breath and about the organs of animals to which tellurium salts had been administered was thought at first to be due to ethyl telluride, its resemblance to methyl telluride, when that substance was first made, satisfied Wöhler and his pupils that it resulted from a formation of that organic compound. This conclusion was generally accepted for some time. Hofmeister, in some very exact experiments, finally determined in a chemical way that the methyl synthesis, assumed by previous investigators, really does take place when tellurium is administered and that the garlic odor arising as a consequence is caused by methyl telluride.¹¹

In experiments on warm and cold-blooded animals he confirmed the observations of previous workers that the various body parts take on the same odor, and showed that it is strongest, or in other words the methyl synthesis is relatively greatest, in the testes and the lungs, and pronounced in the blood, liver and kidneys. He found that when the organs of an animal into which sodium tellurite had been injected intravenously, are put in a warm place (at 36° C.), the smell of methyl telluride is intensified about those having that odor to begin with and is gradually made distinct in others. Under the same conditions, blood loses it, however. Time and intensity vary, of course. These facts show that the cells of the glands are able to absorb tellurium and that they also have the power, at the body temperature, of forming methyl telluride from it. This substance is formed also by minced fresh organs from dogs and rabbits when they are treated with the same substance at the body temperature. Hofmeister proved that this synthesis, with production of the characteristic odor, takes place, also, in frogs, fishes, crabs, and even in earthworms, when small quantities of tellurite are given them.¹² The tellurium was deposited in the animals experimented on in large part in metallic form in many parts of the body, the reduction, judging from the discoloration, varying considerably.

In the body of a dog weighing 850 gms., into which 0.04 gm. of sodium tellurite had been injected intravenously, and which after bleeding to death had been kept at normal temperature for four hours, practically all parts were pigmented by tellurium except cartilage, bone and the white matter of the nervous system. When dosage was not too great, however, it was found that in the lungs and testes the tellurium, instead of having been deposited was transformed wholly into methyl telluride, which accounts for the fact that these organs are rarely colored by the bluish-black metallic deposits usually found in practically all of the glands. The long-continued elimination of methyl telluride in the breath, Hofmeister shows, is due to gradual syn-

⁸ It is interesting to note in this connection, that tellurium is transformed into some of the same products in reality as in Rabuteau's experiments, and also, as in the case of arsenic and antimony. Rabuteau, in some of the preceding experiments, found that the tellurium compounds, when administered, which appears to be the case, are precipitated by Mendel's solution.

⁹ Sodium tellurite, 0.01 gm., was injected subcutaneously into dogs and cats. As soon as the garlic odor became perceptible in the expired air, the latter was passed through a solution of sodium hydroxide, and the gas, for 20 to 48 hours. The solution decomposes the methyl telluride, liberates the alkyl groups and forms telluric acid, which is precipitated by sodium hydroxide, and treated with sodium sulphate. Telluric acid, after evaporation of the sodium, and treatment with nitric and hydrochloric acids, was precipitated in metallic flakes with sodium sulphide.

¹⁰ On the other hand, traces of tellurium salts in these animals, Hofmeister says, nothing like that in amount as in the case of sodium tellurite, and the soft parts of crabs is followed by paralysis and death.

⁸ We are left to infer the manner of introduction of tellurium in these experiments. It seems to have been both by way of the mouth and under the skin.

⁹ Also in having antidote action. See footnote farther on, where additional results of Czapek and Weil's work are given.

thetic transformation of the tellurium which had been deposited in the tissues in metallic form soon after its introduction. He suggests that the reduced tellurium is slowly transformed into the soluble sodium tellurate by the action of the alkaline tissue fluids before it reaches the lungs, and that it is there changed to the methyl compound. In this way he explains the persistence of the odor in the breath.

Hofmeister was unable to determine the specific source of the methyl for this synthesis, but, as the liberation of methyl groups, and also their incorporation in other substances like cholin and creatin, seem to be intermediate processes in general metabolism, he concluded, from his experiments, that the tellurium unites with methyl groups set free in some manner in the cells. He showed that this conversion of tellurium to methyl telluride, and the process of reduction of tellurium compounds, may take place quite independently of each other, for when fresh normal glands after maceration are warmed a few minutes, at 50 to 55° C., and then treated with sodium tellurite, their power to reduce is undiminished, although no methyl telluride is formed by them. The synthetic process is entirely prevented, also, after treatment of the tissues with solutions of various chemicals—even physiological salt solution.

Beyer, following the general suggestions of Ludwig, demonstrated, in some transfusion experiments on perfectly fresh kidneys with oxygen free and arterial blood containing sodium tellurate, that the methyl synthesis does not take place in the absence of oxygen, although reduction to the metallic state occurs in the cells quite independently of the character of the transfused blood. He sought also, by histological methods, to determine just where in the tissues the reduction of tellurium from its salts occurs. He injected small quantities of sodium tellurate, dissolved in physiological salt solution, into the jugular veins of dogs and rabbits, and found that granular metallic tellurium was deposited only in form elements; in nerve and glandular cells, leukocytes and striated muscle especially. Endothelium, unstriated muscle, nerve and connective tissue fibers, on the other hand, were found to have no affinity for tellurium. The deposit of metallic element in the cells did not appear to cause their degeneration. Destruction occurred only occasionally. The cells, for the most part, seemed to have the power of gradually removing the foreign material without loss of normal function, and even when quite full of the deposit behaved toward all the various staining reagents exactly as normal cells do. Even three weeks after injection of tellurate, while the breath still smelled strongly of methyl telluride, Beyer found metallic tellurium in the glandular cells. Its transformation must, therefore, have been gradual, as Hofmeister has shown was the case in other connections.

Increasing amounts of sodium tellurate injected into the blood of rabbits induced clonic convulsions, respiratory paralysis and death. The blood became laky. Lakiness was not produced by tellurate in rabbit's blood outside the body, which fact suggests that a tellurium transformation product caused it in Beyer's experiments. Intravenous injections, in dogs, of quantities of sodium tellurate ranging from 0.025 to 0.04 gm. per kilo of body-weight were quickly followed by death in some cases; at other times, by vomiting and loss of appetite, with recovery in several days. These quantities also brought about general paralysis; sometimes only of the

hind legs and masseters, but usually also of the intercostals, making respiration very labored. Fatty degeneration of the hepatic cells and destructive changes in the uriniferous tubules also resulted. The lymphatic vessels of the liver were found to be much enlarged and other structural changes were observed. In one case lymph from the thoracic duct had a grayish color, due to suspended tellurium.

The urine under these same conditions was turbid, greenish brown to a dark green in color, and gave off the odor of methyl telluride. It contained metallic tellurium, crystals of urocanic acid and triple phosphate; also, blood-corpuscles, albumin and bile pigment. The latter appeared in the blood-serum also. From the urine of a dog, collected during the first 24 hours after intravenous injection of 0.75 gm. of sodium tellurate (0.27 gm. Te), Beyer separated 0.062 gm. of metallic tellurium. From the urine of the second day, 0.081 gm. There was only a trace in that of the third. None in the fourth. More than one-half of the tellurium administered was, therefore, eliminated through the kidneys.

Until recently, a brief and imperfect experiment by Beyer, on the excretion of urea after intravenous injection of sodium tellurate, had been the only one to suggest the metabolic influence of tellurium. Beyer found that the normal amount of urea eliminated in the urine of a healthy dog, during three preliminary days, was 9.45, 10.41 and 7.62% respectively, an average of 9.16%. After injection of 0.75 gm. of sodium tellurate into the jugular vein, the urea in the urine on five successive days was 1.79, 6.06, 8.50, 7.98, 9.00%, an average of 6.67%. This marked falling-off in the amount of urea was due mainly to the refusal of the dog to eat on the first and second days of the tellurium period, and as Beyer does not give any analytic data regarding the food, it is impossible to attach any special importance to his results in this connection.

The author, very ably assisted by Mr. L. D. Mead, recently completed a series of experiments on dogs in which an attempt was made to ascertain, among other things, the effects of continued dosage of tellurium compounds. It was found that nontoxic doses of tellurium (in quantities several times as great as therapeutic doses and in the forms of oxide, tellurite, tartrate and tellurate) did not materially affect metabolism in dogs brought to a state of nitrogenous equilibrium, even when dosage was continued for a week. These substances appeared to stimulate proteid catabolism only slightly. They increased somewhat the weight of dry matter in the feces and diminished, in small degree, the absorption of fat. The urine was unaffected in volume, specific gravity, and reaction, but became dark brown in color during the dosage periods.

Excessive doses retarded gastric digestion; induced violent vomiting, loss of appetite and somnolence. They caused, besides, inflammation and disintegration of the mucous membrane of the gastrointestinal tract and, also, intestinal hemorrhage. Introduced under the skin, tellurium (tartrate) caused restlessness, tremor, weakening of the reflexes, somnolence, diarrhea, paralysis, unconsciousness, stoppage of respiration and death, in convulsions from asphyxia. At the point of injection much of the tellurium was deposited in metallic form, but it was also distributed in large quantity to most of the organs and tissues.

It was found, also, that tellurium compounds, even in small proportion, markedly arrested the secretion of

acid in the stomach—the direct cause, probably, of the indigestion brought about, not only in dogs but, as will be pointed out later, by tellurium compounds in man, also. Intestinal putrefaction was not influenced in any degree. The action of trypsin and pepsin outside the body was not very perceptibly diminished by quantities of tellurium compounds under 0.6%. Zymolysis was almost unaffected in the presence of as much as 1.25% of some of the salts. Ptyalin was more easily affected, even by the faintly alkaline tellurate. Trypsin appeared to be least sensitive to destructive influence, acting rapidly in the presence of even 2.5% of tellurite.

Tellurium was eliminated in metallic form in the feces; as methyl telluride in the breath, urine, feces, and epidermal secretions; in a soluble form, in small quantity, in the urine and in the bile. The urine was colored brown to yellowish green after heavy dosage with tellurium compounds, but return to normal coloration was rapid after administration had been discontinued. Albumin and bile pigment, besides tellurium, were the abnormal constituents of the urine found after subcutaneous injections. Toxic quantities given by the mouth caused the appearance of coagulable proteid, but no bile pigment, in the urine.

C. Influence on Man. (a) *General.*—Berzelius,¹¹ who led the way for so long in chemical studies of tellurium, found, from personal experience, that hydrogen telluride is irritant in its action and more poisonous in effect than the corresponding compound of sulphur. Berzelius and Köreuter¹⁴ have reported that the oxides of tellurium, as well as a number of salts of telluric and tellurous acids, have a very unpleasant metallic taste resembling that of compounds of antimony and that some have a nauseating action and are strongly emetic.

Wöhler, at the time of his discovery of ethyl telluride,¹⁵ referred to the disagreeable odor of that substance, and stated that it is very poisonous. At that time, and subsequently, while engaged in his chemical researches on ethyl telluride, Wöhler observed that his sweat and breath took on an odor closely resembling that of the substance he was working with.¹⁶ One night, while perspiring very freely, the garlic odor in his sweat became so great that he himself could hardly bear it. It persisted in his breath for weeks. These facts led Wöhler to suggest the physiological researches made in his laboratory by his pupil, Hansen.

The latter was the first to experiment systematically on man with tellurium compounds. For 7 successive days he himself took neutral potassium tellurite an hour before dinner. On the first 4 days 0.04 gm., on the 2 following days 0.05 gm., and on the last day 0.08 gm.—a total of 0.34 gm. During the first two days very unusual sleepiness was the main symptom. Later it disappeared. At the beginning there was increased appetite, but later the appetite was reduced. After dosage on the last day there was a sense of oppression in the cardiac region, also nausea and abundant salivation. The tongue was heavily coated with a white deposit, and there was complete loss of appetite. The gastric symptoms did not disappear completely until after a lapse of 2 weeks, and the alliaceous odor of the breath continued 7 weeks.

The characteristic odor of the breath was noticed within a few minutes after the first dose had been taken,

and soon became so strong and so obnoxious to others that his own seclusion was necessary for their comfort. At that time the odor was attributed to a volatile compound of tellurium identical with or similar to ethyltelluride. Hansen was unable to separate any tellurium from the urine; not even from that passed during the first 24 hours after the last dosage. Experiments on his friend, von Röder, who took 0.04 gm. of acid potassium tellurite before dinner one day, and nearly 0.05 gm. at the same time the next, presented essentially the same results. Hansen refers to Wöhler's previous experience and says that during these later experiments in the latter's laboratory Wöhler observed the same phenomena, with regard to himself, a second time.

Heeren,¹⁷ also working under Wöhler's direction, on the chemical nature of various compounds of ethyl and methyl tellurides, noted that the garlic odor of the breath was especially strong in his own experience when methyl telluride or any of its derivatives was under examination. He states that even when these products are merely touched with the fingers their characteristic odor is carried to all parts of the body and in a few days the breath also acquires it, the odor quickly becoming so obnoxious that, as he puts it, "one must avoid all social life for months, so as not to annoy others."

Sir J. Simpson records a case¹⁸ in which a student inadvertently swallowed a dose of tellurium, which was followed by the evolution of such a persistent odor that for the remainder of the session he had to sit apart from his fellow students.

Prof. Victor Lenher, who for several years has been engaged in chemical studies of tellurium, greatly favored the author with a statement of his toxicological experiences for use in this connection. After inhalations of the volatile tellurous oxide, which he formed repeatedly in preparing metallic tellurium by the fusion method, Prof. Lenher's breath and the excretions from his skin took on the usual garlic odor. Metallic taste was noted and nausea also frequently experienced. The odor of the breath in one case persisted for about a year. General depression followed continuous inhalation of the oxide, and in one instance a prolonged period of somnolence resulted, an experience similar to Hansen's after ingestion of tellurite. Severe constipation was also a marked symptom following tellurium inhalation. At no time could Prof. Lenher detect any tellurium in his urine, not even during the periods of his worst experiences.

The author has found in his own experience that when the methyl telluride which had been exhaled by the dogs he experimented with was taken into his own lungs, an alliaceous odor of the breath and excretions from the skin soon became noticeable and continued persistently. Also, that such inhalation was accompanied frequently by short periods of drowsiness and nausea.

The presence of "telluric breath" and the alliaceous quality of the breath that it produced. As early as 1875 tellurium had been suspected in commercial preparations of bismuth.¹⁹ The evidence on this point at that time was not of an analytical character, but was based upon the observation that people to whom certain bismuth preparations had been administered suffered from fetid breath. The presence of tellurium in bismuth

¹¹ Th. Husemann und A. Husemann. *Handbuch der Toxikologie*, 1892, 77.
¹² L. Guélin. *Ann. Chem. Phys.*, 1846, iv, 288, 329, 462, 467.
¹³ *Ann. Chem. Phys.*, 1856, x, 300, and Berzelius. *Éléments de Chimie*, 1843, ii, 225, 240.
¹⁴ Wöhler. *Telluräthyl*, *Ann. Chem. Phys.*, 1840, xxxv, 112.
¹⁵ G. R. Besançon. *Lehrbuch der physikal. Chemie*, 1878, 557.

¹⁶ Heeren. *Ueber Telluräthyl und Tellurmethyle*. *Monatsh.*, 1841, vi, 916. N. F.

¹⁷ Quoted from Blyth. *Poisons, their Effects and Detection*, 1888, 5.

¹⁸ Blyth. *A Manual of Practical Chemistry*, 1874, 428.

preparations has since been repeatedly shown,²⁰ and their medicinal use implies frequent incidental action of this tellurium impurity.

Reisert, in 1884, after an investigation of the cause of the so-called bismuth breath, ascertained that it was due, as had been supposed by some, to the minute tellurium impurities often found in the commercial bismuth compounds used in medicine, and not to arsenic or bismuth itself, as had been assumed by others.²¹ He not only demonstrated, in some experiments on himself and friends, that the "bismuth breath" did not follow dosage with chemically pure bismuth sesquioxide, or arsenious oxide, but also determined the minimal amount of tellurium which would produce the alliaceous odor in the breath. He found that as little as 0.000,000,5 gm. of tellurous oxide, given in solution to men, was followed by the smell of garlic in 75 minutes, and that it continued for about 30 hours; 0.000,000,3 gm., given to three different individuals, failed to produce a detectable quantity of the odor. In one experiment, three doses of 0.005 gm. each were taken on the same day at intervals of 3 hours. "In 15 minutes after the first dose the breath had a strong garlic-like odor, and in an hour a metallic taste was observed. An hour after the second dose the urine and sweat had the garlic-like odor, which was also observed in the feces, 4 days later. The metallic taste was observed for 72 hours; and the garlic-like odor in the urine for 382 hours, in the sweat for 452 hours, in the feces for 79 days, and in the breath it was still present, though very faintly, after 237 days."

Reisert passed his breath through a tall column of distilled water for several hours, in the hope of catching the odoriferous compound which seemed to be eliminated from the lungs in appreciable quantity, but analysis of this water afterwards gave negative results. He assumed, therefore, that the quantity of substance responsible for the odor was too small to be detected by known chemical means and suggested that the "physiological test" is much more delicate than any purely chemical one for this purpose.²² Reisert concluded his paper with the remark that idiosyncrasy did not seem to have any influence in his experiments, since the breath of every one to whom the tellurous oxide had been administered, in quantities not less than 0.000,000,5 gm., was affected with the alliaceous odor.

(c) *Antihydrotic Action and Therapeutic Use.*—Neusser was the first to show that tellurium compounds are of therapeutic value. In about fifty clinical experiments, on as many consumptives, he observed that the night-sweats were very perceptibly reduced after administrations of potassium tellurate in daily doses of 0.02 to 0.06 gm.²³ In a majority of cases 0.02 gm. was sufficient,

although cumulative dosage was necessary at times to effect continued results. He noted, also, that these amounts did not cause any particularly toxic symptoms, although mild dyspepsia (eructations, coated tongue, loss of appetite) was produced now and then by the use of the largest dose. In some cases there appeared to be stimulation of appetite at first and, in quite a number of instances, Neusser received the impression that slight narcotic action had been manifested. The breath of each individual experimented on always quickly assumed the characteristic alliaceous odor even with the smallest quantities of the tellurate. This was the only undesirable feature that occurred regularly. Neusser stated that the odor was not noticed by the patients themselves except in a few cases. Sulphurous and camphoraceous odors in eructations were sometimes complained of. His experiments were conducted on patients in advanced stages of phthisis, but with none of these was any favorable influence of the tellurium observed on the disease itself.

Pohorecki, following Neusser's lead, confirmed, in a large number of clinical experiments, the latter's results in practically all particulars. He reported that increased appetite and better general nutrition resulted from dosage with 0.01—0.02 gm. of potassium tellurate in the earlier stages of phthisis. Anidrotic action was manifested in fifteen minutes to an hour, and continued five to seven hours. The garlic odor of the breath could be detected fifteen minutes after administration and continued four to eight weeks. Even in people who were perfectly well it was observed that potassium tellurate greatly hindered the secretion of sweat.

Combemale and Dubiquet found that sodium tellurate in daily doses of 0.02 to 0.05 gm. had a pronounced antidiaphoretic action and was more effective in this respect than even camphoric acid. Anidrosis was obtained not only with patients suffering from phthisis, but also in other cases in which sweating is often profuse (rheumatism, dyspepsia, etc.). Administration of sodium tellurate was followed by diminished perspiration in 18 of 20 cases. In 6 of the 18 it was arrested completely. 0.02 gm. was found to be the minimal dose which would induce anidrosis; 0.05 gm. the most effective quantity. Repeated dosage with this amount for a few days brought about the result, if it was not manifested immediately after the first administration. These observers, unlike Neusser in his experiences with the potassium salt, did not find that any gastrointestinal disturbances were set up and report the alliaceous odor of the breath in but a few instances as the only objectionable feature following its administration in the doses indicated and for reasonable lengths of time.²⁴ Combemale and Dubiquet consider sodium tellurate the very best anidrotic agent and prefer it as a result of their experiments to camphoric acid, white agaric, atropin, phosphate of lime, etc. Combemale favors the view that excessive sweating, in such disorders as phthisis, is due to the action of ptomaines elaborated by the specific germs of the disease and he supposes that sodium tellurate exerts an antihydrotic influence by rendering these soluble septic products innocuous.

²⁰ Lately again *Deutsches Archiv für Klinische Medizin*, 1894, xxxviii, 256, referring to observations of Janzon in *Pharm. Zeitsch.*

²¹ The author is greatly indebted to Prof. John Marshall for calling his attention to Reisert's work. It seems that subsequent foreign investigators of the behavior of tellurium in the animal body were influenced by Reisert's results. It is probable, however, that Kuukel refers to these results when he says, "The odor (of methyl telluride) has been detected in the feces of man over two months, and in the breath more than a half year, after the last dose of tellurium." *Handbuch der Toxikologie*, 1899, 365.

²² Reference has already been made to Hofmeister's method for separating tellurium eliminated in the form of methyl telluride in the expired air. This was not applied, of course, until after Reisert's work had been reported. Reisert knew, however, that Wöhler and his pupils attributed this odor to methyl telluride, but he failed to use adequate means for the retention and chemical detection of such a volatile compound.

²³ In order to test the anidrotic action of tellurium, Czapek and Weil, whose work has already been reviewed, made careful experiments in this connection on kittens with results that entirely confirmed Neusser's original observation. Moderate nontoxic doses (presumably of tellurates) were given and before any of the usual sickening influences had manifested themselves the moisture on the soles of the hind paws became less and less, until they were quite dry, when even the strongest electrical stimulation of the peripheral end of the divided sciatic nerve was insufficient to call forth secretion; after the tellurium had

reached the blood the effect of the anidrosis, however, was a direct peripheral action. These investigators were unable to determine any pathological changes in the structure of the sweat glands and concluded that the interference with secretion was a direct peripheral action of the tellurium and not one upon the central nervous system.

²⁴ The reported absence of the garlic odor in the breath in a large majority of these cases is in direct disagreement with the results of Reisert's quantitative experiments and the observations of all previous and subsequent investigators, except Rabuteau, each of whom has found that it invariably follows the introduction of very small quantities of tellurium into the system of man and lower animals.

He presents nothing, however, in direct evidence to substantiate this deduction. His theory would not explain the reduced sweating in perfectly well people, which Pohorecki observed after administration of potassium tellurate.

Mr. Mead and the author have shown, as has already been pointed out, that tellurates, in quantities not excessive and yet much greater than the therapeutic doses in man, exerted no particularly deleterious effects on the nutritional processes in dogs, even when dosage was continued for a week, although proteid catabolism seemed to be slightly stimulated after a time, and secretion of acid in the stomach retarded. The alliaceous odor imparted to the breath appears, therefore, to be the chief objectionable feature constantly following the use of therapeutic amounts of tellurates.

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SOME MODERN GYNECOLOGICAL RESOURCES.

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THE accompanying illustrations were inadvertently omitted when my paper on "The Resources of Modern Minor Gynecology" appeared in this JOURNAL, January 5.

Fig. 1 represents a four-branch dilator for extending the degree of dilation of the cervix uteri beyond what is possible with the two-branch instrument. It is the only satisfactory dilator expanding in more than two directions that I have seen or used, and is a very useful instrument where extensive dilatation of the cervix is required. It is a very powerful instrument, however, and used carelessly will rupture the cervix. A stop which may be adjusted at any point is arranged so as to limit the dilatation to any degree required, thus limiting the amount of force applied.

Figs. 2 and 3 represent a rubber cover for sponge or laminaria tents whereby this very useful means of dilating the cervical canal may be employed in a perfectly aseptic manner. It was because of the impossibility of effecting aseptic dilatation with these tents that they were abandoned. The tents could of course

be rendered aseptic, but their expansion when placed in the canal depended upon the absorption of secretion from the surface and glands beneath. Hence this secretion which so often harbors bacteria is taken up by the tent and conveyed to the endometrium of the cavity above where the bacteria find a fertile field for development.

By using the tent-covers the tent does not come in

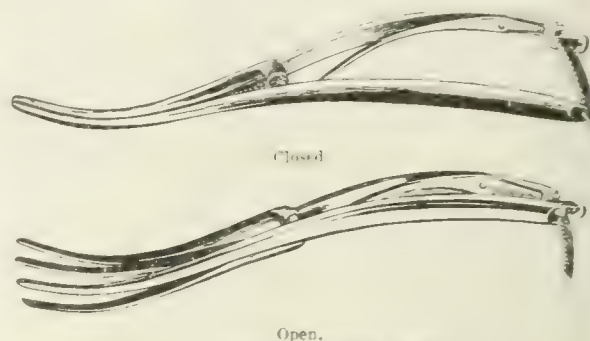


FIG. 1.—Author's four-branched dilator.

contact with the surface, but expands within the cover by absorption of moisture from gauze placed in the vagina.

Fig. 2 represents the cover.

Fig. 3 represents the cover with the tent within it and a piece of gauze covering the tent, one end of

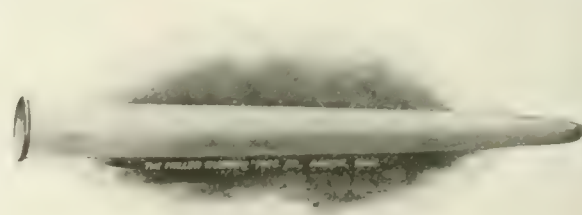


FIG. 2.—Author's tent cover.

which projects from the opening of the cover so as to come in contact with the moist gauze placed in the vagina after the tent has been inserted. They are sterilized either by boiling or by emersion for 20 minutes in synol soap, full strength.

The method of using the tent is as follows, viz., the

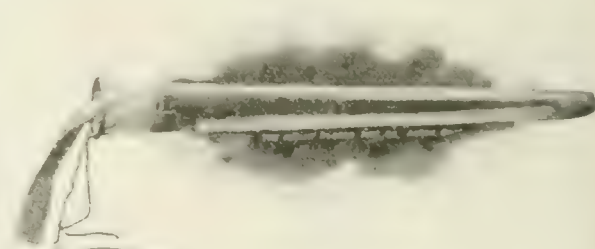


FIG. 3.—Author's tent cover over tent ready for use. Shows strip of gauze surrounding tent with one end projecting.

tent is drawn over a pair of sterile dressing forceps closed and rolled in the same manner as the finger cot, from the opening to the closed end, to facilitate getting it over the tent; the tent is then covered with a narrow strip of absorbent gauze placed lengthways with one end projecting considerably beyond the lower end of the cover. The gauze is now made thoroughly wet by

dipping it, tent and all, into water. Then the cover is unrolled over it, leaving the long end of the gauze strip projecting beyond the opening of the cover.

The tent with cover over it is grasped with a pair of uterine dressing forceps and dipped into synol antiseptic liquid soap to lubricate it, then fixing the cervix (exposed through a vaginal speculum), by means of a pair of angular tenaculum forceps the tent is inserted

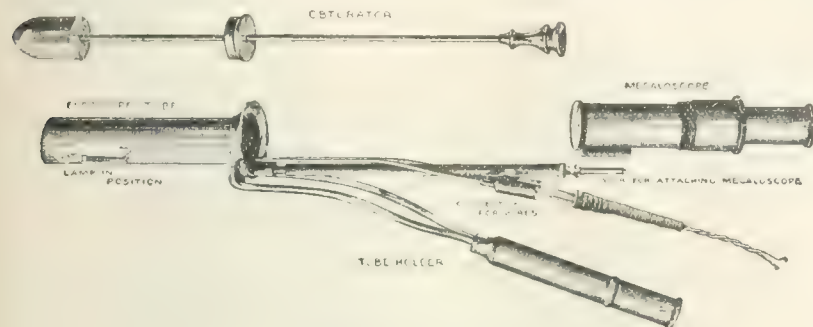


FIG. 4.—Author's uterine endoscope, showing the different parts detached.

into the cervix up to its full length, and the vagina is filled loosely with absorbent gauze to retain the tent in position. The gauze in the vagina is then thoroughly moistened with sterile water before the speculum is withdrawn. The vagina and vulva are to be previously sterilized as for curettage.

For the benefit of the younger members of the profession who are unfamiliar with the use of sponge tents, I will say that about 24 hours are required for the complete expansion of these tents and during that time the patient should be kept in bed in the recumbent position.

Figs. 4 and 5 represent the uterine endoscope for inspecting the interior of the uterus which I introduced about 2 years ago.

Fig. 4 represents the instrument with the several parts detached and shows the small electric lamp near the extremity of the endoscope tube where the light is placed for direct illumination of the cavity.

Fig. 5 represents the endoscope tube in position in

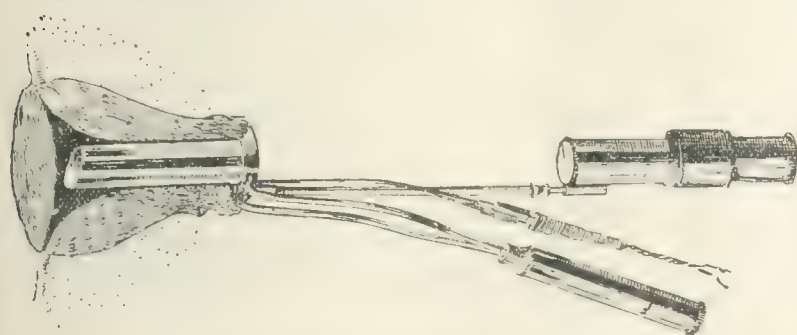


FIG. 5.—The uterine endoscope in position.

the uterus with megaloscope in position for magnifying the field. Illumination of the lamp is secured by 4 dry Leclanche cells arranged in series and placed in a box for transportation, in the top of which may be stored the different size endoscope tubes (3 in number) with their obturators, the connecting cords, etc.

The diagnosis of disease involving the endometrium is obviously imperfect without the aid of inspection

afforded by the uterine endoscope. With this instrument it is possible to determine whether it is necessary or not to employ the curet, and after curettage to decide if the work has been properly and thoroughly done. Without such aid these points are often only a matter of conjecture.

Fig. 6 represents a clinical double current uterine irrigator which possesses many advantages. The stream is projected from the end of the tube in a fan-shaped jet and the opening is so arranged that if the extreme point is pressed against the fundus the stream can escape from the sides, thus the flow does not become obstructed. The outer tube is conical, enlarging from the end to the point of exit so as to obviate obstruction of the return flow from the cavity.

The end of the tube is small enough to be introduced through the canal of the cervix and internal os in most cases without previous dilatation of the canal.

Hence the instrument is useful for clinical irrigation of the uterus both previous to and after dilatation and curettage. (There is a larger size of the instrument for use when the cervix is dilated, known as the operating irrigator.)

When the clinical irrigator encounters obstruction in

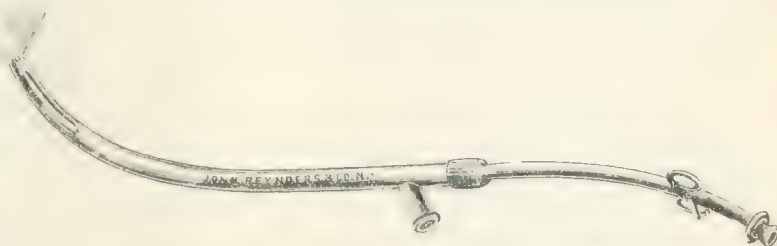


FIG. 6.—Author's clinical double current uterine irrigator.

the canal and does not enter readily it may be converted temporarily into an electrode by slipping over it a piece of rubber tubing for insulation, extending from the projection for the outflow on the outer tube to within 2½ or 3 inches of the end. There is an attachment on the handle near where the tube from the reservoir is attached for connecting the cord from the battery. If this irrigator thus arranged is connected with the negative pole of the galvanic battery and a dispersing electrode connected with the positive is placed on the abdomen or over the sacrum and 10 M. of current is turned on the action of the current will so soften the structure of the cervix within a minute that the irrigator will slip through or by the obstruction. By permitting the current to remain on while the irrigation of the cavity is going on, thorough relaxation of the canal will be secured, sufficient for subsequent drainage.

This irrigator is positively indispensable in treating endometritis, to preserve cleanliness of the cavity and for making applications thereto.

Congress of Gynecology.—The Congress de Gynecologie of France will meet this year at Nantes, September 23 to 30. Foreign gynecologists are invited to attend.

DEJERINE-ERB TYPE OF UPPER-ARM PALSY FOLLOWING MULTIPLE NEURITIS.*

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MULTIPLE neuritis, caused by alcohol, is not an uncommon affection. Bilateral wrist-drop in workers in lead, caused by the toxic action of the lead on the peripheral nerves, is of rather frequent occurrence. The probable action of both of these poisons in the production of the symptoms in the case here reported, makes it one of considerable interest.

J. G., age 28, compositor by occupation, was admitted to the clinic October 15, 1900, suffering with paralysis of both arms and weakness of both legs. His family history and previous history revealed nothing of importance. For several months he had been drinking heavily, and 3 weeks previous to the time of his admission had an attack of abdominal pain with marked constipation. He thinks this was an attack of lead colic. Following this attack he became very nervous and during the following week rapidly lost power in both arms. At the end of the week the paralysis of the arms was so complete that he was unable to lift them to the horizontal position, or to dress or feed himself. During the following week he rapidly lost power in the legs and was compelled to go to bed. There was at that time dull, aching pains in the arms and shoulders worse at night. He remained in bed 2 weeks. The legs rapidly regained their tone and he is now able to walk with comfort. There has been no numbness, no parasthesia, and no bladder or rectal trouble.

Examination reveals almost complete loss of power, with marked wasting in all the shoulder muscles of both sides. The supra and infraspinatus fossae are very prominent and show marked wasting. The forearm and hand is not wasted, but there is marked bilateral wrist drop. The grip is weaker than normal, but when the wrist is supported in extension, power is fairly well preserved in the median distribution. Reflexes are lost; and there is tenderness along the course of the nerve-trunks. In the lower extremities there is a very marked diminution of power in all the muscles, with loss of reflexes, tenderness over the nerve-trunks and muscles, but with practically no wasting atrophy of any muscles. The electrical examination shows reactions of degenerations in all the muscles about the shoulder girdle, with partial reactions and delayed contraction in the forearms and hands. The eye examination revealed diplopia due to palsy of the right internal rectus. A distinctly marked blue line is present on the gums.

This case should be considered as representing the double etiology of alcohol and lead in the production of multiple neuritis for the following reasons: In the first place, the presence of the blue line on the gums and the history of an attack of lead colic, is sufficient evidence of the presence of lead in the system in sufficient quantity to produce changes in the nervous system. In the second place, the predominance of extensor involvement as exhibited in the bilateral wrist-drop, with a fair preservation of the grip, and all forms of sensation, follows the usual clinical picture of lead palsy of the upper extremities. The evidence in favor of the presence of the alcohol as a factor in the production of the neuritis is found in the predominance of the changes in the peripheral, intramuscular nerve filaments in the lower extremities, over the trunk changes. The muscles were very sensitive to pressure even after the acute symptoms had subsided, while the nerve-trunks were only moderately sensitive, and only deep pressure elicited pain.

Sensitive and painful muscles are as rare in cases of

lead neuritis as they are common in alcoholic neuritis. Wrist drop, on the other hand, is so frequent in lead neuritis that it is looked on as the typical clinical picture of that disease. The intense atrophy coming on so rapidly after the development of the neuritis, less than four weeks, is rare in either form of neuritis, and is practically never met with in lead. We must look on it as an evidence of an intense change taking place either in the peripheral nerves, or the anterior horn cells of the spinal cord, or both, induced by the double intoxication.

The patient continued to improve under rest, galvanism and small doses of strychnin, and at the end of three months presented the clinical picture of the so-called Duchenne-Erb type of combined shoulder paralysis. To this was added extensor palsy of both forearms producing bilateral wrist-drop. Erb considers this type of palsy to be due to a lesion affecting the fifth and sixth cervical roots. It is usually the result of direct or indirect trauma, although Erb saw it result from the intoxication of tainted meat. Heyse reports a case in a tuberculous patient and Kraft-Ebing and Oppenheim have seen it the result of intoxication as in our case. The involvement of the deltoid, biceps, supraspinatus, infraspinatus, triceps, supinator longus, and the extensor carpi radialis and ulnaris corresponds closely to the type described by Erb. While the other muscles of the upper extremities were at first affected, they recovered their tone in a short time, and were not involved in the intense atrophy present about the shoulder.

Lead intoxication from type, at one time so common, is at present of infrequent, even rare, occurrence. This is due to the fact that the type of today contains but little lead; zinc and other metals are employed to harden the type, and the small percentage of lead is not usually deleterious in its effects.

The combined effect of lead and alcohol on the nervous system can rarely be differentiated with such clearness as in the present case. The lead had probably little to do with the manifestations in the lower extremities; the paralysis and sensory changes following here the alcoholic type. The intense wasting about the shoulder girdle is probably the result of the combined effect of both the alcohol and lead, as the palsy of the forearm followed clearly the lead type, to which was added in the upper arm the tenderness over the nerves and the reactions of degeneration.

I am indebted to Dr. Wm. G. Spiller, from whose clinic at the Philadelphia Polyclinic this case is published.

A NEW TREATMENT FOR TUBERCULOUS GLANDS OF THE NECK WITH MINIMAL SCARRING, INVOLVING A METHOD OF STERILIZING A TUBERCULOUS REGION THROUGH THE LYMPH CHANNELS.

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of Philadelphia.

THE recognition of the tuberculous nature of what were formerly known as scrofulous enlargements of the lymphatic glands of the neck has opened a new vista in the treatment of this affection. The disease should no longer be looked upon as a constitutional affection, controllable only by general treatment, but should be understood as a local implantation of the bacillus

* Read at the Philadelphia Neurological Society, November, 1900.

* Read before the Philadelphia County Medical Society, February 13, 1901.

tuberculosis in an individual whose inherited type of cell constitution is not proof against its implantation. In these particular cases, the tuberculous germs doubtless gain entrance into the lymphatic vessels of the neck through an infection atrium in the tonsils, and are arrested in the first gland reached by them, there to multiply until the gland is eroded, permitting the next one in the chain to be infected, and so on, throughout the chain.

It is evident that mere constitutional treatment of this condition, while both appropriate and valuable in strengthening the phagocytic powers of the body cells and fluids, is but a sorry method of reaching an entrenched colony already in vigorous growth. Moreover, these colonies of germ growth are just beneath the skin, and therefore are more accessible than tubercular deposits in the inner organs of the body.

The removal of the infected glands by the ordinary cutting operation has the disadvantage of leaving unsightly scars, which are seriously objected to by patients for cosmetic reasons. When the capsules of the glands are eroded through, their removal is more difficult, and gives rise to a more extensive scar.

Efforts to cause absorption of these enlargements by the percutaneous application of electricity, or by percutaneous cataphoresis, have been equally unsuccessful in my hands, and the reason is evident when we consider that the vital resistance of these germs, though not great, is quite sufficient to resist any agents or influences that are transmissible through an intact skin. When applied to more than a year ago by a physician to treat such a case, therefore, I immediately determined to try a modification of my cataphoric method for the destruction of cancer, and as the application of this modified method was an unqualified success in this case and in that of another case in which it has since been employed, its presentation to the medical profession is now made with much confidence in its value.

The object of the method is the destruction of the bacilli by the cataphoric diffusion among them of nascent oxychlorid of mercury, developed in their midst by the electrolysis of metallic mercury held in contact with a small gold electrode. A small opening is made through the skin and into the gland by a narrow bistoury, under a chlorid of ethyl spray, and into the opening is thrust a sliver of amalgamated zinc to act as an anode, not insulated, of a weak galvanic current—one to three milliamperes—which is turned on gradually and maintained for a few minutes to cauterize the tract and keep it patulous for the treatment proper. When the tract has received a sufficient impregnation with the mixed oxychlorids of zinc and mercury thus developed to keep it patulous for a few days, the zinc electrode is withdrawn and an insulated gold electrode about the caliber of a piece of No. 18 wire is inserted, its point having previously been amalgamated and made to hold as much mercury as possible. This instrument is left bare for $\frac{1}{4}$ inch from the point only, in order that all the current action shall be expended within the gland, the remainder of the instrument being insulated with fused hard rubber or fused shellac. From 2 to 10 milliamperes is now turned on and maintained for 10 minutes, or until all the mercury has been dissipated from the gold surface, after which a piece of absorbent cotton or lint is placed over the opening, topped by a piece of plaster, and the patient returns at intervals of two or three days for a repetition of the application. The endermic applica-

tion of cocain may be used to deaden the slight pain of these applications, a mere drop of a 10% solution placed in the opening being an excellent preliminary to the later applications.

The purpose of the sinus thus formed is the drainage of the products of the dead bacilli and deposited chemicals as well as for a direct application to the germ colony. Small doses and the gradual method of treatment are adopted to avoid unnecessary destruction of the gland tissue or the production of solid eschars that would not readily drain away, the repeated applications acting in a cumulative way on the protoplasm, finally destroying all pathogenic germs by the combined effects of the direct action of the germicide and the indirect action of the aroused trophic forces of the surrounding normal cells.

Observation of the two cases to be reported has caused me to believe that the germicidal action is not confined entirely to the gland to which the application is made, but that the chemicals deposited in this situation drain downwards to the next glands in the chain and favorably influence any infection in these glands.

The final result is the destruction of the tuberculous bacilli, without necessarily destroying all the gland tissue not destroyed by the disease, and when the opening is allowed to close the scar left is a mere point, and the general health of the patient will be found to be improved. The sinus requires no special precautions against septic infection while open, by reason of the powerfully antiseptic chemicals deposited within and about it.

CASE I.—Mr. B., a stenographer, was referred to me by Dr. E. E. Johnson, of Philadelphia, February 15, 1899. The family history was good. In July, 1898, a tuberculous gland was removed by means of a cutting operation by a physician of York, Pa. The wound failed to heal, and Dr. Johnson cauterized it the following month. When first seen by me there was a large scar on the left side of the neck, near which a tuberculous gland of large size was located. The patient's color was pale.

A small opening was made under chlorid of ethyl spray, the opening was made patulous by means of the zinc mercury sliver as an anode, and subdermic mercuric cataphoresis was applied by means of the insulated gold instrument about twice a week, the patient covering the spot between times with a bit of adhesive plaster and continuing at his usual occupation. In all, 11 applications were made in 7 weeks, when the gland itself seemed to be softened and hollow, surrounded by an area of treatment induration. The opening was now allowed to close, subsequent observation showing a progressive shrinkage of the induration.

This patient was not seen again until 4 months after the cessation of the treatment, when the induration had disappeared, leaving a minute round scar in the skin, and he seemed to be in decidedly more robust health. He states at present that he is in better health than for fifteen years.

CASE 2.—Miss G., also a stenographer, applied for treatment in May, 1899. Her parents are healthy, but there was consumption on both sides in the grandparents' generation, and a sister and brother now have pulmonary tuberculosis. Examination showed two enlarged glands on the right side of the neck, rather alongside of each other than in the same chain. Below these glands there were a number of smaller ones. The patient complained of some stiffness and pain in the neck when tired, and was anemic and menorrhagic.

The method detailed above was employed 19 times to August 22, 1899, when one gland was shrivelled, and it was evident that the glands below were smaller. Treatment was then stopped in this focus of the disease, and she was placed under a brief similar treatment for the other gland.

After but a few applications were made, the patient noticed that she no longer had the stiffness and dull ache in the neck. Her general health was immediately improved by the treatment, so much so, indeed, that she ceased attend-

ance before I thought the second gland, to which I was making applications, had received enough of the cataphoric salts. Her weight increased, the menstrual pain ceased, and she very shortly showed the evidences of blooming health which you will notice tonight.

On examining the neck tonight, a year and a half after the brief treatment described, you will notice a small, white scar less than an eighth of an inch in diameter at the site of the first gland punctured, and beneath it, what is apparently a healthy gland, but slightly larger than normal. The other scar is equally indistinct, and seems to overlie an equally healthy gland. But probably the most interesting fact of all is the shrinkage of the other glands of the neck below those treated, these being today but remnants of the knobby chain that extended down the neck into the supra-clavicular region. It is evident that the sterilizing mercurials that were cataphorically diffused into the uppermost gland also sterilized those below in the lymphatic channels while flowing through them. The importance of this observation in indicating one method of actually curing a form of tuberculosis is quite evident.

STRANGULATED AND GANGRENOUS HERNIA. KE- LOTOMY AND LAPAROTOMY IN STRANGULATION. EXTERNAL AND INTERNAL; ARTIFICIAL ANUS —ENTEROSTOMY, PRIMARY OR SECONDARY RESECTION—ENTERECTOMY, AND END-TO-END OR LATERAL JOINTING IN GANGRENOUS HERNIA.*

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(Continued from page 526.)

PART IV.

A BRIEF RESUMÉ ON THE EVOLUTION OF INTESTINAL SURGERY AS IT APPLIES TO STRANGULATED HERNIA.

The first cases recorded in surgical literature in which efforts were made to remove a section of diseased intestine were those of strangulated hernia. Littré, in 1699, closed a chasm in the intestine after gangrene, refreshing the edges and closing by circular suture. Von Bamdohr, surgeon to the Duke of Brunswick in 1727, resected successfully two feet of gangrenous intestine; operating by invaginating one divided end into the other. Twenty years later Durverger removed two inches of a gangrenous gut and joined the ends over a 4-inch section of the dried trachea of a calf; this coming away on the twentieth day, *per rectum*, and the patient recovering—1747. Peyronia again successfully resected four inches of the intestine in 1753. These pioneers were not without imitators and zealous disciples, but the mortality was so great that Lewis, writing late in the last century, formally condemned every description of intestinal surgery in strangulation, except the formation of an artificial anus. This eminent authority, however, bestows great praise on Littré, and pronounces his achievement "d'une merveille de l'art."

In the first half of the present century there are but two cases recorded of successful resection and jointing for mortified intestine; one by Levielle, 1812, and one by Diffenbach, 1836.

Animal Experimentation, Etc.—The foundation of rational and scientific surgery of the intestine rests on

modern animal experimentation; nay, a mastery of its art and technic are possible, chiefly by resort to this means.

In pre-anesthetic times it was, in a large measure, a failure. For example, as early as 1740 Moëbus and Farcy, after enumerating a large number of experiments on the intestine of the dog, conclude from this experience and results, that intestinal resection is utterly impracticable on the human being. Early in the century (nineteenth) there was a notable re-awakening in the French school on the subject of intestinal surgery. Jolly, Joubert and Lambert instituted a large number of experiments on the lower animals' intestine; several devices for jointing were devised. Lambert, a young hospital interne, described his suture before the French Academy in 1824. In 1825, Richerand tested the utility of the new modes of effecting enterorrhaphy in man, with disastrous results. Reyberd, in 1843, undertook to unite the divided ends of the colon after resection of a cancerous mass involving its ascending portion. His patient survived, but union failed and a large fecal fistula followed.

The results thus far were so unsatisfactory and the mortality so great that the best surgeons in Europe looked with disfavor on any description of surgery which entailed a section or resection of the intestine. In the brief space of five years after Reyberd's failure, the discovery of pulmonary anesthesia in America was announced, an event of incalculable magnitude to operative surgery; and yet we find that the deeply grounded, superstitious fear of opening or manipulating the peritoneum, stayed the hand of the surgeon. Not until the antiseptic treatment of wounds was generally adopted did intestinal surgery share in the impetus of modern advance, although this is of secondary importance in surgery, to anesthesia with ether or chloroform narcosis.

In 1873, Lücke, of Strasburg, again revived the operation of intestinal resection for gangrenous hernia, removing 6 centimeters of gut and losing his patient.

In Germany, notably after Thiersch's failure in 1879, the surgery of the intestine made surprising advances. To the Germans are we indebted for a large part of the knowledge we now possess on the art of intestinal surgery. Dr. Carl Beck, of New York, in 1879, made an extended series of experiments on induced gangrenous hernia, the deductions from which have since been utilized with signal advantage.

It is, as Bouilly has observed, remarkable to note that in France where intestinal surgery was first made the subject of a most extended experimental investigation, surgeons were skeptical and were very reluctant in sharing in the revival of this phase of operative surgery. Thus, in 1883, Dr. Bouilly was able to collect 38 cases of primary resection for gangrenous hernia reported from 1873 to this date; but one of which came from French sources. Serrè, writing on this topic, says that "we may date the real advance in intestinal surgery from 1873. I must repeat that we can only regret that these operations founded by the experimentations of French surgeons, the glory of the achievement is ours, executed by principles conceived by us and abandoned by the country that gave them birth, so that it is now quite exclusively from foreign sources that recent cases are reported." This author pronounces successful primary resection of the gangrenous bowel with effective jointing the greatest triumph of modern surgery.

* Read at the Pan-American Medical Congress, Havana, Cuba, February 4, 1901, before the Section on Gynecology.

America was destined to play a rôle of stupendous importance along this line of advance. In 1888, the illustrious Senn, of Milwaukee, at the International Medical Congress held in Washington, D. C., submitted the most extraordinary essay that ever was written on intestinal surgery. It was based entirely on exhaustive experimentation and yet the logical convictions deduced from so large and diversified a number of experiments, their general success, their scientific foundation, their precision and skill in execution, promptly assured surgeons of their applicability to the human being. The presentation of this great, unrivalled essay was hailed as the dawn of a new era in the surgery of the alimentary canal, and at an early date the fundamental principles it inculcated were successfully established on a large scale by the leading surgeons of the civilized world. In 1891, Dr. John B. Murphy, a brilliant young surgeon of Chicago, published a description of his anastomotic disc, the "Murphy button," a most extraordinary piece of ingenuity which it appears no description of modification can ever improve. It is generally conceded that no device ever invented has imparted the enormous impetus to the intestinal surgery that this has. For end-to-end jointing of the intestine it is simply unrivalled.

Gibson pronounces it the best and safest of all the various expedients at our command. A large number of other devices have been employed to assist in effecting union of the divided intestine. The last, and one of the most valuable of all measures yet suggested for jointing the divided intestine, was devised by Dr. M. E. Connell, of Milwaukee, now of Chicago. It displaces every description of apparatus or mechanical appliance, consisting of nothing more than a simple suture, specially employed.

In all of the above advances their success was only possible by animal experimentation. Lambert, on whose conception the initiatory was instituted, and whose principles yet hold with the vast majority, in his lifetime, never had an opportunity to test them on man, and Senn, Murphy, and Connell all published their essays before this method had yet been tested in resection of the intestine in the human being, their conclusions being entirely drawn from vivisection experiments.

PART V.

ARTIFICIAL ANUS, RESECTION OF THE INTESTINE, PRIMARY AND SECONDARY.

In cases of advanced gangrenous hernia, with or without perforation of the intestine, there are practically but two courses open to us for adoption; the one is to fix the dead parts in situ and drain the fecal contents through the inguinal or crural incision, when we have groin ruptures; the other is to resect the mortified parts and reconstruct the intestinal canal, and the time has now arrived when the "doubtful" cases should be dealt with in a similar manner.

Artificial Anus.—The attitude of our most noted surgical authorities widely varies on the choice of leaving an opening in the bowel involved by gangrene, or performing an immediate resection. Brief comments and statistics from various sources will be submitted on this aspect of the subject.

The establishment of an artificial anus is an imitation of nature's mode of relief, and cure also, when but a limited area of the gut is involved. In gangrenous cases the intestine above the stricture has usually con-

tracted adhesions, so that there is little to do in applying technic when an artificial anus is to be hurriedly made. Frequently, though not always, a patient with gangrenous hernia is in a state of great prostration, and there are signs of invasion of the general peritoneum. In 6 cases of artificial anus left after gangrenous hernia, in my own practice, in all the intestine was found ruptured. One had the gut opened for what was supposed to be a suppurating bubo. In 3, the general condition was not alarming at the time of kelotomy, but none survived more than 10 days. At the French Congress of Surgeons, in 1898, this subject was exhaustively discussed, and it was the opinion of the greater number that in gangrenous hernia the proper course to pursue was to *first* tap the bowel, and *later*, when reaction was well reestablished, perform a resection, a course which, from a theoretical standpoint at least, is unassailable. But the establishment of an artificial anus in strangulated hernia at best must be regarded as a confession of surgical impotency, and is a relic of antiquated methods, as Treves says: "The history of enterostomy is as old as strangulation itself." Dr. Carl Beck, of New York, was the first to decide the relative value of enterostomy and enterectomy from an experimental standpoint in induced strangulation in 55 vivisections. In 21 resections he had 14 cures; in 20 cases of artificial anus, 9 recoveries and 11 deaths. Though we do carry our patients over the breach with an artificial anus, a danger yet awaits him in a future jointing of the bowel, as no hope of cure may be looked for by the unaided powers of nature in artificial anus, when a section of the gut is done. Bouilly observes that "although we may find vestiges of fortunate tentatives which have been effected in the management of gangrenous hernia in the vast literature of ancient surgery, no mention is made of any means of cure of artificial anus. Richter alone, in 1700, thought it possible by anastomosis, but regarded it as altogether too dangerous an undertaking."

Mr. Spencer cites McCready as stating that at the present time, of 21 London surgeons, 17 favor artificial anus and but 4 the primary suture. Julliard's experience has been quite unique, as he records 20 cases of anastomosis for artificial anus with no deaths, after gangrenous hernia. Mr. Lockwood was able to collect 40 cases of gangrenous hernia treated after the method of Lawrence; viz., by a free incision through the mortified part in order to relieve the intestinal canal; or, if the intestine had already given way, to divide freely the integument and sac and leave the subsequent progress of the case entirely to nature, practically leaving an artificial anus. Thirty-six of these died—90%; 4 survived after a long and tedious convalescence, and had submitted to repeated operations to close their fistulae. This author regards incising the bowel as the most fatal; primary resection and suture the next in order of fatality, and the least, the enterotome. Kendall Franks, of Dublin, collected 202 cases of gangrenous hernia from various sources and in this number the mortality after artificial anus was 80.7%; after primary reaction, 47%. Ill collected notes on 29 cases of artificial anus in the United States; 25 died, 86% mortality. Mr. Wallace, of the Royal Manchester Infirmary, records 4 cases of artificial anus posthernial, all ending fatally. Chaput gives 80% as the primary mortality in above condition. Körte, 85.5%; Mikulicz, 76%.

Duplay fully describes the dangers, immediate and remote, connected with enterostomy of gangrenous hernia, and says: "Artificial anus may heal spon-

taneously, it may give temporary amelioration; but it most frequently tends toward death by inducing inanition, or, what is more frequent, death follows early from a persistence of symptoms and an extension of peritoneal invasion. But, more, in order to cure this repulsive state a fresh operation is involved, difficult of execution, grave in character and uncertain in results." The above well epitomizes this important subject; for look on it as we may, the construction of an artificial anus in gangrenous hernia can only be regarded as a *dernier ressort*, justified only when the patient is bordering on the moribund state or is in the hands of an incompetent surgeon. The economy of time in its construction has constituted one of its strongest claims; but M. Chaput pertinently observes that this has been exaggerated, that a resection and jointing may be effected in 30 minutes, a limit no greater than required in the formation of an enterostomy.

The repair of a fecal fistula—sometimes miscalled artificial anus—may occur of itself when the sphacelated patch is of an area which involves less than half the diameter of the intestine. Harrington records such a case, in a Littré's hernia; they are not very rare in this anatomical type of occlusion.

Localized or superficial, small plaques of gangrene we may sometimes encounter in kelotomies for strangulation. These are most frequently induced by violent taxis, the bowel has been severely crushed, the musculo-lacerated, the mucous lining detached, but the fibrous layer is intact. In these cases, the whole extruded coil has sustained serious damage, though there are only local expressions of it. These may often be grouped in the category of "doubtful" cases. We may treat them by (a) leaving the loop outside and waiting for time to decide; (b) we may resect the gangrenous patches and suture, or bury them under a row of Lembert sutures and reduce the affected loop; or (c) we may at once proceed to more radical measures and resect the entire extruded loop. We here must decide on that course which promises the best results, the least danger of peritoneal infection or loss of life by shock and exhaustion. When the vascular supply is not compromised, and the full vitality of the intestine is preserved, the exclusion of the small, ulcerated patches with a complete disinfection of the intestine will warrant immediate return of it to the abdominal cavity; caution, however, will require here that ample drainage is maintained until the danger of peritonitis is past. When, however, in conjunction with these localized contusions there is evidence of incipient gangrenous changes in the entire loop, free resection is called for.

PART VI.

PRIMARY RESECTION AND REESTABLISHMENT OF THE INTESTINAL CANAL IN GANGRENOUS HERNIA.

The successful resection of diseased intestine and the jointing of the divided ends certainly constitutes one of the very greatest triumphs of operative surgery.

Theoretically viewed, it appears like a procedure impossible of accomplishment. We know that a finger cleanly severed may sometimes be reimplanted; a part of the ear, the nose, or the integument may likewise be restored and take on vitality. Homologous reimplantation of various structures under aseptic precautions is frequently resorted to with satisfactory results. But to resect part of a tubular organ like the intestine, of

so complex a structure, and to unite it in such a manner as to ensure union and immediate recovery of function within a cavity so exquisitely sensitive to exposure or irritation as the peritoneal, seems to border on the miraculous; as Louis expressed it, "a marvel of surgical art." No wonder that it was only after the progress of ages and the futile efforts of numerous investigators, that in our time, with the aid of modern discoveries, intestinal jointing has come to be regarded as a legitimate and a life-saving operation. In gangrenous hernia, it is only within the last 10 years that enterectomy has generally been resorted to as a procedure at all warranted. It is only about 25 years since its great value here was first forcibly impressed on the profession.

The underlying principle of intestinal anastomosis or jointing is embodied in the discovery announced by Lembert, the seroserosus fusion of the intestinal walls; although the mode of introducing the suture in such a manner that only the serous and muscular layers be included, experiment and experience have proven of no essential consequence, as two of the latest and most effective modes of securing junction entirely ignore it—Murphy's and Connell's.

In gangrenous hernia calling for exclusion or the separation of the diseased from the healthy, immediate resection and jointing has the sanction of the majority of surgeons; want of accord is only noted in technic. It is well, however, to observe that in the near past many were hostile to primary resection. Deaver, of Philadelphia, *e. g.*, states it as his belief that "anastomotic operations are of value in but a few cases of strangulated hernia, . . . in hernia the condition of the patient does not warrant the procedure of anastomosis, and under the most favorable circumstances, the operation is anything but favorable." He had tried it more as an experiment, and lost all his patients. Resection and an anastomosis should not be "experimental" affairs any more than the performance of an appendectomy, but should be governed by well-established surgical principles; performed on patients *in extremis* it is a barbarity. Jaboulay pronounces "resection of the intestine as a difficult and grave procedure." Mr. F. Treves says that "in cases in which gangrene exists experience is against any attempt to unite the divided ends of the bowel immediately after the necrosed portion is excised. Such measures have been carried out with success in a few recorded cases, but it is a very hazardous procedure and neither the state of the patient nor the intestine will usually sanction the somewhat elaborate and possibly protracted operation." Mr. Treves is certainly in error when he speaks of "a few recorded cases" succeeding, as these are now comparatively numerous, in fact of such frequent occurrence, that many of them are not reported. With the proper preparation, the procedure is not at all perilous nor does it involve fresh risks. The only serious drawback is the frequent exhausted state of the patient, to such a degree as to justify no description of radical surgery.

Statistics from Philadelphia.—Within the past ten years there have appeared extensive statistical tables on the subject of the relative value of resection of the intestine for various pathological conditions. The first in this country, as it applied to gangrenous hernia by Dr. A. J. McCosh, 1889, the latest in the recent valuable contribution of Dr. Gibson. The latter collected 226 cases of primary enterorrhaphy with 58 deaths, mor-

tality 26%. Croft, in 1894, recorded 13 treated by artificial anus; all died. Kendall Franks the year before reported 220 cases gathered from various sources, of primary resection, of which Croft declares but very few belonged to English surgeons. Second, in 1894, published details of three cases of primary resection under his own care. All died. Up to 1883 Reichel could find but 56 recorded cases of primary resection; 29 deaths; 51.44% mortality. Carson from this date to 1887 added 21 more; 8 died, 13 recovered, one with artificial anus or large fistula. Czerny and Hahn, in 1898, set the mortality at 47%, Mickulicz, 33%, Borchard, 36%. McCosh, in 1889, collected 113 cases of primary resection in gangrenous hernia which gave a mortality of 50%. Five years later, the same author recorded three more of the same class, all recovering, in his own service. Ziedler gives the mortality as 49% from primary resection and 74% from artificial anus. Frank, mortality, 48% primary resection, 80% artificial anus. Mady, mortality, 22% primary resection. Wallace, mortality, 25% primary resection, 90% artificial anus. Serré in October, 1893, reported 37 cases of resection in hernia; 9 complete cures; cured after fistula, 8; artificial anus left in one; there were 18 deaths. Madelung, 44 cases resection in hernia, 23 recovered, 53%; 22 cases of artificial anus later closed by suture; there were 8 deaths, 36%. Dr. Bovis recorded 17 cases of resection and anastomosis for same condition before 1889; 10 deaths, 59%; since 1889-1891, 51 cases, 19 deaths, 37%.

Makins, 39 cases resection and anastomosis, 15 deaths, 38%. Bouilly, 29 cases resection and anastomosis, 11 deaths, 37%. Korte, 28 artificial anus, 16 deaths, 57%. Friederichshain, 26 artificial anus, 20 deaths, 76%. Poulsen, 54 artificial anus, mortality 86%. Chaput, 51 artificial anus. Recovered 86%. Chaput, 67 primary jointing. Recovered 46%.

Lockwood's statistics show 88% mortality for artificial anus. In 1894 combined statistics of Czerny, Reidel, Kocher, Hagedorn and Hahn, 64 cases of primary resection, 32 deaths, 50%. Barette's statistics, 49 cases primary resection, 23 deaths, 47%.

Gibson sets down failure of technic as responsible for 13% of deaths after resection.

My own experimental work wherein I was able to verify the cause of death, by autopsy, in every instance, it was proved conclusively that faulty technic was always responsible for the fatal ending. This has been well borne out, too, in my unfortunate first cases of resection in the human being, and my later cases which survived.

Recorded statistics conclusively prove that the operation of primary resection with its larger application has a steadily reduced mortality, in general, much less than the production of an artificial anus, although it is well to remember that an enterostomy of late years is only resorted to in very desperate cases; those in which, as Moyenhau well observes, "resection of the loop and suture of the ends is most satisfactory, but there are not a few patients in whom such a course would be wholly unjustifiable."

These statistics include 96 cases, several with incomplete data. There were 68 recoveries, 21 deaths, in 7 result not stated—mortality general, 30.88. Mortality in end-to-end enterorrhaphy by suture—57 cases; 14 deaths, 25.25. Murphy button, 16 cases, 3 deaths, 20.20. Senn plate, 5 cases, 1 death, 20.00. Connell suture, 4 cases, 0 deaths. Twelve cases of mixed

methods treated. There were 45 females, 32 males, in 19 sex not stated.

The Senn plate was first described in 1889. It was soon discarded as unsatisfactory in gangrenous hernia. Murphy published the description of his metallic double disc in 1894. It has proved unrivalled as a means of jointing for various pathological states of the intestine, but after resection for gangrenous hernia it has been largely set aside as inferior to the suture, the Connell mode of adjustment having the preference with those who are familiar with its technic.

Temporary Evisceration with Lateral Anastomosis in Situ, in Gangrenous Hernia.—In certain cases of gangrenous hernia rather than form an artificial anus or do a resection, some authors have recommended the withdrawal of the suspected loop after relieving the constriction, imbedding it in warm, aseptic dressings and delay for 24 hours or more, in order to determine if the death of the part is complete, or to what limit it may have extended. Although this procedure has been suggested, I am unable to find any recorded cases wherein it has succeeded, nor does it appear to be a means that is without serious drawbacks. A strangulated loop at all approaching the mortified condition is in a paralyzed, crippled state, outside the abdomen the mesentery is placed in a condition of tension with a languid circulation. The endothelial investment of the intestine is endowed with a most exquisite sensibility to irritation; hence, on exposure, it quickly presents evidences of inflammatory changes, loses its gloss and becomes granular. Therefore, even though the intestine were found to have preserved its full vitality, its return to the cavity of the peritoneum after an abode of 24 to 48 hours outside of it, would be quite certain to involve free adhesions and more peril than had it been reduced in the first place. The loss of the serous tunic in the repair and reduction of a healthy intestine, the former seat of an artificial outlet, is, without doubt, a more serious impediment to union and restored function than the temporary spur formed; and reasoning from an analogy we must anticipate the same difficulties from temporary evisceration in gangrenous hernia.

The procedure of Helferich, of anastomosing the healthy intestine on either side above the gangrenous loop, the latter to remain in the wound until the patient has fully reacted, when it is resected has nothing to recommend it. It has all the objections of temporary evisceration; it is a more serious procedure than the formation of an artificial anus without its advantages. The temporary anastomosis will occupy quite as much time as to effect a clean resection jointing and reduction; and in any event involves later, another difficult and dangerous operation. It is at the present time quite generally discarded.

Secondary Resection.—Fecal fistula, artificial anus and physiological exclusion with lateral jointing in gangrenous hernia, all call for consecutive intestinal resection, after the patient has recovered from their immediate dangers. At this stage one would expect that there should be a low mortality, but in resection and jointing, as has been seen, the latest writer on the subject, Gibson, has rated it the same as primary resection. Reichel places the mortality as 37.8, Hartzburg, 27, and Makins, 28.4. Lockwood very pertinently observes that "we must bear in mind that those on whom secondary suture is performed are the rare survivors of a most fatal class of cases; moreover, the successful cases recorded are of fecal fistula rather than gangrenous

hernia." Newman believed that secondary resection was less mortal, but noted that this was only resorted to in those who had survived a most dangerous disease.

Richter, in 1788, first successfully resected the bowel secondarily for gangrenous hernia. Seventy-five years later, in 1863, Kinloch, of South Carolina, U. S., per-

STATISTICS ON CASES OF GANGRENOUS HERNIA TREATED BY RESECTION, IN DECADE FROM 1891 TO 1901.

Author	Year	Sex	Age	Hernia	Mode of Closing	Result	Literature	Date
C. S. Hamilton (4).	1890	F.			End-to-end suture.	Three recovered, 1 died.	Columbus Medical Journal.	Sept., 1900
C. Morean.	1892	M.	46	Inguinal.	" " "	Recovered.	Bull. des Assoc. Med. Belg. etc.	Nov., 1899
A. J. McKeown.	1897	F.	25, 43,		" " "	" " "	Annals of Surgery.	1897
H. Page.	1894	F.		Crural.	End-to-end suture.	Death.	London Lancet, p. 901, vol. i.	1894
Schaeffer.	1893	F.	45	Inguinal.	" " "	Recovery.	Klin. Woch., p. 674	1894
Salter.	1893	F.	64	Crural.	" " "	" " "	Arch. für k. Chir.	1894
Hetzler.	1894	F.		"	" " "	" " "	"	1894
Namika K.	1893	F.	78	"	" " "	" " "	"	1893
A. Lister.	1893	F.	39	Inguinal.	Senn-plates.	"	Tr. Med. Chir. Soc., Edinburgh.	
Lake.	1891	F.		"	End-to-end suture.	"	Cent. für Chir., No. 41.	1891
Seaman.	1891	F.		Umbilical.	" " "	Death.	London Lancet, vol. ii.	1891
		F.		"	" " "	"	"	
		F.		"	" " "	"	"	
Lockwood.	1891	M.	17	Inguinal.	" " "	Recovery.	Med.-Chir. Trans., vol. xiv.	1891
Lyot.	1895	F.	43	Crural.	" " "	"	Arch. Prov. de Chir.	
		F.	41	"	" " "	"	"	1895
Habes.	1892	F.	47	"	" " "	Death.	"	1895
Douglas.	1893	M.	52	Inguinal.	" " "	"	Gaz. Heb., 12.	1895
C. P. Thomas.	1893	F.	42	Inguinal strang.	Murphy button.	Recovery.	Am. Jour. Gynec. and Surg.	1895
R. M. Roberts.	1899	M.	39	Inguinal.	" " "	Death.	Annals of Surgery.	Dec., 1900
C. E. Brewer.	1899	M.		"	" " "	Recovery.	Medical Record, p. 58.	1900
Newton.	1900	F.	70	Crural.	" " "	"	"	1900
		M.	41	"	" " "	"	"	1900
R. W. Murray.	1900	M.		"	End-to-end suture.	"	London Lancet.	
Tanner.	1898	F.	60	Umbilical.	" " "	"	Gaz. Med. etc.	Nov., 1900
Herman.	1898	F.	55	Crural.	Through-and-through suture.	"	"	1900
Kendall Franks.	1895	F.	39	Umbilical.	End-to-end suture.	"	Medico-Chir. Trans.	1895
Patry.	1895	M.	89	Inguinal.	" " "	"	Rev. de la Suisse, 45.	1895
Gray.	1895	M.	29	"	" " "	Death.	Gaz. des Hôp., Paris, 212.	1895
Gray.	1892	F.	60	Umbilical.	" " "	Recovery.	Boston M. and S. Jour., p. 207.	1892
		F.	55	Crural.	" " "	"	"	1892
Richardson.	1892	M.	22	Inguinal.	" " "	"	"	1892
Colley, D.	1891	M.	40	"	Fistula formed.	Recovery.	Lancet, p. 988.	1891
Delbet.	1892	M.	49	"	End-to-end suture.	Death.	La Scien. Med., Mar.	1892
Watkins (3).	1894	M.	19	"	" " "	Recovery.	N. A. Med. Jour., p. 46.	1894
		M.	26	"	" " "	"	"	1894
		F.	2	"	" " "	Two deaths.	"	1894
Rydygier (4).	1894	M.		"	" " "	Recovery.	Waterbury Med. Jour.	1894
Estes, W. L.	1897	M.	65	Inguinal.	End-to-end suture.	Death.	Annals of Surgery, p. 515.	1897
Allen, N.	1895	M.	40	"	" " "	Recovery.	Gaz. Med., p. 95.	1895
Eberhart.	1896	F.	65	Crural.	" " "	Death.	Jour. Am. Med. Ass'n, p. 7.	1896
Davis, T.	1897	M.		Inguinal.	Lateral anastomosis.	Recovery.	Med. Wchn., St. Petersburg.	1895
Rudolf.	1892	F.	38	"	End-to-end suture.	"	Annals of Surgery, p. 340.	1892
Rosenoff.	1892	F.	56	"	" " "	"	Bull. et Mem. de la Soc. de Chir.	1892
Paoli.	1892	M.	50	Crural.	" " "	"	N. A. Med. Jour., p. 141.	1892
Graff (2).	1892	F.	58	"	Senn-plate.	"	"	1892
		F.	40	"	Lateral anastomosis.	"	"	1892
Rawdon (2).	1893	M.	38	Inguinal.	Murphy button.	Recovery.	Liverpool Med.-Chir. Jour.	1893
		M.	39	"	" " "	"	"	1893
Felicia.	1898	M.	65	"	End-to-end suture.	"	"	1898
Benneke.	1897	M.		"	" " "	Death.	La Riforma Medica.	1897
Albright (4).	1897	M.		"	" " "	Three recovered, 1 death.	"	1897
Frederick.	1898	M.	47	Umbilical.	" " "	Recovery.	Riforma Medica.	1898
Henzel (7).	1899	M.		"	" " "	"	Revue de Chir.	1899
Manley, T. H. (2).	1896	M.	27	Inguinal.	Lateral anastomosis.	Recovery.	Annals of Surgery.	1897
	1901	M.	29	"	Connell suture.	"	"	1901
Garr.	1892	F.	51	Umbilical.	" " "	"	Sperimentale Firenze.	1892
Daniels.	1891	M.	46	Inguinal.	End-to-end suture.	Death.	Texas Med. Jour.	1891
Walker, H. O.	1894	F.	50	Crural.	" " "	Recovery.	Med. Record, p. 661.	1894
Second.	1894	F.	39	"	" " "	Death.	Bull. et Mem. de la Soc. de Chir.	1894
		F.	60	"	" " "	"	"	1894
		M.	40	"	" " "	"	"	1894
Beck, Carl.	1892	F.	57	Umbilical.	" " "	Recovery.	Bull. et Mem. de la Soc. de Chir.	1892
		M.	45	Inguinal.	" " "	"	Medical Record, p. 416.	1893
Andrews, A. F. (2).	1892	F.		"	Murphy button.	"	"	1892
Bouffleur.	1893	F.	57	Umbilical.	End-to-end suture.	"	Jour. Am. Med. Ass'n.	1893
Rogers.	1893	M.	50	Inguinal.	" " "	"	"	1893
Graff, W. W.	1893	M.	47	Crural.	Senn-plate.	Death.	Memphis Med.	1893
Jacobson.	1895	M.	37	Inguinal.	End-to-end suture.	Recovery.	London Lancet.	1895
Jouillard (2).	1895	M.	50	"	" " "	"	Revue de Chir.	1895
		M.	62	"	" " "	"	"	1895
Villiard (4).	1895	4 F.	56, 50, 42, 65	Crural.	Diodele. M. B., 3, suture, 1.	All recovered.	Tr. Ass'n. Française de Chir.	1895
Martin, F. H.	1890	F.	40	Intest. obstruction.	Connell suture.	Recovery.	Jour. Am. Med. Ass'n, Nov. 3.	1890
Fowler.	1893	F.		Umbilical.	Murphy button.	"	"	1893
McGuire.	1898	F.		"	" " "	"	"	1898
Osley.	1897	F.	40	Inguinal.	End-to-end suture.	Death.	Personal communication.	1897
Meyer.	1893	F.	68	"	" " "	Recovery.	Annals of Surgery.	1893
Morris, R.	1897	M.	70	"	Murphy button.	"	Personal communication.	1897
Lavoie.	1898	F.	49	Crural.	End-to-end suture.	"	Rev. Med. de la S. Rom.	1898
Marchand (2).	1897	M.	35	Inguinal.	" " "	"	"	1897
Montgomery (2).	1897	2 F.	29, 35	Crural.	" " "	"	Brit. Med. Jour., vol. i, p. 72.	1897
Williamson.	1899	F.	62	Umbilical.	Murphy button.	"	"	1899
Barker (2).	1899	F.	46	Crural.	End-to-end suture.	"	"	1899
		M.	20	Inguinal.	Through-and-through suture.	"	"	1899
Bidwell.	1900	F.	60	"	Lateral anastomosis.	"	"	1900
Combermale.	1900	F.	40	Crural.	End-to-end suture.	"	London Lancet.	June 1900
Kajjar (3).	1898	F.		"	" " "	"	La Nord-Medica 15 kn.	1898
Spencer.	1895	F.	77	Crural.	Murphy button.	Death.	Hygiea, Stockholm, p. 159	1895
Neely.	1900	M.	19	Inguinal.	" " "	Recovery.	London Lancet, May 11.	1900
Newman.	1895	F.	44	Crural.	End-to-end suture.	"	Memphis Med. Jour.	1895
Dalton, H. C.	1897	M.	45	Inguinal.	" " "	"	Glasgow Med. Jour., p. 85.	1897
Douglas.	1896	M.	55	Crural.	Murphy button.	"	Trans. M. Med. Ass'n.	1896
Ashhurst.	1897	M.		Inguinal.	" " "	Death.	Brit. Med. Jour., p. 526.	1897
Sampter.	1895	F.	45	Crural.	End-to-end suture.	Recovery.	Jour. Am. Med. Ass'n.	1895
					" " "	"	Cent. für Chir., p. 195.	1895

formed successfully the first secondary resection of the bowel in America. It was not for hernia, however, but a gunshot wound, and it appears too, that a small fecal fistula remained for some time after the bowel was resected.

Bouilly and Assaky, up to 1883, could find on record but 27 operations for the closure of artificial anus; 26 after gangrenous hernia; 17 were successful.

In 1881, Rydygier reported 18 cases; in 1882, Madelung 22, from various sources, the same ratio of recoveries noted, as by Bouilly.

In order to ensure the best results after secondary resection, the patient should be in a state to promptly recuperate from the shock of the operation, as little blood as possible should be wasted. A free resection should be made widely from parts the seat of pathological changes. This favors early union and an escape from the dangers of necrosis at the site of suture.

PART VII.

ON THE MODE OF JOINTING THE DIVIDED ENDS OF THE INTESTINE AFTER RESECTION OF A GANGRENOUS LOOP.

Up to the time of the report of my own case of resection of a gangrenous loop—30 inches long—after strangulation, my patient making a prompt recovery, I can find no case on record in which any other procedure was adopted to unite the divided intestine and reestablish the alimentary canal, than by invagination, or end-to-end junction, in gangrenous hernia.

The end-to-end mode of junction appealed to surgeons as the most rational because it restored the direct continuity of the canal. Mr. Thomas Bryant, in writing on the technic of end-to-end enterorrhaphy, and the obstacles in the way, said "he could not conceive anything more difficult than to unite the separate segments of the bowel, one infiltrated and distended and the other patulous and collapsed."

The various mechanical appliances and sutures have, scarcely without exception, in intestinal resection for mortified hernia, been utilized in effecting end-to-end union. But its range of applicability was found limited until Murphy's button was invented in 1894. This contrivance enormously simplified end-to-end junction and greatly reduced its mortality from leakage at the mesenteric border.

Dr. William Evans, of Chicago, in a recent study of the question of stenotic contraction after union or circular enterorrhaphy, denies that stricture ever follows the line of junction. Stricture of a tubular passage only occurs in a permanent form, after an extensive loss of mucous membrane, something entirely absent on reconstructed intestine.

Lateral anastomosis as a substitute for end-to-end enterorrhaphy, after intestinal resection, was first brought to the notice of the profession by Dr. M. E. Connell, another Chicago surgeon, the pioneer in experimental intestinal surgery in America. At the time when he published a description of the suture which bears his name, he called attention to the greater safety and security of lateral anastomosis as contrasted with end-to-end jointing. He claimed for it, an escape from the dangers of leakage at the mesenteric border, in the facility of execution with intestines not corresponding in caliber, and finally the prompt and full restoration of function after this mode of jointing. But his deductions were based, like Lembert's original, entirely on experimental research and on theoretical grounds.

This substitute for jointing, together with his new suture, were rejected for a time by the profession.

From a speculative standpoint, there stood out three glaring objections to lateral jointing. The first was, that it entailed the closure of 4 openings instead of 2; second, it left two blind pouches, or diverticula; third, it forced a deflection of the course of the fecal current from one loop of intestine into another. It would certainly seem to involve a positive disturbance in the physiology of digestion. But, practically, we find nothing farther from the fact. In my first case with a large resection—lateral anastomosis near the distal end of the ileum—my patient, now 4 years since the operation, has gained 30 pounds in weight and has perfect digestion. In my second case the ileum was divided close to the distal end and was laterally implanted on the cecal wall—ileocecal anastomosis lateral. In 2 months my man weighed 15 pounds more than before the operation, and, notwithstanding the functionless state of the ileocecal valve, he has vigorous digestion.

Bidwell, in recording his experience in resection for gangrenous hernia, expresses his belief that lateral anastomosis is much safer than end-to-end.

Mr. Greig Smith did not favor lateral anastomosis, he alleged, "as there is as much time consumed in closing the two ends as is necessary to make a circular enterorrhaphy." As far as function was concerned, he regarded it of little importance, as to the axes of the bowels, "whether they were jointed end-to-end or laterally, the question being quite wholly a practical one."

In 1889, Jessett laterally anastomosed the divided ileum with the cecum, after the excision of a new growth, the patient sinking on the fourteenth day. There are several cases scattered through surgical literature of successful lateral anastomosis after resections for neoplasms; while for unilateral exclusion or mechanical obstruction no operation on the intestinal canal is more common or more effective.

In a recent valuable contribution by MM. Terrier and Gosset it is maintained that in bilateral exclusion of the bowel with resection of the intestine for gangrenous hernia, end-to-end junction with Murphy's button is a great saver of time; but that in the reestablishment of the *tractus intestinalis* lateral enteroanastomosis may be performed with great facility and its functional results are perfect. Reichel has demonstrated that here the diverticula at the ends atrophy and contract. Von Frey, by a series of experiments on animals, pointed out that after 6 months, in lateral anastomosis, the intestinal current assumes a perfectly straight direction. This view is supported by von Haecker, who found that the closed ends have so apposed that the afferent coil will continue in the direction of the efferent. Gibson remarks that some resort to this means to do away with the danger of necrosis of the suture line, as well as to effect perfect union when dealing with segments of uneven caliber.

The special advantages of lateral anastomosis, in cases of gangrenous hernia, are:

First and greatest, it obviates that lurking danger, always present in end-to-end circular enterorrhaphy, viz., consecutive leakage at the *dead space* in the mesenteric border.

Secondly, it secures the jointing of the segment of the intestine in full vascular activity.

Thirdly, it permits of the greatest rapidity and facility of execution.

Fourthly, it completely obviates the possibility of

ultimate annular stenosis or a contracted narrowing of the aperture.

My own experience with this mode of jointing after resection, based on an extended series of experiments on the lower animals, and in two aggravated cases of gangrenous hernia employed after the method of Connell, induces me to recommend it in all cases, as simpler, safer, and more effective than end-to-end union by any of the numerous devices now employed.

On the Technic Employed in Uniting the Divided or Excluded Intestine.—The elements which are essential to success in intestinal resection in gangrenous hernia, besides asepsis and proper preparation, are:

1. Those means which effectively restore the continuity of the intestine and securely wall off the intestinal from the peritoneal cavity.

2. The economy of time.

3. The fullest possible circulation to the traumatized parts.

The Law of Lembert.—The principle laid down by Lembert, that in order to secure the firmest possible adhesions between the divided intestine, it is only necessary to appose their serous surfaces, remains unassailable; but he certainly was in error when he taught that in the introduction of the suture, danger was invited if we carried it through all the coats of the intestine. In fact, the modern stupendous advances in intestinal surgery only began when this precept was cast aside. Senn's celebrated essay in 1889 marked the beginning of the new epoch. The adjustment of his decalcified bone plate required the suture to pass through *all* the coats of the gut.

In the preliminary purse-string suture, in the Murphy button operation, it is a matter of no importance whether the needle pass through all the coats of the intestine or not. In Connell's suture the needle passes in and out through *all* the coats. The mythical objection, that a through-and-through suture necessarily involves a fistulous passage from the mucosum out, has absolutely nothing to support it. The fatal defect in intestinal jointing before Senn's plates were invented was that the peristaltic movement of the intestine began *before* the seroplastic cement was sufficiently organized to hold the ends of the bowel in position; and the sutures being numerous applied, they superficially reduced the vitality of the parts, readily tore out and permitted of a fatal extravasation. Senn's plates impressed one as large and clumsy, but they were strong and resistant; however, their introduction required special skill, they were not time savers, and they were a foreign body; nevertheless, they were a distinct gain over any means in use before their time, because they maintained a firm grip on the ends of the gut and held it in position until union was secure.

Various devices were invented after the Senn plates, but none of them possessed any especial advantage over them until Murphy perfected his wonderful invention, a double disc which not only holds the ends of the intestine securely compressed against each other, but at the same time affords a continuous lumen, takes a bite out of each end of the intestine, finally the machine becoming detached and thrown off by the rectum, when it may be cleansed and immediately sterilized for another bout.

But perfect as this apparatus is, it has many serious drawbacks; it requires both skill and tact to readily employ it to advantage. It must be properly constructed and of such diameters as correspond with the

lumina of the divided intestine. The rim of the button may cut unevenly or it may become clogged with feces. A heavy button, segmenting the small intestine, dropped into the abdominal cavity may cause a kinking of the coil and thus induce obstruction.

Three years ago, Prof. Senn informed me that he had discarded all apparatus and depended on the suture alone. Villard says that in gangrenous hernia, an anastomotic button constructed on Murphy's model should be the method of choice on jointing. Jonathan Hutchinson, Jr., says, on the contrary, he has been working on the statistics of resection of the intestine for gangrenous hernia and had found that when the Murphy button had been used there were only 7% recoveries, and 40% when the direct suture was employed.

On the Mode of Suturing and Suture Materials.—If we discard anastomotic apparatus, what method of suture must commend itself? Jaennell observes that "suture must fulfil two conditions; it must close the wound in the intestine and it must preserve sufficient caliber of the intestine. But it must do very much more than this; it must hold the ends of the intestine firmly together not only until they have adhered, but until they are soundly *healed*. The fatal error in the past was in assuming that after temporary adhesions were formed all danger of subsequent leakage was over. Stanhope Bishop collected no less than 33 different modes of uniting the intestine; to this number, in 1896, the late Greig Smith added 33 modifications or new methods. Next to the Lembert suture, the modification of Czerny, in the past, is the best known, the *suture en etage*, the two or three row suture, the muco-mucous, the muscular and the sero-serous. Its purpose was to give greater firmness to the bond of union and to prevent leakage; but the multiplicity of sutures defeated the object in view in many cases. The Czerny-Lembert suture involved a most trying task; one American surgeon who reported a successful result with it, says "it required from 'three to four hours' to complete the suture of the intestine."

The multiplicity of knots strangle the circulation and favor gangrene. It was believed, however, that the homologous apposition and union separately of the three tunics of the divided intestine insured a more complete and stronger bond than the simple adhesion of the serous surfaces.

Both the Senn decalcified bone plates and the Murphy button, the two best known mechanical expedients in jointing, require the employment of a suture as a preliminary in their adjustment; both entail an infolding or an inversion of the divided ends of the intestine, their serous surfaces only coming into immediate contact when the twin segments of the apparatus are fixed. Senn's discs, in its application, were the first to involve a departure from the law of Lembert in effecting an intestinal anastomosis, as a fixation suture in its insertion, passed *through all the coats* of the intestine. The results following the employment of Senn's plates were highly unsatisfactory in anastomosis after resection in gangrenous hernia.

The Connell Suture.—Dr. M. E. Connell, who was a collaborator with Prof. Senn in his early experimental work on the intestines of animals in Milwaukee, in September, 1892, published the technic of a suture which he had devised as a means of joining the divided intestine by end-to-end enterorrhaphy or by lateral anastomosis, when required for any condition whatever. Like all original investigators, his experience was con-

fined to animal experimentation. In his essay he limited its application to end-to-end enterorrhaphy, but one of his pupils, a talented young physician, Dr. A. D. Davidow, informed me that Connell subsequently insisted that the fullest measure of usefulness and security for his suture was best realized in the lateral jointing of the intestine, as his mode of dividing the bowel and treating the mesentery were important factors in success. Connell claimed for his suture, that it involved the employment of no foreign body, that it could be introduced as quickly as any description of a disc, that its material—a round needle and a silk thread—could be found in every household, and that used by an experienced hand it is a simple, safe, and effective expedient.

Mr. Greig Smith, in the last edition of his work published in 1896, in noting some of the later devised sutures, mentions Connell's, but said as there were no recorded cases of its use, he would not describe it. In the autumn of the same year, after a thorough testing of it on the lower animals, with the able assistance of Dr. Davidow, it was my good fortune to employ this suture for the first time on a human being, my patient being a young Chinaman with gangrenous hernia, requiring the removal of 30 inches of the intestine; speedy recovery following. My later case, in which 19 inches of gut were removed, my patient being able to return to his position as a shipping clerk just 6 weeks from the time of operation.

The suture of Connell embraces a radical departure from all others.

1. In resection of gangrenous intestine, lateral anastomosis is preferred; this was employed in both of my cases.

2. It is a continuous, longitudinal suture, silk always preferred.

3. The suture passes through all the coats of the intestine.

4. The suture is everywhere turned in except where the knots are tied.

In gangrenous hernia requiring resection and jointing, it is, *par excellence*, an ideal method, in extra or intraperitoneal cases.

No description of apparatus can be applied with greater ease or economy of time; but there are situations within the abdomen where the Murphy button may be more expeditiously employed.

Used in lateral anastomosis, its greatest utility is realized through the manner in which the full vascular supply is maintained, the large aperture which is made and the firm bond of union secured.

It is certainly my conviction that when the technic of its application is better understood, it will be accepted by all surgeons as the simplest and safest of any suture yet devised.

In a recent contribution on a valuable contrivance for holding the intestine in position while doing an end-to-end jointing, Dr. H. Lee, of Chicago, says that he prefers the Connell suture above all others, as when properly inserted it is followed by ideal results.

Suture Material.—Suture material for intestinal work is an important element in technic. Two varieties of suture are generally selected; the absorbable and the nonabsorbable. With many, catgut has had the preference, because, when properly prepared, it will maintain the divided parts in contact sufficient time to ensure union, and later, undergo complete resorption. But properly prepared, fresh catgut is not always

accessible; some claim that its complete sterilization is impossible without impairment of its integrity. At all events, it requires a spear-pointed needle to carry it, it entails an excess of trauma in its introduction, it may often stretch and slip at a dangerous stage, and permit a fatal leakage from the bowel; in a word, in intestinal surgery, it is the general consensus of surgical opinion that it is not the most desirable material.

The silk suture possesses the most necessary qualities for an intestinal suture.

1. It is the strongest and most durable; these are the primary essentials. It is true that it cannot be effectively sterilized, but this is a consideration of secondary importance if it count for anything at all, in intestinal jointing, as anything like an aseptic wound here is a myth, for by the most approved and effective methods here employed, the widely divided ends of the intestine are left exposed to free irrigation by stagnant, decomposed feces, which immediately begins as soon as the continuity of the intestinal canal is re-established and the enteric contents begin to move on.

2. We can employ a fairly fine silk suture which may be introduced with a round cambric needle, one which acts on the principle of the wedge and divides the walls of the intestine without cutting.

The ultimate course of the silk suture after introduction is not known; it probably rarely, if ever, is absorbed; it either becomes imbedded in the tissues or is thrown off by the intestinal canal. In dogs killed six months after the silk sutures were employed on the intestine, I have found them buried under adhesions, entirely unchanged.

Tamponage and Drainage.—Everyone who has operated for strangulated hernia is aware that even after the constriction is removed and the stricture is relieved, the reduction of the intestine is often tedious and difficult; after the resection of a gangrenous loop and anastomosis by an apparatus or the suture, the difficulty is greater yet; the mass is bulky and awkward to manipulate, a considerable degree of force must be employed to return the overdistended coils, and great caution is needful that the jointing is not disturbed. Hence the reason why a large, free opening must be made up through Poupart's or Gimbernat's ligament, that no undue strain be put on the herniated bowel.

In all these cases a tampon drain is necessary. The Mickulicz gauze or cigarette tampon is probably the best. There is always some serous oozing, and there may be some leakage. My practice has been to pass a drain down to the site where the intestine is joined, and not around the bond of union. Immediately on the reduction of the united loop temporary adhesions wall it off from the cavity of the peritoneum, but the gauze drain establishes and maintains a passage from this, now extraperitoneal loop, with the exterior of the body. If everything goes well, the tampon is not removed until the second day. By this time, intestinal paresis will have passed off, and peristalsis have begun. At this stage there may be a varying degree of leakage. Gentle irrigation is now practised, and the wound is again freshly tamponed with a small gauze drain. In both of my cases it continued for a week, and within three weeks the wounds had solidly closed.

Ziedler observes that "the most frequent cause of death in the cases of gangrenous hernia is leakage at the site of suture with resulting peritonitis; hence we should always tampon so that a way of escape is freely provided."

Ventral hernia we might expect after large incisions necessary in resection wherein so large a breach must be made in the abdomen, which later closes in by scar tissue; but it has not occurred in my two cases, nor do statistics show that it is a frequent sequela. Probably the adhesions which environ the reduced intestine tend to fix it, so that its subsequent descent is impeded and recurrence prevented.

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Albumin Transformation and Sugar Excretion.

—Rumpf (*Deutsche Med. Woch.*, Oct. 4, 1900) reviews the work which has been done in the attempt to prove that **fat may furnish sugar**. No one has yet demonstrated this satisfactorily. It has been generally an accepted statement that it is possible for sugar to be formed from albumins, and that so long as the sugar excreted was not more than 6 or 7 times greater than the amount of nitrogen excreted the whole amount of sugar may reasonably be thought to be derived from albumins. Rumpf and his assistant experimented with dogs, first accustoming them to a special diet which contained only a small amount of albumin but a large amount of fat, and then producing phloridzin glycosuria. They determined the sugar nitrogen excretion through periods of 5 days each, and demonstrated that in one of these periods the average sugar excretion was 8.9 times greater than the nitrogen excretion. During this period the relation of nitrogen to sugar was as follows: On the first day 1:9.7; on the second day 1:7.1; on the third 1:8.5; on the fourth 1:9.9; on the fifth 1:12.2. He decided, therefore, that the sugar formed could not have come entirely from the albumins, and that some of it must have been produced by fats. There was no evidence of a nephritis which could have caused retention of nitrogen. Also he in-

vestigated the excretion of SO_2 and P_2O_5 . He found that there was no relative increase in the phosphorus excretion, a fact which was against the theory of Blumenthal, that albumin, which is especially rich in phosphorus, is destroyed in diabetes. [D.L.E.]

Dysentery as a Human Disease and Its Cause.

—Krusse (*Deutsche Med. Woch.*, Oct. 4, 1900) directs attention to the fact that **dysentery** is constantly endemic in certain regions in Germany, and at times has broken out in large epidemics; in the last few years it has been increasing in frequency until, in 1898 and 1899, there were in one locality 100 fatal cases, and in the year 1899 alone, in Barmen there were 600 cases with 66 fatalities. In one region in which there were 300 cases with 30 fatalities he made extensive bacteriologic studies. In the first place he found in the fresh dejections no amebae, but small clumps of pus which contained practically only one form of organism. This was a short plump bacillus. Its cultural peculiarities were almost the same as those of the bacillus of Shiga and Flexner, it being chiefly distinguished by the fact that it was not motile. Agglutination-tests with the blood-serum of patients who had been ill for more than 7 days with dysentery showed regularly an agglutination in a dilution of at least 1:50, and in some instances in dilutions as great as 1:1000. The serum of healthy persons very rarely showed such action in a dilution greater than 1:10 or 1:20. Other intestinal bacteria were tested, but they showed no agglutination. The dysentery apparently caused by this bacillus also differed from that described by Shiga and Flexner in that the chief gross anatomic change consisted in a widespread pseudo-membrane formation on the mucous membrane of the colon. [D.L.E.]

The Duty of the Physician to the State.—The recent utterance of a Philadelphia judge to the effect that it would be better that a patient should die rather than that a physician should neglect a judicial summons, has stirred up the lawyers as well as the doctors. The physician's standpoint has already been given editorially in the JOURNAL, but it may be of interest to note how it is viewed by the legal profession. The *New Orleans Times Democrat* has taken the trouble to obtain the opinion of a number of leading members of the Bar and judges upon the course of the judge, and their unanimity in condemnation of the opinion is striking. The expressions, "unreasonable and arbitrary," "not ruled by the ordinary law of common sense," "absurd," "inhuman," "brutal in its effects," are some indications of how the judge's action and statements are appreciated by his legal brethren. If he is at all sensitive to public opinion he will not be likely to repeat his action, which one can hardly believe was prompted by any deliberate consideration of the facts. Judges, however, are the men who, more than others, should guard their speech and action from any suspicion of inconsiderateness, and if they make mistakes such as that of this Philadelphia jurist, must suffer for it accordingly in public and professional estimation.—[*Journal of the American Medical Association*.]

Contribution to the Study of the Connective Tissue Tumors of the Kidney of the Adult.

(*Gaz. Heb. de Méd. et de Chirur.*, February 3, 1901, 48me Année, No. 10; *Paris Thesis*, 1900-1901, No. 60.) According to Bahaud the embryonal connective tissue neoplasm is represented in the kidney by sarcoma. Sometimes round-celled sarcoma is found, again the spindle-celled variety is met with, quite often the two elements are united in variable proportion, and sometimes myxosarcoma has been observed. From the point of view of its structure, a great development of the connective tissue ground substance is sometimes noted which may go on to the production of a fibrosarcoma. The vascular element is often very well developed which accounts for the frequency and the volume of the blood cysts. Sometimes smooth muscle fibers are found which have no importance from the viewpoint of the histologic value of the tumor. The adult connective tissue tumor is represented in the kidney by fibroma and lipoma. These tumors spring from the interstitial connective tissue of the organ, in the neighborhood of the hilum, beneath the capsule, or in the fibrous capsule itself. Other tumors of this nature spring from the suprarenal capsule or from suprarenal rests. [J.M.S.]

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The Report of the Committee on Anesthetics.—

The ninth and final report of the anesthetic committee of the British Medical Association, appointed 10 years ago to inquire into the relative safety of various anesthetics, the best methods of administration and of restoration, has recently been published. The report is based upon an analysis of 25,920 cases from hospital and private practice, of which 13,393 were cases of chloroform-anesthesia, 4,595 ether, 2,911 nitrous oxide, 2,071 gas and ether, 678 A. C. E. mixture, and the balance various combinations of, as, for example, mixtures of chloroform and ether, chloroform followed by ether, and vice versa, nitrous oxide and oxygen, etc. Although an immense amount of time and energy have been unselfishly expended by the committee in the pursuance of these investigations and the collaboration of these statistics, the report is, on the whole, disappointing. Of the 35 conclusions of the sub-committee but few have been drawn upon a strictly numerical basis, the majority are expressions of opinion the value of which depends upon the judicial capabilities of the committee and many are negative in that no conclusions are warrantable. For purposes of analysis and comparison the total number was divided into two general classes, the uncomplicated and the complicated, and the latter subdivided into (1) cases with minor complications, (2) cases of anxiety, (3) cases of danger, (4) cases of death. As in such a large majority of cases chloroform or ether was the anesthetic employed, "the conclusions of the report frequently resolve themselves into various phases of the chloroform vs. ether controversy." As to the relative safety of these anesthetics, taking into consideration only those cases of danger (including death) for which the anesthesia was held wholly responsible, under chloroform there were 78 or 0.582% as compared with 3 under ether, or 0.065%. The observation is made that "although (excluding nitrous oxide) ether may be accepted as the safest routine agent, certain circumstances determined by the state of the patient, the nature of the operation, etc., may render the use of some other anesthetic or combination of anesthetics both safer and easier." The committee were able from the clinical evidence to draw no conclusion as to the best method of administering ether; and as to chloroform, we are told that while no method is free from danger, inexperience on the part of the administrator rather than any particular

method must be held accountable for the occurrence of complications, fatal or otherwise, in the great majority of cases. As to the best method of restoration, here again the committee humbly confess their inability to draw any conclusion from the material at their disposal. Many of the conclusions that particularly concern chloroform-anesthesia are simply confirmatory of opinions in vogue for some time past. The alarming symptoms are those of primary circulatory failure; many have, however, been traced to imperfect anesthesia. Prolonged vomiting and circulatory depression are more common after chloroform than ether, while respiratory complications, though occurring with equal frequency under ether and chloroform, were apt to be "transient and trifling" after ether and "grave and persistent" after chloroform. Perhaps the most practical conclusion from the standpoint of the anesthetizer is the last, namely, that by far the most important factor in the administration of anesthesia is the experience of the administrator and that in many cases the anesthetization so completely transcends the operation in gravity and importance, that it is absolutely essential to consign that duty to an experienced anesthetizer.

The committee were unable to throw any light upon two important subjects: the safest method of administration and the most reliable method of restoration. Whether or not the committee in charge could have used to better advantage the mass of clinical evidence which passed through their hands we are not in a position to judge, suffice it to say that they have contributed little if anything to the knowledge of anesthetics already acquired. That ether is the safest anesthetic for routine work; that the alarming symptoms of chloroform-narcosis are due primarily to circulatory failure; that no method of administration of chloroform is free from danger; that, excluding infancy, the complications and alarming conditions of narcosis increase *pari passu* with advancing age; that the tendency for these complications to occur increases *pari passu* with the gravity of the operation; these, as most of the other conclusions, are but confirmatory of long-established views. As an exception to this general statement we might call attention to their observations on the respiratory complications of anesthesia. In their experience the complications that occurred under ether were mostly of a trifling and transitory nature, while those occurring under chloroform were grave and persistent.

The Diagnosis of Malaria from the Standpoint of the General Practitioner.—From the standpoint of accuracy, simplicity, and practicability, the diagnosis of malaria by determining the presence of the specific parasite in the blood must be looked upon as the most approved clinical method, perhaps outranking every other clinical microscopical test in point of usefulness. The vague expression of such an inaccurate term as "a touch of malaria," so commonly employed by many physicians, finds its origin chiefly in the lack of more constant and systematic blood-examination in every suspected case, and in part to the indiscriminate and hasty use of quinin as a therapeutic test. Many of these periodical ailments, loosely designated "a touch of malaria," undoubtedly subside quite independent of the drug when it is administered. Aside from the gross misrepresentation of statistics brought about by such a method, the life of the patient is sometimes jeopardized. The question of immediate recognition of such a condition as a deep-seated suppurative process presenting symptoms resembling those of malaria, is often of vital importance for the early establishment of a plan of treatment. The delay caused by the administration of quinin, in order to exclude malaria, is, as a rule, inexcusable, for we have at our command that more reliable resource, the microscopical examination.

It is well known that malaria may sometimes coexist with some other febrile condition, for instance, enteric fever. In such a case, of what possible value is the administration of the therapeutic test? In the event, however, of malaria not complicating the condition the harm that might arise is manifest. The similarity of malarial fever to many other diseases indicates the necessity of differentiating by a search for the plasmodium. Under exceptional circumstances the therapeutic test has its place, but never when the clinical method can be pursued. The advantages of the latter are so apparent as to hardly require comparison. A single droplet of blood will not only determine the presence of the disease, its type, or combinations of types, the relations of the time of examination to the time of the paroxysm, with some degree of certainty; but will also indicate the manner of administration of our therapeutic measures, and the necessity of proper isolation to prevent the spread of the disease by means of mosquitoes. The early recognition of some of the pernicious types without the aid of the microscope is so difficult that the most expert clinician may err. From the prognostic standpoint, early and vigorous treatment constitutes in many instances the only means by which life may be saved. The negative value of the clinical test is equally important. It is a well-known fact that considerable experience is necessary to distinguish some of the forms of the malarial parasite, especially the hyaline, non-pigmented bodies; but this should in no way constitute a valid excuse for its non-employment. In the present state of our scientific

knowledge a microscope, slides and cover-glasses should constitute a part of the armamentarium of the well-equipped, practical physician.

Symptoms of Disseminated Sclerosis Occurring in Malarial Infection.—Dr. William G. Spiller has published an interesting paper (*American Journal of the Medical Sciences*, December, 1900) on this subject, based upon a case which occurred in Dercum's clinic at the Philadelphia Hospital. The patient was a man who had had syphilis and who became slightly hemiplegic on the right side in 1890. The hemiplegia was transient, but five years later the patient began to have headache, vertigo, drowsiness and diplopia. Left transient hemiplegia also occurred. The left leg remained ataxic, the Romberg symptom was present, and there was intention tremor of the left upper extremity. The patient had vertical nystagmus and scanning speech, and the knee-jerk was increased on the right side, on which side also there was ankle clonus. He presented a somnolent appearance, and died from an intercurrent diarrhea nine years after the beginning of his disease. At the autopsy the right crossed pyramidal tract was found sclerosed, but not extensively so. An interesting finding was enlargement of the spleen. No true disseminated sclerosis was found anywhere in the central nervous system, but numerous small recent hemorrhages were found in the left paracentral lobule and other parts of the cortex. Dr. Spiller was not able to discover any distinct syphilitic lesions, such as proliferation of the walls of the bloodvessels. The small bloodvessels throughout the brain and cord were filled with the malarial parasites. The patient had not presented, so far as was known, any of the ordinary symptoms of malarial infection. The identity of the parasites was established by Dr. A. Stengel and Dr. W. S. Thayer.

Dr. Spiller points out that the malarial parasite, of the estivoautumnal type, may exist as a larvated form for an indefinite time, and he includes his case among cases of this variety. He presents the literature of the subject, from which we learn that symptoms of a pseudosclerosis have been observed by some of the best investigators in cases of undoubted malarial infection. Among these observers are Triantaphyllides, Forti, Angelini, Bignami, and Bastianelli. The symptoms in some cases have disappeared under antimalarial treatment. Dr. Spiller's case has a unique importance as being the first in which the malarial parasite has been demonstrated postmortem in such a long-standing case, although the plasmodium had been observed during life in some other reported cases. The facts that Dr. Spiller's patient had had syphilis, and that some of his earlier symptoms, such as transient hemiplegia, diplopia and headache, strongly suggested a syphilitic infection, have not been ignored in this study of the case, but Dr. Spiller reports that distinct syphilitic lesions were not discovered.

The Treatment of Spina Bifida.—When one considers that the large majority of cases of infants suffering from spina bifida run a rapid course to death from rupture and convulsions, or spinal meningitis, it is gratifying to observe the good results being obtained by surgical interference in these hopeless cases. Palliative treatment, the seton, and the injection of Morton's fluid have all been tried and have accomplished practically nothing. A spontaneous cure is of the rarest occurrence. Restoration of the cord, when present in the sac, to the spinal canal, and excision of the sac, although at first productive of a large mortality, certainly seem justifiable in the light of the necessarily fatal nature of the disease and the infinitesimal chances of spontaneous cure. The method of treatment which was strongly urged by Bayer, Robson, and others has been perfected, and good results are frequently being reported. Mr. Nicholl, in the *Lancet* of March 3, adds to his other contributions on this subject a brief report of three cases of young infants operated upon for cervical spina bifida, and returned to their homes the same day under the care of a nurse. These infants all made complete recoveries, and the wound in each case healed by primary union. Of course, the surgical treatment of spina bifida occurring in the cervical region is much more hopeful than in the forms met with in the lower portions of the spine, and the results which Nicholl has had ought certainly to encourage the surgeon to further effort in the treatment of this distressing condition.

Surgeons in discussing this subject as well as in treating these cases, do not, as a rule sufficiently distinguish the several forms of spina bifida. The simple meningocele, in which there is no portion of the spinal cord included in the sac, is naturally much more easily cured, and with far better results, than the meningo-myelocele, in which the sac contains portions of the undeveloped spinal cord. An excision or obliteration of the sac in this latter form cannot cure the child in any sense because it leaves the patient permanently crippled. Some cases are even left paraplegic.

Recent Notes on Plague.—We are indebted to Captain R. H. Jackson for an original communication of great interest in his Notes on Plague at the General Plague Hospital, Balgaum, India, 1899, which appeared in the *Dublin Journal of Medical Science* for February, 1901. The spread of this disease is favored by those arch-enemies of health, overcrowding, deficiency of ventilation and sunlight. The poorer classes suffer greatest from its ravages. Infection is caused either by inoculation, or through the digestive tract, or the respiratory organs. Two distinct forms of plague are described: Pestis major (severe or ordinary plague); and Pestis minor (abortive or larval plague). The varieties of the Pestis major are: (a) Bubonic; (b) pneumonic; (c) septicemic; (d) pyemic; (e) local inoc-

ulation. It is interesting to follow the course of an average attack of ordinary bubonic plague, as described by Dr. Jackson. The period of incubation is given as from 3 to 7 days; the period of invasion, or the prodromal stage, varies greatly in length. Sometimes there is a sudden onset, but usually 24 to 48 hours pass before the disease shows any of its characteristic symptoms. During this prodromal stage the patient has chills with fever, and suffers from lassitude, weakness, headache, vertigo and vomiting. Then follows the stage of bubo development, with a characteristic staggering gait, great restlessness and tremulous speech. The temperature at this time is 104° F. or higher. The pulse is full and quick and averages about 130; the tongue is typical. It is dry, granular, velvety, with yellow fur and a bright red margin. The face is anxious and pallid and the conjunctivæ are deeply injected. The diagnosis at this stage is easy. The buboes or glandular swellings, extremely painful, develop with great rapidity in the groins, axilla or neck. The bowels are usually constipated. There is generally a fall of temperature and pulse-rate with the appearances of buboes, and this usually occurs on the second or third days of the disease. With this remission the patient appears much improved, but in 52 hours there is a return of the fever, which ranges between 103° and 105° for 7 days, when the bubo has become developed. In 10 days the temperature and pulse-rate drop gradually to normal. The emaciation and exhaustion are extreme, and the great danger of heart-failure still threatens. A protracted recovery, usually occupying two months, may now be expected, should the patient be fortunate enough to avoid the many sequelæ of the disease. Among these may be mentioned cardiac syncope, probably induced by the action of the toxins upon the heart-muscle. Hemorrhages are common and are regarded as most unfavorable symptoms. Pregnant women usually abort, and there were but two exceptions to this general rule in Jackson's series of cases. Peritonitis, jaundice, retention of urine, mental complications and hyperpyrexia, are common. The eye-complications are frequent. In the early stages the conjunctivæ are congested, but with the appearance of the bubo this congestion may disappear. In the later stages severe conjunctivitis, with iritis and ulceration, may lead to total loss of vision. As to treatment, it is comforting to know that inoculation with Haffkine's prophylactic serum has proven of great value. Fifteen per cent. increase in recoveries followed its use. Furthermore, the value of this as a preventive treatment is unquestioned, and a comparatively small number of plague cases occurred among the inoculated. In the 298 cases treated in the Balgaum Hospital there were 183 deaths, a mortality of 61.4%. Plague is clearly one of those dread diseases which by improved methods of sanitation may by its disappearance mark an epoch in preventive medicine. It is an object-lesson of great magnitude.

Hereditary Tuberculosis.—Since Hauser's excellent study of hereditary tuberculosis, in which he reached the conclusion that there were really no satisfactory instances on record of the transmission of tuberculosis from parent to child, excepting in a few cases in which the mother was suffering from miliary tuberculosis during pregnancy, it has been rather the custom to discredit the influence of heredity upon the development of the disease, and particularly to discredit the possibility of infection from the father before birth. In view of the beautiful studies that have been made in certain hereditary forms of nervous disease in which sometimes as many as six generations have been traced, and elaborate family trees prepared (we have particularly in mind Huntingdon's chorea), it seems strange that similar studies have been so rarely undertaken for tuberculosis. It is therefore with considerable satisfaction that we call attention to the recent article of Edwin Klebs (*Münchener medicinische Wochenschrift*, January 22, 1901).

He gives two elaborate family trees, the first including five, and the second six generations. It seems desirable to give briefly the general data concerning these two families.

Concerning the original pair of family "A," dating from 1757, there is no information excepting that the father died at the age of 81. Five children were born, of whom four died of tuberculosis, and the fifth is doubtful. Of these five children, one, a chronic drunkard, married and had eight children, of whom five died of tuberculosis and the infection of the others was doubtful. One of these five, a woman, who died at the age of twenty-five of tuberculosis, married, and had two children, both of whom died in early life of tuberculosis. Two of the doubtful males married, one having three children, two of whom died of tuberculosis; but the other three had five children, all of whom are at present healthy. The other doubtful male married and had two male children; both were married, one to a woman who had already been married to a tuberculous man, and had had one tuberculous child. The eight children of her second marriage, however, were all healthy.

The second ancestral pair, also dating from 1757, had two descendants, one dying of tuberculosis. The latter had two children, one of whom was married twice, and had six children, all dying of tuberculosis; but three of these six married and had three sets of children—three, three, and one, all of them at present healthy. The other married and had five children, four of whom were certainly tuberculous. Four of these five married, one having a tuberculous child, who also had a tuberculous child. Another had one tuberculous child. His widow afterward married one of the healthy descendants of family "A," and had eight healthy children. Another marriage resulted in one doubtful child, and the last was sterile.

From the study of these tables and some other in-

stances that he has observed, Klebs reaches the conclusion that tuberculosis in the father is ten times as dangerous as tuberculosis in the mother, and that if both parents are tuberculous, all the children will certainly be so. In the two families in which the disease was traced for five generations or more, there were fifty-five children, of whom thirty-three were tuberculous, and twenty-two were apparently free. That is, more than 50% of the children were infected. In addition to this, many of the marriages of these children were sterile, showing the disastrous effects upon the race of tuberculosis in the parents.

No Universal Language for Science.—Of all the men who have yearned for a common tongue the men of science perhaps have yearned the most. Medical scientists have certainly as good cause as any others to wish that there was a universal language. Diversity of tongues is an obstacle to science, and the Tower of Babel was the first barrier to the rapid diffusion of knowledge. Considering these facts, it is rather curious to note that Hermann Diele, in a recent number of the *Deutsche Revue*, says that he has no faith in the scheme of a universal language, and that such a language would not be of much value except in commerce, and not much even there. Diele says that Latin is the only language adapted to universal use (just as it was in the Middle Ages), but he evidently believes that the revival even of Latin for such a purpose is only a Utopian dream. He thinks that the agitation for a universal language for the use of the learned has subsided of late years. French seemed to take the lead for a century or two after the time of Richelieu, but it certainly does not hold it now in competition with English and German. Diele thinks that an exclusive patriotism now actuates the several great nations of the world, and reacts against foreign languages. This evidently is true of English, French and German, and there is no prospect of this spirit diminishing. This whole subject is of direct personal concern to medical scientists, for it means that they must continue to cultivate not one but several foreign tongues. Of recent years, indeed, Italian and even Spanish have assumed great importance as languages of science. From the medical standpoint some of these facts are to be deplored, for medical science now demands nearly all a man's time and energy without leaving him much for the cultivation of foreign languages. Moreover, the command which a man acquires over a foreign language when he pursues it merely for the acquisition of scientific facts, is usually not sufficient to give him much facility or pleasure in it. He in no sense becomes a skilled linguist. No one knows this fact better than the medical toilers who delve in German and French. But there seems to be no prospect of a remedy for the polyglot evils of our day, as the following figures, compiled by Carnac, the English statistician, clearly show:

DATE.	ENGLISH	GERMAN.	RUSSIAN.	FRENCH.	ITALIAN.	SPANISH.
	Millions.	Millions.	Millions.	Millions.	Millions.	Millions.
1500	4	10	3	10	9 ¹ / ₂	8 ¹ / ₂
1600	6	10	3	14	9 ¹ / ₂	8 ¹ / ₂
1700	8 ¹ / ₂	10	3	20	9 ¹ / ₂	8 ¹ / ₂
1800	20	81	30	31	15	26
1900	116	80	85	52	54	44

A New Therapeutic Journal.—Beginning about the 1st of May The Medical Journal Union, limited, of this city, will issue a new medical journal to be called the *Therapeutic Monthly*. We are glad to announce that this new journal will be under the editorial care of Professor James Tyson, who will have as his associate editor Dr. Thomas L. Coley. The *Therapeutic Monthly* will have absolutely no connection with any pharmaceutical or drug firm, but will be an entirely independent journal, devoted to the interests of its readers alone. It will contain original papers by therapeutists of recognized reputation, abstracts of therapeutic literature, and editorial matter relating to therapeutics in general. It will consist of 40 pages each month, of the size of the PHILADELPHIA MEDICAL JOURNAL. We believe that the profession will welcome this new monthly, which promises to meet accurately and conscientiously the wants of practitioners in a particularly changeable and difficult field. The character and attainments of the editor are guarantees that these wants will be adequately met.

An Interesting Case of Self-inflicted Injury of the Urethra and Bladder.—Sianoshensky (*Vratch.*, Vol. 22, No. 2) reported before the Society of Physicians of Kiev the case of a peasant woman, who suffered from pruritus vulvæ and, by the advise of some neighbors, applied garlic. Not obtaining any relief, she cut the urethra with a small knife and continued these applications. There still being no relief, the bladder was cut in a similar manner, and the application of the garlic kept up. This was followed by complete recovery from the pruritus, but a condition of incontinence was established for which she sought medical advice. On examination, both the urethra and the neck of the bladder were found severed with the edges of the wound gaping. A plastic operation was performed, and the woman made a rapid and complete recovery. [A.R.]

Soft Chancre Treated by the Cautery.—Zydlovitz (*Gazeta Lekarska*, December 16, 1900), treated 26 cases by Andry's method, which consists in holding a Pacquelin cautery at a distance of from 3 to 4 mm. from the ulcer. The heat kills the virus, and the chancre is transformed into a simple granulating ulcer. The results obtained by the author are all that could be desired. Not in a single case did adenitis or any other complications follow. The injection of a 2% solution in the neighborhood of the chancre was found to produce complete anesthesia. It was also observed that by applying the curet to the floor and edges of the ulcer before applying the cautery, recovery was greatly hastened. An application of the cautery for one minute will destroy the chancre at a single sitting. The subsequent treatment is the same as that of a simple ulcer. [A.R.]

Reviews.

The Practice of Medicine. A Textbook for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By JAMES TYSON, M.D., Professor of Medicine in the University of Pennsylvania, and Physician to the Hospital of the University; Physician to the Philadelphia Hospital; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, etc. Second edition, thoroughly revised and in parts rewritten, with 127 illustrations including colored plates. Philadelphia: P. Blakiston's Son & Co., 1900. Cloth, \$5.50.

The many years of experience in the teaching of the practice of medicine to students that have accumulated in the lifetime of Dr. Tyson ought to result in the production, out of that experience, of a most valuable textbook to the general practitioner as well as to the student. The verdict of the profession is in favor of Dr. Tyson's book, since, in the space of four years, the first edition has been exhausted and a second edition made necessary. Dr. Tyson's reputation is that of a practical and conservative teacher, and those who learn from him may be sure that they will not be led astray by recommendations to adopt new methods merely because they are new; but rather that new methods are recommended because they have been tried and not found wanting.

The special department of medical investigation with which the author's name is habitually associated is that relating to diseases of the kidneys and the examination of the urine. And here we find a concise and practical exposition of the facts relating to the diseases of these important organs. We think that a more precise statement of the author's own views concerning the nature of cylindroids would have been appreciated by Dr. Tyson's many students.

It would be beyond the limits of the space allowed for a review to treat of each section of the work separately. But we may mention two points on which, like the significance of cylindroids, the profession in general would be pleased to have a more definite statement from the author. These are, first, the value of antitoxin in the treatment of diphtheria; and second, the diagnostic value of lumbar puncture. It would also be of value to have a tabular arrangement of the differential points in the diagnosis of organic and hysterical hemiplegia. The chapter on tuberculosis is very complete and admirably arranged, and the section on the gonorrheal infection is very timely and in the right place.

In revising the section on the diseases of the nervous system, the author has had the assistance of Dr. William G. Spiller. The chapter on general symptomatology will serve as an excellent model for the investigation of nervous diseases. The neuron theory of the composition of the nervous system is set forth in language devoid of technicalities and is admirably adapted to the needs of the general practitioner. [J.M.S.]

The Treatment of Fractures. By CHARLES LOCKE SCUDDER, M.D., Surgeon to the Massachusetts General Hospital, Out-patient Department, assisted by FREDERIC J. COTTON, M.D. Second Edition, Revised. With 611 illustrations, 8vo, pp. 457. Philadelphia and London: W. B. Saunders & Co., 1901.

This book is conspicuously attractive because of the unusual number and beauty of its illustrations. Half-tones, skiagraphs, tracings from skiagraphs, and diagrams crowd its pages. A good many of these pictures have comparatively little real practical usefulness, but they are worthy of study by the scientific student of osseous lesions.

The author's method of presenting the subject shows originality, and as a result his book has a fresh flavor, which inspires the reader's interest. There is, however, little originality in the methods of treating fractures. Indeed, the dressings are unusually complicated and cumbersome. This is probably due to the author's familiarity with the recog-

nized methods of his seniors in the Surgical Department of the Massachusetts General Hospital. An illustration is seen in his statements that a patient with a fractured femur should always be anesthetized before putting the thigh up permanently, that about one hour will be consumed in applying the fracture dressing; and that an extension apparatus, an external axillary splint, a ham splint, coaptation splints, and sandbags are to be employed in the treatment of this usually not very troublesome injury. It is little wonder that the patient requires general anesthesia. One would think that the surgeon and nurses would need general stimulation to stand the strain!

The title is scarcely just to the work, because the volume is much more than a treatise on treatment. Many pages are devoted to the pathology and diagnosis of fractures. In the discussion of fractures at the elbow, some twenty odd pages are occupied by these matters before the treatment is taken up. In fractures of the lower end of the radius, about a dozen pages are used in a similar manner; and, in the chapter on cranial fractures, eighteen pages are given up to these preliminary details.

The more recent improvements in fracture treatment are mentioned in an almost too cursory manner. A special chapter towards the end of the volume is, for instance, devoted to the use of gypsum in fractures, instead of discussing the use of splints made of this material and gauze in the sections devoted to special fractures or in a general statement at the beginning of the work. This circumstance gives one the impression that the author prefers wooden splints to the perfectly fitting plastic splints which are becoming the preference of so many surgeons of today. Again, the operative treatment of cranial and other fractures is scarcely more than mentioned.

The book nevertheless contains many practical suggestions which are often overlooked by practitioners treating fractures. Some of these suggestions are novel; many are none the less valuable, though old.

Within recent months American surgeons seem to have felt a renewed interest in the treatment of fractures, for Scudder and Hopkins have published large books on the subject and Estes and Roberts small ones. This is a hopeful sign, for these lesions are important and are often badly treated. [J.B.R.]

The Treatment of Fractures. By W. L. ESTES, A.M., M.D., Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. 8vo, illustrated, cloth, pp. 216. New York: International Journal of Surgery Company.

This volume has the same title as that just noticed, but it is physically and scientifically of a different type. It is plain in appearance, small in size, and illustrated by cuts which are far from artistic in appearance. The abundance and beauty of Scudder's illustrations are missing, though the figures introduced serve to give, as a rule, the information desired by the author.

Examination of the volume soon makes it evident that the author is speaking from personal experience in the treatment of fractures and that he has not been bound by surgical traditions, or the older writers and teachers. He speaks as if he had made good use of his opportunities to study traumatism of bone, and had not failed to draw his own deductions and formulate his own methods of treatment. His frequent employment of plastic splints of gypsum, and of mechanical devices applied directly to the bone after incision of the soft tissues, and his willingness to split open the whole perineum in bad fractures of the pelvis show the thoroughness of his appreciation of modern surgical principles.

Dr. Estes lays perhaps more stress than most surgeons on the necessity of verifying with the Röntgen-ray the apposition of fractures after reduction, and in some other respects he may have individual views which are not in accordance with the opinions of other writers. In the main, however, his statements will scarcely be challenged.

It may seem invidious to make comparisons between two good books on the same subject, but it is part of a reviewer's duty to do so. In the opinion of the present writer this small book is more up-to-date than Dr. Scudder's handsome big volume, and a better practical guide for the professional attendant on cases of fracture to follow. In both books the authors could with benefit have given more attention to

writing accurate English. Scientific works deserve the same painstaking care in the grammatical structure of sentences as they require in the interpretation of facts. [J.B.R.]

Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs. Their Etiology, Pathology, and Treatment, with a Chapter on Physical Diagnosis. By THOMAS J. MAYS, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic; Visiting Physician to the Rush Hospital for Consumption. Illustrated. New York: E. B. Treat & Co., 1901. Price, \$3.00.

It is with mingled feelings of satisfaction and regret that we notice that Dr. Mays has given to the profession in systematic form his well-known views upon "Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs." Our satisfaction arises from the fact that we are now able to study the whole work carefully and draw our conclusions as to its value. Our regret is that these conclusions cannot agree with those of the author of the work. His point of view has been developed with painstaking care and unquestioned conviction during thirty years, and he is surely entitled to that respectful consideration which he requests in his preface. To quote the author: "The fundamental concepts of the work may be formulated into the following proposition: 1. That pulmonary phthisis is primarily a neurosis, and that the pulmonary disintegration is secondary. 2. That any agent, influence, or condition which undermines the integrity of the nervous system will engender pulmonary phthisis or some other form of pulmonary disorder. 3. That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to, and act through, the nervous system. 4. That of special value in the treatment of phthisis is the counterirritant action of silver nitrate introduced hypodermically over the vagi in the neck. 5. That acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorders of the nervous system."

The exposition of Dr. Mays' views is extremely readable, if atavistic in its tendency. We believe, however, that the logic of the author's work is at fault in the essential point that he reasons from a few particulars to universals, a common enough error, but not to be condoned in a work of essayed scientific character. The fact is incontrovertible that certain diseased states of the vagus will cause pulmonary lesions, but after our reading of Dr. Mays' work we cannot alter our conviction that because this relationship is present in certain cases it does not argue for the universal existence of a primary nervous disorder, central or peripheral. Indeed, we believe that the opposite state of affairs is much more likely: that diseased nervous processes frequently occur secondary to bacterial affection. Again, we believe that the reasoning of the work is faulty in that it overlooks the clear distinction between the predisposing and exciting cause. The wide prevalence of tuberculosis makes its association with intercurrent diseases of many varieties most common, and of these we grant the importance of nervous disorder. The effort, however, to prove the nervous affection primary is not in accord with accepted teaching; and neither has the exposition of the theory proven convincing even though it has been cleverly and entertainingly presented. We are prepared to grant that in a certain number of cases in which clinically pulmonary lesions develop, there is excellent reason to believe that the predisposition culminating in the specific infection is due directly to the derangement of the nervous mechanism of respiration; but to our mind it by no means follows that every case of pulmonary disease must have this antecedent cause. In attempting to throw the entire onus of pulmonary pathology upon the nervous system we seem to assume far more than our knowledge of the subject warrants. The complex functions of the vagus are but partially understood and its physiological relations with other organs than the lungs seem to be too little taken into account in Dr. Mays' theory.

He goes to great length to disapprove the contagiousness of tuberculosis, but we believe in all sincerity that many of the cases brought forward to adduce this fact argue strongly for the more generally adopted view. In the author's opinion there is no vital difference between the pneumonias. He

recognizes the general difference between the croupous and the catarrhal varieties, but goes on to say that: "This difference is neither vital nor essentially fundamental; that both are in a great measure the products of the same pathological principle; that clinically one cannot be separated from the other."

Dr. Mays lays great stress upon his interpretation of this word "clinical." It carries to him a practical meaning, a meaning which he has derived from his own observation, and to which he is inclined to attach much more value than to the results of the laboratory study of disease. His views upon pathology are by no means in accord with modern authorities upon this major subject. From a study of his work we conclude that he ascribes to bacteriology but a minor role in the etiology of disease.

Basing his methods of treatment upon his "neurotic" theory (the term is the author's), which he has expounded, Dr. Mays has injected from 4 to 7 minims of a 2½% to even a 5% solution of silver nitrate into the tissues of the neck. "The place which has been selected for its administration is immediately over, or slightly behind, the pulsating carotid artery in the region of the neck, in a line near between the angle of the jaw and the clavicle, and nearer the latter than the former point. Points higher up along the course of the nerve may also be chosen." In the past two years Dr. Mays has employed this treatment in 250 cases with surprisingly good results. Other remedial measures do not seem to have been neglected during this time, and it must appeal to many minds that they are the more reasonable explanation for the betterment of the symptom. Empirically this method does not seem to have wrought any serious damage. Abscesses have occurred about 50 times in some 2,000 injections. Theoretically we hold the measure would appear to be fraught with danger both upon anatomical and physiological grounds. [T.L.C.]

Correspondence.

ALBUMINOUS NUTRITION AND NUTRITIOUS ALBUMEN, BY DR. BERNHEIM.

By A. L. BENEDICT, A.M., M.D.,

of Buffalo, N. Y.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

It has always seemed to me that a published article should be subject to the same full, free, and more or less informal discussion as one that is read before a society. In this spirit I should like to make a few remarks regarding the paper by Dr. Albert Bernheim and that by Dr. A. E. Austin, in your issue of March 9.

It seems doubtful whether Pflüger's dictum concerning the importance of proteid food can be accepted in the clinical sense. Most exhaustive experiments (see Gamgee and other authorities) have shown that muscular exercise does not actually destroy much albumin, either of the muscle itself or of the circulating plasma. Exercise, and in fact, all bodily work involves a comparatively slight wear and tear of tissue and an enormous (relative) combustion of carbohydrates and fats to produce the needed energy. There is, I believe, some evidence to show that brain work requires relatively more proteid than muscle work, comparing equal weights of brain and muscle for strenuous effort for the same time. No one can seriously question the appropriateness of the term "proteid" as indicating that kind of food is absolutely indispensable. On the other hand, the implication of the quotation of Pflüger through Finkler, is misleading as minimizing the importance of carbohydrate food, of which the normal adult organism needs at least four times as much as of proteid. The conditions in Europe undoubtedly are such that the poorer classes eat too little meat, but this con-

dition does not obtain in America, except among recent immigrants, and in some parts of the rural districts. The average American laborer has an abundance of meat, and his diet needs improvement rather in the way of a greater variety of vegetable food, and of having his principal meal in the evening, when it can be served hot and eaten at leisure. Comparisons of dietaries of different classes are also somewhat misleading on account of the greater waste among the rich. Again, it seems remarkable that the waste by failure of non-absorption amounts to 5% for animal proteid, and 35% for vegetable proteid. I do not pretend to be a physiologic chemist, but if this enormous waste exists, why do not our clinical analysis of feces show notable quantities of proteid at all times? Possibly the discrepancy is due to the fact that Dr. Bernheim includes tendon ends, coarse bits of vegetable tissue, etc., yet he seems to refer especially to vegetable flours and meals. These latter ought to furnish feces as rich in proteid as stomach contents, if 35% of albumin is unabsorbed.

Probably Dr. Bernheim can point out the error of our clinical tests, but I believe the clinical fact remains that most of our patients in private practice consume too much meat and too much proteid as compared with carbohydrate. Furthermore, I want to protest against the idea that any artificial nutriment can supplant, except for special purposes and for a limited time, natural food, selected in accordance with a healthy appetite guarded by common sense.

THE FUNCTION AND DISTRIBUTION OF COMBINED HYDROCHLORIC ACID IN PROTEOLYTIC DIGES- TION. BY DR. AUSTIN.

These experiments are interesting and confirm the clinical experience that combined HCl varies widely in amount as compared with proteid, in chyme. They may also serve as a basis for explaining the fact that the common practice of administering pepsin when HCl is indicated, often seems to increase digestive power. I trust that Dr. Austin will continue his experiments, using solutions and time limits more readily comparable with gastric digestion in man. I take it for granted that his percentages of HCl refer to the gaseous acid, though some of his formulæ suggest that the official strong acid—containing about 31% HCl—is meant. This point is of practical importance and should be distinctly stated. The distinction of coagulable from acid albumin is one that can not be made in examinations of stomach-contents, after ordinary test meals, as all albumin is ingested coagulated and any liquefaction must, I suppose, be due primarily to acidification. Was the egg albumin used simply the dried material or was it previously boiled and then dried or estimated as water-free proteid? In my clinical method of quantitating proteolysis in stomach contents (now awaiting publication in the *Jour. Am. Med. Ass'n.*) I have called all proteid precipitated by heat, acid albumin and have successively precipitated albumoses by ammonium sulphate and peptones with phospho-molybdic acid. Dr. Austin's method makes a four-fold division of proteolysis, or a five-fold, if his albumin was first coagulated before being first subjected to digestion. I should be pleased to learn more fully, to what extent he has used the centrifuge in his experiments, so as to give credit for his work so far as it has anticipated mine.

In this discussion I have tried to write much as one would talk extemporaneously, after hearing two interesting and valuable papers, and would be pleased to receive the criticism and explanation, as the readers would have replied in the verbal summing up. Doubtless, many of the apparent differences of opinion are due to the fact that the authors have

taken the standpoint of laboratory research, while mine is entirely that of the clinician, with leisure and apparatus adapted only to clinical investigation of cases.

In conclusion, I should like to suggest that while this particular discussion may have little value, it would add immensely to the interest and usefulness of medical periodicals if printed papers were as freely discussed as those presented verbally to societies; also to urge that all such discussion should be preceded or accompanied by notice to the authors, as a matter of courtesy.

INFUSION OF SALT-SOLUTION IN THE TREATMENT OF PNEUMONIA.—A CRITICISM.

By D. E. KEEFE, M.D.,

of Springfield, Mass.

To the Editor of THE PHILADELPHIA MEDICAL JOURNAL:—

IN the JOURNAL of March 9, 1901, appeared a lucid and timely editorial, giving a synopsis of a paper by Dr. Clement A. Penrose,* of the Johns Hopkins Hospital, advocating the use of saline infusion in conjunction with inhalation of oxygen passed through water containing antiseptics, in the treatment of pneumonia. By way of preface, let me say that I am entirely opposed to the routine use of this solution "in cases of collapse during and after operations, so common in our hospitals," except only when the collapse is preceded by and is consequent on blood-loss. Oxygen, with or without antiseptics, has a certain value in a number of cases of pneumonia. But I am certain that very little can be adduced in favor of saline infusion in pneumonia, but, on the contrary, much in opposition. Indeed, its use before the stage of gray hepatization is wholly indefensible. Busy physicians are, I fear, too apt to take *post hoc* for *propter hoc* in such matters. For example, in syncope and collapse, while the regular physician prescribes diffusive stimulants, his confrere of the Hahnemannian persuasion employs aconite. In both cases, and with medicines acting in diametrically opposite directions, the heart responds and the patient is resuscitated. The physicians of both schools are firmly convinced that the reaction is proof positive of the correctness of their medication, each believing he has saved a life. But they have entirely overlooked the fact that, in a third case, where no medicine was given, a like recovery took place. The difficulty is that they did not calculate on that great power in medicine of which we hear so much, the *vis medicatrix naturae*. They should remember that the heart is prone to make just such responses, and that, too, without medication and where least expected.

Both the saline infusion and the stimulant plan of treatment, now in vogue, are unphysiological as applied to pneumonia. They promote activity, and seek to send more blood to the affected in common with all other parts, whereas correct physiological teaching demands rest and abstraction of blood. They fail in pneumonia because in the inflamed lung there is almost complete stasis, by reason of the exudate outside and the clotting within the vessels. No matter what the degree of stimulation, this impediment cannot be overcome, and the blood cannot be forced through. In consequence of this the treatment accomplishes nothing, and, indeed, may be carried so far that the heart, already overacting, becomes exhausted and strikes work. Moreover, the sending of more blood to the nonpneumonic lung, which is, under such circumstances, always congested, tends to pro-

duce edema, as very properly pointed out in your editorial, and also pneumonia. Until an equivalent for the added saline infusion is eliminated, by the skin and kidneys, and although the heart may not be stimulated to the extent obtaining when medicinal stimulants are used, the great addition to the circulating fluid and consequent increase in pressure sends a greater quantity of blood in every direction, and especially toward the lungs. Thus is stimulation by medication and by saline infusion, in so far as they affect the circulation, tantamount to the same thing, the only difference being that the infusion places an additional burden upon the heart, and one of which it must be relieved. Experiment and observation have established as a fact that the heart promptly responds to irritants or stimuli whether externally or internally applied. Thus, dashing cold water on the face is followed by a gasp, then increase in the depth and number of respirations and increased heart action. So, also, a cold bath, physical exercise, the ingestion of a considerable quantity of food or drink, whether introduced through the alimentary canal, the skin, or directly into a bloodvessel, elicits a like response. The degree of reaction varies with temperature, and many other circumstances. As a matter of course, the same phenomenon follows the ingestion of saline solution, but is not inherent to it any more than to a like quantity of water or milk. If it is justifiable to inject any fluid in this manner during an attack of pneumonia, that fluid is antipneumotoxin serum. Then we would at least get the specific effect, and if largely diluted, all the good effects claimed for saline infusion. Dr. Penrose prefers infusion to transfusion, but the difference is rather one of degree than of kind. The more rapid the ingestion, the larger the quantity thrown into the circulation within a given time, the greater reaction and the greater the danger. So that, while infusion is safer, it is also less prompt and, so far as inducing reaction, less efficient.

With regard to "diluting the toxins and promoting their elimination," I should say that whatever may be thought of eliminating them through the skin, and I for one am sceptical, as to the kidneys I say nothing, but in the lungs, where they are mostly situated and where most of the damage is wrought, they are inaccessible to the saline solution by reason of the stasis, clotting exudate, etc., as before explained. Suppose that, for the sake of argument, we admit that the blood and saline solution could circulate freely through the pneumonic lung, by just so much as it diluted the blood and toxins, would it also dilute the hemoglobin, and, hence, lessen the ability of the blood to carry oxygen at just the time it is most needed. I am aware of the small quantity of free oxygen found in the blood, but it is of no consequence for purposes of oxygenating the tissues. Regarding the cardiac second sound and its accentuation being an index for bloodletting; it is always too accentuated in a pneumonia of any extent by reason of the pulmonary artery's inability to empty itself, hence this sign has no value.

Considering the matter, then, from every point of view, we cannot agree that "saline infusion is a decided advance in treatment." Neither are we familiar with anything in the chemistry of oxygen that would lead us to expect any assistance from saline infusion in promoting its absorption or utility. Had the doctor proposed to first abstract a quantity of blood equal to the saline solution to be infused, then he could reasonably claim he was getting rid of so much at least of the toxins as the withdrawn blood contained, just as we do in uremia, and of diluting those remaining in the blood. At least he could not be held accountable for adding to the

* By the kindness of Dr. Penrose I have read his original paper.

labor of a heart already working at a disadvantage and at the point of exhaustion.

In conclusion, I contend it is never safe or justifiable to suddenly make any considerable addition to the circulatory fluids at the acme of an acute disease like pneumonia. (a) The added fluid cannot circulate through the affected lung to any extent; (b) it tends to cause edema and pneumonia in the unaffected lung; (c) it dilutes the hemoglobin, and so is an impediment at a moment when this is most needed; (d) it places an additional burden on the heart (its propulsion and elimination); and, finally, it tends to paralyze the capillaries, destroy vessel tonus, and overwhelm the heart, while all the good it accomplishes may be effected by other agents not involving like objections and dangers.

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

British Society of Public Analysts.—Dr. Henry Leffmann of Philadelphia has been elected a vice president of the British Society of Public Analysts.

Charity Hospital.—In the dispensary clinics of the Charity Hospital, 1731 Vine street, there were treated last month 322 medical cases, 53 surgical, and 162 of women and children, and 775 prescriptions were dispensed.

West Philadelphia Hospital for Women.—The report of the West Philadelphia Hospital for Women for February shows that on February 1 there were 20 patients in the hospital; received during the month, 17; registered in dispensary, 60; registered in out-practice visits, 246; operations in hospital, 8; operations in out-practice, 6.

Death of Dr. Edward Clarence Fraser.—Dr. Edward Clarence Fraser, who was at one time attached to the staffs of the Polyclinic and Jefferson Hospitals, died at his home, 646 North Eighth street, Thursday, of heart failure. Dr. Fraser was 61 years of age, and was a graduate of the University of Maryland and Jefferson Medical College. He also took a post-graduate course in the New York Medical School and Hospital.

Surgical Treatment of Cirrhosis of the Liver.—Cases continue to multiply of the so-called operation of epiploxy. This is an operation for establishing a collateral circulation, by which the abdominal dropsy in cirrhosis of the liver is absorbed. Of course, it is merely a palliative operation, and does not, and cannot, influence the pathological process in the liver itself. It consists essentially in stitching the omentum to a denuded, parietal surface of the peritoneum. Dr. Frazier, of Philadelphia, was one of the early operators, and published a statistical paper, based on all recorded cases up to December, 1900. Recently, Dr. Jelks, of Hot Springs, Ark., has reported a case with satisfactory results (*Medical Record*, March 23). In the PHILADELPHIA MEDICAL JOURNAL for January 26, Dr. John B. Roberts reported 2 cases, in a paper entitled "Epiploxy in Cirrhosis of the Liver." These cases are inadvertently omitted by Dr. Jelks in his references to reported cases.

Neurological Society.—A stated meeting of the society was held March 25, the president, Dr. JAMES TYSON, in the chair. Dr. F. X. DERGUM exhibited a man of 37, who has a combined surgical and nervous lesion. The upper part of the left arm is more than 2 inches shorter than the right, supposedly due to an early epiphysitis of the upper end of the humerus and consequent lack of development. There is also pain in that shoulder which radiates to the neck and at times involves the eyes. The condition is apparently one of hysterical joint superimposed upon the old lesion. This is the third case of epiphysitis seen by Dr. Dergum.

Dr. A. R. MOULTON reported **A case of fracture of a thin skull and hemorrhage into the brain.** The subject was a patient at the Pennsylvania Hospital for the

Insane who was found dead in his room. The skull was fractured, apparently by a fall from the bed, and was found to be very thin, from .02 to .04 inches, and exceedingly brittle.

Dr. ALFRED GORDON read a paper entitled **The role of infection and intoxication in diseases of the spinal cord.** The frequency with which microorganisms are found in connection with various lesions of the cord was stated. Serumtherapy will probably play an important part in future treatment.

Dr. CHAS. S. POTTS exhibited a case of **multiple sclerosis with unilateral ascending progressive paralysis.** An interesting point in this case of multiple sclerosis of unusual type was the history of attacks of rheumatism before and during the presence of the disease.

Dr. WILLIAM C. PICKETT read a paper on the **Scapulo-humeral reflex of Von Bechterew.** The paper was a report of the study of this sign in 122 cases at the Philadelphia Hospital. The reflex was entirely absent in 40 cases. The frequency of its occurrence in various lesions of the nervous system was detailed. Adduction and external rotation of the arm were found to be less constant than abduction with slight flexion of the elbow. The presence of the reflex is considered to be significant, while its absence is of uncertain value.

Dr. MOSES BEHREND (by invitation) read a paper on **The biceps-tendon jerk in locomotor ataxia.** The results of the study of 29 cases of tabes were given. The biceps jerk was present in 9 cases, the triceps jerk on both sides in 2 cases, and on one side in 2 cases. When the biceps tendon jerk is absent there was generally marked ataxia in the arms. The intensity of shooting pains seemed to have no relation to the degree of ataxia present. The intensity of the symptoms were not found to be dependent on the duration of the case.

Vital Statistics of Philadelphia for the week ended March 23, 1901:

Total mortality	CASES.	DEATHS.
Inflammation of appendix 3, brain 15, bronchi 8, kidneys 27, liver 3, lungs 80, pericardium 1, peritoneum 2, pleura 5, stomach and bowels 14		164
Inanition 12, marasmus 13, debility 6		31
Tuberculosis of lungs		70
Apoplexy 15, paralysis 11		26
Heart—disease of 31, fatty degeneration of 2, neuralgia of 2		35
Uremia 8, diabetes 6, Bright's disease 4		18
Carcinoma of bladder 1, breast 1, stomach 3, uterus 2, face 2, rectum 1, tongue 1		11
Convulsions		14
Diphtheria	73	15
Brain—congestion of 1, disease of 4, hemorrhage from, softening of 4		10
Typhoid fever	30	3
Old age		20
Cyanosis		1
Scarlet fever	85	5
Influenza 12, abscess of neck 1, aneurysm of aorta 1, alcoholism 1, asthma 3, atheroma 1, burns and scalds 1, casualties 4, congestion of lungs 4, cirrhosis of liver 3, membranous croup 2, diarrhea 2, dropsy 1, dysentery 2, erysipelas 1, hernia 1, obstruction of bowels 3, edema of lungs 1, rheumatism 5, sarcoma of neck 2, arteriosclerosis 1, septicemia 1, suicide 2, teething 1, abdominal tumor 1, of liver 1, unknown coroner case 1, whooping-cough 4, dropsy of brain 1		64

College of Physicians—Section on Gynecology.—A stated meeting of the Section was held March 21, the President, Dr. JOHN C. DaCOSTA, in the chair. Dr. W. REYNOLDS WILSON read the report of a **Cesarean section in a case of obliquely contracted pelvis.** The case belonged to that class in which the diagnosis may be overlooked when only the pelvic measurements are considered, the distance between the spines and between the crests being 28 cm. There was a history of progressive deformity, 2 of the 4 previous children having been delivered by decapitation. A previous lumbar abscess and the progressive deformity suggested tuberculosis, but this condition was finally excluded, the history and condition together pointing to an original rachitic deformity. Dr. E. P. DAVIS said that there were occasional cases in which the causes of oblique pelvis were

injuries during adolescence. Two cases were cited, one due to disease of the knee-joint with final ankylosis, the other caused by a temporary injury to the lower extremity. Cesarean section is the choice of operation in these cases, and in instances of a second confinement it is hardly wise to induce labor even at the end of 8 months.

DR. BARTON COOKE HIRST gave clinical memoranda of several cases: 1. **Partial hysterectomy for necrosis of the uterus due to streptococcus infection.** Total hysterectomy was formerly performed in cases where a portion of the uterus was found to be softened and necrotic. In 2 recent cases recovery is believed to have been due to the removal of only a part of the uterus. The method is suggested as being more quickly and easily done than a total hysterectomy and as one causing less shock to the patient. 2. **The removal of ovarian cysts under conditions seemingly unfavorable.** The case reported was that of the removal of an intraligamentary cyst from a woman over 50 years of age who had an aneurysm of the arch of the aorta. Recovery was uneventful. To prevent infection from the large raw surface left, a puncture through the vaginal vault was made for drainage and peritoneum sutured over the area in such a way as to exclude it from the abdominal cavity. 3. **The treatment of lacerated cervixes directly after labor.** Dr. Hirst's experience is that primary operations directly after labor are not satisfactory. In 4 days involution is so far advanced that sutures will hold, but it is better on account of the lochial discharge to wait 2 weeks. Laceration of the cervix is often complicated by laceration of the perineum. In such cases when repair of the cervix has been decided upon the perineum is allowed to go for 2 weeks and both operations done at one sitting. DR. E. P. DAVIS stated that his experience with immediate closure of the wounded cervix had not been distinctly unsatisfactory. Hemorrhage sometimes demands the insertion of sutures and these often give good results. The danger of infection may be increased by waiting. If the operation is postponed for 2 weeks, lactation may be interfered with in patients of a certain temperament. DR. DAVIS asked if choice of suture material had any influence in causing poor results in early operations. DR. J. B. DEEVER, while not a believer in intraspinal cocaine-anesthesia, stated that the woman with the aneurysm would seem to have been a proper case if it should be used at all. He has tried it in a case of suppression of urine due to a stone in the pelvis of the kidney, the other kidney having previously been removed. The trial resulted in failure, and chloroform was successfully used. Dr. Hirst stated that he used silkwormgut sutures in repairing the cervix. In the case referred to, spinal anesthesia had been strongly urged by the physician of the patient, but owing to the discouraging nature of inquiry regarding its results Dr. Hirst decided against it. He is confident that the woman did better under ether and prefers that anesthetic as a routine.

DR. R. P. McREYNOLDS reported a case of **Ruptured interstitial ectopic gestation.** The symptoms of ectopic gestation were typical. The woman died 12 hours after operation in which the portion of the uterus involved was removed by means of a V-shaped incision. Intravenous infusion of saline solution was given after operation. From the results in this and other cases Dr. McReynolds believes that intravenous infusion is a somewhat dangerous proceeding in patients having such general condition. DR. HIRST said that interstitial pregnancy must be a rare condition since in his 42 cases of ectopic gestation only 1 was anything like interstitial in location. He prefers submammary hypodermoclysis of salt solution. If a vessel were used he would prefer the radial artery instead of a vein, as the solution would not go so directly to the heart, and the danger of air embolism would not be so great. DR. E. P. DAVIS stated that he had used intravenous infusion of saline solution in several cases and no accident could be traced directly to it. DR. J. B. SHORER considers submammary injection satisfactory and less dangerous than intravenous. DR. J. B. DEEVER recommends intravenous infusion and considers it one of the greatest boons of modern surgery. It finds its best application in cases of hemorrhage, but is of value in general sepsis. In some cases the residents at the German hospital do not sew up the wound in the arm, but use it for a second infusion. Dr. Deever believes there is more risk of infection from the

submammary method and would not advise the arterial route. DR. JOHN C. DA COSTA has found the intravenous method satisfactory in every case in which he has used it. He has seen abscesses result from submammary injection and does not like that method. DR. McREYNOLDS stated that intravenous infusion of saline solution is of value in recent injuries as crushes, etc., but where bleeding has kept up for a period of days, as in the case reported, the heart accustoms itself to the condition present and infusion may do damage.

NEW JERSEY.

Legislation for Undertakers.—An ordinance, drawn similar to the one operative in Philadelphia, placing restrictions on persons engaged in the undertaking business, was under consideration by the Camden Board of Health. It provides that all persons now engaged in the business shall pay a license fee, to be fixed later, and that hereafter all persons desiring to enter the business must undergo an examination as to their fitness. The ordinance also prohibits non-resident undertakers from conducting a city burial unless they have a license, and instructs the nuisance inspector to inspect all undertaking establishments.

NEW YORK.

Elected Professor of Internal Medicine.—Dr. Heinrich Stern has been elected professor of internal medicine in the New York School of Medicine.

Dr. S. A. Knopf Receives First Prize.—The Department of State has been informed that the Berlin tuberculosis congress has awarded the first prize for papers on the subject of tuberculosis to Dr. S. A. Knopf, of New York, and has arranged for the publication and distribution of his paper with a view to using the proceeds in the establishment of sanitariums for the treatment of that disease.

Change of Date of Annual Meeting.—Owing to an oversight the dates selected for the annual meeting of the American Laryngological, Rhinological and Otological Society are the same as those of the American Climatological Society. The American Climatological Society is to meet in Buffalo, and owing to the crowded condition of Buffalo during the Exposition it would be difficult for them to change their date. The annual meeting will be held at the N. Y. Academy of Medicine in the city of New York on May 23, 24 and 25, 1901.

New York Obstetrical Society.—Stated meeting held March 12, 1901. The president, DR. H. J. BOLDT, in the chair.

DR. BACHE EMMET presented a specimen of sarcoma of the ovary. The tumor was removed 2 weeks ago from a patient having the following history: aged 49, multipara, married, menopause 6 years ago. One brother had cancer in the abdomen, one sister had a tumor of the lower abdomen. Within the last 3 or 4 years the mass has grown until now it is the size of a football. The mass was attached by its own ligament, and had a few thread-like adhesions. There was no derangement of the general health, and the woman has not suffered. The tumor proved to be of the round-celled variety. As the growth was essentially local, and the attachment so small, he felt like encouraging the patient to feel no apprehension. He was aware, however, of the fact that there might be a return of the malignancy in a few years.

DR. VINEBERG could recall 2 cases of spindle-celled sarcoma, operated upon by him, one 2, the other 3 years ago. Both patients are in good health today. During the past summer he had operated upon a patient, the tumor proving to be a round-celled sarcoma. It is more than 9 months since operation, and as yet there has been no recurrence. DR. BOLDT said that one of the cases he had reported had died shortly after operation, and that the second had a recurrence in the abdominal wall which he had operated upon a year later. DR. WALDO said that the last patient referred to by Dr. Boldt was alive and well 2 years after, without recurrence. He had operated upon a case — years ago, and during the past year he had opened the patient's abdomen again, finding the growth too extensive to remove.

DR. GRANDIN presented a specimen of **ectopic gestation**, removed from a patient 23 years old, who had had 2 children,

the last 2 years ago. She menstruated every 4 weeks, the flow lasting 7 to 10 days. She menstruated last on February 15, the flow lasting 12 days. On March 1, she again began to flow and continued. There were no colicky pains or data to suggest pregnancy. There was a mass behind and to the left of the uterus. Under ether the uterus was curetted. There was no enlargement. Postvaginal section gave exit to blood and clots. Abdominal section was made for removal of left ruptured tube. There was almost a quart of clots and blood in the peritoneal cavity.

DR. GEORGE G. WARD, JR., read the paper of the evening. His subject was **The Prevention of Postoperative adhesions of the peritoneum.** The author remarked that one who comes in contact with patients after they have been subjected to peritoneal operations must surely be impressed with the fact that we have still much to learn before we can invade the peritoneal cavity without leaving that delicate membrane in a crippled condition; in a large per cent of cases, as is evidenced by continued pain, constipation, and in some cases such bands of adhesion that subsequent operation is necessary. He called attention to the fact that more is necessary for the welfare of the patient than simply to be able to open the abdomen, remove an organ or growth, and suture the wound without loss of life from hemorrhage or sepsis.

A summary of the means of prevention he advocates is as follows:

1. The attainment of asepsis as perfect as is possible by the rigid adherence to the most modern methods of securing surgical cleanliness.
2. The avoidance of raw surfaces and pedicle stumps by covering them with peritoneum, or grafts of omentum, and the abandonment of the ligature en masse.
3. Protection from dry air contact by the employment of moist asepsis instead of dry asepsis, and keeping the exposed parts covered whenever possible.
4. The time element—rapidity of operating by technical skill, thorough preparation, and trained assistants.
5. Keeping up the heat of the peritoneal cavity by frequent renewal of the hot salt-solution (115° F.), and by protection of the exposed parts.
6. Avoidance of excessive manipulations of the intestines by technical skill, proper anteoperative preparation of the bowels and posture to prevent pseudoileus.
7. Replacement of the loops of intestine and omentum by filling the abdominal cavity with hot salt-solution before closing, and thus floating them that they may more readily adjust themselves in their proper relations.
8. Free motion of the patient after the operation to be encouraged instead of prohibited.
9. Early use of the high enema during the first 12 hours in conjunction with cathartics, and on failure the prompt use of oxygen in the exaggerated Trendelenburg posture.

Conclusions.—My study of adhesion formation and the best means of their prevention leads me to the following conclusions: 1. That peritoneal adhesions after operation result from several causes. 2. That therefore we can not depend upon any one preventive method, but, recognizing their multiple etiology, we must employ all the details of operative technic that are necessary to offset the various causes. 3. That this necessitates a technical skill that can only be attained by a long apprenticeship and a thorough training in abdominal surgery. In closing, the speaker said that in his opinion, the surgeon who most conscientiously looks after all the details will have the fewest postoperative cases of adhesions with their unfortunate sequelae.

NEW ENGLAND.

American Laryngological Association.—The Twenty-third Annual Congress of the association will be held at New Haven, Conn., Monday, Tuesday and Wednesday, May 27–29, 1901. The president of the Congress is Dr. Henry L. Swain, of New Haven.

CHICAGO AND WESTERN STATES.

Convicts Vaccinated.—The 1,000 convicts in the Illinois penitentiary at Joliet, are being vaccinated, and the utmost care is being taken to prevent smallpox from breaking out among the prisoners.

Minnesota Senate Passes Marriage Bill.—The State Senate passed Senator Chilton's bill prohibiting the

marriage of insane, epileptic and idiotic persons, and requiring a medical certificate of all applicants for marriage licenses. Amendments were adopted making the physician's certificate not quite so sweeping and to permit marriage of any feeble-minded person over 45, the bill originally having extended such permission only to women.

Succus Capricornus.—All the way from California comes the news that there is a "regular" doctor out there somewhere who is exploiting a brand-new lymph treatment. He has even bought the exclusive right to this alleged therapy. The lymph, we are credibly told, is "straight Rocky Mountain Goat Juice." This doctor is soliciting and practising business in the treatment of chronic and wasting diseases, especially tuberculosis, locomotor ataxia and premature senility, by the use of this wonderful lymph, which a local observer calls a "hircine balm of Gilead." This juice is elaborated with such care and such unique skill as to preserve, with ever increasing potency, the original "cell life." It causes marvelous changes for the better to take place in the structure and chemical composition of bones previously diseased within two months and a half after beginning a twice a day injection. This was demonstrated in the laboratory and under the microscope upon an aged dog that had been rejuvenated capricornically. And the impression is somehow created that so strenuous and exuberant was the physical vigor and vital tenacity of that canine compromise twixt Job and Methuselah, transmogrified by the Succus Capricornus, that it was only with the extremest difficulty that the creature was killed sufficiently dead to make it safe for chemist and microscopist to trifle with his remains. From all this it appears that serumtherapy is well advanced on the Pacific coast.

Chicago Pathological Society.—Meeting held March 11, 1901, Dr. L. Hekton, president.

DR. MAXIMILIAN HERZOG read a paper on **Primitive splenomegaly, or anemia splenica.** The paper was based upon a study of the literature of the subject, and upon two cases in which Dr. M. L. Harris had performed splenectomy. Particularly one of the two cases, both of which got well after the removal of the spleen, had been studied carefully since; two years had elapsed since the operation. Before the operation there had been present in this case a marked diminution of the erythrocytes, a low color index, and an absolute and relative reduction in the number of the leukocytes. The blood had improved very much since splenectomy, and there had developed a marked eosinophilia. An examination of the spleens removed showed a marked endothelial proliferation with enlargement of the blood lymph-spaces (pulp spaces). Herzog stated that he had in vain sought for many destroyed blood-corpuscles inside of lymphendothelia, a picture as it is, for instance, found in typhoid fever. Considering the fact that the blood-condition had always improved in all cases of splenomegaly in which splenectomy had been performed, provided the patient did not die from the operation, it appeared conclusive that the changes in the spleen must be looked upon as the primary factor in the disease. We therefore must look to the pathological changes in the spleen, as the cause of the blood-destruction. From an examination of the two cases as well as from a study of the literature it appears that no evidence can be found that lymphatic endothelia destroy the blood by directly taking up blood-corpuscles. Herzog, therefore, advances the theory that lymphatic endothelia of the spleen and of lymph glands secrete an erytholytic ferment and in this manner destroy old and worthless blood-corpuscles. We have in splenomegaly an enormous endothelial proliferation and probably in consequence an enormously increased production of the erytholytic ferment, which when present in such a large amount destroys many healthy blood-corpuscles. If the spleen is removed the source of the increased production of the erytholytic enzyme is removed and the blood improves rapidly and permanently. In the discussion Dr. W. A. EVANS referred to the case of Dr. Ferguson in which there occurred petechial spots in the skin and where the spleen became smaller before death. He spoke of a case reported by Dr. Dalton before the London Clinical Society, which was clinically one of splenic anemia, but at autopsy the enlargement of the spleen was discovered to depend upon passive

congestion, due to constriction by an anomalous colon. DR. LEO LOEB declined to accept the theory of an enzyme which destroys the red blood-cells in the spleen. DR. E. H. OCHSNER referred to a case which clinically was splenic anemia, and which improved for a time after the spleen was removed, but subsequently died. There were a few small peritracheal glands found at autopsy which were tuberculous. A possible infection in such cases must always be considered. DR. B. W. SIPPY spoke of the similarity of these cases to the ordinary lymphatic pseudoleukemia as regards blood changes, general asthenia, etc., a similar enlargement of the spleen also being observed. In many cases of splenic anemia there is enlargement of the lymph glands, although it may be slight. In all cases the bone marrow has been converted into a fetal condition, like that found in many cases of pseudoleukemia lymphatics. He objects to the term splenic anemia, and considers the one splenic pseudoleukemia to be the proper one. He believes the primary cause cannot be positively located in the enlargement of the spleen. In the case described by himself, the fibrous changes were much more marked than in Dr. Herzog's. This he thinks may depend upon the longer duration of the disease. DR. P. KYES said that in the specimens of Dr. Herzog, the proliferation involves all the structures of the spleen, and such a condition cannot be due to a primary proliferation of any one element, as the endothelium. DR. T. R. CROWDER presented sections of an amyloid spleen with unusually distinct endothelial linings in the vascular spaces. DR. HERZOG in closing said that he did not claim that there was proliferation of the endothelium alone, but that the increase in the endothelium was enormous, so much so that the condition had been mistaken for an endothelioma. Dalton's case had not been considered as it was too indefinite. One reason for separating these cases from lymphatic pseudoleukemia is because they are curable by operation.

DR. THEO. TIEKEN exhibited a specimen of **pancreas annulare**, with resulting constriction of the duodenum so that a large fusiform sacculum of the latter had formed.

DR. H. M. RICKETTS presented specimens of **experimental general blastomycosis in the dog** produced by an intravenous inoculation of an organism obtained from a case of blastomycosis of the human skin.

The Chicago Hospital-School for Nervous and Delicate Children.—This school was originally incorporated in 1899 as the Chicago Physiological School; it has now 16 children under treatment and care. The hospital-school is located on Drexel avenue, Chicago, near Drexel square. Owing to the capacity being overtaxed a movement is now on foot to arrange for more commodious quarters.

The incorporators of the school were Dr. W. R. Harper, president of the University of Chicago; Prof. George H. Mead, associate professor in philosophy of the University of Chicago, and Miss Mary Campbell, founder of the school.

The executive committee consists of Prof. George H. Mead, president; Dr. Henry H. Donaldson, vice-president; and Miss Mary Campbell, secretary and treasurer.

The Board of Trustees also include Mr. A. C. Bartlett, Dr. Nicholas Senn, Dr. John Dewey, head of the department of philosophy and psychology, Mrs. A. C. McClurg, Mrs. C. R. Crane, and Mrs. J. Young Scammon.

The institution was established for the care and treatment of children incapacitated from receiving regular instruction owing to slight physical defects, such as stammering, stuttering, nervous troubles, minor ear and eye trouble, for children obliged to be under medical care and yet capable of receiving a certain amount of educational work, and for those needing corrective work in speech, etc. Children from 4 to 15 years are accepted for treatment.

The school has three regular nurses, a faculty of eight teachers, and a regular consulting staff of physicians, among whom are Dr. Frank Billings, Dr. Archibald Church, Dr. Hugh T. Patrick, Dr. D. R. Brower, Dr. Nicholas Senn, Dr. N. B. Delamater, Dr. Frank Allport, Dr. Eugene S. Talbot, Dr. John Ridlon, Dr. Llewellyn Barker, and others.

The School has recently been affiliated with Rush Medical College and the educational work is supervised by the Department of Neurology and Philosophy of the University of Chicago, the University advisor being Dr. H. H. Donaldson.

The Hospital-School is to be used as a laboratory for the study of mental phenomena of subnormal children.

SOUTHERN STATES.

New Morgue.—Plans for the erection of a new morgue at Washington have been submitted to the Commissioners. In addition to the mortuary, there will be a room for postmortem examinations and a capacious room for laboratory purposes.

Health Officers' Association Organized.—At a meeting of State, county and city health officers held on March 21, the organization of the Health Officers' Association of Texas was effected. The following officers were elected: President, Dr. J. B. Massie, of Houston; vice-president, Dr. I. J. Jones, of Austin; secretary and treasurer, Dr. J. M. McCutcheon, of Temple.

Defence of Dr. Loeb.—In the Corporation Court of Newport News, the case of Louis Loeb, the well-known physician, will be tried. Dr. Loeb was indicted several months ago on the charge of practising medicine without a license or a certificate from the State Board of Medical Examiners. It is said that the doctor will admit everything charged by the Commonwealth, but will contend that the law is unconstitutional.

CANADA.

From Our Special Correspondent.

McGill University is the fortunate possessor of many good friends—friends in deed and action as well as in name. Sir William Macdonald has again loosened his purse-strings and McGill is the richer by \$150,000. Of this sum \$75,000 will be taken to endow the chair of chemistry, \$32,500 for the chair of botany, and \$12,500 will be added to the chair of physics. Prior to this donation, Sir William had already given the University \$2,500,000. Another gift is also announced, Miss Jessie Dow having given \$60,000 for a chair of political economy. Nor, indeed, is the Medical Faculty forgotten. Another large addition will be made to the medical building this summer. It will be four stories in height, and be provided with a large number of lecture rooms, museums, and chemical laboratories. The cost of this proposed addition will be borne by Lady Strathcona and the Hon. Mrs. Howard.

The Extent of Cancer in Ontario.—The report of the provincial board of health shows that from the years 1886 to 1899 inclusive there were deaths from this cause as follows: 440, 614, 635, 714, 685, 579, 676, 678, 621, 620, 731, 927, 975, and 1,041 in 1899. These figures indicate that those diseases included under the name of cancer are on the increase in the province of Ontario. Prior to 1896 it will be noticed that these returns show no notable increase, but since that time there has been a remarkable increase. Probably this may be due to the fact that many deaths formerly included under "tumors," are now set down to cancer, through more description in death returns. Another cause may be set down to the great increase in the hospital population of the province, which in 1885 numbered 5,000, now amounts to 20,000; and the increase in hospital accommodation bringing with it better accuracy in diagnosis would also tend to augment the statistics of cancer.

The bill for the treatment of inebriates in Ontario has apparently very little chance of going through the Legislature this session, although it was prepared in the early part of last session, at which time it was fully expected that the Government would introduce it. Notwithstanding that the bill has been approved by the Premier, by the inspectors of prisons, and by the Warden of the Central Prison, himself a medical man, as well as by many of the members of the Government, the Government continues to dally with this legislation. The Ontario Medical Association and the Toronto Medical Societies have sent deputations to interview the Government on the matter time and again, and although the Government has been great in promises, it has also been very small in action. In this matter the Government is woefully dilatory; but an election is near at hand, and a long-suffering profession and public may be expected to take advantage of the opportunity for getting even on many an old score through the triumph at the polls of a progressive Opposition.

A Medical Council for the whole Dominion, the Bill concerning which has recently been introduced into the Dominion Parliament by Dr. T. G. Roddick, M.P., will soon be consummated, providing the present Bill goes through the House. It provides for a central medical council, upon which will be three representatives from each of the eight provinces in the Dominion; and the homeopaths will also be given three representatives, appointed by that body throughout the country. The composition of this council will be the President of each Medical Council of every province, ex-officio, one member elected from the Medical Council of each province, and one from each province elected by the Governor-General in Council. It provides also for examinations and a course of study of 5 years as already existing in the province of Ontario. During the course of his address to the House, Dr. Roddick gave some interesting details of the history of medical education in Canada, and also concerning the medical population of each province. Prince Edward Island has 90 medical practitioners; Nova Scotia, 476; New Brunswick, 243; Quebec, 1,400; Ontario, 2,500; Manitoba, 344; North West Territories, 95, and British Columbia, 214.

The Annual Report of the Quebec Board of Health gives some interesting information in connection with the health of that province. Notably is the law in regard to cases of tuberculosis of the lungs in advance of that of any of the other provinces. There, every householder in whose household a death occurs from pulmonary consumption must notify the secretary of the local board of health of such death within 48 hours of its occurrence. Upon such notification being given the municipality is bound to cause the disinfection of the apartments which may have been contaminated by the patient. The rate of death in different Canadian cities from tuberculosis is set down as follows: Quebec City, 1.99 in 1,000; Ottawa, 3.12; Montreal, 2.87; Kingston, 2.17; Toronto, 2.41, and London, 2.67. It would thus appear that Quebec City was the most free of the dread disease and Ottawa the most infected. Quebec can point with unalloyed joy and pride to her birth-rate. In the year 1898 the birth rate was 35.70, which, compared with that of Ontario, is greatly in excess of the latter, which was 20.4 for the same year. In 1899 the birth-rate was 33.46, which meant a decrease of 3,535. Still with this decrease, Quebec can be consoled, as she has the highest birth-rate of any country except Germany.

Government aid for Toronto University is promised in a measure laid before the Ontario Legislature last week by the Hon. Mr. Harcourt, the Minister of Education for the Province. The particulars of the bill, however, do not meet the entire approval of the friends of the provincial university. They had expected a great deal more than will be given. Although the university has gone behind to the extent of \$30,000 or \$40,000 during the past three years, they are now only promised \$20,000, which must be devoted exclusively to the chemical and physical branches. The friends of the university had fully expected \$50,000 at the very least. An item of great importance in the bill takes the control of the institution out of the hands of the Government and invests it in a board of trustees. This is a sort of sop to the moneyed men of Toronto, who heretofore would not indulge in donations in aid of the work of the university so long as it was under the direct control of the Ontario Government. Provisions are also made in regard to the proposed federation of Trinity and Toronto Universities, and incidentally the medical faculties in affiliation therewith. This latter, however, now seems to be off the boards for some time, as Trinity Medical College, through Dean Geikie, has given out that they will not amalgamate on the lines proposed, which in the main amounted to the fact that all the professors, lecturers, and demonstrators were to be kept on for two years by the united institution, and then a new faculty formed therefrom. Amalgamation of Trinity and Toronto may then be said to be as far off as ever it was. The Government has promised to erect during the next two years a new building for the science departments at a cost of \$200,000, but this is taken by many of the friends of the university as a mere election dodge.

MISCELLANY.

Obituary.—DR. WRENN, Bridgeport, Conn., on March 23.—DR. EDWARD S. FAWCETT, at Alexandria, Va., on March 21.—DR. P. A. HOLOHAN, at Springfield, Mass., on March 11.—DR. OLIVER P. WOLCOTT, at Milwaukee, Wis., on March 16.—DR. GEORGE M. FISHER, at Denton, Md., on March 20.—DR. H. G. HOLLENBECK, at Willow Springs, Mo., on March 22.—DR. ALFRED R. GREEN, at Greely, Col., on March 22, aged 79 years.—DR. JOSEPH TELLYESNECKY, at Chicago, Ill., on March 14, aged 40 years.—DR. J. S. SCOFIELD, at Hillsboro, Tex., on March 23, aged 75 years.—DR. RALPH J. HESS, at North Brother Island, near New York, on March 24, aged 27 years.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended March 23, 1901:

SMALLPOX—UNITED STATES.				CASES.	DEATHS.
DISTRICT OF					
COLUMBIA:	Washington	March 2-16	10		
FLORIDA:	Jacksonville	March 9-16	4		
ILLINOIS:	Chicago	March 9-16	8		
INDIANA:	Terre Haute	Feb. 4-11	2		
KANSAS:	Wichita	March 8-16	15		
KENTUCKY:	Lexington	March 8-16	1		
LOUISIANA:	New Orleans	March 8-16	14		
MARYLAND:	Baltimore	March 8-16	1		
MICHIGAN:	Bay City	March 8-16	2		
	Detroit	March 8-16	4		
	West Bay City	March 1-16	1		
MINNESOTA:	Minneapolis	March 8-16	11		
	Winona	March 8-16	26		
NEBRASKA:	Omaha	March 2-9	3		
N. HAMPSHIRE:	Manchester	March 8-16	5		
NEW YORK:	Elmira	March 2-9	1		
	New York	March 8-16	37		6
OHIO:	Cleveland	March 8-16	46		
	Toledo	March 8-16	3		
PENNSYLVANIA:	Erie	March 8-16	1		
	McKeesport	March 8-16	3		
	Pittsburg	March 8-16	2		
	Steelton	March 8-16	5		
TENNESSEE:	Memphis	March 8-16	20		
	Nashville	March 8-16	14		
UTAH:	Salt Lake City	March 8-16	97		
PORTO RICO:	Agua de Arenas	Feb. 8-March 5	2		
	Bayamon	Feb. 8-March 5	2		
	Caguas	Feb. 8-March 5	2		
	Ciales	Feb. 8-March 5	2		
	Morovis	Feb. 8-March 5	2		
	Ponce	Feb. 8-March 5	98		1
	Quebradillas	Feb. 8-March 5	4		
	Rio Piedras	Feb. 8-March 5	1		
	San Juan	Feb. 8-March 5	7		
PHILIPPINES:	Manila	Jan. 29-Feb. 9	11		
SMALLPOX—FOREIGN.					
BRAZIL:	Pernambuco	Jan. 17-31	25		
	Rio de Janeiro	Feb. 16-28	36		
CANADA:	Bracebridge	March 2	2		
	Georgian Bay	March 2	Prevalent.		
	Orillia	March 2	1		
	Penetanguishene	March 2	1		
	Toronto	March 2	4		
EGYPT:	Cairo	Feb. 11-25	3		
FRANCE:	Paris	Feb. 8-March 2	21		
GREAT BRITAIN:	London	Feb. 23-March 2	1		
	Glasgow	March 1-8	12		
INDIA:	Bombay	Feb. 12-19	7		
	Madras	Feb. 9-15	5		
MEXICO:	Tuxpan	Feb. 25-March 4	1		
RUSSIA:	Moscow	Feb. 14-23	4		
	St. Petersburg	Feb. 16-23	3		
	Moscow	Feb. 16-23	12		
SPAIN:	Barcelona	Jan. 1-March 2	253		
	Corunna	Feb. 23-March 2	1		
	Valencia	Feb. 8-24	1		
YELLOW FEVER.					
CUBA:	Havana	March 4-11	1		
CHOLERA.					
INDIA:	Bombay	Feb. 12-19	3		
	Madras	Feb. 9-15	12		
STRAITS SETTLEMENTS:	Singapore	Jan. 26-Feb. 2	10		
PLAGUE—FOREIGN AND INSULAR.					
AFRICA:	Cape Town	Feb. 16-26	44		
INDIA:	Bombay	Feb. 12-19	297		
PHILIPPINES:	Manila	Jan. 19-Feb. 9	4		
STRAITS SETTLEMENTS:	Singapore	Jan. 26-Feb. 2	1		

General Wood's Case Not the Only One.—Our recent reference to General, or Doctor, Leonard Wood's promotion in the U. S. Army has aroused the interest of many persons. We have received information about the following army officers, which is worth knowing:

Brigadier-General Ainsworth, at present chief of the Record and Pension Division, War Department, Washington, D. C., was promoted to that place from the position of major and surgeon, U. S. Army, as a result of bringing the affairs of that division, while temporarily acting in charge, into a most admirable condition of efficiency. He was first promoted to a colonelcy, and was subsequently raised, in 1898, to the rank of brigadier-general as a result of his admirable administration of the affairs of his bureau.

Brigadier-General Myer, late Chief Signal Officer, U. S. Army, invented and perfected the Myer code of military signalling, now used in all the armies of the world, while serving as an assistant surgeon, U. S. Army. For his work in connection with military signalling he was made a brigadier-general and appointed the chief of the Signal Corps.

The case of Major-General Crawford was given in the last number of the JOURNAL. It is a curious fact, illustrative of the difficulty of obtaining accurate information on these subjects, that from one source we learn that Gen. Crawford was killed in action during the Civil War, while from another we learn that he was retired with honor in 1873.

Surgeon-General Lawson, who was chief of the Medical Department of the Army prior to the Civil War, had served with much credit during the Seminole War in Florida as lieutenant-colonel of an infantry regiment.

The moral of these promotions, together with that of General Wood, seems to be that the Medical Department of the Army is fully as much a military as a professional organization, that a large proportion of its members possess military qualifications of a high order, and that a medical training and executive ability are far from incompatible.

Further, it would appear that the line, when an unusually good man is needed to fill a position of emergency, have sometimes to go to the Medical Department of the Army to get him.

EDWARD L. WHENSON.

Capt. Asst. Surg. U. S. A.

Changes in the Medical Corps of the U. S. Army, for the week ended March 23, 1901:

- DE NIEDEMAN, Major WILLIAM F., surgeon, is relieved from duty with the Thirtieth Infantry, U. S. Volunteers., upon the departure of that regiment for Manila from its present station, for muster out in the United States, and will report to the commanding general, department of Southern Luzon, for assignment to duty in that department.
- TENNEY, Captain ELMER S., assistant surgeon, is relieved from temporary duty at the Army General Hospital, Presidio, and will report to the commanding officer, First Squadron, Fifteenth Cavalry, in camp on the Presidio, for temporary duty with that squadron, awaiting transportation to the Philippine Islands.
- PITCHER, GEORGE S., acting assistant surgeon, is relieved from temporary duty with the First Squadron, Fifteenth Cavalry, in camp on the Presidio, and will proceed to his home, Portland, Me., for annulment of contract.
- LEEPER, Captain MATTHEW, assistant surgeon, 7 days' leave granted March 7 is extended 15 days.
- TAKY-UD-DEEN, NAJIB, acting assistant surgeon, will proceed from Washington, D. C., to Columbus Barracks for duty.
- DILLON, G. PARKER, acting assistant surgeon, will proceed from Grand Rapids, Mich., to Fort Sheridan for duty.
- UNDERWOOD, FRED R., acting assistant surgeon, will proceed from London, Ohio, to Fort Leavenworth for duty.
- WILLIAMS, CHARLES F., acting assistant surgeon, is relieved from temporary duty at Fort Screven, to take effect upon the return to duty at that post of Acting Assistant Surgeon John R. Hicks, and will then proceed to Fort McPherson for duty.
- WHITNEY, Major Walter, surgeon, is relieved from further duty at Fort Walla Walla and will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.
- McHENRY, Captain GEO. A., assistant surgeon, recently appointed, now on duty at Santiago, Cuba, will as soon as his services can be spared by the commanding general, department of Cuba, proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.
- ANDERSON, JOHN B., hospital steward, (appointed March 13 from acting hospital steward, hospital corps), Fort Mackenzie, is assigned to duty at his present station.
- RICHARDS, JOSIAH W., acting assistant surgeon, is relieved from duty on the transport "Buford" and will proceed from San Francisco, Cal., to Fort Mott for duty.
- WILLIAMS, CHARLES F., acting assistant surgeon, is detailed as a member of the examining board at Fort McPherson, vice Acting Assistant Surgeon Francis A. Halliday, relieved.

WERNER, MAX, hospital steward, Frankford Arsenal, Pa., will be sent to the Army and Navy General Hospital, Hot Springs, Ark., for treatment in the hospital.

PLUMMER, Captain GEORGE R., assistant surgeon, recently appointed, is relieved from further duty in the department of Cuba, to take effect when his services can be spared by the commanding general of that department, and will then proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty.

WILLIAMS, ADRIAN D., acting assistant surgeon, now at Governor's Island, is relieved from further duty at Fort Adams and will report to the commanding general, department of the East, for assignment to duty with the first battalion of the Eleventh Infantry, and will accompany that battalion to the Philippine Islands, where he will report for assignment to duty.

SIMMEL, MARTIN, hospital steward, Columbus Barracks, is transferred to Fort McDowell, for duty with the hospital corps school of instruction.

Changes in the Medical Corps of the U. S. Navy, for the week ended March 23, 1901:

- PARKER, J. B., medical director, detached as president of medical examining boards, Washington, and ordered to the Naval Home, Philadelphia.
- MARMION, R. A., medical director, detached from Naval Home, and to duty at the Washington Navy Yard, as president of the examining board.
- MOORE, J. M., passed assistant surgeon, detached from the Port Royal Naval Station, and ordered to the "Franklin," April 2.
- BOBERT, E. S., passed assistant surgeon, detached from the "Massachusetts," and ordered home to wait orders.
- SHIFFERT, H. C., assistant surgeon, detached from the "Franklin," and ordered to the "Solace," April 1, and to the Asiatic Station.
- THOMPSON, J. C., assistant surgeon, ordered to the Port Royal Station.
- THOMPSON, E., assistant surgeon, detached from the "Nashville," and to the "Solace."
- HESS, H. H., ordered to the Naval Hospital, New York.
- GROVE, W. B., assistant surgeon, ordered from Naval Hospital, New York, to the Naval Hospital, Norfolk, Va.
- BRANSFORD, J. F., surgeon, retired in accordance with Act of Congress, approved February 5, 1901.
- RODMAN, S. S., assistant surgeon, detached from Naval Hospital, Mare Island, and to the "Adams."
- ORVIS, R. T., assistant surgeon, detached from the "Adams," and ordered to Naval Hospital, Mare Island.
- BOBERT, E. S., medical director, retired, detached from recruiting rendezvous, New York, and home.
- LAW, H. L., surgeon, retired, ordered to recruiting rendezvous, Buffalo, N. Y.
- CRAWFORD, M. R., surgeon, detached from recruiting rendezvous, Buffalo, N. Y., and to Marine recruiting rendezvous, New York City.
- LEACH, P., surgeon, detached from the "Oregon" and to the "McKenzie."
- EVANS, S. G., passed assistant surgeon, from the "Kentucky" to the "Concord."
- FARENHOLT, A., passed assistant surgeon, from the "Concord" to the "Oregon."
- HIGH, W. B. C., assistant surgeon, from the "Oregon" to the "Kentucky."

Changes in the U. S. Marine-Hospital Service, for the week ended March 21, 1901:

- McDOWELL, A. B., acting assistant surgeon, is granted leave of absence for 10 days. March 9.
- PECKHAM, C. T., surgeon, granted leave of absence on account of sickness, for 20 days from March 9. March 19.
- WOODWARD, R. M., surgeon, detailed as inspector of unserviceable property in the Hygienic Laboratory, Washington, D. C. March 21.
- NYDEGGER, J. A., passed assistant surgeon, to proceed to Norfolk, Portsmouth, and Newport News, Va., on special temporary duty. March 19.
- GARDNER, C. H., passed assistant surgeon, is granted leave of absence for 3 days from April 4. March 16.
- HOLT, J. M., assistant surgeon, Bureau order of March 8 is amended, and he is directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters. March 20.
- WALKLEY, W. S., acting assistant surgeon, is granted leave of absence for 2 days. March 19.
- CARLTON, C. G., hospital steward, to proceed to Mobile, Ala., and report to the medical officer in command for temporary duty.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on or about March 19, 1901, to examine Assistant Surgeon H. S. Mathewson, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board:—Surgeon P. H. BAILLACHE, chairman, Surgeon G. T. VANDERMAN, Passed Assistant Surgeon H. D. GEDDINGS, recorder.

Assistant Surgeons Appointed.—The Secretary of the Treasury has appointed the following as assistant surgeons, to serve during the quarantine season at the several fruit ports of Central America, their principal duty being that of inspecting fruit to be exported to the United States:

Bocas Del Toro, Colombia.—Paul Osterhout.
Port Limon, Costa Rica.—D. W. Goodman.
Livingston, Guatemala.—W. K. Fort.
Puerto Cortez, Honduras.—S. H. Backus.
Ceiba, Honduras.—R. H. Peters.
Belize, British Honduras.—J. G. Thomas.
Bluefields, Nicaragua.—W. H. Carson.

The appointees will serve in the office of the American consuls at the places mentioned.

Foreign News and Notes.

GREAT BRITAIN.

Elected.—Dr. R. B. Wild has been elected to the Leech professorship of materia medica and therapeutics at Owens College, Manchester.

Change in Editorship.—Dr. Henry Kellet has been appointed editor of the *Medical Press and Circular*, to succeed the late Dr. Archibald Hamilton Jacob.

Professorship of Surgery.—The professorship of surgery in the Royal College of Surgeons, Ireland, vacant by the death of Sir William Stokes, will be filled in April.

CONTINENTAL EUROPE.

Petroleum Drinking.—The Medical Society of Paris has expressed the opinion that it is necessary to adopt some measures against the alarming spread of petroleum drinking. At first, it was thought that this habit had sprung up from the increased taxation on alcohol imposed by the French government, but an investigation showed that this was not the case; the habit has been prevalent, some time previously, in certain districts, and had spread with great rapidity. The victim of the petroleum habit does not become brutal, only morose.

Marble Bust for the Discoverer of the Lepra Bacillus.—The sixtieth anniversary of the birthday of Dr. Gerhard Armauer Hansen, the discoverer of the lepra bacillus, will be celebrated on July 29, 1901. His numerous friends and admirers, both among the medical profession and the laity, will commemorate the occasion by the erection of a marble bust of Dr. Hansen in the Lungegaard Hospital, Bergen, where he discovered the lepra bacillus. A committee of Norwegians is active in the solicitation of subscriptions for this object.

Legislation for the Prevention of Malaria in Italy.—The *Lancet* publishes an account of the law drawn up for the purpose of preventing malaria in Italy. The articles provide for an official declaration of the affected areas, for the gratuitous distribution of quinin to the poor from municipal sources, and the taxation of property to raise funds. Another article compels the Government to supply quinin free of charge whenever it is responsible for the execution of a public work giving rise to malaria. The protection of all homes in the affected district against the entrance of insects and the empowerment of the Government to take any further measures necessary for the execution of the legal provisions, are included. In his new work entitled "La Malaria" Celli announces an annual mortality in Italy of 15,000 due to malaria, and that 5,000,000 acres of good land remain uncultivated.

MISCELLANY.

Kussmaul's Respiration.—This variety of respiration is characteristic of diabetic coma, and consists in a deep, abrupt inspiration, followed by a pause, then a quick expiration and another pause.

Medical Practice in New South Wales.—The *Western Medical Review* states that the new practice act for New South Wales calls for a term of 5 years' study of medicine. This would, therefore, exclude an American from practice because he is supposed to have graduated from a school of but 4 years. However, it seems that the first of the 5 years is similar to the last year usually spent in an American preparatory school before entering an American medical college, and the regulations of the British Medical Council says: "Graduates in the arts and sciences of any university recognized by the medical council, who shall have spent a year in the study of physics, chemistry, and biology, and have passed an examination in these studies for the degrees in question, shall be held to have completed the first of the 5 years of medical study."

History of Hospitals.—The institution of the hospital as we know it at the present day, with its regulations and rules, did not exist in the earliest times, nevertheless houses or establishments for the reception of the sick can be traced back to the early Jewish period. The earliest of these were known as Beth Holem, or houses of the sick; such a Beth Holem was Beth Saida, famous in the New Testament Scriptures. This institution was supported by voluntary contributions, as the word "Saida"—charity—naturally expresses. These hospitals were mostly situated round a pool, the waters of which were considered to be efficacious for various diseases, especially gout and rheumatism. According to the writer, the attendants in charge of these establishments were, as we know from the Scriptures (John 5: 2-7), expected to help the patients into the water. This kind of institution may be looked upon as the foundation of hospitals. They were, however, usually of a very primitive construction, mostly consisting of a few wooden huts.

In ancient Egypt hospitals were unknown, the sick being mostly attended to in their own homes, or, in the case of the very poor, at the various temples in the city to which they belong. The Greeks, however, appear to have been better supplied with institutions of this kind. Plato says that there existed in various parts of the country shelter houses for the sick. These institutions were, as Thucydides has observed, supplied with attendants, who waited upon the sick. It has been asserted that the ancients had no such attendants, because no pagan would wait upon a stranger in case of sickness; this, however, seems to be contradicted by the well-known case of the Samaritan (Luke 10: 30-35). Here was a man who had been attacked by thieves left by his own countrymen, and, moreover, priests, to die by the wayside, who was seen by a man of a country with whom his own kindred were at enmity. The foreigner seeing the man from Judea in trouble, not only attended him, but even helped him to mount his own ass. Many instances of a similar kind could be cited from ancient authorities. It is probable that the best hospitals of antiquity were those established in Rome. For some years it was doubted whether the Romans had such institutions, but a large tablet which was discovered near Placenza, dated in the reign of Trajan, has shown that not only did they possess such institutions, but that they were actually endowed. One of the earliest hospitals on record was probably that founded by Valens in Caesarea between the years 370 and 380 A. D.—[*London Physician and Surgeon*.]

The Good Effects of Methylene-blue in Acute Parenchymatous Nephritis.—N. Jabtat (*Sapisky Ekaterinoslawskago Medicinskago Ooshestwa*, 1900; *Vratch*, Vol. xxii, No. 4) reports 4 cases of acute parenchymatous nephritis, in which the methylene blue had a curative effect. The nephritis was secondary to scarlet fever. In one case, that of a girl of 7, the administration of the methylene-blue aborted what promised a severe attack of acute nephritis. In the other, that of a boy of 3 years, the usual treatment failed to improve the condition of the kidneys. The methylene blue, on the other hand, at once relieved the anasarca, and freed the urine from blood and, later, albumin. Similar results were obtained in the other 2 cases. The author treated 18 cases of scarlet fever and 6 of primary parenchymatous nephritis with this drug. The results in all were most gratifying. The beneficial effects of the methylene blue are explained by its chemical combination with the renal cells or the toxins generated by the microorganisms. [A.B.]

The Latest Literature.

British Medical Journal.

March 9, 1901. [No. 2097.]

1. An Address on the Neglect of the Actual Caution in Surgery, and its Value in the Treatment of Pruritus Ani. WILLIAM M. BANKS.
2. The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.
3. The Milroy Lectures on the Influence of the Dwelling upon Health. JOHN F. J. SYKES.
4. The Histology of the Urinary Tract in its Relationship to Morbid Urinary Deposits. G. LESLIE ESTES.
5. Remarks on a Case of Electric Shock. HENRY SMURTHWAITE.

1.—Banks thinks that the actual cautery is at present too little used in certain surgical conditions. In syphilitic periostitis, where the pain is very severe, preventing sleep, and where the ordinary antisyphilitic remedies fail to relieve pain, he has found that the thorough application of the actual cautery will give permanent relief. The instrument should be at a white heat, and should be passed many times over the same tracks. In certain cases of arthritis, due to traumatism occurring in adults and not associated with tuberculosis, and in which rest, blistering, etc., have been of no avail, he has found the application of the actual cautery will give marked relief from pain and cause absorption of fluid. He gives a number of cases, illustrating the advantage of the actual cautery in this condition. In some spinal inflammations after injury, this method of treatment has also been of great advantage. Finally, Banks refers particularly to the use of the cautery in the treatment of pruritus ani. It is only to be recommended for this condition where the cause of the condition cannot be found and removed, and where other treatments have failed. He records a number of cases where patients have suffered from marked exhaustion from loss of sleep, produced by the itching, in which destruction of the affected skin by the cautery has given permanent relief. [J.H.G.]

2.—Between the ages of 20 and 45 years the blood-pressure is relatively high, the aorta and the other large arteries increase in diameter from the stress of the blood-pressure on their elastic walls, and the heart increases in size year after year at a nearly uniform rate. We have in these facts anatomic evidence of the great functional vigor and activity of the circulation in manhood. At 45, while the arteries continue to increase in circumference, the blood-pressure falls and the heart begins, almost suddenly, to diminish in size. These 3 features characterize the circulation for the next 20 years. This fall in the size of the heart is to be accounted for, partly by the widening of the arterial trunks and the consequent fall of pressure; and partly by the reduction of mechanical stress, due to comparative bodily relaxation, loss of vasomotor tone in the splanchnic area, and the chronic diseases from which the patient may suffer. The blood becomes more venous in quality and its hemoglobin value is lowered. At 65, the decline of circulatory energy and the effects of time on the protoplasm of the cells of the body have so lowered the metabolic and functional energy of the tissues and organs and the activity of the blood-supply that a considerable proportion of the capillary network becomes obsolete. The peripheral resistance is thus increased; the blood-pressure rises; therefore, the heart once more increases in size, so that at the end of 10 years it is found as large as it was at 45, and at the same time the hemoglobin value of the blood again proves to be higher. In other words, as age advances, the arteries naturally become wider, longer, and thicker, and altogether larger than in early life, and we must not speak of vascular degeneration in an evil sense as often as we find these conditions present. The heart may remain structurally sound, and is more often regular than irregular, to the most advanced years of life. Conversely, these facts suggest that actual diseases of the arteries and heart are not properly senile in their nature. Physical stress is a definite cause of cardiac and vascular damage in the second half of life, in the forms both of sudden, violent exertion and of ordinary

laborious occupations. Bruce has met with instances of acute and serious strain at all ages over 40, up to and even after 70. In some cases there was no reason to believe that the heart was other than sound before the strain; but in the majority of instances one or more of the safeguards of the circulation against strain were already defective or wanting. So far as the heart is concerned the principal safeguard is the presence of well-nourished, healthy cardiac walls. Two-thirds of the cases of cardiac strain in the second half of life presented a history of perverted metabolism. In many cases the occurrence of strain was but the latest of a series of similar events; the heart had been strained originally in youth or early manhood, and had given serious trouble as often as it was taxed again. Rowing or running at college was in a good many instances given as the cause of the first strain. Previous valvular disease, usually of rheumatic origin, is a condition powerfully predisposing to cardiac injury by physical exertion. Again, the metabolic disorders, including gout, that weaken the cardiac walls, are among the common causes of arterial degeneration, and the two influences, rheumatism and perverted metabolism, acting together no doubt are accountable for a considerable number of cases of atheroma and chronic arteritis. It is unwise, ill-timed, ill-planned muscular exercise that injures the circulation, usually on the part of the middle-aged man, who, awaking to the consciousness of growing fat and gouty, rushes inconsiderately to violent exercise for relief. Many cases of disorder and disease of the walls of the heart and arteries originate in distress, worry, anxiety, and protracted suspense; and the connection is most often seen in middle and advanced life because these depressing emotions fall most heavily upon mankind at this period. Alcohol undoubtedly plays an important part in many cases of cardiac failure that are regarded as due to overwork, worry, and nervous exhaustion both in men and in women. Many of the complaints of nervous depression, lowness, and worry are really due to gout and to influenza. Disturbances of metabolism, including gout, are by far the most prolific cause of cardiovascular disorder and disease after 40, at any rate amongst the middle and higher classes. Whatever the date of the primary infection, syphilis is a standing danger to the heart and arteries in the middle-aged man, and even in declining years. Acute and chronic diseases explain many cases, while the origin of other cases of cardiovascular disease is explained by the existence of emphysema and other chronic diseases of the lungs and pleura. Chronic Bright's disease threatens the function and structure of the heart and the arteries, and in many instances the different influences that threaten the circulatory organs act together in different combinations. There are some persons whose hearts and arteries cannot carry them through the wear and tear of what may be called everyday life for more than 40 or 50 years. This type of case is described as family heart, for it runs in families, 3, 4, 5, or more members of which may have all died suddenly of cardiac disease, some of them at an early age. [J.M.S.]

3.—See abstract for *Lancet* of March 9.

4.—In the course of over 6,000 microscopical examinations of urine from cases of nephritis, Estes has never been able to convince himself that he has seen the clear, flattened epithelial cells peculiar to the Malpighian corpuscles. He has been able to recognize the granular, rod-shaped epithelium of the convoluted tubules because the cells are polygonal with somewhat extended processes. The cubical or columnar epithelium of the latter part of the tubules is not difficult to recognize and is the kind most commonly found when renal epithelium is present. In a case in which urine from a carcinomatous kidney was examined there was an abundance of renal epithelium in the sediment. The epithelial cells did not appear isolated, as is almost invariably the case in tubal nephritis, but were frequently to be found in clumps, numbering from 4 to 20 cells, grouped together with some dovetailing; they were cubical in shape, granular in appearance throughout, except for a large and evident nucleus. These appearances pointed to rapid proliferation, and the tumor was a rapidly-growing carcinoma. There was much blood, a few blood-casts, and there was some renal pelvic epithelium. In cases of buried calculus the deposit usually contains blood, a few hyaline casts, no epithelial cells, although blood casts are present. In every case there was much free uric acid in the deposit, and the crystals were aggregated together. Epithelium

from the pelvis of the kidney was wanting or present only in very small quantity. Chemic examination showed the presence of more albumin than was accounted for by the quantity of blood present. **The epithelium** lining the whole of the renal pelvis and the upper part of the ureter belongs to the type of epithelium known as transitional. The cells of the deeper layer are those that are most easily recognized in morbid deposits, and the commonest forms present a rounded body with granular contents and an evident nucleus. The body usually tapers off rapidly into a prolongation, whose length may be twice or thrice that of the body. Some of these cells possess a prolongation at either end. They are only shed when there is extensive damage to the renal pelvis, and are most characteristic when that damage is due to mechanical causes, particularly the existence of a calculus in the pelvis. Blood and hyaline casts, and a slight though constant leukocytosis, not amounting to pus, with the almost invariable accompaniment of crystals. In cases of pyelitis due to causes other than calculus, the deposit contains casts, and when the pyelitis is due to any other infection than tuberculous, the urine contains numerous bacteria. The casts are broad, because they are derived from the ducts of Bellini and the collecting tubules, and sometimes they contain pus cells. In all lesions of the renal pelvis, whether due to calculus or not, it is usual to find more albumin than the microscopic examination seemed to warrant. The renal pelvis may contain neoplasms, and in such cases the deposit will contain groups of cells and isolated cells in large numbers, accompanied by blood. The cells will be of a most pleomorphic character, but usually are fusiform or spindle shape. **The disease of the bladder** that cannot be diagnosed by an examination of the deposit are very few. Cystitis can be distinguished from localized ulceration, papillomatous and epitheliomatous neoplasms recognized, and vesical calculus strongly suspected. In cystitis, the cells are usually derived from the surface of the epithelium. In epithelioma the cells are highly pleomorphic, smaller than in either diseases, but, on the average, larger than those of the renal pelvis; they tend to come away in groups, are granular, and contain a large and evident nucleus. But the most characteristic cells are found in cases of villous growth. The cells in these cases are of exceptional length, of a remarkable thinness, the greater thickness being that of the nucleus, with other cells which are shorter and more pleomorphic in the urine of lads between the ages of 14 and 20, clumps of clear, luminous, pear-shaped cells embedded in a mucoid material are often found. The author has never seen similar cells or groups of cells in urine from girls, so he believes they may be derived from the prostate. {J.M.S.]

5.—Smurthwaite reports the case of a man, aged 29 years, who was admitted to hospital in a semiconscious condition, with severe burns of the right hand and thigh. The patient was employed by the local electric works, where he had sustained the injuries. On admission, he was pale and almost pulseless, with pupils dilated, respiration very shallow, and extremities cold and clammy. His right hand and upper part of right thigh were very much burnt. There was a bunch of keys in his right trousers pocket, which were undoubtedly the indirect cause of the accident. The bunch was a very big one and bulged out the pocket so that the thigh was brought into contact with the screws in a water-contact switch, thus completing the circuit with the motor, which he was adjusting, producing the severe electric shock. {J.M.S.]

Lancet.

March 9. [No. 4045.]

1. The Milroy Lectures on Public Health and Housing. JOHN F. P. SYKES.
2. A Clinical Lecture on the Statistics of Gastric Ulcer, with Special Reference to Gastric Hemorrhage, its Frequency and Fatality. BYROM BRAMWELL.
3. Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.
4. Pure Urea in the Treatment of Tuberculosis. HENRY HARPER.
5. A Case of Pemphigus Neonatorum in an Infant Three Days Old. CHARLES J. GLASSON.

6. A Few Cases of Ethyl Chloride Narcosis. W. J. MCCARDIE.
7. A Further Note on the Production of Local Anesthesia in the Ear, Nose and Throat. ALBERT A. GRAY.
8. Two Cases Illustrating the Use of the X-Rays in Surgery. G. P. NEWBOLT and C. THURSTON HOLLAND.
9. The Yesterday and To-day of Aural Surgery. SIR WILLIAM DALBY.
10. History of Renal Surgery. DAVID NEWMAN.
11. Nomenclature and Classification. CHARLES POWELL WHITE.

1.—The abstract will appear when the article is completed.

2.—Bramwell delivered a lecture before the Edinburgh Royal Infirmary on February 12, 1901, on **The statistics of gastric ulcer, with special reference to gastric hemorrhage, its frequency and fatality.** The author does not agree with Mr. Mayo Robson, as to the mortality of gastric ulcer and its frequency; and he fears that the mortality would be increased rather than decreased by operations for the arrest of hemorrhage in cases of gastric ulcer. Perhaps in no other disease are statistics so misleading as those pertaining to the subject of gastric ulcer, and the author believes that Mr. Mayo Robson has overestimated the total mortality and the mortality from hemorrhage in gastric ulcer. The frequency of gastric ulcer in the general population is estimated as being about 5% of the whole population (who suffer at some period of their lives). Bramwell states that this is probably an exaggerated estimate. The frequency of gastric ulcer is approximately arrived at in two ways: (1) By postmortem examinations; (2) from the clinical standpoint. The statistics collected by Welch show that out of 32,052 autopsies, gastric ulcers were found in about 5% of the number. The objections to the postmortem method are the following: 1. The frequency of gastric ulcer may be underestimated, because the stomach may not be opened in all cases. 2. Cicatrices of former ulcerations may be overlooked; the proportion of open ulcers to cicatrices is generally given as being 1 to 3. 3. It is questionable whether a superficial ulceration in the stomach, when healed, leaves a recognizable cicatrix, and the author mentions that there are cases of gastric ulcer presenting well-defined characteristic symptoms, which may heal without leaving any obvious or recognizable cicatrix. 4. Another objection to the postmortem method is that other lesions may produce scars; for example, syphilitic gummata and tuberculous ulcerations. The author concludes, therefore, that probably more than 5% of the cases collected and analyzed by Welch suffered from gastric ulcer. It is unreasonable to suppose that because 5% of the autopsies made in hospitals revealed ulcerations, that we should, therefore, conclude that this applies to the general population; postmortem examinations in hospitals are mostly made on adults, or, at all events, on individuals over 5 years of age; gastric ulcer is a very rare disease in early life (up to the fifth year). Therefore, it is unreasonable to suppose that because 5% of the autopsies in hospitals presented gastric ulcer, that 5% of the whole population suffers from this condition. The author states that gastric ulcer is very much more common in the class of patients found in hospitals, and that this condition occurs less frequently in the middle and upper classes, and probably to a less degree in the same class of persons living in rural districts. Hospital patients are, as a rule, drawn from towns; therefore, it would seem unreasonable to conclude that because 5% of the inmates of hospitals suffer from gastric ulcer, that the percentage is the same when dealing with the general population. Approximately, 13% of the general population is composed of children under 5 years of age; gastric ulcer being very rare in children under this age, and because autopsies are, as a rule, not made upon children, it is altogether unjustifiable to conclude, therefore, that because 5% of the persons examined postmortem in hospitals suffer from gastric ulcer, that the general community should be affected to the same extent. The death-rate from gastric ulcer in hospitals is much greater than the death-rate outside of hospitals; he concludes, therefore, that the estimate of 5% for the whole population is probably excessive. The frequency of gastric ulcer, as determined by the clinical method is less satisfactory than the postmortem method. The author gives a number of reasons for this; he has only observed 27 cases (or 0.44%),

out of 6,123 cases, seen in his own private consulting practice. It is extremely difficult to draw reliable conclusions as to the total mortality of gastric ulcer. If hospital patients form the basis of the calculation, the conclusions will be misleading, for the worst cases find their way into hospitals. The author mentions that, according to Mr. Mayo Robson, 81.25 (above 5 years of age), constitutes the annual mortality from gastric ulcer in Leeds (estimating the population at 500,000). An analysis of the number of deaths, which were registered from this cause in Leeds during the last year, showed that there were 14 deaths from gastric ulcer and 4 from hematemesis (probably due to ulcer), making a total of 18 cases; this is making a very liberal allowance. Estimating the population of Leeds as 500,000, 20.08 deaths would have been due to gastric ulcer last year. Bramwell believes that Mr. Mayo Robson's conclusions, regarding the total mortality from gastric ulcer in Leeds, must be incorrect. Bramwell also states that according to Mr. Mayo Robson, the deaths due to hemorrhage from gastric ulcer last year in Leeds amounted to 22.77. Upon examining the registration of deaths, he found that 8.1 deaths were due to hemorrhage. He believes that death from hemorrhage in cases of gastric ulcer is of rare occurrence; he only recalls a single instance in his own practice. [F. J. K.]

3.—See abstract of *British Medical Journal* of March 9.

4.—Harper advocates the use of pure urea in the treatment of tuberculosis, and believes the remedy to be superior to any other that is in use for this disease at the present time. The author's experience leads him to believe that more radical measures will be needed in the treatment of this disease than fresh air and the ordinary sanitarium, and that a careful revision of our diet list will form the keynote in the management of tuberculosis. Over one-half of his own cases of tuberculosis come from the country; therefore, it is hard to reconcile with the view that country air is the remedy for tuberculosis. He has urged tuberculous patients to partake of as much animal food as possible. The immunity of certain animals to tuberculosis may be ascribed to the character of their food; and in the author's opinion, urea and uric acid play an important part in rendering animals immune, or the reverse. The carnivora rarely become tuberculous, whilst the herbivora show a marked tendency to tuberculosis. The author finds, upon reviewing his notes of cases, that those individuals showing a marked tendency to gout, gravel and calculus very rarely suffer from tuberculosis. The negro, although leading an outdoor life, is especially liable to tuberculosis, probably for the reason that his food largely consists of starchy foods, such as rice, vegetables and fruits, and partakes sparingly of meat. The author applied the following treatment in his own cases: plenty of nutritious food, especially that rich in albumins (1 kidney well cooked, daily, with one half pint of beef tea); in carefully selected cases, he advised exercise in the fresh air; the medicinal treatment comprised drugs of recognized value, such as iron, cod-liver oil, hydrochloric acid, strychnia, pepsin, creosote, and urea has been added to the remedies mentioned. By partaking of a superabundance of rich food, containing a large percentage of urea, the tissues, and fluids of the body are rendered less susceptible to the invasion of the tubercle-bacilli; in short, they act as an antitoxin. A report of 9 cases of tuberculosis is given. In all of these urea was administered with very favorable results. The remedy is of special value when the disease is uncomplicated by various species of cocci. From the standpoint of a laboratory investigation, the author failed to obtain a growth of tubercle-bacilli in meat broth containing a small percentage of urea, whilst in the control tubes which did not contain urea the bacilli grew. [F. J. K.]

5.—Glasson reports an interesting case of pemphigus occurring on the third day after birth, in an otherwise healthy child. The disease first appeared as a bullous rash over the occipital region and then spread over the entire body, accompanied by fever, constipation and restlessness. Each spot was pricked with an aseptic needle, the child was kept in a warm rain-water bath for five minutes each day, and then anointed with boracic ointment. An interesting feature in the case lies in the fact that there is no history of syphilis in any member of the family and nothing to cause one to suspect this disease as being the cause of the pemphigus. The mother nursed the child throughout the entire attack.

During convalescence there was a complete exfoliation of the entire cuticle, leaving no blemish of the skin. [F. J. K.]

6.—McCardie reports 10 cases of ethyl chloride narcosis. He is very much impressed with the usefulness of this anesthetic. The anesthesia is produced in about 2 minutes and passes away in about the same time. It has no irritating action and can be administered in heart, lung, or kidney diseases where ether and chloroform are contraindicated. The only objection to its use is that complete muscular relaxation is difficult to obtain. McCardie uses the Breuer apparatus, which consists of a close-fitting mask with inspiratory and expiratory valves and a chamber above the former to hold the gauze on which the drug is sprayed. All the cases he has used it in have been short operations, such as the extraction of teeth, removal of tonsils, etc. [J. H. G.]

7.—Gray recommends as a local anesthetic in the ear, nose and throat a combination consisting of equal parts of a 20% solution of cocain in a mixture of equal parts of anilin oil and rectified spirit, and a 20% solution of eucain B in anilin oil. The latter is not a true solution, as eucain is only soluble to about the extent of 10% in anilin oil, therefore, before the solutions are mixed the eucain solution should be thoroughly shaken. Of the combined solutions he uses never more than 20 minims. Gray thinks that this combination of cocain and eucain in anilin oil is much more anesthetic than either of these drugs used alone, and much more so than an aqueous solution of them. He allows seven minutes to elapse after the application of the anesthetic agent before beginning his operation. Where chromic acid is used after the application of this solution the eschar will be of a dark green color, owing to the formation of an anilin dye. This, however, produces no deleterious effects. He never sees the intoxication from the use of these drugs which is not infrequent when used in aqueous solution. A blueness of the lips has sometimes followed the use of this anesthetic, but is never accompanied by any other symptoms. [J. H. G.]

8.—Newbold and Holland report two cases in which x-rays were used for the location of foreign bodies: one, a gun-shot wound of the face in which the bullet was easily located, and the other one of a plate with a single tooth which was readily located in the esophagus, and subsequently successfully removed through the mouth.

9.—Dalby calls attention to the great change which has taken place in recent years in aural surgery, showing that today the specialists, instead of discussing the minor ailments of the ear, are exercised over such subjects as cerebral abscess, thrombosis of the lateral sinus, mastoid inflammations, etc., and the wonderful advance made in the treatment of these conditions. [J. H. G.]

New York Medical Journal.

March 25, 1901. [Vol. lxxiii, No. 12.]

1. Some Retrospects and Prospects in Genitourinary Surgery. REGINALD HARRISON.
2. The Physical Examination of the Stomach. MARK I. KNAPP.
3. Infective Sigmoid Sinus Thrombosis. CLARENCE R. DUFFUR.
4. The Pathology of Intrauterine Death. NEIL MACPHERATTER.
5. Emphysema of the Eyelid from Nasal Causes. BEAMAN DOUGLASS.

1.—Harrison, in speaking of the advance made during the century in genitourinary surgery, mentions first the great improvement in the treatment of stone, brought about by the work of Bigelow of Boston. He remarks upon the completeness of Bigelow's work and how little improvement has been brought about in the operation of litholapaxy since its introduction. He refers to Rainey's views on the formation of urinary stone as being of the utmost practical importance. In discussing prostatic hypertrophy he urges that at least three varieties of this condition should be recognized and differentiated, as each requires individual treatment. The cystoscope here is of the greatest importance. The possible damage to the kidney, due to pressure from tension, is next taken up and Harrison suggests the possibility of relief in this condition from an exposure of the kidney, and incising its capsule. Lastly, reference is made to the progress of urinary antiseptics. [J. H. G.]

3.—Clarence R. Dufour presents an able paper upon **infective sigmoid sinus thrombosis**. The sigmoid sinus is more often affected with thrombosis than any other of the sinuses on account of its nearness to the middle ear, mastoid cells and antrum, cavities that are so liable to purulent inflammation. The etiology of this condition is by extension from chronic purulent otitis media, extension of thrombosis from other sinuses, traumatism such as a fracture passing from the base of the skull to the middle ear, infection from septic wounds of the head, neck or mastoid region and inflammatory secretion from throat or nasopharynx into the middle ear, antrum and mastoid cell. A large number of persons are affected with chronic middle ear disease, and it is from this class that a large number of cases of infected intracranial disease comes. The beginning of a thrombus of the sigmoid sinus rarely has any symptoms pointing directly to it other than the mastoid symptoms which demand the opening of the bone. There are no uniform or specific symptoms which determine the presence of a thrombosis of this sinus that may not vary in such a manner as to cause a doubt of the condition present. The writer regards the fluctuating temperature as important. The pulse rate is high—from 150 to 175—respiration soon becomes rapid and labored, vomiting and dizziness may or may not be present; meningitis may occur. When it does, these last two symptoms are usually present. The patient may become unconscious or delirious, or consciousness may be retained up to the time of death. There is often present an edema of the occipital region extending down the neck, which is caused by an obstruction of the occipital and mastoid veins, and by phlebitis of the same vessels. This is known as **Griesinger's symptom**, and when present is significant. Pain and pressure along the course of the internal jugular vein, and on the upper third of the posterior cervical triangle can often be elicited. Comparison of the two sides as to the degree of pain produced by pressure will often give valuable information when in doubt as to the condition of the sinuses. The most serious stage of the disease is that of the breaking down of the thrombus, at which time metastasis occurs. The writer closes with a detailed account of the technic of the operation. [T.L.C.]

5.—Beaman Douglass reports several cases of **emphysema of the eyelid from nasal causes**. The condition often results after a Bowman operation and the question then sometimes arises whether the surgeon is at fault. The condition may occur from any wound from the lachrymal duct as well as from disease when the wall of the lachrymal duct has been weakened. In an operation upon the lachrymal duct, if the wall of the duct is incised to such an extent as to permit a deep introduction of the knife into the wall, the cellular tissue around the upper wall of the duct is cut. If the patient subsequently blows his nose a rise of pressure causes air to be forced through the incision into the cellular tissue and into the wall of the eyelid. In operating the author advises the following precautions: Avoid as much as possible the use of the curet, never amputate any part of the middle turbinate during an ethmoid operation, as it subsequently can be removed if necessary. [M.R.D.]

Medical Record.

March 23, 1901. [Vol. 59, No. 12.]

1. 1. A Case of Ambulatory Typhoid Fever with Intestinal Perforation. 2. A Case of Traumatic Rupture of the Intestine; Operation; Recoveries. A. A. BERG.
2. Chronic Gonorrhea and Marriage. LUDWIG WEISS.
3. Excision of Aneurysm, with the Report of Two Cases of Femoral Aneurysm so Treated. GEORGE RYERSON FOWLER.
4. Conservatism in the Diagnosis and Treatment of Prostatic Hypertrophy. JAMES R. HAYDEN.
5. Subphrenic Abscess as a Complication of Appendicitis. J. McF. GASTON, JR.
6. Surgical Treatment of Abdominal Dropsy Following Cirrhosis of the Liver. JAMES T. JELKS.

1.—A. A. Berg reports a case of **ambulatory typhoid fever with intestinal perforation**, and case of **traumatic rupture of the intestine in which operation was performed**, and both recovered. The writer

has carefully studied the question of operation in cases of typhoid fever with intestinal perforation. His personal experience as to how major operations are borne by typhoid patients extends over three cases. He concludes that the early surgical intervention will show between nature's and man's surgical efforts such a marked difference in favor of the latter that the question of the propriety of operations for intestinal perforation with extravasation, occurring in the case of typhoid fever, will very soon be settled in favor of operation. As to operation in the **preperforative stage**, when our diagnostic acumen will have reached the highest stage of development, and when we are able to foretell an impending perforation, operation will clearly be indicated. But until then the writer agrees with Cushing that such symptoms of a localized peritonitis should place the attendant upon his guard so that the patient may be kept absolutely quiet, and tube omitted, especially if they are disagreeable and resisted. The necessity of calling in a surgeon in this stage of the course of the fever is urgent. The symptoms of the preperforative stage are local rigidity of the abdominal wall, usually an increased leukocytosis, local pain and tenderness of the abdomen, possibly nausea and vomiting, possibly an increased rise in the pulse and temperature. The symptoms of the perforative stage depend in almost all cases upon the extravasation of the cavity into the peritoneal cavity. With those rare exceptions in which a large blood-vessel of the intestine is eroded by the ulcer and in which the signs of internal hemorrhage are constantly present, the perforation per se does not give rise to any symptoms. If, however, the perforation is large, permitting of extensive extravasation, the reflex symptoms of shock will be very marked. They are collapse, fall of temperature, cold, clammy skin, rapid feeble pulse. The author concludes that it is of the utmost importance to examine the abdomen frequently for evidence of local rigidity and to make examinations of the blood every 24 to 48 hours. In patients with a distinct preperforative stage the sudden appearance of symptoms of shock when present clearly indicates perforation with extravasation. In those patients with a distinct preperforative stage, a decreasing leukocytosis and increasing abdominal rigidity with or without the previous signs of collapse demand immediate surgical interference. The author recommends a general anesthetic in those cases in which it can be borne. The existence of typhoid fever does not counterindicate an operation. The repair of the ruptured typhoid ulcer should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. Operation in the preperforative stage is not to be considered. Extravasation can usually be early diagnosed if strict attention is paid to the recognition of its symptomatology. [T.L.C.]

2.—Ludwig Weiss discusses the familiar question of **chronic gonorrhea and marriage**, and he concludes that we should only give permission to marry to those who have had gonorrhea when after repeated and careful microscopical examination of slide specimens and an exhaustive bacteriological and microscopical investigation of the threads and of the secretions of the prostate and seminal vesicles done under the strictest rules and with the aid of Graham's method the presence of gonococci cannot be demonstrated. [T.C.L.]

3.—George R. Fowler reports two cases of **femoral aneurysm treated by excision**. By means of this operation the vessel is ligated at its end instead of in its continuity, and by the process of ablation of the sac and the adjoining portions of the vessel provision is made against the two most active factors concerned in the relapse, namely, the existence of the portion of the diseased or injured vessel and the presence of one or more branches concerned in the recurrent circulation. One of the old-time dangers following ligation for aneurysm, namely, inflammatory suppuration of the sac and its consequent rupture with hemorrhage from collateral branches; following displacement of the clots at their points of communication with the sac, is rendered impossible by this operation. His first case made a good recovery and 3 years after the last operation has experienced no trouble. In the second case everything went on well until the end of the second day, when pulmonary congestion followed by a rapid edema terminated the patient's life. [T.L.C.]

4.—James R. Hayden discusses conservatism in the diagnosis and treatment of **prostatic hypertrophy**. He has been very forcibly impressed by the following facts: A

large number of patients now being operated upon whose symptoms judging from their recorded histories, hardly warrant such heroic methods, especially in these days of improved technic, as to catheterization and urethrovaginal irrigation as well as internal medication, improved soft rubber and woven catheters and the employment of local treatment to the prostate by way of the rectal route. **Hayden** points out the fact that in a large number of these cases of **prostatic hypertrophy** there is **considerable posterior urethritis, compressor spasm, urethrocystitis and true prostatitis**, with temporary swelling of the gland, and in these conditions much can be done in the way of palliative treatment. In those cases in which operative treatment is demanded the writer believes that the most satisfactory method is the partial or complete removal of the gland, either by the suprapubic, or by the perineal route, or by a combination of these methods. He does not believe that the **Bottini operation** will give as immediate and free vesical drainage as does prostatectomy, which is a strong argument against its general adoption. **Castration, vasectomy and ligation of the internal iliac arteries** are not to be recommended. [T.L.C.]

5.—J. McF. Gaston has collected a number of cases of **subphrenic abscess as a complication of appendicitis**, and reports a case of his own in detail. This complication is a very rare one. Many of the cases—there are some 45 collected—were not diagnosed until after the death of the patient. Pathological examination has shown that these cases may be extraperitoneal or intraperitoneal. Gaston's case had its onset on the first of June, when operation was performed. The recovery was complete on July 31. [T.L.C.]

6.—James J. Jelks discusses the **surgical treatment of abdominal dropsy following cirrhosis of the liver**. The operation consists of abdominal section preferably between the umbilicus and ensiform cartilage, evacuation of the accumulation of fluid, and scraping of the parietal peritoneum with a curette or rubbing off the epithelium with a gauze sponge. The superior surface of the liver and the peritoneum covering the diaphragm are also to be rubbed. The omentum for 3 or 4 inches around the incision is then to be stitched to the parietal wall. It is also included in the sutures which close the abdominal incision. Thus a broad surface is presented for adhesions, and it is this additional collateral circulation which has saved the patient operated upon. It is frequently necessary to tap these patients several times after operation, before the collateral circulation is complete. The writer believes that **all well-attested cases of cirrhosis presenting ascites** should be operated upon, and local anesthesia is recommended. He reproduces Frazier's table of 15 cases, his own being the fifteenth in the table. Three of these cases died within 2 weeks of the operation, 1 from contracted kidneys, 1 from septic peritonitis, and 1 from delirium tremens, who while delirious tore off the dressings and infected the wound. In discussing the results of the operations from Frazier's tables he shows that 75% of recoveries has taken place. [T.L.C.]

Medical News.

March 23, 1901. [Vol. lxxviii, No. 12.]

1. Retrospects and Prospects in Genito-Urinary Surgery. REGINALD HARRISON.
2. Cerebrospinal Meningitis (Weichselbaum, Jaeger) Treated by Repeated Lumbar Puncture. HENRY KOPLIK.
3. Drainage in Abdominal Surgery. J. W. LONG.
4. Vertigo; A Stomach Lesion. MARTIN A. H. THELBERG.

1.—Harrison mentions in his article on **retrospects and prospects in genito-urinary surgery** some of the prominent features in the progress of genito-urinary surgery: (1) litholapaxy, (2) Otis' urethrometry, (3) etiology of vesical calculus; (4) prostatic hypertrophy; (5) surgery of kidney. In prostatic enlargement he mentions 3 forms: (1) the simple enlarged prostate which bulges upward and backward into the bladder, more generally cured than any other form by castration, vasectomy, or by the Bottini operation; (2) a form in which a tongue of prostatic tissue, or a median lobe of the prostate, is the active agency that interferes with the emptying of the bladder. Castration and vasectomy, as a rule, do no good. The median tongue of tissue must be removed; (3) that form in which there occur in the midst of

the enlarged prostate hard glandular growths. Castration and vasectomy always fail, and also does Bottini's operation. He also suggests that for the condition of congestive tension on the kidney, an aseptic exploration with puncture of the capsule might easily be done without great danger and that this operation might serve as a prophylactic against the development of kidney disease in later life. [T.M.T.]

2.—Koplik in his treatment of **cerebrospinal meningitis by repeated lumbar puncture** gives the following facts: (1) Quacke method was employed and from 3 to 50 cc. of the fluid was withdrawn. The punctures were made on 5th, 6th, 8th, 9th, 10th, 13th, 16th, 19th, 24th, 28th, 36th, 37th days of the disease. The fluid withdrawn on the 5th day was turbid; on 6th, cloudy; on 8th, turbid; 10th, turbid and flaky; 13th, turbid, thick and purulent, and continued to be turbid up to the 37th day. This shows that there may be marked exudate even at an early period, and later puncture after chill may give a turbid, flaky, or even purulent-looking fluid. Councilman found in his examination that a diminution of turbidity went often hand in hand with absence of microorganisms. In Koplik's cases microorganisms were found in turbid, opalescent and less turbid fluids, and that also microorganisms grew in turbid fluids. In opalescent or clear fluids they were found by staining and sometimes were absent by culture. Only in one of his cases were the microorganisms absent by culture. On the other hand, they were positive in all stained specimens except one and in this the culture showed the diplococcus. It seems to Koplik that the difficulty of culture is rather the obstacle to a positive result, in some cases, than the abundance of microorganisms. In reviewing the treatment by the puncture, he found that such symptoms as persistent headache, somnolence, coma, delirium, and convulsions due to an accumulation of fluid in and about the brain and cord, and to a certain amount of toxemia resulting from the absorption of inflammatory products, were relieved for a time, at least. The puncture was carried out with antiseptic precaution, most of the patients receiving three punctures, although in one more were given. The operation was only performed when symptoms of pressure or accumulation of exudate appeared, and the procedure was only repeated if there was an exacerbation of the symptoms. If there was continued improvement, the patient was not disturbed, and by this method no harmful results appeared. There seemed to be no marked effect on the pulse and respiration, even if a considerable amount of fluid was withdrawn. [T.M.T.]

3.—In **drainage in abdominal surgery** Long states: (1) Objects of drainage; (2) objections to drainage. Drainage is employed (a) to drain away existing septic material; (b) to afford an exit for the sepsis when the operator fears that he has possibly infected his patient; (c) to provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents; (d) to keep the peritoneal cavity free of blood and other fluids; (e) to allow of a more certain knowledge of the conditions present in the abdomen; (f) gauze drains are sometimes employed as tampons to control hemorrhage. The objections are (a) it is deceptive; (b) cases not drained do better; (c) drainage is neither scientific nor workmanlike. [T.M.T.]

4.—Thelberg believes that **vertigo** is brought about by either or all of the following causes: 1. Reflexly through direct irritation of the gastric branches of the pneumogastric and thence by the lower cervical ganglion to the vasomotor nerves of the vertebral artery which supplies the internal ear. 2. By toxemia from amulon and other ptomaines, nicotin, alcohol, reabsorption, etc. 3. By direct pressure upon the heart through distention of the stomach and intestines by gases, resulting principally from so-called amyloseous indigestion and hyperchylia. Treatment, administration of a glass or two of hot water half an hour before meals, and some sodium bicarbonate before breakfast, and 3 to 5 grains of diastase with each meal, combined with strychnin, $\frac{1}{16}$ to $\frac{1}{8}$ grain, and in some instances a pepsin ferment. [T.M.T.]

Boston Medical and Surgical Journal.

March 21, 1901. [Vol. cxliv, No. 12.]

1. Peerperal Insanity. ARTHUR C. JELLY.
2. Meat Rations in the Tropics. P. R. EGAN.

3. Bubonic Plague. Report on the Plague in Manila, P. I., from January 1, 1900 to June 30, 1900. JOSEPH J. CURRY.

1.—Two hundred and fifty cases of **puerperal insanity** were found on the records of the Institution's Registration Department of Boston, between 1872 and 1900. Jelly excluded 50 of these, so that 200 cases remained in which the puerperal state was the alleged cause of the insanity and in which the hospital records were at the disposal of the author. From an etiologic standpoint the cases may be divided into 2 groups: (1) those in which the puerperal condition appeared to be the sole cause of the insanity, and (2) those in which the preparations were already made and in which the puerperal state opened the door. Heredity is the great predisposing cause, although tuberculosis, alcoholism, epilepsy, hysteria, grief, fright, worry, domestic unhappiness, illegitimacy, sepsis, autointoxication, or several of these combined, play important parts in the etiology of the disease. In cases of gradual onset the first symptoms noted are a change of manner, so that the patient becomes somewhat indifferent and neglectful of the child and of her household duties. She grows reticent and her face shows a peculiar expression of watchfulness, as if she were anxious and yet unwilling to reveal her state of mind. Loss of appetite and inability to sleep occur early. Later, a patient may be confused, suspicious, resistive, depressed or, less often, excited; frequently she has impulses to suicide, or she makes attempts at suicide in an impulsive way; less often, impulses or attempts to injure the child are recorded. Hallucinations occur and distressing delusions are also recorded, which are frequently concerned with religion. After a short period many of the most excited cases become comparatively quiet and no longer suffer from hallucinations and delusions. Many septic cases are of short duration and end in death. Others improve after removal of the source of sepsis. Some cases of exhaustion live only a few days. Thirty patients had more than one attack. The prognosis as to life is very good. Of the 200 cases studied, 13 died in the first attack and 3 in the second; of the chronic cases, 14. The return of menstruation is a good sign, not because it in any way leads to recovery, but because it indicates a return to the normal condition on the part of the bodily functions. Recovery once well started usually progresses steadily. When the physician has reason to suspect the existence of conditions favorable to the development of insanity, he should instruct the patient to establish the most perfect hygiene possible in her home during her pregnancy, and if danger signals, pointing to instability, appear at any time, he should at once seek to remove the cause if possible, and endeavor in every suitable way to restore the balance. Special attention should be paid to the digestive and eliminative functions; exercise in the open air should be ordered; excitement should be avoided; and sources of annoyance should be removed. When mental disturbance appears after delivery wait until it is clear that the patient is suffering from something more than a mere temporary affair before deciding the question whether she shall remain at home or be sent away for treatment. In cases of profound sepsis or rapidly progressive exhaustion, death is liable to occur within a few days and it is especially unfortunate to remove such a patient to an insane hospital and have her die there in 24 hours. It is usually desirable and frequently necessary to separate the mother and child because of danger to the latter. Measures should be taken to prevent suicide, to maintain strength, to improve nutrition, and to insure sleep. It is usually necessary to give more or less alcohol. Hypnotics should be used freely if necessary and close attention should be paid to the functions of the bladder and the rectum. In the treatment of lactational cases nursing should be stopped and the attending debility and anemia should receive proper treatment. [J.M.S.]

2.—Dr. Egan's paper on the **meat ration in the tropics**, is a criticism of the statements made by certain army surgeons, that the soldier in the tropics should have the amount of fat and proteid in his diet reduced. [J.M.S.]

3.—For an early diagnosis of **bubonic plague** the most satisfactory method is that of aspiration of one of the recent swollen glands by means of a hypodermic syringe. With the material in the syringe: 1. A drop is used to make culture in melted agar tubes or in bouillon from which dilu-

tions, cultures, and plates can be made. 2. A drop is allowed to fall on a slide, which is then smeared by a platinum needle, to be used for direct examination. 3. The remainder is injected into a mouse or a rat. If examination of the specimens on the glass slides shows the presence of large numbers of characteristic, short, bipolar staining bacilli, that decolorize by Gram's method, the case at once becomes more than suspicious. By the second day the inoculated animal is either dead or very ill, and an absolute diagnosis can be made. In every instance in which the direct coverslip examination showed large numbers of short thick bacilli that decolorized by Gram, the subsequent history of the case, the cultures, and the inoculations of animals proved the case to be one of bubonic plague. In some cases bubonic plague is ushered in by a sudden chill, and this onset is followed by a fever closely simulating a malarial attack. If the examination of the blood in such cases fails to reveal the malarial parasite, but does show an early and marked leukocytosis, suspicion of a septic process of some kind should be aroused and the observer should look carefully for the cause of the leukocytosis. From January 1 to June 30, 1900, in Manila, there were 225 cases of bubonic plague with 167 deaths, a mortality of 74%. The right femoral and the right inguinal glands were the first glands to enlarge in considerably over one-half of all cases. It was unusual to be able to locate any fresh wounds of the extremity which appeared to be the point of entry of the infection. It was very common, however, to find skin lesions involving legs and thighs. There is the possibility of introduction of the plague bacilli through infection of these areas in which the epidermis is broken; as most people are right-handed, it may be possible that they are more inclined to scratch the right thigh than the left. Almost all cases of plague which came to autopsy showed evidence of bites by fleas and mosquitoes. It does not seem probable, however, that mosquitoes play any part in the dissemination of plague. Objection has been made by some to the puncture of a plague gland with the hypodermic needle. These observers claim that there is danger of infection by this method from rupture or injury of a bloodvessel which would allow the plague bacilli to enter the vessel and by it to enter the general circulation. Curry thinks that this objection to the use of the aspiration method for diagnostic purposes is based more on theoretic than on practical grounds. He believes it is much safer for both the patient and the operator than the incision method advocated by some. [J.M.S.]

Journal of the American Medical Association.

March 23, 1901. [Vol. xxxvi, No. 12.]

1. Elbow Fractures and the X-Rays. W. W. GRANT.
2. General Bodily Resistance as a Factor in Nose and Throat Disease. FRANK LEWIS STILLMAN.
3. Systemic Factors in Catarrhal Deafness. SARGENT E. SNOW.
4. Diagnosis and Prognosis of the Ear Disease. ALEX. RANDALL.
5. Effects of Alcohol on the Nervous System, the Mind and Heredity. ALBERT E. STERNE.
6. A Case of Combined Gastric and Aural Vertigo, with a Discussion of the Pathology of such Cases. J. W. McCASKEY.
7. Heart Tonics. JOHN N. UPSHUR.
8. The Therapeutic Application of the Organic Extracts. O. T. OSBORNE.
9. Treatment of Addison's Disease. With Case. JOHN V. SHOEMAKER.
10. Quantitative Tests for Proteolysis. A. L. BENEDICT.
11. Anastomosis of the Ureters with the Intestines. A Historical and Experimental Research. REUBEN PETERSON.

1.—Grant reports several cases of **fracture at the elbow-joint** illustrated by x-ray pictures. These cases were all treated in the flexed position, which he thinks gives better results than in the extended position as recommended by Allis and Roberts. His article is illustrated by x-ray pictures of fractures occurring in other parts of the body, showing marked deformity, and yet the patients exhibited the most excellent functional results. In discussing the x-rays Grant calls attention to the great misconception which can be had

from examining skiagraphs of the injured part taken in different positions and by different operators. He thinks that it is a mistake to give the x-rays the prominent place which some have given them as a diagnostic and prognostic measure. [J.H.G.]

2.—Stillman discusses general bodily resistance as a factor in nose and throat diseases. As the cases coming to the specialist are usually chronic, the object of the treatment is to remove the effect of the long-standing pathological action. The author makes a plea for more constant study of the history of the patient in regard to the family history, the previous and personal history, and the mode of life of the patient and the environments, as well as the manifestations of the local disease. In order to properly advise and institute treatment, the specialist should always remember that he is a physician first and a specialist afterwards. [F.J.K.]

3.—Regarding the systemic factor as the cause of catarrhal deafness, Snow states that particular stress should be laid upon the following conditions: (1) Sluggish reaction of the skin; (2) low vital resisting powers; (3) torpid liver; and (4) improper exercise. For the sluggish reaction of the skin, which plays an important part in the etiology of catarrhal deafness, he recommends cold baths and friction. The problem of avoiding frequent colds, the author believes, is not to be solved by the excessive amount of clothing, but in stimulating the skin to proper and rapid reaction; lack of exercise, torpid liver, and digestive disorders also assist in the causations of catarrhal deafness. Many causes or conditions of causes participate in the production of this condition; therefore, the specialist should not only be well trained in the diagnosis of diseases of the nose, throat, and ear, but he should also have had a training as a general practitioner. Snow states that the prognosis should depend largely upon the physical condition of the patient and the ability to have skillful attention. While the surgical treatment is important, it is no more so than the proper attention to the functional equilibrium, especially after the operation. [F.J.K.]

4.—Randall states that, in order to come to the proper conclusions as to the diagnosis and prognosis of the ear diseases, a detailed family history should be obtained and the following objective findings added to the record: Ascertain the degree of hearing for whispered or conversational speech, for the tuning forks (use the forks which produce 50 vibrations per second, then 200, 500, and 2,000) and for the Galton whistle; also, test the hearing with the 200 fork by bone conduction (from the nose and mastoid bone); Politzer's test should be performed in order to determine whether or not the Eustachian tube is patulous, and for lateralization from the middle line; finally, otoscopic and rhinoscopic examinations must be made and the degree of response to inflation and pneumatic massage ascertained. [F.J.K.]

5.—Stern mentions that the effect of alcohol upon the nervous system is either direct (primary) or indirect (secondary). From a physiological or functional standpoint it may be either direct or indirect, and from a pathological or structural view it may also be primary or secondary. The author refers to a paper of Dehio, who has shown that acute alcoholism produces a diminution in the chromophilic granules of the nerve cells of the cerebral cortex, of the large multipolar cells of the spinal gray matter, and of the Purkinje cells of the cerebellum. Mention is made of a case which may bear relation to the observations of Dehio; this case was that of a lad aged 19, a farmer by occupation. The symptoms developed a year after he began the use of alcoholic beverages. The symptoms consisted of peculiar spasmodic seizures, which were motor in character and increased in frequency as the disease progressed. When the disease was at its height, the seizures occurred every few minutes and involved the greater portion of the body. Voluntary movements, however, were not markedly affected during the attacks. The deep tendon reflexes were somewhat exaggerated. After 9 weeks of treatment the patient recovered; the seizures gradually decreased in frequency and intensity and finally ceased altogether. The etiological factor was apparently alcohol. The changes of the nervous system, caused by chronic alcoholism, are secondary and depend upon vascular derangements. The author states that the chronic use of alcohol is a most important, constant con-

tributing factor of bloodvessel diseases. The author has long held the view that chronic alcoholism never develops unless a neurotic basis previously exists. He emphasizes the fact that the alcohol habit is a great social evil. [F.J.K.]

6.—McCaskey reports a case of combined gastric and aural vertigo. He concludes that, from the clinical point of view, the stomach must be regarded as a necessary cause in the reported case. He has observed several hundred cases of chronic gastric diseases, in which vertigo was a symptom. [F.J.K.]

7.—Upshur discusses heart-tonics in the broadest sense, from the standpoint of the clinician and therapist, rather than from a technical ground of physiological action. Heart-tonics are defined as remedies having power to regulate the action of the heart, whether due to functional or organic irregularities, or to that modification of its condition which produces a source of discomfort and danger to the patient. In dealing with the therapeutic value of digitalis, he emphasizes that this remedy in mitral stenosis is of transient benefit, and ultimately may be harmful in its results. In fatty heart, the danger of rupture of the cardiac wall is increased by its administration; its use is contraindicated in fevers, septicemia, and similar conditions; the pulse tension in pneumonia is not increased by digitalis. He refers to the dangers which follow its use in aortic insufficiency for reason of prolongation of the diastole, and the danger of rupture of the heart in aortic stenosis for reason of more forcible contraction of the ventricle during systole. Mention is made of the advantage of convallaria over digitalis, but the latter drug is more powerful and more reliable in its action. The slow elimination of spartein and for reason of its true stimulating action upon the cardiac muscle, makes it a reliable drug in the treatment of weak, flabby heart-walls. Strophanthus combined with strychnia is of value in the threatened heart-failure of enteric fever. The greatest benefit of atropin is found in tiding a patient over an emergency, such as sudden collapse, or threatened heart-failure; this drug should be combined with strychnia; he recommends caffeine for the dropsy due to parenchymatous nephritis, associated with heart involvement. Strychnia is placed at the head of heart tonics, its usefulness is especially manifested in the enfeebled heart of enteric fever, of pneumonia and of septicemia; nitroglycerin is indicated for angina pectoris (true or pseudo). It is contraindicated in the enfeebled heart due to septicemia and surgical shock. Under some circumstances, opium is a heart tonic. He mentions as an example the coma vigil of enteric fever, the aspect of the case may be greatly changed and a favorable termination depend upon the use of this drug. [F.J.K.]

8.—Osborne reviews some of the literature pertaining to organotherapy. He mentions the therapeutic indications for thyroid extract, thymus extract, pituitary extract and suprarenal extract. The important use of thyroid extract is found in the treatment of myxedema; it is contraindicated in Graves' disease, unless the patient is apathetic, sleepy, does not complain of headache and is gaining weight. Mention is made of its value in obesity, and such skin diseases as dry eczema or psoriasis. Thyroid extract seems to be indicated in certain cases of melancholia, in order to produce cerebral stimulation. The mental depression occurring at the time of menopause may, perhaps, be benefited by its administration. The author has used thymus extract in the treatment of Graves' disease and feels convinced of its value, but that it does not possess a curative action. Osborne mentions that it is fairly supposable that the administration of pituitary body extract in akromegaly can prevent the continued growth of the body and obviate some of the symptoms. The local action of suprarenal extract is positive, but the advantages derived by its internal administration are as yet doubtful. In Addison's disease it should always be tried for the possible good that might follow. [F.J.K.]

9.—Shoemaker reports a case of Addison's disease and discusses the treatment. He advises a trial of suprarenal extract in all cases. There is little hope in those cases of tuberculous origin; in the cases due to atrophy, sclerotic or inflammatory changes, if a portion of the gland is still active, suprarenal extract will probably be found useful. [F.J.K.]

10.—The abstract will appear when the article is completed.

11.—To be treated editorially when concluded.

University Medical Magazine.

February, 1901.

1. Dysentery (in the Tropics): Its Symptomatology, Complications and Treatment. B. L. WRIGHT.
2. The Association of Chronic Jaundice with Gastroptosis. Report of a Case. J. DUTTON STEELE.
3. A Clinical and Histological Study of a Case of Melanosarcoma of the Chorioid. CHARLES A. OLIVER.
4. A Note on the Disinfectant and Deodorant Action of Ammonium Persulphate. M. P. RAVENEL and S. M. GILLILAND.

1.—B. L. Wright, assistant surgeon U. S. N., writing from the Philippines, furnishes us with a practical article upon **Tropical dysentery, its symptomatology, complications and treatment.** Dysentery, as met with in the tropics, is epidemic in character and most virulent in form. It seldom stops at the **catarrhal stage**, but rapidly passes to that of **ulceration**. If the patient does not die from exhaustion or complications the disease may slowly progress, finally becoming **gangrenous**. Wright believes that the cause is undoubtedly introduced into the intestinal tract by means of the drinking water, and in support of this generally accepted view describes an outbreak which was traced to neglect on the part of the cooks to boil the water which had been used after long transportation. For several weeks in which the water was boiled no cases developed. Immediately upon the cessation of this precaution the outbreaks occurred, and disappeared upon the condition being corrected. Another similar outbreak was traced to the contaminated water. In this case it was found that the sterilizer, which had been relied upon, was worthless. **Dysentery** in the Philippines begins usually with moderate fever, coated tongue and diarrhea. The character of the watery stools changes in the course of a few days to the mucous stool of the catarrhal stage. At this time griping pains in the abdomen are prominent. There is tenderness along the line of the colon, rectal tenesmus and frequent nausea. The stools are small, averaging about 4 grams in weight in number from 10 to 35 per day. **Gangrenous dysentery** is but a late stage of the acute condition. Wright calls particular attention to the fact that out of 30 cases of dysentery observed 3 developed **appendicitis** during the fifth or sixth week of the disease. [T.L.C.]

2.—J. Dutton Steele reports a case of **chronic jaundice associated with gastroptosis**. When the **gastroptosis** was corrected by fitting the patient with an abdominal support the signs of gastric insufficiency began to disappear quickly, and the jaundice also slowly disappeared. A study of the literature reveals no report of a case of **gastroptosis** unaccompanied by adhesions in which jaundice was present. From a number of experiments performed upon a number of bodies, Steele found that while the descent of the **pylorus** alone cannot produce obstructive jaundice, if the ducts are bound down by adhesion to the under surface of the liver a very moderate degree of traction produced by a displaced pylorus might bring about such a result. In the case in question Steele concludes that there were some conditions causing a **perihepatitis** or some form of **peritoneal inflammation**, and that adhesions bound down the common or hepatic ducts in such a manner that the apparently slight amount of traction from the prolapsed stomach caused kinking, obstruction and jaundice. [T.L.C.]

3.—Charles A. Oliver reports a clinical and histological study of a case of **melanosarcoma of the chorioid**. The patient presented a nodular mass of the left eye which could be seen protruding between the widely opened eyelids. The nodule, which was somewhat mobile, was vascular and pigmented. Its internal surface was covered with numerous scabs beneath which bleeding areas could be exposed. The skin of the lower lid was excoriated and excreted a thin, sanious fluid. The mass was painless, and the right eye was normal in every respect. The orbital contents were removed and the patient made uneventful recovery. A very careful microscopic examination of a large number of sections from the removed mass was made. The preponderance of the cells over the intercellular substance, as is usual in such growths, the gross infiltration into the surrounding tissues and the thorough destruction of all the soft ocular elements are of the utmost importance. The long period of time,

possibly more than 26 years in this case, that the growth had been in existence and the almost certain surety of the failure of extension or metastasis for a period of more than 3 years' time after the removal of the orbital mass are of great importance in the prognosis of such an affection. [T.L.C.]

4.—Ravenel and Gilliland have conducted a series of experiments upon the **disinfectant and deodorant action of ammonium persulphate**. They conclude that it has little, if any, value as either. [T.L.C.]

University of Pennsylvania Medical Bulletin.

March, 1901.

1. A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. FRANCIS R. PACKARD.
2. The Treatment of Trifacial Neuralgia, with the Report of a Case of Evulsion of the Second and Third Divisions, and of the Gasserian Ganglion. J. WILLIAM WHITE.
3. The Value of the Tuberculin Test in the Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints. CHARLES H. FRAZIER and MONTGOMERY H. BIGGS.
4. A Digest of Recent Literature Upon Perforation of the Intestine in Typhoid Fever. JOHN J. JOFSON.

1.—Francis R. Packard contributes a noteworthy historical article upon **General Joseph Warren**, one of the leading medical lights of his day, and a staunch patriot. This is the first of a series of twelve articles on medical men prominent in the civil and military affairs of revolutionary times. It is replete with anecdote and characterized by evident historical accuracy. [T.L.C.]

2.—J. William White reports a case of **evulsion of the second and third division of the gasserian ganglion** for the medical treatment of **trifacial neuralgia**. White states that the etiology of the condition, as in his case, is too often hypothetical, or absolutely unknown. The medical treatment should include the removal of the reflex sources of irritation, though well developed it is rarely found to have such origin. **Dana** divides the period of treatment, as to curative value, into two cases: First, a neurotic type occurring early in life, affecting women much more often than men, running a long, tedious course with no tendency to recovery allied to ordinary migraine and due probably to central disease—a disorder of the sensory neuron—and not to disease of the gasserian ganglion. The second, a more common type, occurs later in life, after the age of forty, affecting men at least half as often as women, sometimes beginning as a definite, infective neuritis, and a disease either of the peripheral nerves or of the ganglion. In the first classification **Dana** believes that operative procedure is of no avail. In the second class he maintains that nothing short of a complete removal of the gasserian ganglion will produce anything more than temporary relief, and this, he urges, may also be secured by medical means. **White**, however, believes that in men cases of tic which have resisted medical measures for from six months to a year should be regarded as requiring surgical interference. Operations on the peripheral nerves are likely to do good, when the disease is distinctly limited to either the second or third division of the nerve and where the evidence shows that there is a peripheral neuritis. In view of the atrophy of the cerebral center which must follow the excision or destruction of the nerve trunk peripheral operations might still effect a cure even if the cause were central. The intracranial operation may be considered as a primary operative procedure in those very severe cases affecting all the divisions of the nerve with frequently recurring paroxysms and with no immediate relief from medical treatment. **White** recommends Cushing's modification of the Hartley-Krause operation as the method of approach. He believes that this method will reduce the present mortality of 20% and will increase the percentage of cures 90%. The surgeon may limit his interference to evulsion of the second and third division between the ganglion and the foramina, knowing that this has been followed by cure in a number of cases. This course of action is favored by the knowledge that primary and exclusive disease of the first division has never been known to occur. There is also less risk of injury to the

abducens nerves and to the cavernous aversus sinus, and by leaving the first division untouched diminishes the later danger of trophic changes in the eye. The latter course of treatment was followed in a case which White now reports and the patient was free from pain 11 months after the operation. [T.L.C.]

3.—Charles H. Frazier and M. H. Biggs publish a preliminary report on the value of the tuberculin test in the recognition of latency, or quiescence, in tuberculosis of the bones and joints. The object of the investigation was to determine solely whether tuberculin could be employed to advantage, not as a means as revealing the presence of a focus in the incipency of the disease, but as a means of determining whether the disease has apparently run its course and subsided, whether the process is in a state of quiescence, of latency, or whether resolution with total disappearance of all tuberculous material has occurred. Carefully prepared tables are furnished by these writers showing the results of the reactions they have obtained. The table of positive reactions is deserving of attention; of the "recovered" 78%; of the "quiescent" 100%; and of the "active" 80% responded in a positive manner. Those cases in which for periods varying from one to seven years there had been no clinical evidence of active tuberculosis gave positive reaction. Some of the patients classified as "recovered" had submitted to a radical operation for the removal of the affected joint, or the affected area in the bone. The writers inquire "what is the interpretation of the figures these tables supply?" They might be accounted for in one of 3 ways: (1) The general unreliability of the test; (2) misinterpretation of the clinical phenomena; and (3) the existence of tuberculous foci elsewhere. The first supposition may be ruled out. The positive reaction in answer to (2) might be accounted for by the presence about the seat of the old tuberculous disease of small areas in which were imbedded the bacilli of tuberculosis in a dormant state. It is possible that these minute areas might account for the positive reaction. The existence of tuberculous foci elsewhere than at the seat of the so called primary bone and joint tuberculosis may be relatively frequent. For instance, in the intrathoracic or intraperineal chains of lymphatics. The positive reactions which are obtained, therefore, in so large a percentage of cases that have recovered would seem to vitiate the value of the tuberculin test when employed for the demonstration of the presence or absence of tuberculous lesions in other tissues of the body. [T.L.C.]

4.—John H. Jopson supplies a digest of recent literature upon perforation of intestine in typhoid fever. This is based upon 7 recent papers which have appeared upon this subject, those by J. M. T. Finney, Harvey W. Cushing, W. W. Keen, J. Collins Warren, G. G. Davis, William Osler, and H. A. Hare. [T.L.C.]

The Journal of Nervous and Mental Disease.

February, 1901. [Vol. xxviii, No. 2.]

1. A Case of Cortical Sclerosis, Hemiplegia and Epilepsy, with Autopsy. CHARLES L. DANA.
2. Diffuse Degeneration of the Spinal Cord. JAMES J. PUTNAM and E. W. TAYLOR.

1.—Dana gives a summary of his case of cortical sclerosis, etc., as follows: Child, aged 4½ years, forceps delivery, right hemiplegia from birth, general epilepsy from six months, operation, death, meningeal thickening, general cortical sclerosis in area of distribution of Sylvian artery, atrophy, degeneration of pyramidal tract, no degeneration of lemniscus or atrophy of cerebellum, considerable deficiency of tangential fibers. This case, he states, furnishes a contribution to the pathological anatomy of infantile hemiplegia with epilepsy and helps to throw light upon the origin of, at least, some cases of this disease. He also mentions lesions which are found causing similar conditions: (1) Diffuse sclerosis; (2) Lobar sclerosis; (3) Atrophic sclerosis; (4) Hypertrophic sclerosis; (5) Porencephaly; (6) Agenesis; (7) Cysts; (8) Simple atrophy. These various anatomical defects have as a cause (a) simple developmental defects; (b) chronic hydrocephalus; (c) meningo-cephalus; (d) vascular lesions, such as hemorrhage, embolism, thrombosis of veins and inflammatory lesions such as polioencephalitis. The author thinks

that in the case mentioned the anatomical defect is atrophy due to a vascular defect or disease and that during intra-uterine life, partial stoppage of the left middle cerebral artery and its branches leading to the incomplete development of the brain which it nourished. The obliteration could not have been complete without leading to a more massive and localized lesion. [T.M.T.]

2.—In 5 cases of diffuse degeneration of the spinal cord studied pathologically by Taylor, the features common to the general group of lesions were: 1. A diffuse degeneration for the most part limited to the cord, often in more or less discrete patches. 2. A constant involvement of the dorsal and lateral columns, without strict regard to neurone symptoms. 3. A predominance of the lesion in the cervical and thoracic regions. 4. The common freedom from degeneration of nerve-roots, both motor and sensory, and of peripheral nerves. 5. The practical noninvolvement of gray matter. 6. Insignificant vessel-changes. Putnam and Taylor's general conclusions derived from the study of this condition are: 1. That a well-defined lesion of the nervous system particularly localized in the cord exists, which may for the present be termed simply "diffuse degeneration." 2. That no fundamental characteristics of the lesion have been found depending on different causes. 3. That anemic states have been shown at times to be a concomitant condition, but not necessarily a cause. 4. That actual causes are still wholly obscure. [T.M.T.]

The Practitioner.

February, 1901.

1. The Special Functions of the Medical Examiner. T. COLCOTT FOX.
2. Medical Examination Forms for Life Assurance. THOS. GLOVER LYON.
3. The Medical Aspects of Life Assurance. J. J. PERKINS.
4. The Surgical Aspects of Insurance. J. JACKSON CLARKE.
5. The Medical Examiner and Insurance Company. JAMES CHISHOLM.
6. Heroes of Medicine. THOMAS SYDEHAM.
7. The Influence of Soil on the Prevalence of Pulmonary Phthisis. ARTHUR NEWSHOLME.

3.—Perkins discusses the facts which lead the larger life assurance companies to accept so few women as risks. In the population at large the average mortality for women is about two per thousand less than that for men—a difference largely due to the protection from the occupation risks to which men are liable. This difference is not equally distributed through the whole period of life, as between the ages of 5 and 35 the mortality between the two sexes is nearly equal, while from 10 to 20 years the deaths are more numerous among women. Among assured lives, however, the reverse holds, instead of a less mortality a marked excess over the death-rate among men is found up to the age of 45 and 50, due partly to incomplete medical examination, partly to the motive for assurance. The increased mortality among women before 20 is largely due to phthisis, which has an earlier age incidence among women than among men, and from the early age has little interest for assurance purposes. After 20 the increased mortality among women arises from the accidents of childbirth. Between the ages of 25 and 45 childbirth is held accountable for nearly one in ten of the total deaths of women, and if the deaths from this cause were removed the mortality would fall well below that of men. The death-rate for married women is less than for the unmarried except at the age when the risk of childbirth is the highest. As to cancer the evidence of heredity is much stronger in females than in males. Perkins sums up by concluding that the death of the mother from cancer requires a substantial increase in premium. If one other female relative has been affected the risk becomes serious and in some cases prohibitive. The death of a male relative from cancer is less serious, but no female life with a well-established family history of cancer should be accepted at the ordinary rate. [T.M.T.]

7.—Arthur Newsholme contributes an exhaustive paper upon the theory of the influence of soil on the prevalence of pulmonary phthisis. He has made a careful study of the death-rate in various towns in Great Britain

in which there were different degrees of drying of the sub-soil. His statistics, which are based upon a comparative study of the death-rate before and after proper sewage facilities were introduced, suggest a number of considerations. It appears probable that much of the benefit ascribed to the drying of the soil has really been due to other factors of improvement. Buchanan's results show the benefit of altitude in lowering the mortality from phthisis, even when the permeability is the same at the two levels. It may be that as the dry soils are usually higher than the wet, altitude may be as important a factor as dryness of site of house. Holland, for instance, has been already mentioned. It has been very malarious and yet not excessively phthisical. Indeed there is a widespread impression that ague is antagonistic to phthisis. The fact that such a widespread impression exists and that ague is most common in marshy districts does not support the view that there is a causative relationship between phthisis and wet soil. Newsholme concludes that personal infection is the main cause of the spread of phthisis, and that this occurs chiefly where people are most closely agglomerated and live an indoor life. That deficient nutrition is an important favoring cause of **phthisis**, and that wetness of soil operates in a minor degree by favoring catarrhal conditions of the respiratory mucous membrane. [T.L.C.]

The Quarterly Medical Journal.

[Vol. IX. Part II.]

1. The Limits of Discovery. ALEXANDER MACALISTER.
2. A Plea for Sympathetic Relations between Members of the Medical Profession. J. GORDON BLACK.
3. On Three Cases of Primary Amenorrhoea. J. B. HELLIER.
4. Two Cases of Fracture of the Base of the Skull, with Recovery. TRAFFORD MITCHELL.
5. Two Cases of Acute Yellow Atrophy of the Liver, with Remarks. ARTHUR HALL.
6. Case of Calculous Pyonephrosis—Nephrectomy—Recovery. JAMES MENZIES.
7. The International Congress of Medicine at Paris, August, 1900. J. B. HELLIER.
8. Operations in Acute Intestinal Obstruction. SINCLAIR WHITE.

3.—Hellier reports three cases of this very uncommon condition and gives the following important facts: The incision of an imperforate hymen to evacuate retained menses is beset with serious dangers and that antiseptic methods have not diminished the danger. He states that the most serious danger arises when the hematosalpinx is present as well as hemato-colpus and hematometra: (a) the thinned out, distended oviduct has often contracted adhesions, and may rupture when the great mass of accumulation is liberated; (b) the hematosalpinx is apt to become septic. This is due to the fact that it does not contract and empty. A hemato-colpus can be easily drawn and irrigated. A distended uterus contracts well, but a distended oviduct has little power to expel its contents. Hence, if hematosalpinx is present it is better to perform abdominal section and to remove the tubes. Their removal greatly improves the patient. [T.M.T.]

5.—In reporting two cases of acute yellow atrophy of liver, Hall concludes that yellow atrophy of the liver seems to be due to a toxin formed, possibly in the alimentary canal, but as to its origin or nature very little is known. The likeness of symptoms to those in cases known to be the result of toxic action, such as phosphorus poisoning, seems to suggest similarity in origin. Jaundice is probably due to a catarrhal inflammation and consequent obstruction of the smaller ducts, caused, possibly, by secretion of the irritating toxin "toxemic catarrh" (Hunter). What relation, if any, such cases bear to various cases of cirrhosis of the liver is unknown. The treatment is to check the formation of toxin in the alimentary canal by intestinal antiseptics and keep up the patient's strength. Diagnosis is generally not made until symptoms of the last stage have commenced, when treatment is of no avail. [T.M.T.]

6.—Menzies notes in his case of calculous pyonephrosis: (1) Complete absence of hematuria throughout the course of the case; (2) no history of the passage of gravel;

(3) pain not paroxysmal; (4) pain not influenced by exercise; (5) pain not especially referred to the affected side; (6) long period of tolerance (6 years) before the advent of alarming symptoms. [T.M.T.]

Münchener medicinische Wochenschrift.

January 22, 1901. [48. Jahrg., No. 4.]

1. The Treatment of Tuberculosis. Hereditary Transmission and Other Methods of Infection. KLEBS.
2. The Disinfectant Action of Alcohol, Particularly of Alcohol Steam. FRANK.
3. Is it Possible to Draw any Conclusion Concerning the Condition of the Blood-forming Organs from Decomposition of Anemic Blood? ENGEL.
4. A Case of Acute Leukemia without Microscopically Recognizable Pathological Alterations of the Blood-forming Organs. DENNIG.
5. A Case of Chronic Pemphigus of the External Skin and Mucous Membranes, with Epidermal Cystic Formations. MERTENS.
6. The Significance of an Exact Definition of Character for the Judgment of Patients Suffering from Mental Disease. TESDORPF.
7. The Opening of Peritiphilitic Abscesses of Douglas' Pouch by an Incision in the Perisacral Region. PORT.
8. The Removal of an Artificial Set of Teeth from the Esophagus by Gastrotomy. QUADFLIEG.
9. Six Cases of Echinococcus of the Liver, with Rupture into the Lungs. ZERVOS.
10. Personal Prophylaxis and Abortive Treatment of Gonorrhea. FRAENKEL.

1.—Part 1. (See Editorial.) Part 2. Klebs is of the opinion that **inhalation tuberculosis** is very rare. In between 4,000 and 5,000 autopsies he was able to discover but one instance, which occurred in a young girl, who had nursed a tuberculous patient. He thinks the reason for this is that the tubercle bacilli are very rapidly killed by drying. Certain experiments that he has undertaken prove this fact conclusively. He believes that the frequent involvement of the apices of the lungs is probably due to original lymphatic infection. He also believes that laryngeal tuberculosis may arise in the same way. [J.S.]

2.—Frank has undertaken a number of experiments in order to determine the efficacy of **alcohol as a disinfectant**, as it was necessary to discover some disinfecting agent that, in the form of gas, would disinfect brushes, hair, etc., with certainty. He found that in the various preparations of alcohol, those with a higher specific weight have more energetic disinfectant action. As a matter of fact, the most energetic preparation is 40% alcohol, which boils at about 90° C. He believes that in addition to the disinfection of various objects requiring penetration, alcohol may also be useful for hygienic purposes, such as the disinfection of houses, etc. [J.S.]

3.—Engel, as a result of careful studies of the red blood-corpuscles in cases of anemia, particularly in view of the fact that the non-nucleated red blood-cell is derived from the nucleated cell of the marrow, believes that we are able to predicate **four types of bone marrow as a cause of the blood-changes**. First, normal bone marrow in which the blood contains only the normal ortho-chromatic erythrocytes; second, the insufficient bone marrow characterized by excess of nucleated red cells with the following changes in the blood. Normal number of red cells, with diminished hemoglobin, that is chlorosis; or the diminished number of red cells with proportionate or disproportionate diminution of hemoglobin; or, occasionally, pathologic red blood cells of normal size showing peculiar color reactions, and occasionally nucleated. Third, metaplastic bone marrow of the red or embryonal type. All types of abnormal red blood-cells are found in the circulation. Fourth, the aplastic bone marrow characterized by nothing but fat even in the epiphyses. The red blood-cells are normal, but rapidly diminish; granulated leukocytes are absent. [J.S.]

4.—Dennig reports a case of **leukemia** in a girl, 19 years of age. There was marked leukocytosis, and an excessive number of mononucleated cells. The red blood-

cells were diminished. The patient had all the characteristic symptoms of leukemia, with the exception of enlargement of the spleen and lymph glands. Death occurred, and at the autopsy all the organs were normal, both macroscopically and microscopically, and even the bone marrow showed no alterations. [J.S.]

5.—Mertens reports the case of a woman, who at the age of 15 had had a severe attack of coughing, followed by an expulsion of a yellowish-white membrane, and a considerable quantity of clear blood. This attack was repeated several times, and from time to time there were also attacks of severe hoarseness, blisters upon the lips and tongue, and occasionally ulcers upon the skin that healed very slowly. When admitted to the hospital it was observed that she was pale, not very well nourished, there was a patch of membrane in the throat surrounded by an area of hyperemia, and a few ulcers, bluish in color, and covered with a membrane, were found in various parts of the body. The tonsils were always intact. Very rarely blisters appeared in the mucous membranes of the mouth that apparently contained no micro-organisms, that is to say, on only one occasion was a culture obtained of the staphylococcus aureus and smear preparations were always negative. On one occasion, the patient had an attack of acute edema of the larynx. Treatment was entirely useless. Local applications of chromic acid appeared to produce improvement but it was temporary. A diagnosis was made of **chronic pemphigus**. An interesting feature was the presence of numerous cysts in the skin beneath one of the affected parts. The differences between the lesions in the mucous membranes and the skin were also remarkable. [J.S.]

6.—Tiedorpf, after considering the desirability, on various grounds, of an exact definition of character, suggests the following: "We speak of a diseased character in cases in which all or some of the psychical qualities present in a human being, in as far as these, either as conscious or as unconscious factors, influence the inner psychical activities and the external actions, have either undergone some change as a result of disease, or have been influenced previously by disease. The morbid changes, or perhaps better, morbid influences, may affect the number, the intensity or the variability of the relation of the qualities of the character; or the mutual relations of the qualities of the character to one another." This he regards as a considerable improvement upon the previous definitions. [J.S.]

7.—Port reports the case of a man 40 years of age who developed appendicitis followed by considerable accumulation of pus in the perityphlitic space. It was decided to evacuate this through an **incision alongside the anus**. By careful dissection it was possible to reach the abscess cavity, and about $\frac{1}{2}$ of a liter of pus was evacuated. The incision was 10 cm. deep, funnel-shaped, and therefore readily cleaned. Several days later a large fragment of necrotic tissue was expelled, and thereafter granulations filled the cavity very rapidly, and in the course of 4 weeks the patient was discharged entirely well. [J.S.]

8.—Quaddieg reports an interesting case. A woman of 44 **swallowed** her plate containing 2 **artificial teeth**. She felt severe pain in the thorax, but daily explorations with the esophageal sound failed to reveal any obstruction. An examination with the Röntgen-rays apparently showed a mass in the small intestines. As the condition of the patient became alarming an exploratory incision was made followed by gastrotomy, and the removal of the plate from the esophagus through the cardia. There was considerable bleeding, and a gastric fistula was left which was subsequently cured by another operation. [J.S.]

9.—Zervos reports 6 cases of **echinococcus of the liver**, all of which **ruptured into the lung**, causing death in 5 cases. In the sixth case there was severe coughing with an expectoration containing numerous echinococcus cysts. The patient, however, recovered. In 4 of the fatal cases the diagnosis was confirmed by autopsy. All these cases were previously operated upon by the method of capitonage, and the author draws the conclusion that this operation is not only useless but actually dangerous, because after the occlusion of the cysts by suture, new ones are formed, and meeting dense scar tissue anteriorly, usually extend in the direction of least resistance, that is toward the convex surface of the liver, and eventually rupture through the diaphragm. [J.S.]

Deutsche medicinische Wochenschrift.

February 14, 1901. [27. Jahrg., No. 7.]

1. On the Etiology of Acute Articular Rheumatism. MENZER.
2. A Contribution to the Etiology of Hay Fever. C. DIETSCH.
3. Operating During the First Ether Anesthesia. P. SUDECK.
4. The Operative Treatment of Pulmonary Tuberculosis. H. SARFERT.
5. Concerning the Decomposition of Albumins by Boiling. K. OPPENHEIMER.
6. Pathology and Treatment of Cicatricial Contraction of the Bladder. A. ROTHSCILD.

1.—Menzer first reports his own work, which consisted in the discovery of **streptococci in the joint exudate** in 2 cases of rheumatism, and in the tonsils in 3 cases. His method of investigating the tonsils was to excise a portion, and to make bacteriological examinations of the cut surface, thus looking only for bacteria that were present in the substance of the tonsil. The bacteria found produced inflammation of and exudation into the joints in animals, and in some cases caused endocardial changes. He then discusses the work reported by Meyer in the last number of the same journal, and directs attention to the fact that the discoveries reported by Meyer are by no means new, for there have been repeated reports of the presence of streptococci in the joints and in the tonsils in rheumatism. The streptococcus discovered by Meyer differed in some ways from that found by Wassermann, and the one which Menzer reports also showed some variations from either of these. The conclusions which Menzer reaches are, that the discovery of streptococci in rheumatism is by no means new, but this does not mean that it is entirely without importance. It is true that one can find streptococci and staphylococci frequently in almost any infectious disease, and particularly in the mouth and throat; in the latter places even under normal circumstances. The importance of certain streptococci is, however, that they tend to cause joint changes in animals. He considers it a question whether we shall ultimately find streptococci to be the sole cause of rheumatism; also whether the streptococci which are at times found on the normal tonsils will prove always to lack the peculiarity of producing joint changes in animals. He considers it impossible as yet to make any definite statements concerning the bacteriology of rheumatism. A number of forms of bacteria have been discovered, chiefly streptococci, staphylococci, and pneumococci, and some of these have the power of producing joint changes. It is possible that some one of these changes may be shown to be the actual and constant cause of typical rheumatism, though this is certainly questionable considering the close relation of typical acute rheumatism to rheumatoid and pyemic affections. From a clinical standpoint, however, rheumatism seems to Menzer to present the characteristics of a morbus sui generis. [D.L.E.]

2.—Dietsch discusses the two chief theories of the causation of hay fever,—the one being that it is due to constitutional factors and irritation, the other attributing it to infection. Those holding to the theory that it is spread by infection belong to two classes; certain authors consider that it is spread by dust, pollen, etc., which carry the infection; others that the infection is not related to pollen, etc., but that these latter bodies act merely as irritants, and prepare the way. Dietsch gives a review of the reasons for considering that pollen is actually connected with the causation of the disease. He strongly holds to this belief because of the occurrence of the disease almost entirely at the period when pollen is present and plants are blossoming. There are many points against the view that the disease is due to infection. In the first place fever, if it occurs, is very slight. Second, the sense of smell is almost always uninvolved; the contrary is often true of other infections which involve the nasal cavities. Further, infectious diseases which continue for years practically always leave behind some important sequels. There is absolutely no evidence of any sequel in hay fever, or any involvement of other organs than the respiratory. Also the predisposition to the disease is so peculiar that it could scarcely be the result of an infection. Some persons are predisposed to

the disease for life, while the great majority of persons have absolute immunity. If it is infectious, there must be an enormous possibility of infection, since the predisposed regularly have the disease, and under such circumstances it would be extremely peculiar if those who were not greatly predisposed did not occasionally acquire the disease and subsequently as well as previously remain free from it. He thinks that the disease is a catarrh resulting from mechanical, chemical and thermic irritation of the nasal cavities, which is predisposed to by a general sensitive ness of organism, irritability of the nervous system, prolonged nasal catarrh, and probably arthritism in the parents. [D.L.E.]

3.—Sudeck states that there are a number of operations that can be performed in a short time but in which **local anesthesia** is not applicable. He recommends in minor operations, and the more serious ones that can be quickly performed, the employment of the very first stage of ether-anesthesia. The following points are to be observed: 1. The patients are instructed to take deep inspirations at the beginning of ether-administration. 2. The patients should be impressed with the fact to concentrate their minds upon the anesthesia. The instruments should be kept from the view of the patient and the latter should be kept in ignorance of the fact that the operation is soon to be performed. 3. The operation should be immediately performed at the first or second ether-inhalation and should last but a few minutes. The advantages of this method of anesthesia are the absence of danger, prevention of disturbances to the respiratory organs, and the rapid recovery from the narcosis. [M.R.D.]

4.—H. Sarfert believes that there are many cases of pulmonary tuberculosis that can be benefited by **surgical procedures**. The author has experimented upon 150 cadavers, and finding that apical cavities are best reached by the operation by resection of the second rib, proposes the following operation: An incision is made into the skin at the external extremity of the rib and is extended outward about 4 inches. An incision is made into the periosteum, the cartilage cut through and an entrance obtained at the axillary end. The parietal pleura is separated from the chest with the fingers. The apex of the lung is brought out without opening the pleural cavity. An opening is obtained into the cavity either by the knife or Paquelin cautery. Exposed bloodvessels may now be ligated and several communicating cavities should be opened and the whole converted into one cavity. In one of the author's cases where the size and extent of the cavity were determined by palpation and the above operation performed, the hectic fever and hemoptysis ceased. [M.R.D.]

5.—Oppenheimer briefly reports that bottles of milk stopped with cotton or rubber, and containing hanging from the top filter paper which had been moistened with acid of lead were heated for various lengths of time. After sufficient heating there was always a brown discoloration of the lead paper indicating the **presence of H₂S**. This he considers a definite demonstration that the albumin of the milk was broken up with the heating. Boiling the milk for 5 minutes gave an extremely slight reaction. The reaction was distinct after 10 minutes and increased after this time. It was very marked after 20 minutes. The importance of this in connection with sterilization of milk is evident, and a further discussion of the matter will appear elsewhere. [D.L.E.]

La Semaine Médicale.

January 30, 1901.

1. The Application of the Method of "Sufficient Dose" in the Treatment of Some Maladies of the Nervous System: Those Grave Forms Associated with Migraine, Menière's Vertigo, Neuralgia and Tic douloureux. DR. GILLES DE LA TOURETTE.

1.—This paper presents studies upon the method of treatment originally expounded by Charcot, based upon the administration of **sufficient dose of bromid** in epilepsy. Having determined the personal equation of the patient by the establishment of his point of toleration for the bromid, a dose is maintained for a period of time which is found to be sufficient to lessen the **cortical motor excitability**,

and to cause the disappearance of the attacks. The treatment was originally used in epilepsy, but the writer believes that it has equal value in **Menière's vertigo** and cases of severe **neuralgia and tic douloureux**. The author first discusses the treatment of **grave forms of nervous disorders associated with migraine**. It is applicable to all forms, from the simple migraine to the severe types with accompanying scintillating scotoma, hemiopia and even transitory aphasia. A case is reported of a young woman of 34 years, who had suffered for a long period from attacks which lasted 3 full days of each week, compelling her to remain in bed and to abstain from all food. After some 5 months of treatment by the bromids there was a great improvement. The second case is a patient of 58 years, who had suffered for a long time from a grave **migraine** accompanied by a **right hemiplegia** after a very severe attack, which disappeared after 8 days' treatment with **bromid of potassium**. This case was followed for 2 years, the patient took progressively increasing and decreasing doses of bromid. There was a gradual restoration to health. His third case was one of **ophthalmoplegic migraine** in a young man of 35 years. A cure was brought about by prescribing rapidly increasing doses of bromids up to 7, 8 and 9 grams. The pupillary phenomena from this treatment showed themselves in the third week. Regarding the treatment of Menière's vertigo, he believes with Charcot that the disease depends upon a **hyperexcitability of the labyrinth** analogous to corticomotor excitability, and he reasons that as bromids lessen the latter condition, **sulfate of quinin** ought to suppress the labyrinthine hyperexcitability. **Quinin** is given to the point of toleration, then the dose is decreased and finally increased again. After a period of 2 or 3 months, sometimes longer, a complete cure will be brought about. For the treatment of **tic douloureux**, he recommends .06 cm. of **extract of opium** per day. This is increased every day or every other day by a pill of .02 cm. and the point of toleration will indicate when sufficient dose has been attained. The toxic influence of the drug must be carefully watched. In the first period of treatment 30 to 40 cm. may be given in from 5 to 7 days, after which time it is necessary to increase it with care. The patient should be carefully guarded against cold and the chamber kept at an equal temperature. After this first period the dose should be diminished daily and very gradually. [T.L.C.]

February 6, 1901.

1. Typhoid Fever Simulating Appendicitis. Operation. Death. M. RENDU.

1.—The patient was a young woman of 29 years who entered the hospital having suffered from a headache for 5 days. There were no abdominal symptoms or vomiting, but there was a loss of appetite, and an evening rise of temperature. She had suffered from **typhoid fever** at 5 years and a **grave metritis** at 19. After several days there was pain in the **right iliac fossa** and a diagnosis of **salpingitis** was tentatively made. Rest, injections of permanganate of potash, applications of hot compresses over the abdomen, a semi-solid diet and the application of several leeches over the painful region improved her condition. The temperature fell to normal. For several days the **aprexia** was complete. Then the temperature suddenly rose to 39.6 C. There was vomiting and abdominal tenderness as well as profound induration in the region of the appendix. Operation was performed, but the appendix was found to be perfectly normal. The patient's condition continued to grow worse and death ensued. A postmortem examination showed the case to be one of **typhoid fever**. The **Widal reaction** had not been employed. [T.L.C.]

February 13, 1901.

1. On the Assimilation of Inorganic Preparations of Iron and their Role in the Treatment of Chlorosis. A. JAQUET.

1.—Jaquet furnishes us with a comprehensive resumé of the studies made during the past 25 years as to the value of the various organic and inorganic iron preparations. With reference to **chlorosis**, experience has proven the good to be derived from certain organic preparations, but he recom-

mends in our present state of knowledge that the preparations of the pharmacopeia be employed rather than many of the much vaunted "assimilable" preparations which lack the test of time to determine their value. [T.L.O.]

Journal des Praticiens.

February 9, 1901. [15me Anné, No. 6.]

1. A Case of Tuberculous Nephritis, with Epileptic Convulsions and Sudden Blindness. CHAUFFARD.
2. Symptoms of Lithemia in Children. JULES COMBRE.
3. Convulsions with Hemiplegia in an Infant of 15 Months. LE GENDRE.

1.—Chaufard reports the case of a woman aged 32 years, whose urine contained albumin for the three years prior to her death. She had had a miscarriage, with retained placenta, double phlebitis, and peritonitis, and repeated attacks of bronchitis, earlier. **Typical epileptic convulsions** occurred as often as twice a week. There were edema of both legs, ascites, edema of the lungs, and a slight pleural effusion. The left ventricle of the heart was hypertrophied, and there was marked **arteriosclerosis**. In the urine were **albumin, granular, fatty, and hyaline casts**. The day after admission, she suddenly became blind, and had a very severe convulsion. After being bled 700 grams, vision returned. The ascites increased, and she died of edema of the lungs, after 600 grams of liquid had been withdrawn from her abdomen. The autopsy showed the right kidney weighing 15 grams, while the left weighed 150 grams. Both were sclerotic. In the left were some hypertrophied tubules, still able to function, while none were found in the much-atrophied right kidney. Chauffard considers the **convulsions uremic**, and the sudden loss of vision due to inhibition of the cortical optic centers by the uremic convulsion. The renal condition, he calls **tuberculous nephritis**. [M.O.]

2.—The **lithemic diathesis** is generally **hereditary**. Among the many manifestations of gout (arthritis) seen in children, Combre enumerates pallor, anemia, enlarged lymph-glands, convulsions, headache, neuralgia, neurasthenia, coryza, epistaxis, spasmodic laryngitis, asthma, adenoids, palpitation, arrhythmia, functional murmurs, syncope, edema, gastrointestinal symptoms, jaundice, albuminuria, enuresis, glycosuria, rheumatism, urticaria, eczema, and many more. Then he calls particular attention to three other symptoms: (1) **Periodic headache**, severe, coming on suddenly, without other symptoms; (2) **cyclic vomiting**, severe, sudden, lasting days, with fever, and followed by headache; and (3) **arthritic fever**, intermittent, quotidian, with no suspicion of malaria. To explain all these different symptoms, Combre mentions that there are probably grave autointoxications in lithemia. As treatment he advises rest in bed, baths, and injections of normal salt-solution. All children of gouty ancestry should be brought up in the open air, with exercise, and massage. They should drink much water, and eat little meat, but many vegetables. Meals should be regular. They should have no alcohol. Alkaline waters should be given from time to time. [M.O.]

3.—A baby of 15 months, **hereditarily syphilitic**, suddenly had **convulsions**. They were epileptic in character, the right side moving more than the left. Right hemiplegia followed, more marked in the leg. Sensation remained normal. Babinski's reflex was present. Both pupils were contracted. Le Gendre gave two grams of mercurial ointment externally, and one gram of potassium iodid in rectal injection, daily. For two weeks treatment was of no avail, then the convulsions ceased. From that time the child improved continually. The **cause of the convulsions** was undoubtedly **syphilitic**, a gumma, a circumscribed meningitis, or encephalitis, in the left Rolandic region. [M.O.]

Vratch.

January 20, 1901. [Vol. xxii, No. 3.]

1. Corporal Punishment in Russia in the Twentieth Century. D. N. SHBANKOW.
2. The Public Importance of Skin Diseases. O. W. PETERSEN.

3. On the Injection of Sodium Cinnamylate in Tuberculosis. L. A. FINKELSTEIN.
4. On the Question of Determining the Oxidizability of Water by Means of Permanganate of Potash. A. Ph. DRSHEWETSKY.

2.—Petersen shows how infectious skin diseases are widespread in Russia, and recommends as a prophylaxis the infusion of the knowledge of hygiene into the masses as well as the establishment of public baths constructed on modern sanitary principles. [A.R.]

3.—Will be abstracted when completed.

4.—Drshewetsky points out an error in the determination of oxygen consumed in water, hitherto unnoticed, namely, the oxidizing properties of the salts of chlorine and bromine. As a result of carefully conducted experiments, he arrives at the following conclusions: 1. In determining the oxygen consumed by means of permanganate of potash, a correction should be made for chlorine by deducting 0.15 mg. of oxygen (per litre) if the permanganate solution is normal, and a corresponding amount if weaker than normal. 2. This correction can only be made with waters containing not more than 0.1 gm. of chlorine per litre. 3. The salts of bromine oxidize permanganate of potash according to the following equation: $2\text{HBr} + \text{O} = \text{Br}_2 + \text{H}_2\text{O}$, i. e., in proportion of 160:16. 4. The determination of organic substances in mineral waters rich in salts of chlorine and bromine is impossible. [A.R.]

January 27, 1901. [Vol. xxii, No. 4.]

1. On the Question of the Significance of the So-called Paralytic Chest (Thorax Paralyticus). I. G. GABRIELOVITCH.
2. Corporal Punishment in Russia in the Twentieth Century. D. N. SHBANKOW.
3. On the Injection of Sodium Cinnamylate (Natri Cinnamyllici) into Tuberculous Patients. L. A. FINKELSTEIN.

1.—Gabriellovitch has made the tuberculous chest, or the "paralytic chest," of Engel's, the subject of special study. He justly considers the chest measurements hitherto applied unreliable, inasmuch as they vary considerably with the individual. Much more accurate he finds the relative measurements between the chest and other parts of the body in the same individual. To establish the normal average, he took the measurements of 31 perfectly healthy individuals between the ages of 20 and 30, the mode of life and occupation being nearly the same in all. The measurements taken were as follows: (1) Height; (2) the circumference of the chest on a level with the nipples, both at inspiration and expiration, only the median being noted; (3) the circumference of the abdomen on a level with the umbilicus, both at expiration and inspiration, only the median being noted; (4) the length of the trunk from the upper border of the sternum to the pubes; (5) the antero-posterior diameter on a level with the fifth dorsal vertebra, and the lateral diameter on the same level (by means of a pelvimeter). Having thus determined the normal average, the author subjected to the same measurements 75 tuberculous patients of about the same conditions and stage of the disease, none of them being very far advanced. The results are tabulated, as follows:

RELATION.	HEALTHY PERSONS	TUBERCULOUS PATIENTS
Of the circumference of the chest to the height . . .	1:1.8	1:2.0
Of the circumference of the chest to the circumference of the abdomen	1:1.8	1:2.0
Of the circumference of the chest to the length of the trunk	1:0.62	1:0.67
Of the lateral to the antero-posterior diameter	1:0.70	1:0.75

It is thus seen that the tuberculous chest may be characterized as long and narrow, the circumference being equal to half the height. The narrowing, however, is lateral instead of antero-posterior, as is commonly believed. The "paralytic chest," as described by Engel, Rokitsansky, and others, is, according to the author's observations, rare in the first and second stages of the disease. [A.R.]

3.—Will be abstracted when completed.

Original Articles.

ATMOKAUSIS: ITS VALUE IN THE TREATMENT OF SEVERE AND UNCONTROLLABLE UTERINE BLEEDINGS (UTERINE ARTERIOSCLEROSIS).

By SAMUEL W. BANDLER, M.D.,
of New York City.

PROF. SNEGIRJOFF, in Moskau, has for years used steam at a temperature of 100° C. in controlling uterine bleedings. In his opinion steam cauterizes, stops hemorrhage, removes every odor, and diminishes the sensitiveness of the inner lining of the uterus.

Pincus introduced this method into Germany. His first experience was with an inoperable corpus carcinoma, with endometritis hyperplastica, and with endometritis cervicis, obtaining good results. Since then the method has been used on many sides and for quite a series of gynecological affections. Kahn used this procedure in many cases of septic postpartum endometritis with very quick benefit. He found that the sensitiveness of the uterus was diminished and that good contractions resulted. The steam had a bactericidal effect and the disagreeable odor disappeared. Through thrombosis, the blood- and lymph-vessels were closed and a protecting cover was formed for the development of fresh granulations. Clinically, temperature fell, usually by crisis. Only in those cases where action was delayed, or where placenta or membranes were retained, did an immediate improvement fail to result. Pincus obtained good results in putrid abortions and in climacteric hemorrhages where abrasio failed, in subinvolution uteri and gonorrheal infections. In the clinic of Pawlik, in Prague, about 50 cases were treated with this method and with excellent results, especially cases of abortion with large bleedings due to atonic uteri, and chronic hemorrhagic endometritis.

Dührssen also has used this method for some time, and it is my purpose to prove the value of this method, for my results were uniformly excellent. The improvements which Dührssen made in the apparatus used for this purpose are undoubtedly responsible, in a great measure, for the good results. Originally, Pincus used metallic catheters for the intrauterine introduction of steam. Later he added a tube which permitted the outflow of the liquefied steam. Since the metal tubes caused deep cauterization and stenosis of the cervix, through direct contact of the hot catheter, he used gauze to protect this part of the uterus. Later he used tubular wooden plates to protect the lining of the cervix from cauterization.

Unfavorable results were reported, among others, by Czempin, who mentioned an atrophica uteri with climacterium præcox in a patient who, 6½ months postpartum, was treated by this method for a hemorrhage lasting 8 weeks. A death was reported from the clinic of Traube, due to necrosis and perforation of the uterus resulting in peritonitis. V. Weiss recorded an obliteratio uteri in a nonpuerperal case treated for continued uterine bleeding.

These failures and poor results occurred for the following reasons:

1. The introduced catheter permitted no outlet for the vapor, so that a continued action of the same resulted.

2. The heated metal catheter caused a deep cauterization, through direct contact with the cervix and uterus.

3. On contraction of the uterus the tip of the metal catheter exerted a local and deeply cauterizing action.

The advantages of the apparatus of Dührssen are as follows:

1. The uterine tube consists of fiber stuff which does not transmit heat, so that the cervix is protected.

2. This tube is centrally perforated and its lumen is so large that when the metal tube through which the steam enters the uterus is introduced there is sufficient room for an outflow of steam and coagulated blood.

3. This metal tube, through which the steam passes, does not come in contact at any point with the mucous lining of the uterus.

I have used this method mostly for bleedings which could not be overcome by other methods. Frequent cases were climacteric bleeding where our purpose was to cause a destruction of the endometrium with resulting obliteratio cavi. At the same time the future development of a corpus carcinoma is in such cases impossible. A dilatation of the cervix is a preliminary in all cases, not alone to permit of an easy introduction of the uterine tube and to furnish subsequently good drainage, but also to permit of a tactile examination of the uterine cavity in all cases. In one case, treated for continued bleedings, in spite of the good results obtained by this method in other patients, I was compelled to perform a hysterectomy uteri. These are the cases where the natural sclerosis of the uterine vessels during climacterium reaches a very high grade. In general this method is absolutely specific for these forms and especially valuable when other means fail. What is the pathological condition in such a case? Bleeding?

In gynecological hemorrhages, if such from the vulva, vagina and portio vaginalis be excluded, visible bleedings are limited to the cervix and the uterus. Acute infections cause a certain amount of hemorrhage, but large losses of blood from the cervix are due either to carcinoma, sarcoma, myoma, or polyps, conditions easily diagnosed on proper examination. The intact lining of the cervix does not bleed, taking no part in menstruation. An affected lining of the cervix bleeds less frequently than the lining of the corpus uteri, for it takes but slight part in the physiological swelling of menstruation.

Bleeding from the corpus uteri may be due to local conditions, to affections of the adnexa, to general physical disturbances, to nervous or temporary circulatory phenomena. The only normal uterine bleeding is menstruation. Every very strong menstruation or every irregular bleeding must be viewed as pathological. If the uterus on examination be found enlarged the following conditions must be looked for: myoma or sarcoma of the uterine wall, carcinoma, sarcoma or polyp of the endometrium, chronic metritis with endometritis, the complications of pregnancy, such as endometritis, placenta prævia, abortion, retention of placenta or decidua, trauma, subinvolution. If the uterus be not enlarged, there may be present endometritis or a malignant change or degeneration of the endometrium. If, on examination with a sound, the inner lining feels smooth and even, the endometrium is probably normal. Of the secondary hemorrhages from the uterus, a not infrequent cause is acute pyosalpinx. In this category, above all, extrauterine gestation must be taken into consideration. Bleedings due to tumors of the ovary are rare, and if they do occur are the result of bilateral tumors, especially carcinomata. The peritoneal causes of uterine bleedings come under the head of pelveo-

peritonitis in that case the associated endometritis is the probable cause. This holds true likewise of the bleedings complicating parametritis.

Among the other forms of decided uterine hemorrhage, the most important are the so-called bleedings of menopause. At the climacterium a gradual disappearance of menstruation, becoming less and less at each period, is rare. Without a previous diminution in the amount of blood lost periodically, the menses, as a rule, are absent for one or two periods, they then return at the regular time, usually increased. The interval between the individual bleedings is rarely more than five or six months. The loss of blood as a rule does not reach a dangerous height, but these bleedings may occur often and last long. We may have at first a too early appearance of increased menstruation, and then later a delayed appearance of increased menstruation. In other cases there is a constant oozing of blood until the next flow appears. Even after a disappearance of menstruation for half a year or a year a bleeding may again occur, so that it is difficult to say when a final cessation has taken place. In such cases endometritis, myoma and carcinoma must be excluded, for if after an absence of six or more months a bleeding occurs, it should be considered pathological until proven otherwise. Not infrequently there occur at the natural climacteric age, and likewise much earlier, the so-called climacterium præcox, most decided and long-continued bleedings, for which no apparent cause can be found.

We have at the menopause hemorrhages without decided changes in the endometrium, and without the presence of new growths. The bleedings are frequently stopped with difficulty and recur. These often continue in spite of rest in bed and the use of stypticin, hydrastin, ergotol. Even curetting and tamponing have no effect, and not so very rarely hysterectomy is necessary. Why do these profuse bleedings occur, and why is this condition found in younger women? What is the cause, what is the treatment? This form of decided hemorrhage is due to local uterine trophic changes caused by a cessation of function on the part of the ovary and its secretion. Even though the only symptom is profuse hemorrhage, since the same changes are found in the uterus in unexplainable bleedings in younger women, we must view these later cases as climacterium præcox. The pathological cause of these bleedings is the uterine arteriosclerosis.

Halban found that castrated newly-born guineapigs showed no future development of the genitalia, and no development of the uterine muscle. Knauer found, after castrating rabbits, that the uterus atrophied, and that the intermuscular connective tissue was increased. Sokoloff castrated dogs and found that the uterus, especially the circular layer, became atrophied, the vessels were thickened and their lumen smaller. Jentzer and Beutner, on castrating cows, found an atrophy of the muscle and of the glands of the uterus, an increased growth of the connective tissue, and changes in the stratum vasculare. Glaevecke and many others have found that after castration the uterus of women atrophies. Benkisser found that the vessels of a uterus, removed 3 months after castration, showed a sclerosis and an endarteritis obliterans. Eckhardt found, one year after castration, that the uterus of a woman was atrophied, the endometrium likewise, and that the connective tissue was increased. Gottschalk found 1½ years after castration that, although the muscle of the

uterus was well retained, the mucosa was atrophied and that the large vessels showed a folding of the intima. Therefore, after castration, the changes are like those occurring at the menopause. At and after menopause the uterus undergoes regressive changes, the portio shrinks, and we have the so-called senile uterus. The wall is thin and dry, contains much connective tissue; the vessels are thickened, narrow, and calcified. The mucous membrane is thin, flattened, and indurated. This change occurs likewise in younger women, and is due to an early cessation of ovulation and functional activity on the part of the ovary, and is therefore an early senescens, so that in climacterium præcox we have an early atrophy of the uterine genitalia, often going hand in hand with increasing obesity. Why this early change in the ovary should occur in certain cases we do not know, for in our discussion we exclude those atrophic conditions resulting from acute infectious diseases. Do these normal changes at climacterium, and do increased changes of this kind in individual cases explain the irregular and profuse hemorrhages in some patients, and the uncontrollable hemorrhages in others? The recent investigation of Pick upon the amount and character of the elastic fibers of the uterus throw decided light upon this question.

Under the serosa, or peritoneal covering of the uterus, is a subserosa which is absent, however, at the fundus and on most of the corpus uteri, the peritoneum being for that reason very adherent at these points. A membrane of elastic fibers is found under the serosa (or under the subserosa) which separates it from the outer muscular layer of the uterus; this membrane at times lies under the external muscular layer or both above and below it. From this membrane go out the elastic fibers found in the two outer muscular strata. Between the uterine serosa and the mucosa we distinguish four layers of muscle-fibers: *A*, the stratum subserosum, longitudinal; *B*, stratum supravasculare, longitudinal, and circular; *C*, stratum vasculare, the main layer, with its fibers arranged circularly and about the vessels; *D* stratum submucosum, longitudinal. As said before, the elastic fibers of *A* and *B* are derived from the membrane of elastic fibers usually found under the serosa, while those of the stratum vasculare are derived from the elastic fibers of the adventitia of the vessels. In the stratum submucosum the elastic fibers are few in number. The elastic fibers of *A* and *B* run at right angles to the muscle fasciculi, *i. e.*, the muscle-fibers run up and down, to the right and left, while the elastic fibers run dorsoventrally, *i. e.* radially, sending out anastomosing branches in all directions. They thus form a framework or a collection of septa, like the fingers of the two hands crossed at right angles. The vessel anastomoses run up and down, and the elastic fibers, the muscle-bundles and the vessels therefore cross in a longitudinal, transverse, and sagittal direction. In the cervix there is no such framework. We have here two layers, one under the squamous epithelium, the other about the vessels; these layers communicate. It has been said that a disappearance of the elastic fibers is responsible for rigidity of the cervix. It is, however, really due to a disappearance of the muscle elements, and to their replacement by sclerotic connective tissue, so that rigidity is present in spite of the elastic fibers.

The ends of the elastic fibers of the uterus run between the muscle-bundles, upon the surface of the bundles; they may surround a fasciculus or they may perforate it. In the stratum vasculare, where the elas-

tic fibers come from the adventitia, finer fibers are found in the interfascicular connective tissue, but most of these are not connected with the main fibers. They are sometimes absent in the virgin uterus. Elastic and fibrous tissue, situated between the muscle-bundles, sends branches between and around every muscle-cell, but always at right angles to the long axis of the cell. The individual muscle-cells of the stratum subserosum have therefore a perimysium elasticum, and a perimysium fibrosum; the muscle-cells of the stratum supravasculare and the stratum vasculare have a perimysium fibrosum and often a perimysium elasticum. The fibers of the stratum submucosum have only a perimysium fibrosum. The important muscle fasciculi are thus furnished with a framework or elastic support which protects the fibers from over-stretching and permits their return to normal position on contraction. This elastic framework is especially well developed in the outer layer and permits any change of form on the part of the fibers. We thus have a perimysium interfasciculare and pericellulare. The circumcellular perimysium of the strata supravasculare and vasculare is not so regularly defined or so rich as in the outer layer, and is much less so in the inner layer. A perimysium elasticum is present in the external layer of the cervix. This arrangement whereby the main amount of elastic tissue is placed in the outer two layers of the uterus has the advantage that it does not interfere with the contraction of the vessels; besides, any two points in the periphery are further separated, on dilatation of the uterus, than two points near the center, so that this supply is adapted to subsequent demands. The arrangement whereby the elastic fibers are arranged at right angles to the muscle-fibers prevents any interference with contraction of the muscle and the vessels. The above-mentioned is the natural condition found between birth and the climacterium, namely, elastic fibers in the interstices of the muscle-bundles and the muscle-fibers.

In the first half of pregnancy, so long as the myometrium grows, the elastic fibers undergo hyperplasia. The same is true of the parauterine and periuterine elastic fibers. In the second half there is a diminution, probably relative, through stretching; possibly, however, there is an absolute diminution. This seems to be irrational in view of the future stretching to which the lower uterine segment is to be subjected during labor; but in pregnancy there is a huge increase in the elastic structures situated at the sides of the uterus and around the lower uterine segment, so that on subsequent dilatation there is no interference with the muscle fibers of the uterine wall. This vicarious growth of powerful para- and perimetritic elastic fibers, the course of the uterine fibers at right angles to the line of contraction of the muscle-bundles, the network of elastic and fibrous perimysium about the individual fibers, the equal distribution of the coarse and fine elastic fibers in the external wall of the uterus, are ideal conditions; yet this typical arrangement is somewhat lost in pregnancy and the vessels of the stratum vasculare show proliferation, in places, of the elastic fibers of the intima.

During the puerperium, however, there is a decidedly increased formation of elastics, and after labor their increase is permanent, hand in hand with an increase of the muscle fibers and a thickening of the vessels.

The typical arrangement of the elastic fibers is lost in pregnancy, at the climacterium and likewise in the presence of myomata and in chronic metritis. The fibers are thickened and increased in number, and we

might say that the typical arrangement is heightened, in chronic inflammations, in the first half of pregnancy and at the puerperium. The fibers are swollen through serous infiltration in pregnancy in the puerperium and in metritis exudativa. The fibers are degenerated in pus infiltrations. The fibers increase in thickness up to the age of 50. After 50 they lose their continuity and become brittle and irregular. In old age they form lumpy groups in which the individual elastic fibers are to be scarcely recognized, and form groups around the arteriosclerotic vessels which are likewise grouped together. The elastic fibers disappear from the interfascicular connective-tissue interstices, so that the circumvascular islands of elastic fibers lose all connection with each other.

It may with truth be said that the thinner the wall of the uterus and the more shrunken the cervix the larger is the amount of elastic fibers, so that in the senile uterus the elastic fibers of the corpus and cervix are increased. A like condition is found in castration atrophy, and in addition the walls of the vessels are thickened and the elastic fibers in the adventitia are increased in amount. In atrophía uteri there is then an increased supply of elastic fibers. This is not alone a local condition, but is part of a general increase, such as takes place in the kidney, liver, testicle, heart, spleen, etc., and is an attempt at compensation for the disturbed mechanical relations due to the loss of epithelial and muscular tissues. It is true then that the greater the atrophy the larger is the number of elastic elements, and that an increase of elastic elements is present in all atrophies of the uterus, whether natural, artificial, or as a result of disease. The elastic fibers in the arteriosclerotic vessel walls of the stratum vasculare are increased and, passing out into the myometrium, they substitute the muscle-bundles, which is of itself a proof that the adventitia is a source for their formation. We have therefore a hyperplasia of the connective tissue hand-in-hand with a gradual degeneration of the muscle-fibers at menopause and in climacterium præcox, so that a framework is formed in the uterine wall, in the meshes of which lie the degenerating muscle-cells, accompanied by an increase of the fibrous perimysium, especially in the external layers. The elastic elements are thickened and lumped, likewise in the pericellular and interfascicular spaces. The stratum submucosum has naturally few elastic fibers, and we have here an elastose of the bloodvessels. Therefore in atrophy we have a diminution of the muscle elements, an increased amount of fibrous connective tissue, and increased amount of elastic elements of poor quality. Even if the latter are not increased in amount they are thickened, brittle, and form polyp-like groups. The greater the hyaline and sclerotic changes in the vessel-walls the greater is the amount of the elastic elements. So much for the valuable investigations of Pick.

Pichevin and Petit curetted a 41-year-old multipara for continued uterine bleedings, with no improvement. While performing a second curettage the bleeding from the uterus was so profuse that it was necessary to extirpate it. Examination showed an increase in the number of vessels which showed very much thickened walls, especially in the middle layer of the uterus. The muscularis was found almost substituted by vessels.

Marchesi reported a case of a 32-year-old multipara who had aborted several times. For great bleedings abrasio was done, but the bleedings increased and an hysterectomy was performed. The uterus was found

to be increased in size, and its walls were filled with the gaping lumina of blood- and lymph-vessels. Towards the mucosa the bloodvessels were increased so that at this part the uterine stucture had the appearance of cavernous tissue. The adventitia of the arteries showed an increase of connective tissue, the intima was thickened and uneven. Marchesi observes the occurrence of bleedings which are not controlled by abrasio, and where the endometrium shows no great changes. The pathological condition is therefore a change in the vessels themselves. He quotes from the French literature 6 recent cases of this character showing no affection of the glands, of the interstitial tissue, or of the uterine parenchyma, but decided changes in the vessels of the mucous membrane and the muscularis.

Reinicke reported 4 cases, 2 of which suffered from uterine bleedings which could not be controlled, the other 2, in addition, showed, on examination of the scrapings, suspicious areas. In these cases, secale and ergotin were of no value, dilatation of the cervix and the application of liquor ferri brought only temporary relief, and extirpation was necessary. Examination showed that, with degeneration of the muscularis, the arteries became stiff tubes. All four cases showed a thickened media of the vessels and a growth of perivascular and intermuscular connective tissue. This condition is viewed as an arteriosclerosis.

Cholmogoroff reports 2 cases, where the severity of the bleedings endangered life. No new growths or decided changes of the endometrium were present, and curetting brought no relief. The first case, a 42-year old Xipara, had aborted six times. Her menstruation had become gradually stronger, returning every 3 weeks, and lasting 8 days, with a loss of much blood and many coagula. In the intervals fluor albus was present. Hydrastis and ergotin being of no avail, an abrasio was performed and showed no abnormal condition of the endometrium. After a bleeding which nothing could control, the uterus was extirpated. On section, the vessels of the wall gaped. The mucosa was normal, the small vessels showed the intima to be thickened in spots, and almost obliterated. The muscularis showed an increase in the number of vessels, but this was possibly an illusion due to their twisted course. All the vessel walls were thickened with a diminution of the lumen. The connective tissue was increased.

The second case was a patient, 31 years old, who had aborted twice. Her menstruation lasted 8 to 10 days, and was very profuse, recurring every 3 and, later, every 2 weeks. Leukorrhea was also present. An abrasio showed a normal mucous membrane with hemorrhagic areas. The bleedings recurred so often, and were so profuse that an extirpation uteri was performed. The muscularis was firm and grated on incision. The vessels looked like pale strips on the cut surface, and their lumina gaped. The connective tissue was increased. There was a thickening of the arterial walls in the muscularis, especially of the media and the intima. There was an increase in the connective tissue, *especially that seeming to come from the adventitia of the vessels.*

We have, therefore, a very clear picture of the pathological changes and several distinct conditions which make a diagnosis positive. When menstruation becomes severe, menorrhagia, or metrorrhagia, and no local changes in the endometrium can be observed with a sound or with the examining finger, we may take it for granted that the following conditions are present: (1) Degenerating muscle-fibers poor in contractile power;

(2) an increased amount of fibrous connective tissue; (3) an increased amount of elastic fibers thickened and brittle; (4) arteriosclerotic vessels. Age is no criterion, since these changes may occur long before the natural climacteric period. If ergotin, stypticin, etc., are of no avail; if no decided changes in the adnexa, sufficient to warrant their being considered the cause of the hemorrhage be present; if an abrasio shows no altered condition of the endometrium; and if, above all, an abrasio does not control the hemorrhage, then the diagnosis of arteriosclerosis must be made. It is scarcely necessary to mention that myomata, sarcomata, and other local conditions are to be excluded on examination. What is the best method of treatment in these cases?

Among the cases reported by Dührssen are the following: A 37-year-old bleeder, decidedly weakened by profuse and long menstruations, and referred for hysterectomy, was atmokaused for 2 minutes. Nine days later a tubular membrane consisting of the entire mucous lining and the adjoining muscular layer was expelled. Twenty days after the first vaporization a second was performed lasting $1\frac{1}{2}$ minutes. There resulted an atrophy of the uterus $\frac{1}{4}$ cm. above the external os.

Another patient suffered for 4 years with almost daily hemorrhages and was curetted four times and treated locally without result. Gradual expulsion of the mucous membrane occurred after atmokausis. In the next three months normal menstruation occurred twice; then atrophy of the uterus and obliteration cavi as in case one.

In a third case treated in the same manner an obliteration cavi likewise resulted, in all probability, for amenorrhea was present 6 months. A fourth patient menstruated profusely for 4 years as the result of the presence of an interstitial myoma, the size of an apple. Curetting brought only temporary benefit. Because of a decided bleeding lasting 25 days, she was vaporized for 1 minute. Bleeding ceased at once. The next menstruation occurred after 9 weeks, lasting only 1 day. Decided diminution in the size of the uterus and its cavity was observed.

Pincus mentioned, among his first cases, a patient suffering from climacteric hemorrhages. The uterus was diffusely fibromatous. Large dose of stypticin, tamponade of the uterus and curettage were without effect. After vaporizing one minute, at a temperature of 105° C., bleeding stopped. Fluor lasted 12 days. Even after a period of 11 weeks there was no return of bleeding. His results in the treatment of post-climacteric fluor were excellent, since an obliteration of the uterine lining resulted. In 18 cases of climacteric bleedings from the uterus, treated by this method, 13 showed permanent benefit, evidenced by a cessation of bleeding lasting in the various cases at the time of writing from 2 years to 5 months. In 5 cases the period of observation was not sufficiently long to decide whether the cessation was permanent. In 2 cases the procedure was repeated after 8 to 11 weeks. In 3 of his own cases, which had been advised to undergo a total extirpation, obliteration was obtained by this method, and this result was frequently obtained in other cases reported to him, so that Pincus believes an extirpation uteri to be no longer a necessity in these cases.

Czempin reported a case vaporized by other hands. The patient, 27 years old, menstruated for the first time after labor after $4\frac{1}{2}$ months. The menstruation lasted

8 weeks. Atmokausis stopped the bleeding at once. Menstruation, however, did not recur and the patient suffered from symptoms of climacterium præcox. The uterus was found to be small and hard, the cervix was obliterated by cicatricial adhesions.

V. Weiss atmokaused at 100° C. for $\frac{3}{4}$ of a minute a 19-year-old nullipara who menstruated profusely for 8 to 12 days, sometimes twice a month. Examined after 4 weeks, the uterus lining was insensitive, a sound was easily passed. Later, no menstruation occurred and the patient suffered with headache and bleedings from the nose. Several months later the uterus was found to be small, hard and shrunken; the cervix was closed by cicatrices and a sound could not be passed. Two months later a protrusion at the external os was seen and was cut with scissors. Only the cervix was then passable for the sound, a distance of 3 cm. The body of the uterus was flat and shrunken.

It is to be understood that I have mentioned the cases of Czempin and v. Weiss not as instances of arteriosclerosis, nor simply as an evidence of the value of this method in these two individual case. I have included them in this portion of the paper to show what the effects of atmokausis may be, and the fact that the sad results above mentioned were due to this method speaks by no means against it, for, on the other hand, they have served to define the limit of time for an atmokausis where no obliteration cavi is desired. It should be known that vaporization is used for a large number of gynecological affections, in addition to uterine bleedings due to endometrial changes, and to climacteric local processes. Pincus and others use this method in quite an extended class of cases. For ordinary use the duration of vaporization is 10 to 30 seconds; for obliteration, 2 minutes or more at a temperature of 100 to 110° C. Pincus finds as indications for this method the following forms of affection: Endometritis, especially hemorrhagic and gonorrheal, incipient puerperal endometritis, uterine atony, bleeding due to interstitial myoma, subinvolution, as a preliminary to hysterectomy, as a palliative in inoperable carcinoma, in putrid abortion. To this treatment of the last mentioned affection decided objection has been raised on many sides. In addition, the method is used by Pincus very frequently in the treatment of climacteric bleedings and senile catarrh, in both of which cases an obliteration of the uterine cavity is desired. He finds the contraindications to be malignant growths of the uterus, tumor conditions of the tubes, and adnex abscesses.

The limits and absolute indications for this method are not yet defined. The generally accepted indications are those followed by Fehling, who has obtained good results in bleedings due to endometrial changes, and in climacteric bleedings. On the fourth to sixth day after curettage he atmokaused for five to twenty seconds at a temperature of 110 – 115° C. As said before, we used this method in the clinic Dührssen generally for uterine bleedings, not controlled by the curette and by local treatment. That excellent results are obtained, and that an obliteration of the uterine cavity is not its only value, may be seen from the following cases treated by atmokausis: A newly married patient suffering from gonorrheal endometritis became pregnant five months after vaporization by Dührssen, giving birth to a child later at full term. In this case, metal catheters being then in use, a beginning cervical stenosis, resulting from direct contact of the heated catheter, was overcome by dilatation. The second case was a 34-year-old

IVpara, who later aborted twice. After the last abortion two menstrual periods were accompanied by a decided loss of blood. After curettage, the next menstruation was normal, but recurred later at intervals of 23 days, the menorrhagia lasting six days. Vaporization lasting one-half minute was followed for a few days by a decided serous, yellow fluor, perfectly odorless. After regular menstruation for three months, it disappeared for three months, when its place was taken by a brown discharge which returned for four consecutive months. Examination showed the patient to be in good condition with a uterus the size of a fist, evidencing in addition Hegar's sign. Diagnosis, gravidity. Three weeks later she aborted. In these two cases atmokausis stopped the bleeding when local treatment and curettage failed. The normal character of the regenerated mucous membrane was evidenced subsequently, by the history of the cases and subsequent pregnancy.

The procedure in treating patients with this method is as follows: A positive diagnosis of the condition at hand must be made in all cases. Dilatation of the cervix is an all-important preliminary for many reasons. It permits of the examination of the uterine cavity with the finger. If no local changes are present, and if there is no retention of fetal membranes, not infrequently vaporization suffices without previous curettage. Retained membranes and malignant changes must be excluded before using this method. Only the finger can prove absolutely that the uterus is empty, and only curettage aided by examination with the finger makes it certain that we have removed those portions of the endometrium which are abnormal, and which are to be examined for malignant changes. In addition, dilatation of the cervix changes the three-cornered uterus into a circular canal so that subsequent use of steam affects all parts of its lining equally. In addition, dilatation of the cervix permits of the use of a large uterine tube, so that when the metal catheter, through which the steam passes, is introduced there is sufficient room in the uterine tube for the exit of the liquefied steam, and coagulated blood and serum. Lastly and equally important is the fact that a dilated cervix permits of a readier natural drainage of the uterus during the subsequent period. A necessary preliminary, then, not alone for the sake of a positive diagnosis, but for the other reasons mentioned, is dilatation of the cervix, for which, in all cases when feasible, laminaria are used. For performing vaporization narcosis is never necessary, since the uterus loses its sensitiveness on the contact of steam. It is only when this is applied to the cervix that some pain is experienced. As a rule, the cervix must not be treated, for atresia is possible before obliteration of the uterine canal, in those cases where obliteration is desired. If, however, the cervix be likewise vaporized, in such cases attention must be paid to the prevention of too early atresia. On the introduction of two Simon's specula, after disinfection of the vagina and cervix with lysol, the posterior lip of the cervix is grasped with volsellum forceps. The uterine tube, having been previously boiled, is then introduced in the cervix. This tube is marked so that it can be easily determined how far it has been introduced. If the entire uterine cavity is to be treated for only a few seconds, the uterine tube is introduced as far as the internal os. If the entire uterine cavity is to be treated for several minutes with the purpose of obliterating it, the uterine tube after previous measurement of the uterus with the sound is introduced to within

2 cm. of the fundus, the markings on the uterine tube permitting this to be done with exactness. The metal tube which carries the steam is then introduced, a bulb at its lower end closing the opening at the external end of the uterine tube. During the process of treatment this inner metal catheter is moved occasionally to permit the outflow of liquefied steam and coagulated blood, and to prevent too high pressure in the uterus. Shortly after contact of the steam the uterus contracts, and during the following minutes the uterine tube is slowly and gradually drawn out until, when it reaches the internal os, the entire inner surface of the uterus has been affected. If desired, the tube is drawn out up to the external os, whereby action on the lining of the cervix likewise takes place. The inner metal catheter does not extend fully up to the end of the uterine tube, so that at no time is it in contact with the uterus or cervix. The uterine tube being made of fiber stuff and transmitting no heat protects the cervix fully from contact with the heated metal inner tube. After treatment, rest in bed for 10 to 14 days is necessary; no irrigations being given except a vaginal irrigation after several days, if a large serous flow make the patient uncomfortable.

The duration of the application of steam is as a rule 15 to 20 seconds in younger women, where no obliteration is desired; 4 to 8 minutes if total obliteration be intended. The temperature used is 100° C. in the boiler of the instrument, which temperature is there registered by a thermometer. The boiler of the instrument is covered by a safety-valve which eliminates all danger, for the outlet tube is controlled by a stop-cock for two purposes. Firstly, it may be desired to use steam of a higher temperature which can readily be obtained if the stop-cock be closed. Secondly, before introducing the metal catheter, conveying the steam into the uterine tube, the stop-cock is opened to see if the steam appears and to remove from the metal catheter any water. The stop-cock is then closed for a second or two until the catheter is introduced into the uterine tube. At any time, if desired, the supply of steam may thereby be shut off.

It has been found experimentally that the steam when it enters the uterus is probably of a temperature of about 70° C., if the thermometer in the boiler registers 100°. Whether this be true or not, continued practice with this apparatus has shown that the above-named limits are absolute. There is generally a serous discharge for days or weeks after this treatment. The action upon the uterus and its lining may be judged by the character of the necrotic tissue which is thrown off in bits, or as a whole. This necrotic tissue makes its appearance in from 6 to 10 days if the action has been superficial, and in 10 or more days if a deeper cauterization has resulted. If this method is to be repeated, it should be done only after a lapse of 4 weeks, when the mucous lining has been regenerated. Not infrequently after this treatment, irregular bleedings or one or two increased menstrual bleedings may occur. The former are the result of the throwing off of necrotic tissue, the latter gradually go over into natural menstruation. The action of this method in causing involution may be seen from the fact that in a case of metritis chronica, with a uterine cavity 12 cm. in length, six months after vaporization the uterine cavity measured 6 cm. This patient had been curetted twice, had been treated with local application of iodine, and with numerous internal remedies. The contraindications

to the use of this method in cases not demanding operation for other conditions are malignant changes of the endometrium, and the presence of retained placenta or membranes. Other contraindications are those affections of the tubes, and those inflammatory conditions which are generally recognized as contraindications to curettage. While the value of atmokausis in other conditions is still a question of personal experience, there is no doubt that uterine bleedings, especially the bleedings of climacterium, and the uncontrollable hemorrhages occurring at this period, and in earlier years, are positive indications for its use, especially when curettage and other local methods are of no avail. Since our experience and the investigations mentioned above have proven the larger proportion of such cases to be due to local degenerative changes, we may say that atmokausis, if not a specific, is at least the best method of treatment for uterine arteriosclerosis.

THE COEXISTENCE OF CARCINOMA AND FIBROMA IN THE CORPUS UTERI.¹

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I.—THE FREQUENCY OF UTERINE FIBROMA.

Two years ago I had the honor of reading before this society a paper on the modern methods of treatment of fibroma of the uterus, which, as you know, is one of the commonest pathologic conditions of woman-kind, and one of divers clinical aspect. Thus, according to the investigations of Champneys⁶ based upon the records of St. Bartholomew's Hospital, of all the patients seen in the Department for Diseases of Women from January, 1866, to July 13, 1899—a little over 40,000 women—together with almost 6,000 patients admitted to the wards of that hospital, from 3 to 15% of these cases showed the presence of uterine fibroids in varying degrees of development. Pozzi claims that one-fifth of all women who arrive at the age of 35 are so afflicted, while Klob states that 40% of the uteri of females who die after the fiftieth year contain fibroid tumors. Bayle asserts that 20% of all women over 35 years of age present uterine fibroids, while Winckle in 575 autopsies upon females found only 12% fibromatous. Of 135 women dead under 35 years of age examined by Martin only 5% had fibroids. Senn claims that marriage increases the frequency of the disease, and that in 33% of the married women the tumors cause sterility. According to Twombly⁷ another set of statistics show that these growths occur in the unmarried 25% and in the married 75%, and that 30% of the married remain sterile. As you will note from the foregoing statistics my original assertion that this is one of the commonest afflictions of womankind may be amply verified.

II.—CANCEROUS DEGENERATION OF FIBROID TUMOR OF THE UTERUS.

To-night I shall present to you one of the rarer manifestation of the diseases—a form of degeneration

¹ Read before the Barton Cooke Hirst Obstetrical Society of the University of Pennsylvania, February 20, 1901, and the Judson Daand Society of the University of Pennsylvania, March 18, 1901.

which, it is claimed by many writers in gynecology, fibroid tumor has never been conclusively demonstrated to have undergone. I refer to carcinomatous changes in the fibroid tumor itself and in the corporeal endometrium—a condition quite distinct from carcinoma of the cervix of a fibromatous uterus. The association of carcinoma of the cervix with uterine fibroids is of comparatively frequent occurrence, and will not receive extensive consideration at this time. It is now very generally admitted by scientific investigators that the combination of malignant and benign tumors in the uterus is quite possible, Roger Williams⁴¹ stating that fibroids coexist with uterine cancer at some point in that organ in 9% of necropsies, and that uterine fibroma and cancer of other localities coexist to the extent of 18.5%, while Chiari⁶ claimed that uterine fibroma predisposed to the development of carcinoma either in that organ or elsewhere. Williams and others, however, reject this statement as unfounded in fact. Carcinomatous degeneration of a fibromyoma, on the contrary, is quite a rare occurrence.

Last summer I performed a hysterectomy upon a patient primarily for the relief of carcinoma of the fundus uteri, the diagnosis having been made from a microscopic examination of scrapings removed two weeks before the major operation. The uterus at the time of the abdominal section was found to be infiltrated with small, nodular, fibromatous growths, one of which, submucous in situation and projecting well into the uterine cavity, had become involved in a cancerous process. I present the result of the pathologic examination of the specimen which was made by Drs. Kirkbride and Deal, of the Polyclinic Hospital. A pathetic incident associated with this report is, that it was probably the last examination ever made by Dr. Kirkbride, who succumbed shortly afterwards to an attack of typhoid fever. Drs. Kirkbride and Deal write as follows:

Microscopic examination shows the uterus fairly normal in shape with the presence of numerous fibroids in its walls. It measures 15x14x13 cm. in diameter, and is of very firm consistence. The external surface is studded here and there with small, round, firm masses. The cut-surface shows the uterine cavity to be of fairly normal size, and the uterine walls are thickened from the presence of numerous fibroids. The internal surface of the uterus is studded with small fibroid nodules and three millimeters from the line of the cervical incision is a thickening of the endometrium, of oval shape, measuring 10x6 mm., and elevated 2 mm. above the surface of the surrounding tissue. Extending into the uterine cavity are two small fibroids and a polyp measuring 2½x1½ cm. in diameter. In the upper right cornua of the uterus is seen a sloughing mass, measuring 4x4 cm., evidently a degenerating fibroid nodule. This area is quite necrotic, and from it a yellowish-white semifluid juice can be expressed. Cutting into the fibroid one encounters some calcification. The microscopic examination gives the following results:

Slide 1.—A section taken from the thickening 3 mm. above the cervical incision, stained in hematoxylin-eosin, shows the tissue to be composed mainly of muscular fibers, with the presence of the uterine mucosa on its internal surface. The mucosa measures 2½ mm. in its greatest width, and decreases at one end until nothing but the muscular coat is seen. The glands, where present, show but little of their normal arrangement,

and in these places they are somewhat dilated and show proliferation of their lining epithelium. Elsewhere the whole mucosa has been replaced by a mass of large-sized epithelial cells, with large, oval, pale-staining nuclei, which arrange themselves atypically in relation to themselves and the surrounding connective-tissue stroma. Many of the nuclei show karyokinetic figures, and there is very little, if any, intercellular substance. There is a marked infiltration of small, round cells, with a few polymorphonuclear leukocytes. Blood-vessels are fairly abundant, and hemorrhagic areas are seen in the mucosa between the cells. Some distance beneath the mucosa, one sees in the muscle-tissue small nests of these large epithelial cells separated from one another by bands of normal muscle-tissue. The whole muscular wall is markedly infiltrated with small, round leukocytes. *Diagnosis*—Glandular carcinoma.

Slide 2.—A section of the uterine polyp stained in hematoxylin-eosin shows a great proliferation of the glandular elements of the uterus within a fairly loose edematous connective-tissue stroma. These glands show dilatation of the lumen and some proliferation of their lining epithelium, and in many places the lumen is completely filled with a homogeneous mucoid material which is stained blue with the hematoxylin. The proliferation is apparently confined to the glands, and shows no tendency to invade the surrounding tissue. The stroma shows some infiltration of leukocytes, and the bloodvessels are fairly abundant, with here and there small hemorrhages into the surrounding tissue. *Diagnosis*—Glandular polyp.

Slide 3.—A section taken from the degenerated fibroid nodule, stained in hematoxylin-eosin, shows the presence of large bundles of connective tissue interlacing with one another. There is a round-cell infiltration, and the bloodvessels are only fairly abundant; no hemorrhages are present. The bundles are made up of connective-tissue fibrils with spindle cells which contain elongated nuclei. The surface shows the same carcinomatous degeneration as noted in the first slide. *Diagnosis*—Fibroid polyp with carcinomatous degeneration of its surface.

The foregoing report confirms the diagnosis as made at the time of the hysterectomy of malignant degeneration of a fibroid tumor of the uterus.

III.—THE LITERATURE OF CANCEROUS DEGENERATION OF UTERINE FIBROIDS.

Reference to the literature of this extremely interesting subject establishes the fact that the opinions of gynecologic surgeons and pathologists still largely vary as to the possibility of the association of the malignant with the benign growth in the uterine tissues above the cervix. Thus, Champneys⁶ remarks that "malignant degeneration, though often talked of, is seen very rarely indeed. Its chief sign would be rapid growth." He has never seen a case in which a well-marked fibroid has taken a malignant growth. Franklin H. Martin²⁹ likewise says: "I have had an opportunity of examining and having under observation for long periods an unusually large number of fibroid tumors of the uterus, and I have never known one to undergo carcinomatous degeneration. Fibroid tumors do not predispose to carcinomatous degeneration. Cancerous change may occur, however, in a fibroid uterus as a coincidental disease, but in no way as a direct result of the fibroid."

Harrison¹⁶ remarks that degeneration of a fibroid into sarcoma has been observed, and even rarely into carci-

noma, while Palmer³² states that "the weight of opinion is that fibroids do not become malignant, although malignant growths may be associated."

Wallace,³³ in speaking of the degenerative changes to which fibroid tumors are subject, gives their order of frequency as follows: "Fatty (the most frequent), myxomatous and cystic (the next frequent), the sarcomatous (which probably existed from the beginning), and the calcareous—the rarest of all if we except the carcinomatous," which he has never met.

Ashton⁸ states that "fibroid tumors may be the seat of cancerous or sarcomatous degeneration. Whether or not a fibroma can become a malignant tumor is as yet undecided. It is a clinical fact, however, that these degenerations are frequently observed associated with fibroid tumors of the uterus." Homans,¹⁷ on the other hand, admits that the fibroid tumor may develop a cancerous character, while Goffe¹⁵ remarks that "carcinomatous and sarcomatous degenerations have been attributed to fibroid tumors, but this is still a disputed point."

According to Madden,²⁸ the theory of Sir James Simpson, which was subsequently adopted by Professor Klebs, was that while fibroid tumors have nothing carcinomatous in their nature, nor any tendency to undergo malignant degeneration, they may secondarily become the seat of carcinomatous deposits, or, as Klebs expresses it, with the hyperplastic new-formations (the fibromata) heteroplastic new-formations become associated, within which myxomatous and sarcomatous developments occur.

A. P. Clarke⁷ writes that "the record of cases coming in my own practice shows unmistakably that the malignant degenerative changes to which these growths are prone are not of rare occurrence;" while C. P. Noble,³⁶ in the discussion of Clarke's paper, remarks that "we may find carcinomatous changes after fibroids, but I have not seen a carcinomatous change in the tumor itself." He believes such a change is extremely rare. He has seen a number of cases of carcinoma of the cervix as a complication of fibroid in the uterus.

Twombly³⁷ positively asserts that the transformation of intrauterine myomata into carcinoma has never been demonstrated, while Anderson¹ diametrically states that carcinomatous or sarcomatous degeneration may take place in a fibroid or in the uterine tissue adjacent. In one case which he saw there was a new-formation of a cancer, or a degeneration of the tumor itself, which seemed to have been the result of the frequent irritation produced by puncturing the parts with an electric needle. He also remarks² that Martin, of Berlin, as quoted by Irish,¹⁸ in 205 cases of extirpation of myomatous uteri, found 9 cases which showed carcinomatous, and 6 cases sarcomatous, degeneration. Leopold claims that fibromata may become fibrosarcomata, and in one of his cases he observed a carcinomatous formation within the myoma. Ehrendorfer¹⁰ held that the mucosa of a fibroid uterus may become carcinomatous. D. Tod Gilliam¹⁴ says that he has never attended a patient whose death could be traced to malignant degeneration of the growth. He has removed several uterine fibroids that gave strong evidence of malignant degeneration, but these were rare as compared with the number of cases in which no such indications existed.

Lockhart³⁶ admits the possibility of carcinomatous degeneration, especially when the tumor is of large size and the patient is near the menopause. On the other

hand, De Boncaud⁹ denies the occurrence of cancerous degeneration of uterine fibroids, and affirms that the simultaneous development of both neoplasms in the same uterus is purely accidental, while H. Macnaughton Jones²¹ states that carcinoma of a fibroid uterus is a much rarer complication than sarcoma. Ford¹¹ remarks that a very practical question arises as to whether myoma does not occasionally become cancerous. The answer of the pathologist, he admits, is that it may become carcinomatous. Landau,²² in criticising the reasons generally advanced in favor of treating fibroid tumors symptomatically, states that though a myoma is usually a benign tumor it does not necessarily remain so. Apart from the possibility of its breaking down and sloughing, metaplastic processes—sarcomatous or carcinomatous degeneration—are not uncommon, and death from metastasis has been known to occur, though the tumor was, histologically, a simple myoma. This malignant degeneration is especially apt to occur at the climacteric period, or after that time in cases in which the menopause has been postponed owing to the presence of the fibromyomatous growth.

Oliver³¹ writes as follows: "There has been of late some discussion in the medical journals as to the association and relation of fibrous tumors of the womb and cancer. It is maintained by some physicians that under certain circumstances a fibroma of the uterus may take on malignant action. The denial of such a possibility is just as stoutly made. I have a faint recollection that I have seen this transformation occur, but I hesitate to express myself absolutely on this matter." Finally, Cullen,⁸ in his recent admirable work on "Cancer of the Uterus," states, "in spite of a rigid search I have failed to find among our own cases a single instance in which an adenomyoma has become carcinomatous." He has found, however, two instances in which a pure myoma had become invaded by the disease. Such, in short, is the more recent expression of opinion of eminent gynecologists at home and abroad, as to the possibility of the suprainplantation of a malignant upon a benign growth in the uterine wall.

IV.—THE HISTOLOGY AND PATHOLOGY OF UTERINE FIBROMATA AND MYOMATA.

A brief study of the microscopic features of uterine fibromyomata will explain the great rarity of this form of malignant degeneration of such neoplasms, and the evident reluctance of the scientific gynecologists to admit the possibility of such a change. As Madden²⁸ has clearly indicated, uterine tumors are at the outset almost entirely myomatous in nature, but sooner or later in most cases they become modified by the increasing development of the connective-tissue sheaths of the muscular fibers, so that more or less of a fibrous nature is superimposed on the original tumor. Klebs pointed out that during this process of transformation into a fibrous growth the lymph-spaces and bloodvessels within the tumor are obliterated in part, and the line of demarkation between the individual muscle-fibers becomes indistinct or even totally lost. In the small minority of the cases the original tumor retains its myomatous tissue, appearing as a growth composed of smooth muscular fibers of a greyish red transparent color and evidently contractile in nature. In either case epithelial formations are completely wanting and the development of a carcinoma is, histologically, impossible. On the contrary, the development of myxomatous and sarcomatous degenerations would be

expected to occur if the tumor malignantly degenerated at all, and clinical experience has amply demonstrated this to be the usual, though rare, form of malignant degeneration of uterine fibroids, the process proceeding from the neighborhood of the bloodvessels, and invading only the muscular tissue, which undergoes a speedy proliferation with the production of a rapidly-growing one-sided malignant tumor.

As to the nature of the muscular tissue from which the uterine myoma develops, the theories are again at variance. Can they develop from the mature muscular fibers of the adult womb? Senn maintains that they cannot, while Winckle inclines to the belief that they do not come from muscle-tissue at all, but that they spring from the uterine interparietal bloodvessels, and Klebs from the connective tissue of the bloodvessels. Velpeau's theory that they develop from small clots in the uterine walls has been disproved by Pozzi, and Kleinwächter's belief in their origin in a round-cell formation along the course of the capillaries has not been substantiated. There seems to be much reason in the arguments advanced by Anderson¹ that these fibroid tumors are localized or diffuse hypertrophies of embryonic (mesoblastic) uterine parenchymatous tissue, and composed, therefore, of unstriped muscular fibers.

Whichever of the foregoing theories we may be inclined to accept as the most plausible, it remains true that from their histologic formation carcinomatous degeneration would seem to be an impossible occurrence. How, then, are the undoubted cases of this rare complication that have been recorded to be explained? Madden²⁸ claims that genuine carcinomata can only proceed out of fibromyomata in cases in which the formation of the tumor extends to the surface of the mucous membrane; secondary extension of the carcinoma into a myoma may then happen in the same way as into the normal uterine muscular tissue from the endometrium, either continuously or discontinuously.

Such seems to have been attempted in one of the cases reported by Babcock⁴ from the clinical service of Dr. Noble, of this city, in which the capsule only of the fibromyoma had been invaded by an epitheliomatous growth originating in the cervix. Roger Williams,⁴¹ in his most admirable paper on "The Question of the Origin of Malignant from Nonmalignant Uterine Neoplasms," claims that in cases of this kind the cancerous disease usually spreads from the mucosa to the fibroid by the way of the perivascular lymphatics, and goes on to say that "in like manner uterine fibroids projecting into the abdomen sometimes become cancerous through extension of the disease from adherent neighboring organs, as the ovary, intestine, and omentum." Kümmel²⁴ records a case of secondary cancerous involvement of a subperitoneal fibroid, the primary disease originating in an adherent ovary. "A number of instances have been recorded," Williams proceeds to state, "of fibroids projecting into the uterine cavity and bearing on their surface a cancerous growth or ulcer." Examples of this kind have been reported by Schramm³⁴ and Ehrendorfer¹⁰ in corporeal polyps, while Frank,¹² Wahrendorff,³³ and J. Williams³⁹ have recorded instances in which the polyp was attached to the cervix.

A second method, not so common as the foregoing, by which a uterine fibroid tumor may become the seat of secondary cancerous degeneration is by metastatic dissemination of the malignant disease from a primary focus at some remote portion of the body. An incident

of this rare accident is recorded by Schopter,³⁵ the patient suffering from a primary cancer of the lung, a uterine fibroma ultimately presenting a secondary nodule of the disease.

Finally, the rarest method of all by which a fibroid tumor may become the seat of malignant changes is by primary involvement of the tumor itself. Roger Williams⁴¹ claims that hitherto only about a dozen instances of this occurrence have been recorded, and in most of these the evidence is far from being thoroughly convincing.

He reports an undoubted case of this rare condition. As a primary carcinomatous change would seem to indicate the presence of epithelial tissue, some other explanation than already given must be sought in order to understand this phenomenon. Fortunately, in 1896 new light was thrown upon the matter by the paper of von Recklinghausen, who observed in addition to the ordinary fibromas, myomas, and fibromyomas of the uterus, certain muscle-tumors in which glands and cysts were present.

These neoplasms he termed "organoid myomas," and he then stated his belief that the epithelium of these glands and cysts was derived from parental inclusion of fragments of the Wolffian bodies within the tissues of the coalescing tubes of Müller, or from cut-off postfetal outshoots of epithelium, growing from the uterine mucosa deep into the muscularis. Landau,²⁴ in commenting on this statement of von Recklinghausen, recalls "that the tubes of Müller are so situated in the embryo that the upper segment of each tube lies laterally to the Wolffian body of the same side; also that at a lower point, which corresponds to the tubo-uterine junction of postfetal life, the tube of Müller crosses the Wolffian duct, coursing in a median ventral direction, and that the lowest or vaginal section lies median to the duct of the Wolffian body." These relations being borne in mind, it is not difficult to understand how fetal inclusion of epithelium from the Wolffian ducts within the muscularis uteri or in the inner extremity of the Fallopian tube could be accomplished.

A strong confirmation of von Recklinghausen's theory, as pointed out by Landau, is the fact that these adenomyomas are very frequently bilaterally symmetric, and are much more common in the peripheral layers of the uterine muscularis near the tubo-uterine junction. An additional confirmation is to be found in the striking similarity in the epithelial tissue of the Wolffian ducts and the gland tubules of the adenomyomata.

On the other hand, this theory of von Recklinghausen is combated by investigators of equal ability and powers of observation. Thus, Lockstaedt²⁷ describes seven specimens of fibromyoma in which he found follicles or cysts lined with epithelium. The tumors were nearly all subserous and were attached in the neighborhood of the Fallopian tube, so that it seemed to him more plausible to infer that the epithelial elements were derived from the glands in the tubal mucosa, rather than from remains of the Wolffian body, as inferred by von Recklinghausen. He also opposes Orlof's view that the tumor may grow around and include epithelial pouches. Legnen²⁵ calls attention to the fact that the epithelial cells which are sometimes found between the muscular fibers and in the meshes of the connective tissue in fibromyomata are more common in those which are adjacent to the endometrium. These

cells usually appear as single, irregular layers lining blind follicles. He believes that they are derived by proliferation of the glands of the uterine mucosa. Ivanoff's¹⁹ inaugural thesis upon this subject is based upon an examination of 77 fibromyomata of the uterus, the majority of which were of the subserous variety. He was able to find glandular elements in only a single case, hence he concludes that uterine adenomyoma is very rare. He does not believe that embryonic remains which have been present for many years in the uterus can suddenly develop into a fibromuscular neoplasm. In the specimen he examined a zone of irritation was present around the epithelial tubes and cystic cavities, as shown by dilatation of the vessels and round-cell infiltration, the same as in cases of localized obstruction of the circulation.

These two distinct theories as to the origin of cancer of a uterine fibroid therefore exist, and must claim consideration. However, what the source of the glands and glandular tissue may be, it remains evident that it is in this tissue and in this tissue only that primary cancerous changes of fibroid tumors must originate.

We conclude, therefore, from the foregoing study of the clinical and histologic manifestations of reported cases, that it is possible for fibroma and carcinoma of the uterus to coexist, and that this coexistence may manifest itself in one of three distinct ways as follows, given in their order of frequency: 1. Fibromyoma of the corpus uteri with carcinoma of the cervix, the increased vascularity of the uterus and the irritant leukorrheal discharges attendant upon the benign tumor favoring in those women so predisposed the development of cervical malignancy. 2. Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. 3. True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue.

V.—TABULATED CASES.

I append a series of authentic cases collected from literature in which the fibroid tumor itself was invaded by the cancerous growth either primarily or secondarily, as proved by careful macroscopic and microscopic examination. They are as follows:

1. Schramm,²⁴ a cancerous involvement of an intrauterine fibroid polyp.
2. Ehrendorfer,¹⁰ a cancerous involvement of an intrauterine fibroid polyp.
3. Frank,²⁵ a cancerous degeneration of a cervical fibroid polyp projecting into the vagina.
4. Wahrendorff,²⁶ a cancerous degeneration of a cervical fibroid polyp projecting into the vagina.
5. John Williams,²⁷ a case of fibromyomatous polypus projecting into the vagina, and bearing on its surface a squamous-celled cancerous ulcer, processes of which had invaded the substance of the fibroid.
6. Jessett,²⁸ a case of fibromyoma of the uterus taking on malignant action; palsy of rectum; recovery.
7. Kümmel,²² a secondary cancerous degeneration of an intraabdominal uterine polyp by extension from cancer of the ovary.
8. Schöpter,²³ a case of metastatic involvement of a uterine fibroid from a primary cancer of the lung.
9. W. Roger Williams,⁴¹ a case of intramural fibromyoma infiltrated with colloid cancer, occurring in a single woman, 43 years of age.

10, 11, 12, 13. Klob, Glaeser, Liebmann, and Coe, reported by Seuer,³⁵ each a case of cancer originating in uterine fibroids without primary involvement elsewhere.

14. Thorn,³⁶ a case of cancerous degeneration of an intrauterine fibroid.

15. Babcock,⁴ a case of squamous epithelioma of the cervix uteri in which the disease had invaded the capsule of a fibromyoma.

16, 17, 18, 19. Geuer,¹³ four cases of primary cancerous degeneration of a myoma.

20. Dorland, the case reported above.

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SHOCK IN ABDOMINAL OPERATIONS.*

By FENTON B. TURCK, M.D.,

THE use of the term "shock" usually demands an apology. In the absence of knowledge of the pathology of this complex symptom we recognize only the phenomena, the effects of certain changes that seem to occur through the medium of the nervous mechanism. The study of the innumerable ways we may excite this remarkable phenomenon "shock" has added much to our knowledge both from a scientific and practical standpoint. The distinction made between shock and collapse (loss of the fluid of the blood) is valuable as a classification, but brings us no nearer to a knowledge of the pathology.

The recent work of Crile (Cartwright Lectures, New York, 1897) adds much to the value of the older observers on the methods of inducing shock, and the effects upon blood-pressure, respiration, etc.

Boise's conclusions (Transactions, Amer. Association of Obstetricians and Gynecologists, 1898) on the theory of hyperirritation of the sympathetic system, instead of a paresis of the nerves governing the heart, circulation, respiration, etc., are in accordance with many recognized facts, and have been alluded to by other observers.

* Presented before the Pan-American Medical Congress, Havana, 1901.

In recognizing the nervous phenomena we are still shrouded in mystery, and while each observer may add something of value to our present knowledge, we must admit that the pathology remains obscure.

I have reported many observations and experiments on this interesting subject, and the results seem to indicate two important factors not investigated sufficiently by other experimenters. One is the decreased resistance against infection when shock is present. The second is increased resistance against infection, produced by the internal application of heat while preventing shock, or reducing shock when present. Especially is this most marked when the heat is applied within the colon, stomach, or within the abdominal cavity, the two latter locations being the most effectual. No such marked effect was produced when the heat was applied to the skin. In these experiments it was shown that even virulent staphylococci and streptococci would not develop when inoculated into the peritoneal cavity of animals (dogs, guineapigs, rabbits), providing the heat stimulation continued for one hour. On the other hand, if the viscera were exposed to the air for a certain length of time, and shock thus produced, even what we term nonpathogenic microorganisms introduced into the abdominal cavity rapidly develop, resulting in death of the animal.

It will thus be seen that one of the important factors in shock is a lessened resistance to infection, while an increased resistance is obtained in the reduction of the shock by the application of heat to the splanchnic area.

I have shown by my own experiments and those of other observers, that the skin of the abdomen is a source of infection. It was shown that these germs cannot be removed even by our most painstaking aseptic procedures. That the microorganisms found are in a measure "nonpathogenic," but if the vitality is reduced by shock or otherwise, these so-called non-pathogenic microorganisms may produce infection and death. To prevent these germs from gaining access to or infecting the abdominal cavity, I described a method of covering the abdomen with an "artificial skin" or thin rubber dam sheet that is made to adhere fast to the skin; hence, I designated the method by the appropriate name, "artificial skin." (*New York Medical Record*, August 11, 1900, p. 208). I have also had rubber sheets made, with an opening already formed, to fit closely to the body and securely fastened so that the same sheet may be used over again. For practical purposes, the artificial skin which I previously described is more simple, as all that is necessary is to take a piece of this rubber dam and cement it to the skin like a surgeon's adhesive plaster. I have used various cements; simple bisulphide of carbon will dissolve the rubber and cause a sheet of rubber to adhere to the skin. I have had several special cements made for the purpose. A thin rubber cement is useful. I have tried a cement made of galvanum. Rubber and balsam, when sterilized, forms a firm adhesive sterile plaster to fix the rubber to the skin. It can be easily removed.

When the artificial skin is thus cemented over the skin of the abdomen or any other operation area, it forms a perfect protection from infection and lessens the danger of shock that may result partly from the evaporation of the wet skin.

The rubber protector may be cut to the size required. After this protective artificial skin has been made adherent to the real skin, it can be left to be opened by

the surgeon, the incision being made the same as if the rubber covering was not there.

The methods of preventing shock, or reducing it when present, have been previously described by the author. (Paper presented to the Thirteenth International Medical Congress, Paris, August 2-9, 1900; published in *Medical Record*, August 11, 1900, under the title, "The Care of Patients During Surgical Operations." Also, "Improved Methods and Details in the Care of Patients During Surgical Operations," *Journal of the American Medical Association*, June 9, 1900.) One method consists of introducing into the stomach a thin rubber bag attached to the author's double current stomach-tube, which is provided with an inlet and outlet tube. When in the stomach one side of the double tube is connected with an irrigator, and the water at a temperature of 50° C. (122° F.) is allowed to flow into the bag within the stomach. About 500 cc. is used and allowed to remain a few minutes, when the water is permitted to flow out through the outlet tube. Where it is desirable, a continuous flow is permitted, allowing 300 or 400 cc. of water to remain in the stomach throughout the treatment. Within 20 minutes this produces the profound effects previously shown by experiments on animals and numerous observations on patients, made by the author. If the temperature of the water introduced into the intragastric bag is gradually raised to 55° C. (131° F.), the highest physiologic action is obtained, and this is used, not only to prevent shock, but more especially to reduce profound shock when present.

The second method of preventing or reducing shock, previously described by the author, is that of the introduction of small and thin rubber hot-water bags covered with the flat gauze sponges into the abdominal cavity during operations for laparotomy. The temperature of the water in the bag is 48° C. These bags are partly filled with sterile water, tied, and kept in a hot-water receptacle at 48° C., ready for use. These heated flat sponge bags are not only useful in holding back the viscera from the operative field, but supply the necessary constant heat to prevent shock, and consequently, as I have previously shown, prevent the infection that results from the lowered resistance accompanying shock.

To determine the changes of the blood during shock, I injected the serum of animals in shock into healthy animals, and by increasing the dosage I found that animals so injected soon manifested the symptoms of shock. These experiments were repeated a sufficient number of times, and the results were constant in the disturbance of circulation, respiration, lowered temperature, resulting in collapse. Thirty animals were used, including guineapigs, rabbits, and dogs. The following experiment will illustrate:

Two dogs, brothers, 11 months old.

Dog No. 1. The abdomen was opened and the viscera exposed to a cool draught of air; at the same time the viscera were frequently manipulated until profound shock was produced. Loss of reflexes, lowered blood-pressure, failing respiration, temperature reduced to 95° F., marked congestion of the splanchnic vessels and marked anemia of the periphery. Time, one hour and 55 minutes. The animal was then bled and the serum used to inject into Dog No. 2. Injection of 5 cc. produced but little noticeable effect. When 50 cc. had been used the animal showed marked fatigue. When 150 cc. was injected the animal was in a state of collapse.

The blood from the animal in shock was injected into two guineapigs, injection being made subcutaneously into the back of one animal and into the abdominal cavity of the other. One lived 8 hours and the other 12, but both died from shock. These two experiments were controlled by animals injected with water and with blood from an animal not suffering from shock; neither of the controls showed any symptoms of shock.

Rabbits and guineapigs are far more susceptible to the injection of serum from an animal in shock than a larger animal. A rabbit will sometimes go into convulsions and manifest all the evidences of suffering by snake poisoning. Small injections, frequently repeated, will establish the phenomena of shock without convulsions. I have also found that those animals thus injected are rendered more susceptible to infection, but this point requires more experimental work to establish it beyond a doubt. The conclusions are well shown that in shock there are tissue and blood changes that are produced, and when the serum of animals in shock is injected into a healthy animal, it produces shock in the second animal. This corresponds to Mosso's experiments on fatigue, in which fatigue was produced in one animal and the injection of the fatigued animal's blood into a healthy animal resulted in fatigue in the second animal.

In another series of experiments, I found that when an animal is stimulated by heat for one hour or more, the heat applied within the splanchnic area by methods previously described, immunity or resistance against infection was thus produced. When the serum of such an animal was injected into another animal, there was an increased resistance produced, or a partial immunity to infection. Animals so protected could not always be saved, but the death from infection was retarded sometimes for one or two weeks. These facts establish a most important point in the pathology of shock, namely, the alteration of the tissue-cells and blood in shock. The nerves seem to act here as a transmitter of impulses that result in these tissue changes that we call shock. The chemical changes in muscle contraction, with resulting fatigue, may illustrate the part that nerves play in fatigue, so in shock. The phenomena of shock are too complex to explain by a single theory, but we must regard it as connected closely with the phenomena of altered metabolism. When metabolism is more satisfactorily worked out we may more clearly understand the phenomena we call shock.

A PRACTICAL MODIFICATION OF THE PHENYLHYDRAZIN TEST FOR GLYCOSURIA.

By ROBERT N. WILLSON, M.D.,

of Philadelphia.

So MANY urinologists have found it easy to criticise and discard as too intricate or liable to error the so-called phenylhydrazin test for glucose in the urine, that I have been led to offer a suggestion that may bring it within the reach of even the least skilled experimenters. Before describing the modifications that render it both practical and expeditious, and, what is still more important, almost free from error, it may be well to give the main steps of the test as usually performed. These consist in boiling a certain quantity of the suspected urine (usually 50 to 100 cc.) in a beaker in a water

bath, after adding a small quantity of sodium acetate, and one-half as much phenylhydrazin hydrochlorid. Fischer and von Jaksch allow the above mixture to boil for half an hour, but use such a small quantity of urine (especially von Jaksch, who recommends 6 to 8 cc.) that their followers in imitating the method have frequently failed to demonstrate glucose, although shown by other tests as present in large quantities. Sahli advises 10 cc. of urine, to which two drops of a concentrated lead acetate solution have first been added, and the urine then carefully filtered to remove the albumin. He then renders the filtrate acid with a drop of acetic acid. I would say here that while the use of lead acetate solution and the subsequent filtration are measures conducive to a more cosmetically perfect test, the albumin in no way interferes with the execution of the method, and so far as concerns the final outcome need not be removed. This being true, and providing the urine is already acid, nothing need be added except the essential reagents, thus saving to the experimenter two steps in Sahli's method. Both von Jaksch and Sahli have suggested the use of a test-tube in the place of a beaker as a handy substitute for the more bulky glass dish that requires a large water bath. R. T. Williamson, in an excellent article on the phenylhydrazin method (*Manchester Med. Chron.*, 1899), suggested an even quicker plan for the preparation of the phenylhydrazin-urine solution, and yet the majority of observers have held to the water bath, and have at last become weary of the procedure and discarded the test altogether. Williamson makes a decided advance in modifying the old suggestion of Hoffman and Ultzman (*Atlas der Harnsedimente*, Wien, 1872), by heating equal parts of sodium acetate and phenylhydrazin hydrochlorid ($\frac{1}{2}$ inch of each in an ordinary test-tube) with the urine over a spirit lamp for two minutes after the solution has reached the boiling point. He then places the test-tube in the rack and leaves it there for from half an hour to twelve hours or more before examining. As he says the crystals are "frequently found after the tube has been standing half an hour, but after boiling the tube I have generally placed it in a test-stand and did not examine the deposit until next day, or at least until 6 or 8 hours afterwards." Thus, although he has rendered easy and speedy the first step in the method, even Williamson fails to furnish a test that will always react within a practically short space of time. If the phenylhydrazin test is to be of advantage it must be rendered prompt, and in the following suggestions I believe I can bring it decidedly within the reach of even the most exacting requirements.

Method I.—The test may be carried out according to Williamson's method up to the point at which he places the tube in the rack, after boiling for two minutes. At this stage, instead of allowing the solution to cool gradually in the tube, or to stand for hours, I have found it practicable to place a drop directly upon the slide and examine it under the low power (AA Zeiss) of the microscope. In from $\frac{1}{2}$ to 2 or 3 minutes depending upon the temperature of the room, and the quantity of sugar present, if the reagents have been thoroughly mixed and dissolved in the urine before boiling, typical crystals of phenylglucosazone can be seen forming beneath the eye of the observer. The character of these crystals can be readily seen from the accompanying figures. It need only be mentioned that the color is a brilliant yellow, contrasting strongly with the brown globules and dark yellow granules that often appear in the precipitate, and

especially when the urine is rich in uric acid or in urates.

Method II.—I prefer to the direct application of the flame to the test-tube, as rather more certain and slightly more sensitive, the use of a small beaker as an improvised water bath. I make it a rule to boil the solution in the test-tube in this bath, for 5 to 10 minutes over a Bunsen burner, and then to examine immediately as before, with a single drop on the slide, and with the low-power lens. The slightly slower heating insures a perfect solution of the reagents before boiling, and avoids a source of error that with this rapid method may prove of decided moment. This method requires but little longer, and the whole examination is complete within 10 or 12 minutes.

I have believed, since my first attempt and failure to demonstrate the presence of 5 % of glucose in a specimen of urine, that my error and that of a large number of observers lay in the use of a too small quantity of phenylhydrazin hydrochlorid, and at the same time of too little urine. Not more than a few weeks ago, while demonstrating the test to a class of medical men, a physician, himself a laboratory teacher, remarked to me that either "my phenylhydrazin was spoiled, or else



FIG. 1.—Phenylglucosazone crystals, as they appear when first forming in the drop of urine under the lens (DD Zeiss.)

the test was of no use." He had placed glucose in normal urine, tested as he thought properly for the crystals, and had obtained nothing but the customary normal flaking of the phenylhydrazin salt, and no crystals. In the first place I may say that very rarely, if ever, does the phenylhydrazin salt "spoil." In the second, the opportunity was too good to be lost. So, before the class, and with his own materials that had in his hands failed, I carried out what I have described as Method II. Within 10 minutes of the preparation of the first solution I had typical phenylglucosazone crystals in abundance, and forming fast under the lens of my microscope. Where the doctor had erred I do not know. Either the heating had been too hurried, the mixing had not been thorough, or his proportions of the salts used had been inaccurate or too meager. The eye soon learns the quantity necessary, and no measure is required. Until practice affords this accuracy, however, no more frequent source of error will be found than the lack of sufficient salt of one kind or the other. The directions that I have given, however, are exact, and if glucose is present the test as described will not fail to produce the crystals. The test-tube method is undoubtedly the practical one, with or without the water bath.

To the tube, half full of urine, I add one gram¹ (equivalent to the amount that will heap a silver quarter dollar piece) of sodium acetate and *as much* phenylhydrazin hydrochlorid. The amount of these reagents mentioned by Williamson, while vitiating the accuracy of the test in no way, is unnecessarily large, and as the phenylhydrazin salt is somewhat costly, its lavish use will prove somewhat of an item in the laboratory account.

If sugar is present in large quantities, large yellow

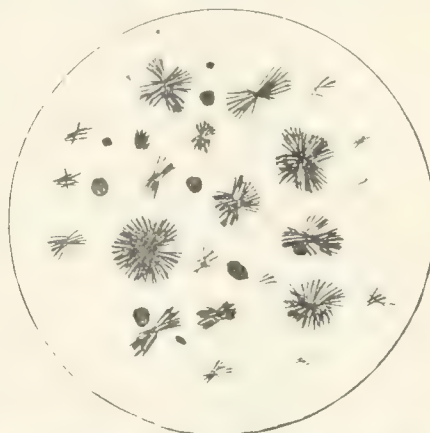


FIG. 2.—Final formation of crystals in ordinary (1-5 per centages of glycosuria (DD Zeiss.)

crystals will form in the field as the drop cools. The long slender spicules and the tendency to a rosette or cluster form, will differentiate the phenylglucosazone crystals from any others that may form from other substances. (Fig. 2.) In high percentages of glycosuria the formation of crystals is so profuse that there is no difficulty in their detection with the low-power lens. I prefer, however, to use no coverglass in the method, since in this fashion the urine cools both gradually and quickly, and presents a concentrated field for observation. Just here can occur a source of error. In the event of a minute quantity of glucose being present,



FIG. 3.—Final formation of crystals in very low percentages of glycosuria (DD Zeiss.)

minute crystals only may form that cannot be clearly seen with the low-power lens. These, however, can be easily recognized with the higher power (DD Zeiss) as characteristic though tiny crystals of the same nature as the larger ones. (Fig. 3.) By this method I have repeatedly discovered glucose in quantities far less than

¹ Attention has repeatedly been called by different authorities to the tendency of this salt to produce eczema of the skin. My personal experience has covered no such cases.

0.1% in the urine. Williamson claims accuracy for the test in the presence of 0.01% of sugar, and my experience tends rather to confirm than to doubt his statement. A comparison of the phenylhydrazin test with the ordinary tests for glycosuria can be made in the following recent experience. I was examining a specimen of urine sent to me for analysis in which I later demonstrated about 0.1% glucose in the evening specimen and a still more delicate quantity in that of the morning. In both specimens I obtained a negative reaction with Fehling's solution, although a few weeks previously the evening specimen had contained 5% of glucose. After standing between 5 and 10 minutes the Fehling test began to give a suspicious color-reaction, that never went beyond a yellowing of the blue, and gave no precipitate. I then instituted the phenylhydrazin test after the above method (II), boiling the solution 10 minutes; and in less than a minute after placing the drop on the slide saw tiny crystals of phenylglycosazone begin to form. These I could see, but barely distinguish with the AA lens. Fehling's test required 5 to 10 minutes to give a very doubtful reaction; the fermentation test would have required several hours, had it responded at all; while the phenylhydrazin method as I have described it was practically conclusive in less than a minute after the boiling was complete. Altogether the latter test requires under the most disadvantageous circumstances between 10 minutes and $\frac{1}{2}$ hour. In my own hands I can be confident of its success within a time limit of 10 minutes.

Of course the question arises here (1) as to the unvariableness of the appearance of the crystals when glucose is present; (2) whether other substances than glucose will produce with phenylhydrazin similar crystal formations; and (3) as to whether or not the test is so delicate as claimed by some, no matter how executed, as to cause the formation of crystals from the small quantity of glucose supposedly present in normal urine. In answer to the first point I will simply submit the instance already mentioned as one of a large number in which the phenylhydrazin test has been the only one apart from the clinical symptoms to conclusively demonstrate the presence of sugar. I have never met with an instance in which the customary tests (Fehling's, bismuth, fermentation) all agreed in reacting to the glucose and yet the phenylhydrazin test registered a negative decision. In regard to the second point I must answer that certain substances do at times form with phenylhydrazin hydrochlorid crystals similar to those of phenylglucosazone. Glycuronic acid or alkapton, (of which traces may be normally present in the urine, but never in quantity sufficient to give this reaction) may as a result of the ingestion of certain drugs² appear in quantity in the urine, and lead to the reduction of copper oxide in Fehling's test, bismuth, silver salts, and also to the formation of crystals somewhat similar in appearance to those under discussion. Usually they are smaller and the spicules are shorter and less rich in number. The occurrence of alkapton is, however, a rare one, and can be determined at once by its disappearance on discontinuance of the use of the drug.

Crystals should then no longer form with the phenylhydrazin salt. Alkapton fails to give the bismuth reaction (Nylander's solution), and does not ferment with yeast. Its crystals, moreover, melt at 114° to 115° C. Williamson mentions the fact that sodium salicylate and

salol may cause a like reaction, probably due again to glycuronic acid formation in the urine. Salkowski states also that the pentoses may form crystals. The pentoses are, however, rare forms of sugar, and as their crystals melt at 159° C., they also can be separated from those of phenylhydrazin which melt first at or about 205°. Levulose may also rarely form a crystalline sediment, but is again such a rare occurrence, except in company with glucose, that it hardly enters into consideration. Finally with regard to the oft-claimed oversensitiveness of the phenylhydrazin test, I can present an unbroken individual experience. I have tested many times what I believe to have been normal (glucose free) urine, and by all of the methods above mentioned, and have never obtained crystals that were in any way liable to be confused with those of the phenylhydrazin salt. Williamson quotes a series of 50 specimens of urine tested in the same way and with a like conclusion. In the same specimens he tested with the method of Moritz (boiling for one hour or more) and obtained crystals somewhat similar in appearance in many of the cases. Moritz's method seems undoubtedly oversensitive. On the other hand those facts appear to me to prove conclusively the value of the phenylhydrazin test when executed according to the above suggestions, which outline a procedure so much simpler than the one that is liable to error that the latter can be chosen only through ignorance or intention. I feel safe in recommending it as the most accurate, and at the same time one of the most expeditious of methods of examination for glucose in the urine. Certainly as a negative test it is unimpeachable, while as a positive indication of the presence of glucose in large or small quantities (0.01% +) I believe it shows so few sources of error as to make it preferable to any of the other resources at our command. Bismuth and copper react with uric acid, kreatinin, and other normal constituents of the urine, and often their reactions with glucose are obscured by the presence of albumin in one of its many forms. Phenylhydrazin hydrochlorid responds to none of these substances, nor does albumin interfere with its reaction. Even in the case of the polariscope is the latter recommendation in a measure wanting. In the presence of less than 0.1% glucose the much-relied-on fermentation fails, while phenylhydrazin has demonstrated so much smaller a quantity that it has suffered the accusation of such a delicacy as the demonstration of a possible normal amount. We have, therefore, in the modified phenylhydrazin test not only one that can be used with satisfaction by those skilled in laboratory methods, but one that is within the ability of the veriest tyro, or the humdrum doctor of the oldest school, provided he has advanced to the use of a microscope and test tube. For accurate work I would suggest the routine use of three tests—phenylhydrazin, Fehling's, and fermentation (the latter always done with a control test of glucose-free urine). The polariscope, when within the means of the worker, forms a valuable adjunct. Rubner's test with lead acetate and ammonia is also an excellent one. But for practical results, I believe of all these the modified phenylhydrazin test combines the most valuable qualities and assures the greatest accuracy. Permanent specimens of the crystals may be mounted directly in balsam after drying upon the cover glass or slide.

Awarded Golden Crown.—Professor Grassi has been awarded the distinction of the Golden Crown by the Society of Italian Agriculturists, in recognition of the valuable services rendered by him in the investigation of malaria.

² Among these are opium and its alkaloids, curare, camphor, chloroform, chloral, etc.

HOW TO PREVENT STAMMERING.*

By G. HUDSON MAKUEN, M.D.,

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THE old adage, "An ounce of prevention is worth a pound of cure," was never more applicable than it is in the consideration of the treatment of stammering. The time to cure stammering is before it begins. Few, if any, children stammer from the very outset. Speech is an acquired faculty and stammering is an acquired defect. The tendency to stammer is inherited in many cases, and children having ancestors who stammered should be very carefully guarded. The inherited tendency consists in a transmitted defective nervous organization, the exact character of which has not yet been differentiated.

So complex are the mechanisms of speech that the wonder is that we do not all stammer. In no other faculty of the human organization is so great precision of coordinate muscle-action required, and not only must there be a perfect coordination between the numerous muscles, but there must also be a perfect harmony and coordination of action between the mechanisms themselves. Indeed, it is the lack of this latter coordination that causes stammering in the great majority of cases.

The three mechanisms of speech are the respiratory, the vocal and the oral mechanisms, and there are few stammerers who cannot employ any one of these mechanisms separately. They can breathe, they can vocalize and they can articulate, but they have trouble when they attempt to do these three things at the same time. In other words, they are unable to coordinate the action of the three mechanisms of speech.

The first act of the child on coming into the world is to breathe. This breathing is instinctive, automatic and involuntary. Its function is to aerate the blood and it is therefore necessary to life. Its physiology is well-known, and it differs very materially from the physiology of the breathing employed in the production of speech. This latter breathing incidentally performs the function of the former during the speech-processes, but its own and chief function is to supply the vocal organs with a column of breath which, in turn, becomes voice, the material out of which speech is made. In other words, while the breathing of speech production incidentally aerates the blood, its chief function is to produce voice.

The management of the breath for speaking and singing is an art and it should be taught in the schools. Its physiology, I explained several years ago in a paper entitled, "Artistic Breathing," presented before the American Laryngological Association, and published in the PHILADELPHIA MEDICAL JOURNAL. Good vocalization is also an art, and, although it is the product of a separate and distinct mechanism, it should be studied in connection with breathing.

I have defined voice elsewhere as being a moving column of breath set in vibration by its own impact with the vocal bands and reinforced by its diffusion through the various resonant chambers into the surrounding atmosphere. The production of voice, therefore, requires not only a precise coordinate action of the muscles of each of the two mechanisms, the respiratory and the vocal, but it also requires a precise coordinate action of the mechanisms themselves, and defects of vo-

calization are often due to a lack of this harmony of coordinate action.

The vocal element of speech depends for its perfection upon the moving column of breath, upon its density, its rate of motion, and its accurate control by means of the respiratory muscles. One child will stammer because the column of breath is not sufficiently dense; another because it moves too rapidly or too slowly; and another because it moves in the wrong direction, the attempt to vocalize being made on the inspiratory effort. There is a faulty action of the respiratory muscles and a lack of coordination between the respiratory and vocal mechanisms which necessarily result in a faulty production of voice. And it is here that the trouble with many stammerers exists. Voice, the material out of which speech is made, is not forthcoming at the exact time at which it is required for purposes of articulation into syllables and words, and there is, therefore, a lack of coordination also between the vocal and the oral mechanisms.

An apt illustration of the relation between these two mechanisms is given by Dr. Wyllie in his book on "Disorders of Speech," in which he likens the vocal mechanism to the bow hand, and the oral mechanism to the string hand of the violinist. Just as the most precise harmony of action must exist between the two hands of the violinist, so must there be perfect harmony of action between the vocal and oral mechanisms of speech. If you imagine for a moment a failure on the part of the bow hand to perform its functions and an effort on the part of the string hand, not only to do its own work, but also, at the same time, to supply the deficiency of the bow hand, you will have a good illustration of what takes place in the case of the stammerer. The vocal mechanism is defective in its action. It may be lacking in promptitude, as it is in many instances, and the oral mechanism tries to articulate something that does not exist, and the result is necessarily a failure. The word will not come out and the first impulse is toward greater effort. This greater effort generally takes place in the acting mechanism and results in an overflow of nerve-energy into this mechanism and sometimes into other portions of the muscular system and gives rise, not only to the grimaces of the stammerer, but also to the spasmodic contortions of the muscles sometimes observed in other portions of the body.

The proximate cause of stammering, therefore, is a faulty coordination of the three mechanisms of speech, viz., the respiratory, the vocal, and the oral. This faulty coordination in turn is generally due to a faulty action of one of these mechanisms which always results in a faulty action of them all.

The trouble does not often appear first in the oral mechanism, where the muscle-spasms, characteristic of the stammerer, are so manifest, but rather in the respiratory and vocal mechanisms, and the spasms of the articulating muscles, as I have shown above, are due to the overflow of nerve-energy into these parts.

Having considered the immediate causes of this affliction, let us now look for the more remote, or first cause. What is it that causes the faulty coordination of the muscles and the mechanisms of speech? This we naturally look for in that portion of the nervous system supplying these muscles and mechanisms. It may exist in any portion of the nerve-tracts running from the peripheral organs of speech to the centers in the cerebral cortex. In the majority of cases, however, it is probably in the motor speech-centers of the bulbous

* Read before the Third Pan-American Medical Congress in Havana, Cuba.

portion of the spinal cord. It is not a gross anatomical lesion; that is to say, one that may be differentiated by any methods at our command; but that it is a structural condition, differing, however, slightly from the normal, is quite probable, and I am looking forward to the time when a more minute study of the pathology of the nervous system may enable us to demonstrate it.

The fact that this peculiarity of the nervous system is transmitted according to the laws of heredity, tends to suggest and confirm the above theory. If stammering were the result of a mere functional derangement of the nervous system, heredity would not figure so conspicuously as a contributory cause. There is something more definite than we have yet discovered, which is handed from one generation to another, and which predisposes those possessing it to this distressing affliction. Children who acquire the habit of stammering, whatever may be the exciting cause, generally have within their own nervous organizations the germs of the disease. Hence it is that they should have the most careful management during the period of the development of speech. Prophylactic measures should be instituted before the stammering actually begins. In the majority of cases these measures should be wholly educational. The little patients merely require to be taught how to think calmly and connectedly and how to speak, and this is not a difficult thing to do.

Stammering is not generally of sudden onset, but it is of slow development and begins during a period of great excitement. A child attempts to describe some little incident that may have happened during his play hour and which seems to him of overwhelming importance. He is anxious to make his description as vivid as possible and he thinks there is no time to lose. In his haste, various details of the incident become confused in his mind and he has difficulty in selecting the proper words and in enunciating them as rapidly as appears to him to be fitting to the occasion. His excitement, moreover, increases his heart's action and his breathing and they become wholly inadequate to the requirements of normal speech. The result is a repetition of the initial sound or syllable of some word that may be uppermost in his mind. This is what is known as stuttering. It is a prodrome of stammering; and it is at this stage that the treatment should begin.

What not to do is quite as important as what to do, and therefore, it may be well to begin with a few "don'ts." In the first place don't scold the child. He is already in an excited condition and scolding will merely add fuel to the flame. Don't make fun of him or call his attention to his defect or use the word stammering or stuttering in his presence, for all this will embarrass him and lead to a nervous dread of future trouble of a similar kind. Don't allow him to associate with stammerers or even to hear another stammer, for unconscious imitation is an important causal factor at this stage of the affliction.

Always keep in mind the fact that the child begins to stutter because he has not yet learned to combine the art of ideation with that of oral expression. His thoughts come rapidly and in confusion and the words with which he attempts to clothe them tumble out spasmodically, somewhat as water comes out of a bottle. He tries to say everything at once. He cannot arrange his thoughts in order and he has difficulty in selecting suitable words for their expression. The vocal and articulating organs share in the general confusion and

they soon begin to lose their normal automatic action. An effort is made to control them by will power and this usually results in failure. These organs cannot be forced into proper action.

Inasmuch, therefore, as the trouble often arises in a faulty mental action, the first indication is to direct the mental processes into normal channels. We must disentangle the somewhat twisted thoughts and to do this the attention of the patient should be unconsciously diverted from the all-absorbing subject at hand until he has regained his mental equilibrium and then he should be led gradually back to the main subject and given a clear conception of exactly what it is that he desires to say and shown how to say it in a deliberate and clear manner. It is quite possible to do this, and careful direction and management at the very inception of the trouble will almost surely prevent the formation of the stammering habit. It is after the habit has been formed that the difficulty in curing stammering arises. The treatment then is not only more difficult, but it is much more complicated because of the many new factors entering into the problem.

Children never should be allowed to stammer and the habit never should be formed. It is quite probable that the above treatment, if properly carried out during the prodromal period, would result in completely stamping out this dreaded disease.

BELL'S PALSY ASSOCIATED WITH COMPLETE ANESTHESIA IN THE TERRITORY OF THE FIFTH NERVE.¹

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of Philadelphia.

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INVOLVEMENT of sensation in a minor degree is not uncommon in ordinary cases of peripheral paralysis of the seventh nerve. This implication of the fifth nerve in such cases is, however, merely shown, as a rule, by pain in and around the point of exit of the seventh nerve from the skull. This pain is usually not severe and not long continued. On the other hand, a true anesthesia in ordinary Bell's palsy is very rare, and even when present is usually but limited in extent and quite evanescent. In my own observation of peripheral paralysis of the seventh nerve, of the ordinary type due to cold, and known as Bell's palsy, I have never seen until now a well-marked anesthesia. I have, of course, seen a conjoint paralysis of the fifth and seventh nerves, due to a gross lesion, such as a tumor, within the cranium, but of such cases I am not speaking here.

There is apparently very little recorded about anesthesia or other involvement of the fifth nerve in cases of Bell's palsy. The reason must be that such involvement is rare. Erb regards it as remarkable, considering the intimate association that exists between the fibers of the fifth nerve and those of the pes anserinus, that sensibility is not oftener involved, and regards this exemption as proof that in ordinary facial paralysis the inflammation is usually higher up in the trunk of the facial. Gowers says he has seen a few cases of diminished sensibility on the cheek,

¹ Read before the Philadelphia Neurological Society, October, 1900.

but his explanation that this is due to diminished sensibility of the nucleus of the fifth nerve due to the diminution of the number of muscular impressions, is quite unsatisfactory. Mills says that occasionally one or more branches of the trifacial may be involved in Bell's palsy, and this is due to a spread of the inflammation by contiguous structures. Eulenberg and others have recorded the occurrence of herpes zoster in cases of paralysis of the seventh nerve, but in such cases I should suspect a deep-seated lesion probably acting as an irritant to the Gasserian ganglion. Notta, in 1860, described a form of neuralgic Bell's palsy in which the first symptom was pain in the suboccipital and auriculotemporal nerves, followed after a period of eight days by the facial paralysis. But in this affection there was no anesthesia. The affection was a most anomalous one and suggests a resemblance to ophthalmic migraine, in which paralysis of the ocular muscles follows a severe bout of pain in the ophthalmic division of the fifth nerve. It was certainly not like an ordinary Bell's palsy, and I have never seen any record of other cases like it.

Webber, of Boston, wrote a paper on pain (not anesthesia) in Bell's palsy. He suggests, somewhat as Mills has done, that a "rheumatoid" inflammation of the trunk of the fifth nerve might occur at the points of exit of the nerve from the skull, just as occurs in the case of the seventh nerve. But in such an affection, I should think anesthesia would be present as well as pain. The occurrence of pain in Bell's palsy is, in fact, not difficult to understand; it may readily be caused by the swelling of the trunk of the seventh and consequent involvement of the small fibers of the fifth with which the trunk of the seventh is doubtless supplied. But the problem of a complete anesthesia in these cases is a far different one.

I have to present this evening a case of peripheral paralysis of the seventh nerve associated with complete anesthesia in the whole territory of the fifth nerve.

The clinical notes of the case, as taken by Dr. Cohen, resident physician, are as follows:

A. W., female, aged 20 years, has a negative family and personal history. The patient says she has always been nervous, but gives no history of hysterical crises prior to onset of present illness. No specific history is attainable, and there is no evidence of specific infection. On Monday, July 8, 1900, the patient slept in a draft. On Tuesday she had pain—occipital, frontal and on the vertex. She was dizzy and nauseated, but there was no emesis. On Friday morning the patient felt nauseated. Suddenly, while conversing, she felt her mouth draw to the left and she could not see out of her right eye. There was lateral flexion of the head to the right, and deafness in the right ear. Violent headache was present. The patient says she fainted. There was marked epiphora from the right eye. The patient grew worse on Saturday and Sunday. Her mouth became more distorted, the left angle being situated about half way between the ear and its normal position. She was admitted to the hospital on July 21.

Physical Examination—Dull mentally. Pain severe in right ear and down the right side of the neck, over the mastoid process, temporal region, and ramus of the inferior maxilla. Eyes: Sight poor, especially of right eye. Pupils: Uneven, right larger than left, dead to light and accommodation, movement of eyeballs good in all directions, orthophoria, no ocular palsies, conjunctival reflex absent in the right eye—also corneal. Eye grounds: No gross lesion, form field roughly taken under cover. Right eye contracted to fixation point; left eye markedly limited, but no central scotoma. Fifth nerve: Motor branches uninvolved. Patient cannot open mouth to full extent on account of pain; the temporal, masseter, and pterygoid muscles act perfectly.

Sensory branches: Complete anesthesia of the right side of the head, neck, and face, including the buccal surface (see Figure). Tactile, temperature, pain, and muscular senses absent over large area on right side of the head, neck, face and mouth. The special senses: Taste absent on the right side of tongue. Smell absent in the right nostril. Hearing diminished on the right side. Ear (right), membrane thickened; light spot slightly broken; pain on pressure over posterior auricular nerve. Seventh nerve: All branches involved; right side of face expressionless; lagophthalmus; escape of saliva from mouth; the faradic contractility of the affected muscles is almost completely abolished. Eleventh, spinal accessory: Contraction of the muscles on the right side; chin deflected to the left; pharyngeal reflex absent. Tongue protruded with difficulty, but not deflected from median line. No other part of the body is paralyzed; kneejerks sluggish; sensation elsewhere normal; some difficulty in urination—tendency to retention. Heart and lungs normal. Abdomen normal.

Abstract from Clinical Notes.—Since admission to the hospital the patient has had 4 distinctly hysterical crises characterized by weeping, globus, varying degrees of anesthesia of trunk and upper extremities, aphonia, muscular twitchings, semiconscious state, partial anesthesia of left, or sound, side of the face, and dropping of the lower jaw. There was no relaxation of the sphincters. These additional anesthetics have been temporary, passing off in a day or so. The anesthesia of the right side of the head, face, buccal surface and neck has remained constant. The patient steadily improved and regained considerable facial control. She could nearly



Anesthesia complicating a case of Bell's palsy.

close the right eye at the end of two months. There has been a gradual increase in response to the faradic current. At the end of three months the patient's condition was as follows: She still presented the above-described sensory disturbances, viz., abolition of tactile, pain, temperature, and muscular senses over a large area of the right side of the head, face, buccal surface and neck. Absence of the special senses of taste and smell on the right side. Considerable deafness in the right ear, diminished vision in the right eye. Contracted visual fields. Slight or partial reaction of degeneration. Electrical sense has gradually increased. At no time has there been any disturbance of speech apart from hysterical aphonia.

In seeking for an explanation of this involvement of the fifth nerve we have to consider several points. In the first place, the escape of the motor branch of the fifth seems to indicate that the lesion is not at any point within the cranium. It is difficult to see how a lesion at the base of the brain, involving both the seventh and fifth nerves, would allow the motor branch to escape, and also how the sixth nerve would escape. The intense pain at the beginning, with stiffness of the neck muscles, might suggest a meningitis, but the subsequent favorable progress of the case is against this theory. Besides, there has been no optic neuritis or other evidence of intracranial lesion. The case hardly presents the history or appearance of brain tumor. The involvement of taste is doubtless due to implication of

the chorda tympani, but the involvement of smell suggests an hysterical complication, and this leads to a consideration of the theory of hysteria.

Hysterical complications in organic nervous disease have been observed now so often by me that I have come to look upon them quite as matters of course. In the present case the evidence in favor of hysteria is both negative and positive. The negative evidence consists in the absence of any clear indication of an organic lesion to explain the anesthesia. The positive proof is briefly as follows: The association of the anesthesia with loss of the special senses, even sight, on the affected side. The loss of taste could, of course, be otherwise explained as due to involvement of the chorda tympani in the inflammation of the seventh nerve; it being now pretty well agreed upon that the chorda tympani and the intermediary nerve of Wrisberg are one and the same sensory nerve—called by Sapolini the thirteenth cranial nerve—and that this is the nerve of taste for the anterior half of the tongue. Favoring hysteria also are the hysterical crises, the fugitive anesthesia on the sound side of the face and elsewhere, the contracted visual fields, and the patient's occasional mental states. Rather against this theory, perhaps, is the permanency of the anesthesia on the affected side—nothing has served to dispel it. It has persisted now for three months, and is as obstinately fixed and as complete as an organic anesthesia.

Finally, in favor of hysteria is the fact that the anesthesia is not strictly limited to the territory of the fifth nerve. It overlaps this territory considerably except at the median line. As seen in the figure, the anesthesia extends down on the neck, below the territory of the fifth nerve, and back toward the occiput in the territories of the great and lesser occipital nerves and the auricularis magnus. It would be difficult to account for such an anesthesia by an organic lesion.

As to the paralysis of the seventh nerve, it is unquestionably due to an organic lesion—evidently a neuritis. The paralysis is not like an hysterical paralysis of the seventh in which blepharospasm is usually seen to take place of lagophthalmus. Besides, the reactions of degeneration are an unmistakable proof of its organic origin.

Black-Water Fever.—Ziemann (*Deutsche med. Woch.*, October 4, 1900) gives the following statements as the result of his experience in **black-water fever**. 1. In some regions severely affected with malaria there are found people who, after having had one or more attacks of malaria have a tendency to black-water fever which varies from time to time. As a rule the intensity increases with the number of attacks of malaria, but this is not always the case. It is not necessarily associated with a general hemorrhagic diathesis. 2. This disposition to black-water fever is seen chiefly in people who have been infected with the small parasites of the tropics, or with estivoautumnal fever, though ordinary tertian or quartan fever may produce it. 3. It is possible that there an especial virulence of the parasites is produced by local conditions, and that this leads to the hemoglobinuria. As a result of these observations he concludes that black-water fever may appear as a result of a new outbreak of malaria; it may be the result of a new outbreak of malaria with the coincident use of quinin; it may also appear in people who are predisposed thereto owing to earlier attacks of malaria by the mere use of quinin without any new attack of malaria. The latter cases are rare. Black-water fever has been observed in Togos negroes when they have never taken quinin. The same has been seen in other regions. It may be seen in very mild forms with only a slight brownish tinge of the urine. One case, which is worthy of attention, was observed by Ziemann. In this tropical malaria was

present. A dose of $\frac{1}{2}$ of a grain of quinin produced hemoglobinuria, and about $\frac{1}{3}$ this amount produced albuminuria. [D.L.E.]

Extra-genital Syphilis Transmitted to Several Members of the Family.—Tulinow (*Vratch*, Vol. 22, No. 2) related before the Pediatric Society of Moscow the following interesting cases: To the Hospital of St. O'ga were admitted a brother and sister, 5 years and 11 months respectively, both suffering from syphilitic affection of the buccal mucous membrane. From the history it was learned that the girl was infected by her brother through kissing, and he, in turn, was infected by a syphilitic janitor who occupied the same room. The little girl infected her mother who developed a hard chancre of the nipple. The father of these children also developed a hard chancre of the left tonsil. In the same hospital was received a boy 3 years old with a hard chancre of the lower lip. This boy infected two other children and his father and mother. At the same time the landlord's children, living in the same house, developed extra-genital syphilis. [A.R.]

Polyneuritis Due to Influenza.—Diemer (*Gaz. Heb. de Méd. et de Chirur.*, January 13, 1901, 48me Année, No. 4; Paris Thesis, 1900) refers to a case of **polyneuritis following influenza** that occurred in the service of Lépine. The nerves were examined histologically after death and the presence of parenchymatous neuritis was demonstrated and not interstitial neuritis. This complication of influenza ordinarily begins during the period of convalescence, like diphtheritic neuritis, to which it has often been compared. Motor troubles are constant in this condition, which is primarily a motor polyneuritis. The motor phenomena consist of paralyzes of so very variable location that it is impossible to assign to this form of polyneuritis a predilection for any particular group of muscles. It may be said that all the muscles may be paralyzed and that consequently the functional troubles that originate from the paralysis vary according to the localization of the lesions. Usually the paralysis is isolated either to the upper or the lower extremity with predominance on one side. Whatever their seat these paralyzes present common characters which, however, are not pathognomonic. Among the peculiarities of this form of paralysis are: 1. The predilection for the distal segment of the limb, which predilection diminishes in its intensity as the proximal segment is approached. 2. The extensor muscles are usually the ones that are involved. 3. The course of the affection is irregular. 4. The paralyzes are always flaccid. In addition to the paralytic phenomena ataxic symptoms are often observed which are due to the paralysis of the extensor muscles of the leg. Disorders of sensation are not very well marked in polyneuritis due to influenza, and they never attain the intensity observed in cases of polyneuritis due to alcohol. Atrophic and vasomotor phenomena are usually slight. Muscular atrophy was noted in nearly all cases. The psychic condition of the patient is not altered. The course of the disease may be acute or subacute; no case of chronic influenzal polyneuritis has been observed. The disease is nearly always cured without leaving traces of its existence, but in some instances incurable atrophies in certain groups of muscles have been noted. In the treatment of the condition the element of pain is the one most clamorous for relief. Absolute rest in bed is an essential in the treatment. If morphin is given its administration should be very short and it should never be used without first determining that cardiac lesions or involvement of vagus nerve are wanting. Antipyrin and sodium salicylate render great service. A very grateful application to the painful parts consists of circular bandages of linen wrung out of cold water which, in turn, should be covered with a layer of dry cotton, wool, and surrounded, finally, by a layer of impermeable tissue. When the disease is localized in the lower extremities prolonged refrigeration in the dorsolumbar region will be found of benefit. After the spontaneous suffering of the patient has disappeared; when the signs of the reaction of degeneration no longer exist, and when the examination of the nerves and the muscles shows a simple diminution of excitability of those organs, curative treatment should be instituted. In order that this treatment may be efficacious it should aim at the anatomic restoration as well as at the functional restoration of the altered muscles and nerves. [J.M.S.]

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The Plague in San Francisco.—The truth on this subject seems likely to come to light in due time. Some of the exact facts are stated in the last number of the *Public Health Reports* issued by the Marine-Hospital Service, and are printed in our news columns today. The commission appointed by the Secretary of the Treasury was supposed to have made up its report and sent it in to the Secretary some weeks ago, but for reasons which doubtless seemed good to Mr. Gage this report was not promptly made public. We cannot too strongly protest against any further attempt to keep the plague situation in San Francisco a mystery. The local authorities in California have been guilty of suppressing the truth, and the United States Government should not tolerate this abuse any longer. Much less should it keep back any reports of commissions or government agents relating to this subject. The public is vitally interested, and all alike have an equal right to know the exact facts. It is unnecessary here to repeat the facts and figures given in another column. The announcement that 42 fatal cases of bubonic plague have occurred in San Francisco will be startling news to the vast majority of persons both within and without the profession. It heralds a serious situation, and it is a reproach to those public persons from San Francisco who were announced recently to have said in Washington that the only kind of plague existing on the Pacific Coast was of a "noncontagious" character. The general demand of the public—both lay and professional—ought to be for the United States Government to take the situation vigorously in hand, with the co-operation of the local government, if possible, but without that co-operation if need be. There is getting to be a sort of optimism about plague being easily controlled and eradicated—but the facts in India do not prove this, and at any rate we do not want to be driven to the proof of it by a widespread epidemic in this country.

Treatment of Malignant Tumors With Serum.—The discovery of a specific has long been the object of those engaged in studying the treatment of disease. Unfortunately, while belief in the existence of a specific for each morbid entity is reasonable, even as is the belief that there must be an antidote for every poison, the true specifics at our command are very few. Even in the cases of quinin we find cases of the disease for

which this drug is supposed to be a specific, in which it is devoid of action; and the same may be said of mercury. The specific action of antidiphtheritic serum has led investigators to turn their attention to serumtherapy as a means of solving the problem of obtaining a specific for diseases that, up to the present time, have been considered incurable. Some of the recent experiments in the line of curative serums have been made in connection with sarcoma. During 1899, Louis Dor (*Gazette Hebdomadaire de Médecine et de Chirurgie*, February 14, 1901) introduced a piece of a chondrosarcoma of the shoulder, about the size of an egg, into the peritoneal cavity of a rabbit. At first a large mass developed in the abdomen of the rabbit; but after about a year the mass was so reduced in size that only a small nucleus remained. Then a larger piece of a chondrosarcoma from a human subject was introduced into the peritoneum of the same rabbit. After this operation the fragment was absorbed in less than two months. This experiment seems to show that the serum of the rabbit may become cytolytic for certain sarcoma cells of man. In the next experiment a goat was operated upon. A bouillon was made from a melanotic sarcoma and injected subcutaneously. There was some reaction following the injection that lasted for about three days. Three months later the same goat received subcutaneously an entire melanotic sarcoma of the eye. The serum of the goat was then used in the treatment of two patients; one of whom presented general melanotic sarcoma of the lymph nodes of the axilla and neighboring regions with a presternal cutaneous tumor, and the other of whom was suffering from melanotic sarcoma of the leg. The first patient, twelve days after the institution of the treatment, had improved in general appearance and the tumors were smaller. In the second patient, after three weeks, during which about 100 ccm. of the serum were injected, the tumor was much modified in appearance. Reynier (*Gazette Hebdomadaire de Médecine et de Chirurgie*, February 21, 1901) has used a serum obtained by Wlaeff by inoculating birds with blastomycetes isolated from human carcinomatous tumors. The patient on whom this serum was used was suffering from an inoperable carcinoma of the tongue. The first injections of the serum were made July, 1900, and after ten injections the patient was able to resume his ordinary occupation. The lymph nodes in the neck remained large, however, and the tumor of

the tongue was still present in spite of the amelioration of the general condition of the patient. A second patient, who was suffering from a cylindrical epithelioma of the mammary gland, was much benefited after the administration of the serum, and the tumor appeared of the nature of a nonmalignant growth. Reynier admits that if the injections are stopped the disease will resume its course and the patient will finally succumb. Here, then, are two serums, both in the experimental stage. The first is produced by transplanting fragments of malignant tumor or by injecting a bouillon representing the entire tumor; the second, by inoculating blastomycetes obtained from malignant tumors. The great objection to the second method is that we are not sure that blastomycetes are the cause of carcinoma or of sarcoma. The first method would seem to stand more chance of success in the production of an anticarcinomatous or antisarcomatous serum, because, since the entire tumor is used, the pathogenic factor of the disease, whatever that may be, must surely be introduced into the animal operated on. It is not possible, however, at the present writing, to say that either of the serums advocated in the papers under review is a specific; because of the four patients treated not one was actually cured of his disease, and Reynier admits that the result of the administration of the bird's serum is merely palliative.

Some Timely Words About the Social Evil.—Dr. Prince A. Morrow, of New York, is a surgeon whose words carry weight with all men when he speaks on this wellnigh forbidden topic. He has both the personality and the professional experience, as well as the balanced judgment and fine ethical sense, which constitute him an excellent instructor for the people as well as for the profession on the delicate and extremely responsible question of the public recognition and control of the venereal diseases. In the present number of the JOURNAL Dr. Morrow presents a paper in which he traverses rapidly, fearlessly and completely this entire field. The author of the paper has no illusions, yet he is not pessimistic; while on the other hand he has scruples, but he is not puritanical. He sees in the social evil, as he aptly expresses it, a necessary evil, not in the sense that it is indispensable, but that it is inevitable. The drift of his paper is to make clear a few essential facts. Its worth consists in its not attempting to say too much. The regulation of prostitution is, at best, a dubious and imperfect way of controlling the propagation of the venereal poisons. In this country such regulation is practically impossible, because public opinion will not tolerate it. This was made clear in Missouri in 1871—and that State is the only one that has ever had the temerity to try to license prostitution. Sanitarians must reckon in this matter with public sentiment, whether they wish to or not, and in the meanwhile should not lose valuable time in vainly arguing this question from the standpoint of hygiene

versus morality. They should follow the course that Dr. Morrow points out, and try in some practical way to at least control and curtail the evil. That it can ever be entirely eradicated the history of mankind disproves; and while it is a fine thing to have enthusiasm in a good cause, it is somewhat Quixotic to believe that such a sordid and debauched curse as harlotry can ever be banished by the decrees of legislatures. The great merit of Dr. Morrow's paper is that it minimizes the purely ethical and sociological aspects of this subject, and treats it largely as a wise physician should, upon a purely pathological basis. His paper is fully up-to-date in the way it demonstrates the grounds for our enlarged views about the far-reaching effects of gonorrhea and syphilis, and his suggestions for meeting the evil are, we believe, about the only practical ones that can be devised. His arraignment of our hospitals for shutting their doors in the faces of venereal victims is timely and deserved, for their policy in this matter is worse than inhuman—it is short-sighted.

The Influence of Intemperance Upon the Death-Rate.—Whether alcohol be a food or a poison is a question that will be answered somewhat in accordance with the individual point of view. To the judicial mind it would appear—paradoxical as it may sound—that it may be either or neither or even both. The best disposition of alcohol is to place it—with its congeners, ether, chloroform, etc.,—in the category of drugs, with definite physiological and pathological activities, in accordance with the dosage employed, the frequency, mode and time of administration and the susceptibility of the individual who receives it. Like other agents and agencies capable of doing good, alcohol is—as might be expected—capable also of doing harm, and no one can appreciate better than the physician the evil results of alcoholic intoxication. These can be seen directly in various disorders of the digestive organs and in the more remote and widespread manifestation of arteriosclerosis and visceral fibrosis. In addition the impress of alcoholic excess can be observed upon the mortality-rate and there appears an intimate relation between alcoholic excess and vice and crime. Thus, in the United Kingdom, while the average mortality-rate has fallen from 22.5 to 17.2 per 1000 since 1872, the rate from alcoholic intemperance increased from 45 per million in 1875 to 77 per million in 1897. It is found also that the number of criminal offences is smaller in parts where alcoholic intemperance is less prevalent. Upon the physician as the conservator of the public health, therefore, it would seem incumbent to prevent and to correct so far as possible any tendency to alcoholic addiction, with the same earnestness as he strives to prevent and correct habituation to the use of chloral, cocaine, opium or any other substance prejudicial to health. A share of responsibility rests upon every physician in this matter.

The Business Outlook in Medical Practice.—The ratio of physicians to total population in the United States is rather more than 1 in 600. The 120,000 physicians are dying at the rate of about 25 to 1000. To make good the deficit of physicians by death, about 3,000 should be graduated annually. The population is also increasing at the rate of about 1,300,000 annually, and this increase could accommodate some 2,100 additional graduates in medicine annually. In 1899, according to statistics of the Bureau of Education, all of the medical schools of the country graduated not quite 5,000. Thus, statistically considered, there is a very slight favorable tendency toward the reduction of a tremendously overcrowded profession.

On the other hand, it should be remembered that as a country increases in density of population, it can support fewer physicians. For instance, European countries with a ratio of approximately 1 to 2000 of physicians to population, support their medical professions even more poorly than does the United States. Moreover, sanitary science and medical and surgical skill, as well as more wholesome modes of living, are markedly reducing the work of the profession. The well known fact that a fifth or sixth of graduates do not practise is little comfort, as this has always been the case, and it simply denotes the unfavorable conditions against which the medical man has to contend. Thus it is the urgent duty of every physician, by fair argument and reasonable means, to create a sentiment against the entrance of young men upon medical studies, unless they are especially fitted for their pursuit.

The Antitoxin Unit.—The antitoxin unit is defined as the amount of antitoxin which, when inoculated into a guineapig of 250 grams weight, will neutralize 100 times the minimum fatal dose of toxin of standard strength. Antitoxin may be present in varying amounts in the serum employed, and it is an important point to remember that the number of cubic centimeters of the serum injected is no index to the strength of the solution in antitoxin units. Until 1896 the definition of antitoxin unit above given was regarded as reliable, but in that year Ehrlich found that the same antitoxin is capable of neutralizing varying numbers of fatal doses of toxin according to the cultures used, and perhaps the method of preparing the toxin. For example, he found that the same amount of the same antitoxin might neutralize from less than 30 to 130 doses, according to the source of the toxin. A difficulty to be overcome was to maintain the standard strength of the toxin and antitoxin for testing purposes. Ehrlich prepared both toxins and antitoxins dried, in powder form, and kept them in vacuum tubes at a low temperature and protected from the light. The standard dilution of antitoxin which Ehrlich employs consists of equal parts of glycerin and 10% salt-solution. This mixture will maintain the strength of the antitoxin

dissolved in it for several months. The technique of the preparation of antitoxin was further modified by Ehrlich in that he mixed both the toxin and the antitoxin before injecting them into the guineapig instead of injecting them separately, as was at first practised. Ehrlich also employed the whole unit in the operation of standardizing instead of one-tenth unit, and the most important modification, that in place of making complete neutralization the end to be obtained, he shifted the end reaction to the death or survival of the guineapig used. For example, if we wish to standardize a certain toxin with the unit antitoxin we add to the antitoxin such excess of toxin that the resulting mixture will just prove fatal to a guineapig on the fourth day. By this procedure we have not only neutralized the antitoxin, but also added one minimum fatal dose. Theobald Smith for the past three years has employed Ehrlich's improved method, and with the test-serum obtained from Ehrlich has prepared all of the antitoxin for the Massachusetts State Board of Health. In the *Journal of the Boston Society of Medical Sciences*, Vol. 5, No. 1, he has presented a critical analysis of the combining power of antitoxins and toxins so prepared, and concludes that up to the present time Ehrlich's method is by all means the most satisfactory and accurate. It has been claimed by Park and Atkinson that if toxins are prepared in an absolutely uniform manner from the same cultures their neutralizing power is likely to be the same. Smith has demonstrated in a number of experiments that this may or may not be the case. The studies of Ehrlich and Madsen have revealed how intricate is the process of the neutralization phenomena, and up to the present time all hypotheses fail to explain them. Ehrlich has found that if he added to a definite quantity of toxin, different fractions of the antitoxin unit the results indicate that the neutralizing and the toxic power of the same toxin do not go hand in hand. Ehrlich (quoted by Smith) from his study of the various toxins infers from these results the presence in them of substances of different degrees of toxicity, as well as neutralizing power, towards antitoxins. He explains the multiplicity of variations which occur by the numerous combinations of these substances. Ehrlich has called these substances which appear in the fresh toxins, toxins and toxones. The latter have but little toxic power, but they neutralize antitoxin, and Ehrlich is inclined to look upon them as the feeble poisons which cause paralysis. According to their affinity to antitoxins he classifies the antitoxins present in any culture fluid into proto-, deuterio-, and trito-toxins. The proto-toxins have the strongest, the toxones the least affinity for antitoxins. These break up after a time into toxoids. Some of these secondary products are more stable than others. We are indebted to Dr. Smith for a convincing demonstration of the superiority of Ehrlich's method over others employed. The variable factors to be considered in the preparation of antitoxin

are: a uniform culture medium, the preservation of cultures so that deterioration may be minimized, and the effects of inoculations upon guineapigs. Smith has found a few animals out of the great number employed for experimental purposes who have withstood a single fatal dose without any local reaction whatever. He also mentions that the animals are apparently more susceptible in winter than in summer.

Must the Family Doctor Go?—Obliquity of view and extravagance of expression are among the venial sins of some of the modern newspapers. To deal in paradox is their specialty, and they exercise this privilege nowhere more rashly than on the subject of medical practice. For instance, one of our metropolitan dailies (by which expression we mean, of course, a New York newspaper), recently wrote a sort of obituary notice on the family doctor. On the authority of a fashionable specialist, this newspaper announced that the days of the general practitioner are numbered, and that in the near future the specialist and the trained nurse will monopolize the field. Even as it is, the functions of the family doctor, it thinks, can be performed just as well, if not a little better, by a well-trained nurse. Moreover, the specialist to occupy the field, will be the surgical specialist—the man who stands ever ready with knife in hand, because, according to our New York newspaper, the day is rapidly approaching when all, or nearly all, diseases will be cut out bodily. In this promised golden age, all that will be necessary will be for a well-trained nurse to recognize the disease and call in the surgical specialist, who will proceed to cut it out and hand over the patient again to the nurse, who will keep him aseptic and return him to business in due time.

All this sounds like persiflage, and was probably written by a man with his tongue in his cheek, but we take note of it because it represents superficially a kind of criticism that is growing too common. The family doctor is not doomed to extinction. Far from the day of his decline having come, the day of his greatest usefulness is only just beginning. It is evident, however, that he must, in one sense, be a specialist himself, *i. e.*, he must have special alertness of mind to recognize disease, and to know what remedy is needed. But the field of preventive and domestic medicine is largely his own, and will continue to be his. He will always occupy a position of great advantage, for he stands at the threshold. He will continue to dispense his patronage to the specialists, and they will know him when they see him. But he must be thoroughly trained for this work.

The Treatment of Varicocele.—Surgeon-General Sternberg has sent out from his office an interesting circular on the treatment of varicocele in which the experience of a number of army surgeons is given.

These observers all recommend the recently devised high operation, and since its employment they have had the most uniformly good results, particularly as regards the primary healing of the wound. As varicocele is considered a bar to enlistment and when occurring afterward a partial disability, the recruiting stations and the army furnish a large majority of the cases of varicocele which are operated upon. In civil life this condition is not looked upon as one of any moment unless, as is not infrequently the case, the patient has developed a distressingly hypochondriacal state of mind. It can be truly said that, excepting in applicants for the army and navy and for positions in some of our police and fire departments, operations for varicocele are seldom necessary. The circular concludes with some very wise remarks on the subject by Nicholas Senn. His observations regarding the usually innocent nature of this condition and the infrequent necessity for operation coincide with those expressed by William H. Bennett, in a recent lecture published in the London *Lancet*, March 2 (abstracted in PHILADELPHIA MEDICAL JOURNAL, March 23). Senn, in examining 9,815 recruits, found varicocele present in 2,078. One-half of these men were ignorant of the condition and only three or four acknowledged the slightest discomfort or pain. Undoubtedly it is true that the recruiting stations of the army and navy discover for most of these patients the presence of this condition, which Senn believes to exist in one out of every three or four males between the ages of 18 and 30 years. One point of difference in the operative technique of Mr. Bennett is that he urges the ligation of the spermatic artery with the veins, maintaining that the artery of the vas deferens and other small vessels from the tunica vaginalis are sufficient to supply the testis. He suggests that the fatty degeneration of the testis which sometimes follows the operation might possibly be due to an over-supply of blood without the proper means of its return.

One can but be pleased with the satisfactory reports found in the Surgeon-General's circular, but in the light of the experience of men like Bennett one must also conclude that many cases of varicocele are unnecessarily subjected to operation. In the absence of local and mental symptoms we are inclined to doubt the necessity for operation in civil life. In a soldier, particularly a cavalryman, it is somewhat different, as a large varicocele would certainly predispose to traumatism.

The Control of Marriage by the State.—The right of the State to regulate marriage has always been recognized in some form as a fundamental principle of law. Marriage, considered purely from the historical standpoint, is an artificial institution; that is to say, its very existence depends upon legal recognition. It is created by law, and in the eye of the law it is merely a contract of a special and peculiar kind. In the evolution of society the institution of marriage has passed

through several recognizable phases, but there has never been a time when it was not in some way or other the creature of the law. The culmination of this process of social evolution has been when marriage has come to be regarded in the canonical law of most races as a sacrament of the Church. But this is only a late phase of its development. Considering all these facts it is somewhat remarkable how really little the lawmakers of various nations and ages have interfered with the natural process of marriage. No civil institution, perhaps, has been less trammelled in its initial stage by the law—although the contract once made it has, as a rule, been jealously guarded. But the widest liberty in entering into the bonds of matrimony has, as a rule, been granted. Where restrictions have been imposed they have been usually for social, not for hygienic, reasons; as, for instance, when the marriage of slaves has been prohibited. But that natural prejudices, as well as the welfare of posterity, have also imposed restrictions is seen in the Levitical law against consanguineous marriage within certain limits, and in the interdiction by most countries of the marriage of lunatics and idiots.

There must be some reason why a contract so jealously guarded when once established, should be left so comparatively free from restrictions for almost all persons who choose to enter into it. The ancient Spartans, we believe, came the nearest of all really civilized nations to putting the entrance into marriage under the control of the State; in other words, to using marriage merely as a method for breeding healthy men and women. But Sparta was the least civilized of all the Greek States, and her example has never been followed. It has remained for the State of Minnesota to play this interesting rôle of imitating ancient Sparta. If the reports of the new law regulating marriage in that State are correct, Minnesota is approaching perilously near Sparta. We are much impressed with the futility, not to say folly, of the proposed law, and wish to chronicle a prophecy that it will fail, as it deserves to do.

This new and preposterous law would make it illegal to marry without a physician's certificate as to the mental soundness of the contracting parties as well as of the families of both of them. It is difficult to know where to begin to criticise such a law. The crusade against cigarettes is as the wisdom of Solon compared with it. We do not stop for a moment to condemn it on ethical and humane grounds; it condemns itself there. To say that any person who had had a parent, a grandparent, or a brother or sister, the victim at some time of an attack of insanity, or epilepsy, should be debarred from marriage by the certificate of a physician, is too wantonly barbarous and too crudely unscientific to need to be criticised at all. We simply point to the utter impracticability of such a law on the ground that the proof of insanity in a family is the hardest to establish and the easiest to conceal of any kinds of proof. All psychiatrists know this from almost

daily experience. Such a law apparently places the happiness of two individuals for life on the scientific acumen and psychiatric skill of the average practitioner of medicine in Minnesota, or leaves the law itself to die a natural death from the inability or unwillingness of a doctor to step in and forbid the banns in the case of some young man or young woman whose mother may have had puerperal insanity, or whose grandfather may have had senile dementia, or whose wayward brother may have just recently died of general paresis. The general sense of mankind will condemn such laws as it has condemned them since the time of the Spartans.

The Bacterial Treatment of Sewage.—The disposal of the sewage of large towns and cities is a problem that has long engaged the attention of public health officials throughout the world. When a town is situated on the banks of a river the natural outlet for the waste from the dwellings and from the manufacturing establishments of that community is into the river which, provided there is sufficient current, will carry the effete matter away from its origin. If, however, there is a second city situated on the same river below the one seeking to dispose of its sewage, the refuse of the first will flow through the second community, giving rise at least to noxious odors. Again, if the second community seeks to obtain its water-supply from this stream, polluted with the drainage from the first, disease will surely follow, and in numerous authentic instances has resulted. Experiments have been made at Barking and at Crossness, in England, with the treatment of sewage by allowing it to flow by intermittent contact through beds made of coke or of ragstone so as to produce in the fluid drainage a series of changes comparable to those found in nature. The object of inducing these changes is to produce an effluent that shall not do harm to the inhabitants when flowing through a stream that is used for the water-supply of a town. The results of these experiments have been reported by Houston (*Edinburgh Medical Journal*, February, 1901). In nature the following cycle of transformation takes place: Dead organic matter decays as the result of the vital activity of bacteria, and ammonia is liberated. The nitrifying organisms bring about the oxidation of the ammonia, first to nitrous and then to nitric acid. These acids, by reaction upon the bases always present, form nitrites and nitrates, and these nourish the living plant. While the nitrogen is undergoing these changes, the carbon of the organic matter is converted into carbonic acid and the hydrogen mainly into water. To some extent, also, the nitrogen and hydrogen are liberated in the free gaseous state. Now the organic matters found in sewage are partly in suspension and partly in solution, and sewage contains in itself the necessary living germs for the destruction of both these forms of organic matter. The object of the biological treatment of sewage is to render the solid matters soluble, by microbial

agencies, and to split up both the matter thus dissolved and the organic compounds that were originally in solution into their simpler elements by the action of living bacteria. In the final process of purification these substances should undergo oxidation, induced by the life processes of nitrifying organisms, and an effluent should be produced that is free from putrescible matter and that contains only inorganic or mineral substances. As compared with the present process of chemical precipitation and sedimentation, the bacterial process presents the following advantages: (1) It requires no chemicals; (2) it produces no offensive sludge, but only a deposit of sand or vegetable tissue that is free from odor; (3) it removes the whole of the suspended matter, instead of only about 80% thereof; (4) it effects the removal of 51.3% of the dissolved oxidizable and putrescible matter, as compared with the removal of 17% by the present chemical treatment; (5) the resultant liquid is entirely free from objectionable smell, does not become foul when it is kept, and maintains the life of fish. Although the effluents from the bacterial beds contained on an average fewer bacteria, liquefying microorganisms, spores of aerobic bacteria, *B. coli*, and spores of *B. enteritidis sporogenes*, than the raw sewage, the reduction was not well marked, and indeed was immaterial, considering the large number of organisms still remaining. It was discovered that the sewage capacity of the coke beds decreased and, in one case, the decrease was determined to be proceeding at the rapid rate of 1% of the original capacity per week. The coke was found to be coated with a black-colored, slimy deposit, free from objectionable smell. When looked at under a low power of the microscope, it was seen to be composed largely of minute particles of sand and coke, together with apparently imperfectly disintegrated animal and vegetable matter. In crude sewage, in bacterial coke beds, and in the effluent from bacterial beds, there are certain bacteria, which, after being stained with hot carbol-fuchsin, resist decolorization with 33% nitric acid. Some of these acid-fast bacteria cannot with certainty be morphologically distinguished from the tubercle-bacillus. In one instance, a guineapig, inoculated with the deposit accumulating on the coke of a bacterial bed, died and presented, on examination, the appearance of death from tuberculous infection. Furthermore, sections of the organs of this animal, when appropriately stained, showed the presence of numerous tubercle-bacilli. In one experiment the cholera bacillus seemed to have lost its vitality in less than a fortnight; in another experiment it remained alive for nearly 4 weeks. Up to the twenty-fourth day after the original inoculation, the presence of *Staphylococcus pyogenes aureus* was readily demonstrated. After experiments with other microorganisms Houston concludes that however satisfactory the process may be from the chemical and practical point of view, the effluents from the

bacterial beds cannot reasonably be assumed to be more safe in their possible relation to disease than raw sewage.

The Therapeutic Monthly.—We called attention in our last number to the fact that a new Journal, devoted exclusively to Therapeutics, would be issued in May under the editorial care of Dr. James Tyson, with whom are associated Dr. Thomas L. Coley and Dr. T. Mellor Tyson. The prospects for the new Journal are most favorable, and we predict success for it.

A Metastatic Tumor Composed of Healthy Tissue of the Thyroid Gland.—Oderfeld and Steingaus (*Medycyna*, January 6, 1901), report the interesting case of a woman, 58 years old, who presented a tumor on the left side of forehead the size of a hen's egg. An incision disclosed a firm mass very rich in bloodvessels, connected with the dura and passing out through the skull. The growth was removed and a microscopic examination showed it to consist of glandular tissue identical with that found in the thyroid gland. No tumor of the thyroid was found. The woman made a good recovery, and no return of the growth was noticed half a year later. The supposition is made that this tumor was the result of metastasis of a piece of healthy thyroid which was carried by the blood to the skull and there developed. [A. R.]

Treatment of Pneumonia by Antidiphtheritic Serum.—Ch. Talamon (*Gaz. Heb. de Méd. et de Chirur.*, February 28, 1901, 48me Année, No. 17) at a meeting of the Société Médicale des Hôpitaux, held January 2, 1901, reported the results of the treatment of 50 cases of pneumonia by the injection of antidiphtheritic serum. Out of these 50 cases, 7, or 14%, died. Formerly in the Hospital Bichet the mortality was at least 24%, and in 1899 it was 37%. The author then gives statistics concerning the ages of the patients and the number in which a history of alcoholism could be obtained. Out of the cases treated before the sixth day, the mean duration of the disease has been 6 days. Twenty-five patients were not treated until after the sixth day of the disease. Six of these patients died. Out of the number who recovered, in 14, a single injection sufficed to produce desferescence. The mean duration of the disease in 18 patients who recovered when treatment was not established until after the sixth day of the disease, was 20 days. The author has injected enormous doses of antidiphtheritic serum, even as much as 200 ccm. or 260 ccm. during several days, and he has never noticed any deleterious results other than erythematous eruption and articular pains and these sequelae were noted only 5 times in the 50 cases. Renal lesions, cardiac lesions and arteriosclerosis are organic defects that demand great reserve in serumtherapy. In this series of cases, however, almost all the patients above 40 years of age suffered from arteriosclerosis, and the author has never observed the least cardiac trouble that could be imputed to the serum; there was no sign of cardiac failure, even in patients between 60 and 75 years of age. The author has never seen an increase of albuminuria after the injections, nor has he observed cases in which that symptom was more persistent than usual; it disappeared, as a rule, as soon as the fever fell. Two or three injections of 20 ccm. each should be given. Ordinarily each injection is followed by a lowering of the morning temperature. If the temperature is high again in the evening a second injection should be made. In cases of adynamic pneumonia with a typhoid aspect, 2 injections ought to be given in the same day, and repeated the next day if the temperature is not modified. In any case the double injection ought to be used if the patient is not seen before the third day of the disease. The author considers that, by following these rules, it is possible to shorten the duration of pneumonia, to suppress or at least to reduce the chances of complications, and to lower the mortality of that disease to about 10%. [J. M.S.]

American News and Notes.

PHILADELPHIA AND PENNSYLVANIA.

Dead in His Chair.—Dr. Jacob E. Hoffer, of Columbia, Pa., died sitting in his chair in the laboratory, death having resulted from heart disease. Deceased was 75 years old.

Farnhurst State Hospital for the Insane.—The Trustees of the State Hospital for the Insane at Farnhurst elected Dr. Florence H. Watson, formerly of the hospital at Norristown, Pa., to be Assistant Superintendent, to succeed Dr. John H. Hammond, resigned.

Duhring Dermatological Society.—The Duhring Dermatological Society has recently been formed with the following membership: Drs. L. A. Duhring, Arthur Van Harlingen, H. W. Stelwagon, J. V. Shoemaker, M. B. Hartzell, J. F. Schamberg, E. S. Gans, C. N. Davis, E. W. Stout, I. M. Koch and J. F. Wallis. Meetings are held on the third Tuesday of each month at the various centrally located hospitals. No papers are read, but cases of rare interest are exhibited and discussed. Dr. H. W. Stelwagon is chairman of the Society, and Dr. J. F. Schamberg, secretary.

Vital Statistics of Philadelphia for the week ended March 30, 1901:

Total mortality	532
	CASES. DEATHS.
Inflammation of appendix 3, bladder 3, brain 15, bronchi 17, kidneys 22, heart 3, liver 1, lungs 78, pericardium 1, peritoneum 7, pleura 1, stomach and bowels 21	172
Inanition 17, marasmus 7, debility 5	29
Tuberculosis of lungs	74
Apoplexy 19, paralysis 9	28
Heart—disease of 42, fatty degeneration of 4, neuralgia of 2	46
Uremia 11, diabetes 2, Bright's disease 10	23
Carcinoma of breast 3, liver 1, rectum 2, stomach 6, uterus 1, face 1	13
Convulsions 15, convulsions, puerperal 1	12
Diphtheria	72
Brain—disease of 2, abscess of 1, dropsy of 1, softening of 3, tumor of 1	8
Typhoid fever	47
Old age	4
Cyanosis	7
Scarlet fever	3
Influenza 9, alcoholism 1, asthma 4, anemia 1, aneurysm of aorta 1, burns and scalds 2, casualties 9, congestion of brain 4, congestion of lungs 5, childbirth 1, cirrhosis of liver 2, cellulitis of leg 1, membranous croup 2, diarrhea 1, dropsy 3, erysipelas 1, extrauterine pregnancy 1, puerperal fever 1, fracture of femur 1, gallstones 1, gangrene, leg 1, hemorrhage, uterus 1, jaundice 3, obstruction of bowels 1, edema of lungs 3, poisoning 1, rheumatism 1, retention of urine 1, arteriosclerosis 1, surgical shock 2, septicemia 6, sarcoma of larynx 1, suffocation 2, teething 4, ulceration of stomach 1, unknown coroner case 1, whooping-cough 3	97
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Pathological Society.—The first paper read at the meeting of March 28 was by DR. WILLIAM G. SPILLER on **Cerebellar lesions without cerebellar symptoms.** Several cases were cited as instances of the condition mentioned. Among them were cases of sclerosis of one cerebellar hemisphere, a glioma filling the fourth ventricle with a cyst situated above the tumor, a fibroma above the corpora quadrigemina, sclerosis of nearly the entire cerebellum, etc. None of them produced symptoms that were referable to the cerebellum. The point was made that tumors and abscesses in connection with the cerebellum by pressure on other parts cause symptoms which are not due to the cerebellar lesion. For this reason they are not good cases from which to determine the function of the cerebellum. DR. D. J. MCCARTHY mentioned a case in which practically all the cerebellum was diseased, but no symptoms developed.

DR. D. L. EDSALL reported **A case of malignant endocarditis.** The patient was a girl of 18 who came to the hospital with symptoms of thyroid intoxication. Afterward symptoms developed which pointed to malignant endocarditis or a collection of pus in the region of the kidney. A

definite diagnosis of malignant endocarditis was not made until 5 or 6 days before death when cutaneous and visceral embolism occurred. Streptococci had been found in the blood. Attention was called to the fact that a large quantity of blood should be used when making inoculations. A few drops in agar gave no growth in the above case, but 3 cc. in bouillon gave a culture of streptococci. DR. ROBERTSON spoke of a case of malignant endocarditis in which the only lesion was on the pulmonary valve.

DR. MILTON B. HARTZELL exhibited: 1. **A pigmented epithelioma or alveolar melanotic sarcoma.** 2. **A chronic ulcer showing marked degeneration of epithelium.**

DR. W. B. EATON read a preliminary note on **the histogenesis of myomata.** The various theories of origin were briefly considered. The inclusion theory answers in but few cases, as inclusion is the origin in only about $\frac{1}{10}$ of adenomyomata and that variety is only a small proportion of the whole number of myomata. A study of a number of tumors has been made by Dr. Eaton and in at least 3 of them there was found a genetic relation between the walls of arteries and the tumor. The conclusion reached from the studies thus far made is that many myomata have their origin in the musculature of vessels.

Academy of Surgery.—The meeting of April 1 was addressed by DR. JOHN A. WYETH, of New York, his subject being **amputation at the hip-joint for sarcoma; the tendency to recurrence.** Dr. Wyeth spoke of the extremely malignant character of sarcoma and its liability to recurrence, this being true whether it be the round, spindle, or giant-cell variety. The address dealt largely with statistics of cases of amputation, the percentages of recurrence, the seat of recurrence, etc. Of 131 collected cases of amputation at the hip-joint for sarcoma, 14 resulted in death following operation. Some of these were complicated, however. Leaving out complications the immediate mortality was 6%. Histories of 83 survivors were obtained and in these there were 51 recurrences. Whether the tumor involves the soft parts or the bone has little to do with the safety of the patient. A table giving the length of time after operation of the recurrence was read. The time varied from a few months to 9 years. The study of a case in which Fowler's solution was injected led to the belief that streptococcal infection would cure cases. One exceedingly large recurrence was cured by an attack of erysipelas, the patient now being in health after a lapse of 16 years. Cases of infection were then caused by packing the wound with nonsterile gauze and by inoculating with virulent cultures of streptococci. Cases of sarcoma in the abdomen, at the hip and shoulder were thus treated and some of them are well after the lapse of 8 years. It is difficult to infect these cases even with the streptococcus of Fehleisen. The use of this method is believed to inhibit the growth of some cases of sarcoma, and Dr. Wyeth recommends it in every case. For at least 6 years after operation infection should be induced at intervals not exceeding 6 months. DR. W. W. KEEN spoke of the great mortality of sarcomata and reported 6 cases of amputation, 4 of the upper and 2 of the lower extremity. All died sooner or later. One case, a woman in the fifth month of pregnancy, survived 3½ years. Dr. Keen believes operation should be done in every case. Recurrences are often internal, and are less annoying and painful than the original growth. No operation in continuity should be done. If the tumor be at the lower end of the femur, amputate at the hip-joint. No operation should be done, however, if the hemoglobin be lower than 50%. DR. W. B. COLBY, of New York, reported 6 cases of amputation at the hip-joint. One operated upon in August, 1900, has no recurrence as yet; one could not be traced, and 4 died of recurrence. Operation is advised in all cases, and the toxin treatment by induced infection should be instituted in every case. It is as well to get the patient over the effects of the operation and then give systematic treatment for from 1 to 2 years. Cases were cited in which the patients are well 8 years or less after this treatment. Four cases of round-cell sarcoma have been cured by this method. DR. JOHN B. DEEVER favors treating these cases as open wounds and allowing infection from the start. Of 2 hip joint and 2 shoulder amputations, all died. Of the osteosarcomata, those of the jaw are most favorable. DR. BLOODGOOD, of Baltimore, thinks there may be a difference in malignancy of the various

varieties, the giant cell form being the least likely to give metastasis. DR. YOUNG, of Baltimore, cited a case of sarcoma of the inguinal region and omentum, in which there were recurrent nodules in the chest and other parts of the body. After a time the nodules disappeared, and the patient was found to have pernicious anemia. DR. RODMAN has seen only one case successful—the extirpation of the lower jaw. Toxins should be used in all cases, at once, and not wait for a recurrence. DR. WYETH said that in anemic and run-down cases he would not care to use primary infection by streptococci, but that in robust people he would insist on immediate infection.

Philadelphia County Medical Society.—At the stated meeting, held March 27, DR. C. A. E. CODMAN read a paper on **The acquired form of funnel chest**. Occupation is not considered to be an important factor in the production of this deformity. Some underlying constitutional condition probably aids in cases ascribed to the above cause. Diseases of the respiratory organs, especially obstructive ones, causing pronounced respiratory efforts, have not been given the prominence they deserve as causative factors. Of the 8 cases reported, only one could be ascribed to occupation.

DR. M. G. TULL reported a case of **Arthritis deformans successfully treated by application of ice to the spinal column**. The patient was a female, 21 years of age, who had for months been skilfully treated by other physicians, but with no results. Long ice caps were applied to the spine 2 hours during morning and afternoon at first, afterward 1 hour each time. Guaiacol carbonate was given, and later the iodides. The result was great improvement. The wrist deformities disappeared and the patient can now walk 2 miles. This treatment was also tried in one case of ordinary inflammatory rheumatism with marked improvement in the patient. A notable point was the production of somnolence, insomnia having previously existed. DR. RUGH spoke of the use of hot air in cases of arthritis deformans. He has used it in several cases, some of them for more than a year, with not the slightest beneficial effect.

DR. W. C. HOLLOPETER read a paper on **Fango therapy**. Fango is a grayish-brown slime or mud obtained from certain Italian lakes. It contains iron, sulphur, magnesium, lime, etc., and its properties are not lost by transportation. Its use is indicated in diseases of the muscles, rheumatism, gout, neuralgias, paralysis, etc. Local application to the part affected is made, a layer 3 cm. thick, at a temperature of 98° to 120° being used, the patient being placed between blankets to maintain the heat. After one-half to one hour the fango is easily removed by a tepid bath. Several cases in which this treatment gave good results were reported. Among them were cases of rheumatism, synovial swelling of the knee, gastric disturbance, etc. DR. C. W. BURE said that the indications for the employment of this material were the same as those for a hot poultice. He considers it of no value in diphtheritic or spinal-cord palsies. The chemical composition of the mud probably plays but little part in the effect produced.

DR. I. NEWTON SNIVELY read a paper on the **treatment of croupous pneumonia by antipneumococcic serum**. Several cases were detailed to show the favorable results of this treatment. The serum was given in doses of 20 c.c. every 3 hours in some cases until the temperature was under control. The temperature usually fell by rapid lysis as early as the fifth day in some instances, and was under control even earlier. The use of serum is believed to be of the greatest value in private practice where the cases are seen earlier than in hospitals. Statistics of 106 cases with 13 deaths have been collected. The conclusions reached are that the serum is harmless, and that it gives favorable results, especially in early cases and in those of single infection. Freshly drawn serum should be used if possible. Its use is believed to hasten the crisis. DR. SNIVELY urges all physicians to report their results. DR. J. M. FISHER reported two cases. Two injections of the serum were given daily. One patient, an alcoholic, died the seventh day. The other, a woman, who had croupous pneumonia of one side and some catarrhal involvement of the other is now convalescent. An interesting point in the latter case was the appearance of a rash, a rise of temperature, swelling of some of the joints, etc., after the temperature had been normal,

this undoubtedly being caused by the serum. DR. EDWIN ROSENTHAL uses the serum in large doses even in infants. The symptoms mentioned by Dr. Fisher are often met with. In mixed infections the serum is alternated with antistreptococcic serum. It shortens the attack of pneumonia only in cases that are seen early.

DELAWARE.

Delaware Hospital.—The Delaware Hospital, at Wilmington, has received \$5,000 by the will of Mrs. Sarah Cummins, of Smyrna.

Vigorous Opposition Against the Abbot Bill.—The Abbot bill, which permits physicians who have practised for 10 years in another State, and have resided one year in Delaware, to practise in Delaware without undergoing an examination, is being vigorously opposed by the reputable physicians of that State.

Smallpox.—There are a number of new cases of smallpox reported from the lower part of the State. In Bethel one colored woman died and another (white) dying. There are two new cases at Seaford and one at Concord. In Laurel pickets are patrolling all the town entrances and no one from the stricken towns is permitted to enter. It is believed, however, that the epidemic is abating.

NEW YORK.

Acquitted.—The nurse in Bellevue Hospital who was charged with being responsible for the death of one of the insane inmates, has been acquitted.

Smallpox on an Ocean Steamer.—The Anchor Line steamer *Bantana*, which arrived on March 26 from Marseilles and other Italian ports, was quarantined on account of a case of smallpox which existed among the passengers, the patient is convalescent and has been removed to North Brother Island. The New York authorities are to be commended for their promptness in discovering the disease.

Loomis Sanitarium.—The Charitable Annex in connection with the Loomis Sanitarium, at Liberty Heights, Liberty, Sullivan county, New York, was opened on Friday, March 22, 1901, with 12 patients. The present capacity of this annex is 24 patients. The patients are charged \$5 a week, for which they receive their board, lodging, medical attendance, medicines, and laundry; they also derive all the benefits of the main sanitarium in the way of scientific care and oversight. The deficit between the \$5 a week charged to patients, and the actual cost of maintenance, is made up by a maintenance fund raised annually by subscription. While the financial affairs of the annex are administered from the main sanitarium, there is a superintendent in charge there. Dr. J. Edward Stubbett, physician in charge at the main sanitarium, visits the annex once a week as consulting physician, while Dr. Stephen W. Wells, resident house physician, and Dr. Thomas I. Shannon, resident assistant house physician at the main sanitarium, constitute the regular visiting staff of the annex, visiting it daily and keeping daily office hours. The nurses are furnished from the training school of the main sanitarium. This annex has a thoroughly equipped treatment room, and the patients receive practically the same treatment that is given at the main sanitarium. At present there is one large 3 story building, and it is the hope of the management to be able to raise sufficient funds in a short time to enlarge the institution, so that many more patients may be cared for. The various medical examiners for the main sanitarium will also examine applicants for admission to the annex, but the rules for receiving only incipient cases are even more rigidly enforced here than at the main institution.

NEW ENGLAND.

Donation to Yale Medical College.—\$100,000 was recently given to Yale University for the purpose of constructing a building for the medical school. The name of the donor has not been made public.

WESTERN STATES.

Unique Bill.—A bill was recently introduced in the legislature of Arkansas preventing physicians from practising if they use intoxicating liquors in beverages.

Senator Chilton's Bill Passed.—By the passage of this bill the State of Minnesota prohibits the marriage of the insane, the epileptic, and the idiotic, and requires a medical certificate from all applicants for marriage licenses. Amendments were adopted permitting the marriage of all feeble-minded persons over 45, the bill originally reading that this permission was only to be extended to women.

Bubonic Plague in San Francisco.—Not long ago a Government commission, consisting of Professor Flexner, of the University of Pennsylvania, Professor Barker, of the Chicago University, and Professor Novy, of Ann Arbor University, was sent to San Francisco by the Government to investigate the reports of bubonic plague. Six fatal cases were reported between February 5 and 12 by this special commission. The report of the commission confirms the presence of the plague which occurred among Chinamen in San Francisco. In the report, under the heading of remarks it is stated: "Plague has been reported in San Francisco officially in the Public Health Reports since March 6, 1900, 32 cases (all fatal) having been reported and published in previous numbers of the Public Health Reports, and the facts were reported in the annual report to Congress of the Secretary of the Treasury, dated December 4, 1900."

The San Francisco Medico-Chirurgical Society.—Regular meeting February 4, 1901, Dr. Jos. O. Hirschfelder in the chair.

Leprosy—Mixed Variety.—DR. C. F. GRIFFIN presented a young patient and gave the following history of the case: Boy, 13 years old, French parentage; native of Papeete, Tahiti. Was brought from the islands 5 months ago for treatment for "general weakness." Patient perfectly well until two years ago, when he stepped upon a dirty white coral with the left foot, making a cut through the skin about an inch long. The wound bled freely; patient applied a native plaster dressing of herbs, for about 6 months. The foot swelled, requiring constant dressing of cloths around it. He walked for about 6 months; then saw a European doctor, from a French war ship, who cut the wound, and sponged out one-half teaspoonful of some black material, leaving a hole about the size of a 10-cent piece, running down to the bone of the end of the second toe.

During this time the spots now present on the extremities and the face began to appear; first behind the ears, and the ears began to grow larger. The sequence of these events is unknown. No spots appeared upon the chest, back nor abdomen. The toes and foot swelled, but the legs and thighs did not swell. Cough, and loss of weight, and night sweats began two years ago, at which time, also, the nose began to be sore and somewhat swollen. Has had at irregular times since, bloody nasal discharges. No other illness in family. The maternal grandmother died at the age of 58, after having some operation upon the nose.

Physical Examination.—Boy about medium size, and development to be expected at his age. Face presents nothing of note except a purplish discoloration over the left malar eminence. The skin over and around the spot feels smooth, indurated, much as would be felt in a malignant tumor involving the skin previous to ulceration. The ears are unusually large, stand out from the head, having about them the suggestion of akromegaly. Upon the ears and about the forearms are a few spots resembling psoriasis. Impaired resonance and bronchial breathing of both apices. Weight absolute, 61½ pounds. Diagnosis: Tuberculosis pulmonalis and psoriasis. Tonic and supportive treatment resulted in increase of weight, subsidence of cough, and discontinuance of night sweats. Local treatment for the spots, chrysophanic acid in ointment.

From time to time the case was seen. The spots becoming not smaller, but increasing in number, called special attention to them, when wide areas of analgesia and anesthesia were found over the arms, parts of the face and lower extremities. Coverslip smear preparations were then made and stained, establishing a diagnosis of tubercular leprosy, which diagnosis was confirmed by sections cut from a papule on the forearm.

This case is brought before you for three reasons: First, to show what, here in San Francisco, is a somewhat infrequently seen disease—leprosy; second, to call attention to the ease with which the disease may be unthinkingly or carelessly diagnosed as psoriasis; third, the ease with which, when once attention is drawn in that direction, the diagnosis may be made by the aid of the microscope.

The following is the simple technic followed, and is usually successful because the bacillus of leprosy is found in the ulcerating skin lesions, in the discharge from them, and in the bloody serum from them, and not in the general bloodstream of the patient. The crust or superficial layers of skin over a papule, being gently removed, a clean cover-slip is touched lightly to the oozing surface, it is then dried and stained with carbolfuchsin, in the same manner as for tubercle bacilli. The lepra bacilli, are easily decolorized by subsequent washing in alcohol, or in weak solutions of mineral acids. This characteristic distinguishes them from tubercle bacilli. Essentially the same technic may be applied to discharges from the nose.

SOUTHERN STATES.

Pasteur Department of the Baltimore City Hospital.—A report from the Pasteur Department of the Baltimore City Hospital states that up to date 200 cases have been treated, in 120 of which the animal had been demonstrated rabid by subdural inoculations of rabies. There has been but one death from any cause; that was rabies. The Pasteur Department of the City Hospital was founded by the College of Physicians and Surgeons for the preventive treatment of hydrophobia according to the Pasteur method. It is modeled after the "Institut Pasteur," of Paris. The method is the result of personal investigation at that institute and is identical with that used in Paris. Without the Pasteur preventive treatment the mortality from bites of rabid animals is 16 to 25%. Of those treated by the Pasteur method, the mortality is about $\frac{1}{15}$ of 1%.

Program of American Gastroenterological Society.—The fourth annual meeting of the American Gastroenterological Association will be held in the banquet hall of the "Shoreham," Washington, D. C., Wednesday, May 1, 1901. Council meets at 9 A.M. Morning session at 10 A.M.

1. Address by the president, Dr. Max Einhorn.
2. "The German Clinics of Today," Dr. J. C. Hemmeter.
3. "The Etiology of Hepatic Sclerosis," Dr. A. L. Benedict.
4. "Treatment of Gastric Ulcer," Dr. D. D. Stewart.
5. "The State of the Gastric Secretions in Chronic Rheumatism and Rheumatoid Arthritis," Dr. Frank H. Murdoch.
6. "Some Cases of Tetany," Dr. William Geary Morgan.
7. "The Report of Two Cases of Acute Dilatation of the Stomach," Dr. Julius Friedenwald.
- 1 P. M. Luncheon. 2:30 P. M. Afternoon Session.
8. "Experiments in Peristalsis," Dr. Fenton B. Turck.
9. "Some Clinical Studies in Gastric Secretion," Dr. G. W. McCaskey.
10. "Treatment of Antonia Gastrica Splanchnoptosis by Means of Abdominal Strapping," Dr. A. Rose.
11. "Hyperchlorhydria," Dr. John A. Lichty.
12. "Report of a Case of Cancer of the Cardiac End of the Esophagus at a Distance of Twenty Inches from the Incisor Teeth in a Man Five Feet and Three Inches Tall," Dr. C. D. Spivak.
13. "Digestive Disturbances in Formes Foustes," Dr. John P. Sawyer.

Vital Statistics of Havana.—In his report of the vital statistics of Havana for the month of February, Major W. C. Gorgas, Chief Sanitary Officer of the Department of Cuba, states that the mortality in Havana for that month is less than it has been for any February of which any reliable record is at hand. The minimum was in 1893, when there were 446 deaths, and the maximum in 1898, when there were 1,602 deaths. The rate per thousand—19.32—makes even a better showing. The last February of the Spanish rule, 1898, gave us a death-rate of 82.32 per thousand. February of 1901—the third February under American rule—gives us a death-rate of 19.32. This is a very creditable death-rate, and

places Havana in the class of healthy cities of the world. Many of the cities of the United States and Europe have a higher mortality than this. According to the latest figures of Marine-Hospital reports Baltimore, with a population of 334,489, for the week ending January 26, had 225 deaths—a death-rate of 26.93; Cincinnati, population 326,000, for the week ending January 25, had 142 deaths—death-rate 22.65; Boston, population 560,892, for the week ending January 26, had 260 deaths—death-rate 24.10; Jacksonville, population 17,201, for the week ending January 19, had 16 deaths—death-rate 48.37; Newark, N. J., population 246,070, for the week ending January 19 had 107 deaths—death-rate 22.61; New Orleans, population 287,000, for the week ending January 19, had 156 deaths—death-rate 28.26; New York, population 3,437,202, for the week ending January 26, had 1,432 deaths—death-rate 22.42; Washington, population 278,719, for the week ending January 19, had 141 deaths—death-rate, 26.60; Belfast, Ireland, for the week ending January 5, had 165 deaths, with a death-rate of 23.90; and Mobile, population 38,469, for the week ending January 16, had 22 deaths—death-rate 29.78. It will be seen that most of the cities have a much higher death-rate than Havana. Major Gorgas states: "Jacksonville, Mobile, and New Orleans, all have a higher death-rate than Havana, and I have no doubt that we would find such to be the case with other Gulf cities if we could get statistics on the subject. At present they look upon Havana with suspicion, but I think that in the near future, Havana will have to guard against them. Taking cities in the yellow-fever area, such as New Orleans, Mobile, Pensacola, Tampa, Key West and Havana; those in bad sanitary condition, as shown by their high death-rate, would be more likely to become infected than a city such as Havana, which is in first-class condition as shown by its low death-rate. I think it probable that within a year or two, Havana will have to take steps to protect itself from the above mentioned cities. During February of 1900, we had 17 new cases of yellow fever; in February of 1901, we had 8 new cases. As the number of nonimmunes was very much larger in February of this than in that of last year, I think the showing is very encouraging. Besides disinfecting the houses with formalin and other disinfectants, we now screen the rooms occupied by a yellow-fever patient as soon as his case is reported, and kill all the mosquitoes in the building with the fumes of pyrethrum powder, at the same time covering with kerosene oil all places where mosquitoes can breed about the building. We also kill the mosquitoes in all the adjoining buildings in the same way. With these measures and the steps we are taking to kill the mosquitoes in the suburbs, I hope to markedly decrease the yellow fever during the coming summer."

MISCELLANY.

Correction.—In the abstract in the article of Drs. Ravenel and Gilliland (*University Medical Magazine*, February, 1901), which appeared on page 607 of our last issue, the statement was made, concerning the disinfectant and deodorant action of ammonium persulphate, that it has little, if any value as either. This conclusion applied to **potassium persulphate**. The studies of the investigators have demonstrated that **ammonium persulphate** possesses most decided germicidal properties, and is a most excellent deodorizer. In some ways it is superior to carbolic acid as a germicide.

Obituary.—DR. EDWIN C. BALEWIN, at Dover, N. J., on March 25.—DR. P. H. COOK, at Vicksburg, Miss., on March 26, aged 87 years.—DR. S. EDGAR MORTIMORE, at Jacksonville, Fla., on March 21, aged 56 years.—DR. MONTGOMERY LAWRENCE, at Baltimore, Md., on March 26, aged 70 years.—DR. CHARLES EDWARD COATES, at Abilene, Tex., on March 25, aged 73 years.—DR. G. M. MAUGHS, at St. Louis, Mo., on March 23, aged 80 years.—DR. JOHN W. HANKINS, at Carlinville, Ill., on March 18, aged 75 years.—DR. JOHN H. H. BURGE, at Brooklyn, N. Y., on March 24.—DR. RICHARD K. VALENTINE, at Brooklyn, N. Y., on March 22, aged 50 years.—DR. MYRON H. PARKHILL, at Howard, N. Y., on March 26, aged 35 years.—DR. E. B. LIGHTHILL, at Newark, N. J., on March 25, aged 70 years.—DR. ALFRED SPEARMAN, at Milwaukee, Wis., on April 1, aged 69 years.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General U. S. Marine-Hospital Service, during the week ended March 30, 1901:

SMALLPOX—UNITED STATES.				CASES.	DEATHS.
CALIFORNIA:	Los Angeles . . .	March 19 . . .		15	
"	San Francisco . .	March 2-9 . . .		8	
DISTRICT OF COLUMBIA:	Washington . . .	March 18 . . .		16	
FLORIDA:	Jacksonville . . .	March 16-23 . .		2	
ILLINOIS:	Anna	Dec.-March 18 .		50	
"	Chicago	March 16-23 . .		10	
KANSAS:	Wichita	March 16-23 . .		12	
KENTUCKY:	Lexington	March 16-23 . .		2	
LOUISIANA:	New Orleans . . .	March 16-23 . .		14	
MICHIGAN:	Bay City	March 16-23 . .		2	
"	Detroit	March 16-23 . .		6	
"	Minneapolis . . .	March 16-23 . .		6	
"	Winona	March 16-23 . .		10	
NEBRASKA:	Omaha	March 9-23 . . .		12	
N. HAMPSHIRE:	Manchester	March 16-23 . .		3	
NEW JERSEY:	Hudson County . .	March 21		6	
"	Newark	March 16-23 . .		1	
NEW YORK:	New York	March 16-23 . .		41	6
OHIO:	Cincinnati	March 16-23 . .		2	
"	Cleveland	March 16-23 . .		43	1
"	Toledo	March 16-23 . .		1	
PENNSYLVANIA:	Pittsburg	March 16-23 . .		9	
"	Steelton	March 16-23 . .		6	
S. CAROLINA:	Greenville	March 8-16 . . .		2	
TENNESSEE:	Memphis	March 16-23 . .		26	
"	Nashville	March 16-23 . .		13	
UTAH:	Salt Lake City . .	March 16-23 . .		40	
W. VIRGINIA:	Huntington	March 8-16 . . .		12	
"	Wheeling	March 8-23 . . .		2	
WISCONSIN:	Milwaukee	March 16-23 . .		2	
PORTO RICO:	Ponce	March 11		13	
SMALLPOX—FOREIGN.					
AUSTRIA:	Prague	Feb. 23-March 9		10	
"	Trieste	March 2-9 . . .		2	
BRAZIL:	Rio de Janeiro . .	Jan. 1-31 . . .		36	
BELGIUM:	Antwerp	Feb. 23-March 9		8	
CEYLON:	Colombo	Feb. 8-16 . . .		1	1
ECUADOR:	Guayaquil	Feb. 2-March 2 .		14	
EGYPT:	Cairo	Feb. 25		1	
FRANCE:	Paris	March 2-9 . . .		7	
"	Roubaix	Jan. 1-31 . . .		1	
GERMANY:	Leipsic	Feb. 16-23 . . .		1	
GREAT BRITAIN:	London	March 2-9 . . .		1	
"	New Castle on Tyne	March 2-9 . . .		2	
"	Edinburgh	Feb. 2-9		3	
"	Glasgow	March 8-15 . . .		20	
INDIA:	Bombay	Feb. 19-26 . . .		7	
"	Calcutta	Feb. 8-23 . . .		243	
"	Karachi	Feb. 10-24 . . .		23	10
"	Madras	Feb. 16-23 . . .		7	
JAPAN:	Yokohama	Feb. 16-23 . . .		1	
KOREA:	Seoul	Feb. 2-9		Prevalent.	
RUSSIA:	Odessa	Feb. 23-March 9		20	3
"	Riga	Jan. 1-Dec. 31 .		174	
"	St. Petersburg . .	Feb. 23-March 9		12	1
"	Warsaw	Feb. 23-March 2		8	
STRAITS SETTLEMENTS:	Singapore	Feb. 8-16 . . .		2	
SYRIA:	Jaffa	Aug. 1900-Mar. 6		4	4
"	Jerusalem	Aug., 1900-Feb. 4		1600	in German colony. and 35 or 40 deaths.
YELLOW FEVER.					
CUBA:	Havana	March 8-16 . . .		2	2
CHOLERA.					
INDIA:	Bombay	Feb. 16-23 . . .		6	
"	Calcutta	Feb. 8-23 . . .		44	
"	Madras	Feb. 16-22 . . .		2	
STRAITS SETTLEMENTS:	Singapore	Feb. 8-16 . . .		4	
PLAGUE—UNITED STATES.					
CALIFORNIA:	San Francisco . .	Jan. 6-March 2 .		10	10
PLAGUE—FOREIGN.					
AFRICA:	Cape Town	Feb. 16-March 4		55	11
BRAZIL:	Rio de Janeiro . .	Jan. 1-31 . . .		15	9
CHINA:	Hongkong	Feb. 2-9		2	
INDIA:	Bombay	Feb. 19-26 . . .		1118	
"	Calcutta	Feb. 8-23 . . .		820	
STRAITS SETTLEMENTS:	Singapore	Feb. 4		1	

Changes in the Medical Corps of the U. S. Navy, for the week ended March 30, 1901:

LEDBETTER, R. F., assistant surgeon, detached from the "Constellation," April 1, and ordered to the "Chicago," via the "Dixie," April 3, as relief of Assistant Surgeon J. R. Whiting.
CRAWFORD, C. A., assistant surgeon, detached from the "Dixie," March 28, and ordered to the "Constellation," April 1, as relief of Assistant Surgeon R. E. Ledbetter.
WHITING, J. R., assistant surgeon, detached from the "Chicago," upon reporting of relief, and ordered to the "Dixie."
PICKRELL, G., surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered home.
EVANS, E., assistant surgeon, detached from the Naval Hospital, Mare Island, Cal., with permission to delay en route home.
McCLANAHAN, R. K., assistant surgeon, ordered to the Asiatic Station, via the "Solace," April 12.
DECKER, C. J., surgeon order detaching from the "Monocacy" and ordering to the "Oregon" revoked; ordered to the "Newark."
LEACH, P., surgeon, order detaching from the "Oregon" and to the "Monocacy" revoked.
HIBBETT, C. T., surgeon, detached from the "Newark" and ordered to the Naval Hospital, Cavite, P. I.
SPEAR, R., passed assistant surgeon, detached from the "Isla de Luzon" and ordered to the "Concord."
EVANS, S. G., passed assistant surgeon, detached from the "Concord," and ordered to the "Monocacy."
GROW, E. J., assistant surgeon, detached from the "Glacier," and ordered to the "Isla de Luzon."

Changes in the U. S. Marine-Hospital Service, for the week ended March 28, 1901:

MURRAY, R. D., surgeon, granted leave of absence for 5 days from April 9, 1901. March 23.
AUSTIN, H. W., surgeon, detailed chairman of a board, to be convened from time to time as necessary, for the purpose of reexamining rejected immigrants. March 28.
EAGER, J. M., passed assistant surgeon, upon expiration of leave of absence to proceed to Naples, Italy, for duty, relieving Assistant Surgeon V. G. Heiser. March 25.
MATHEWSON, H. S., assistant surgeon, granted leave of absence for 3 days from March 29. March 26.
CLARK, TALIAFERRO, assistant surgeon, granted leave of absence for 30 days, on account of sickness. March 22.
LAVINDER, C. H., assistant surgeon, granted leave of absence for 10 days from March 28. March 27.
McMULLEN, JOHN, assistant surgeon, upon being relieved from duty at Wilmington, N. C., to proceed to the Mullet Key Detention Camp, Florida, and assume command, reporting, en route, at Washington, D. C. March 28.
RUSSELL, H. C., assistant surgeon, granted leave of absence for 28 days from February 21, on account of sickness. March 22.
HEISER, V. G., assistant surgeon, upon being relieved from duty at Naples, Italy, to proceed to Washington, D. C., and report in person for duty. March 25.
GOODMAN, F. S., hospital steward, to report to the Director of the Hygienic Laboratory, Washington, D. C., for duty. March 20.

The Use of Tiokol in Tuberculosis.—Achswlediani (*Woenno Medicinski Journal*, December, 1900) determined to try this new remedy so extravagantly lauded by Shwartz, de Renzi, Maramoldi and others. He made careful observations in eight cases in which incipient tuberculosis was present. The following results were obtained: (1) The temperature, pulse, respiration and urine were in no way modified by the drug; (2) the amount of expectoration did not diminish; (3) the weight was reduced; (4) no changes in percussion or auscultation were observed; (5) the number of tubercle bacilli increased; (6) the night-sweats remained the same; (7) the debility and cough remained in statu quo. [A. R.]

Two Cases in which Dead Fetuses Remained in the Uterus for a Considerable Time.—A. P. Petrow (*Russki Medicinski Vestnik*, February, 1901) reports the following interesting cases: In one the woman, 34 years old, had a number of miscarriages as a result of syphilis contracted from her husband. Her last pregnancy led to a division of opinion among the physicians, some claiming that she was pregnant while others diagnosed a fibroid. On the seventh month, after a considerable period of exhaustion accompanied by other alarming symptoms, the woman was delivered of a male fetus partially mummified, presenting the developments of 3½ months. In the second case a macerated fetus of 5 months was delivered 2½ months after it died. This woman was also syphilitic. In both cases the mothers recovered. [A. R.]

foreign News and Notes.

GREAT BRITAIN.

Royal College of Surgeons.—At a meeting of the Fellows of the Royal College of Surgeons in Ireland, held on Tuesday, March 19th, Sir William Thomson and Mr. Robert H. Woods were elected members of the Council.

World's Tuberculosis Congress.—American medical scientists will be both numerous and prominent at the World's Tuberculosis Congress, to be held in London during the last week in July. Professor William Osler, of Johns Hopkins University, has been invited by the management of the congress to organize the American contingent. Among those who have already signified their intention of coming are Professor Trudeau of Massachusetts, Professor Solly of Colorado, Dr. Herman Biggs of New York, Dr. J. G. Adami of Ontario, and Professor McEachran of Quebec. Professor Koch of Berlin and Dr. Brouardel of Paris, Europe's great bacilli authorities, have announced their intention of actively participating. Dr. Malcolm Morris, of London, the originator and secretary general of the congress, said recently: "Certainly tuberculosis never called together so distinguished a body of international experts. Delegates will attend from probably every civilized country of the world."

Plague.—The *British Medical Journal* says plague seems to be obtaining a serious hold upon Capetown. Fresh cases, varying in number from 2 to 17, have occurred daily during the last fortnight. The information is incomplete, and a compilation from telegrams gives the number of fresh cases on March 7, 9, 10, 12, 15, and 18 as 8, 6, 10, 17, 11, and 5 respectively. The importance of the outbreak of plague at the Cape is surely sufficiently great to make it reasonable to ask the Government for exact information. A telegram, dated March 19, from the Governor of Cape Colony to the Colonial Secretary states that the plague report for the week ending March 16 is as follows: "Cases admitted 81, deaths 29, suspects 17, contacts 402." The report, it would appear, applies to the whole Colony, but contains no information as to where the deaths or cases have occurred, nor as to whether the patients are white, negro, Indian, or Malay. Plague at the Cape has struck the empire in a most vital spot, and any failure to issue adequate official information as to the prevalence of the disease is not consistent with imperial necessity. We would urge the Government to keep nothing back, but to let the people in this country know the exact state of affairs in regard to the plague at the Cape and in South Africa generally. The Malay laborers have been giving trouble, refusing to go to hospital, to live in isolation camps, or to have their houses inspected. As there are several thousand Malay males in the city, their turbulence is calculated to cause trouble and difficulty. The Kaffirs have already been sent to isolation camps, and as the Government has prohibited the meeting of more than 25 persons, the proposed meeting of natives to protest against the plague measures is prevented.

More About Huxley.—The anecdotal side of a great man's biography is, if not the most important, at least the most attractive. Professor John Fiske, in a recent number of the *Atlantic Monthly*, gives some interesting reminiscences of Huxley. The following anecdotes will be appreciated by all medical readers:

A clergyman, who had no knowledge of biology, wrote a foolish attack on the Darwinian theory and was rather piqued that Huxley took no notice of him. He thereupon wrote to the latter calling his attention to the article and asking his advice as to further study of these deep questions, whereupon Huxley answered briefly and to the point, "Take a cockroach and dissect it."

One evening Professor Fiske discussed with Huxley the celebrated murder of Dr. Parkman by Dr. Webster. It will be recalled that Webster murdered Parkman in his lecture room in Harvard Medical College about 1849 and attempted to destroy the remains by chemical reagents. Fiske expressed surprise that Webster, who was an expert chemist, should have been so slow and bungling in getting rid of the

remains; whereupon Huxley said, "Well, there is a good deal of substance in a human body. It is hard to dispose of so much *corpus delicti*. I have often thought this when I felt like killing somebody."

On another occasion he examined a student who insisted on placing the mitral valve in the right side of the heart. Huxley expressed sympathy with him and told him that he had himself always made the same mistake until it occurred to him one time that a bishop was never in the right.

At the close of a lecture he once asked a student if he understood it all. "All, sir," answered the student, "but one part, during which you stood between me and the black-board." "Ah," replied Huxley, "I tried my best to make myself clear, but evidently I did not make myself transparent."

CONTINENTAL EUROPE.

Influenza in Copenhagen.—There were 1700 cases of influenza reported in Copenhagen last week. Several deaths have been reported. In general, however, the effect of the disease is similar to that seen in America, most of the cases being of a rather mild character.

Student Riots in Russia.—On account of the student riots which have lately occurred in Russia, the courses for women medical students have been stopped.

Postmortem Examination of the late Prof. Pettenkofer.—The *British Medical Journal* states that an autopsy performed on the late Prof. von Pettenkofer by Prof. Bollinger showed the presence of chronic inflammation of the dura mater, considerable calcareous deposits in the cerebral arteries, and chronic arthritis deformans; gallstones were found in the gallbladder.

Turpentine Poisoning.—Schulz in studying the toxicological effects of turpentine states that the inhalation of a small amount of turpentine is liable to be poisonous as small quantities are very rapidly absorbed. The poisoning generally affects the central nervous system. The symptoms produced were extreme muscular fatigue, headache, low pulse, digestive disturbances, constipation, and in two cases marked acne.

Cocain Habit.—The cocain habit is becoming quite prevalent in Bengal, and efforts are being made to restrict the sale of the drug, which the Hindus are using as a substitute for opium.

University of Warsaw.—The total number of students in the University of Warsaw in the current semester is 1,169. Of these 367 belong to the Faculty of Medicine.

Italian Medical Congress.—The Italian Congress of Internal Medicine will this year hold its annual meeting at Pisa in the latter half of October.

MISCELLANY.

A Typical Russian Episode.—The *Vratch* quotes from the *Kurier* the following characteristic story: An architect and a physician accused of disturbing the peace and insulting the police appeared before the justice of the peace in Moscow. The circumstances of the case were that a woman was run over by a car which crushed her leg. Two policemen who happened to be present sent for the ambulance. Meanwhile the woman was lying on the track, bleeding profusely. The ambulance was slow in coming. The people who gathered around became indignant at the indifference of the policemen. The prisoners were especially demonstrative and one of them, the physician, took out a handkerchief and tied it around the woman's leg. The ambulance arrived only half an hour later and removed the almost exsanguinated woman to the hospital, while the two gentlemen who were "disturbing the peace" were taken to the police station. They were discharged, however, their excited state of mind being considered as an extenuating circumstance.

Professor W. A. Manasein, the distinguished editor of the *Vratch*, died February 13, from thrombosis of the cerebral bloodvessels, caused by a chronic nephritis. The deceased

had been editor of this excellent Russian weekly for over 21 years. In him the Russian medical profession loses an able teacher, a noble man, an upright and fearless editor, and a leading spirit. Medical journalism, not only in Russia, but all over the civilized world, will surely miss in him one who had succeeded in making his journal the representative organ of universal medicine in general, and Russian in particular. By his will the *Vratch* is to be issued until the end of the year and then discontinued, he having been also the publisher for the past 6 years. Until then Dr. S. Wladislawlew is to be the editor.

The Effects of Canadian Hemp in Heart Disease.

—Golubinin (*Klinicheski Jurnik*, December, 1900; *Vratch*, Vol. xxii, No. 4) found as a result of a number of observations, four of which are described in detail, that a fluid extract of Canadian hemp diminishes the frequency of the pulse-rate in severe cases, while the organism is under its influence, but in milder cardiac affections, even after its use has been discontinued, the blood-pressure is raised, the secretion of urine, in favorable cases, is considerably increased and the albuminuria, in so far as it depends on the blood-pressure, disappears. The number of respirations also diminish in proportion to the improved circulation. The fluid extract should be administered in doses of 5 drops 3 to 4 times daily. No untoward effects take place. The slight irritation of the stomach quickly disappears after the drug has been discontinued for one or two days. To prevent the gastric irritation, an equal amount of an infusion of *cannabis indica* should be administered. The author concludes by stating that in Canadian hemp we have a most valuable remedy which gives relief in many severe cases not benefited by other cardiac remedies. [A.B.]

Tuberculosis of the Submaxillary Gland.—Arcoleo (*Morgagni*, September, 1900) states that tubercles in the submaxillary gland are particularly liable to become fibrous. Whether the bacillus gains ingress by lymph- or blood-channels, there is always a firm encapsulation due to chemotaxis, the leukocytes becoming deposited in the connective tissue stroma of the gland. These leukocytes, as well as the connective tissue cells, subsequently assume the character of epithelial cells. It is difficult to artificially infect the gland with tubercle bacilli by inoculation through the salivary duct. The tuberculous nodes form in the center of the lobule; the sclerotic change begins in the perilobular tissue and extends towards the center. Direct inoculation of tubercle bacilli causes tubercular abscesses and lesions, which quickly result in sclerosis of the gland. [M.R.D.]

On Moore's Ureine and its Physiologic Action.—Kuliabko (*Vratch*, Vol. xxii, No. 4) presented before the Russian Society for the Preservation of Public Health the results of his investigations of ureine, a substance claimed by Dr. Moore to be a newly-discovered important urinary constituent. The author found that this so-called ureine possesses no chemical entity. The method of obtaining it is extremely inaccurate, and there is no assurance of the purity of the substance obtained. "Ureine" contains a great deal of water, urea, and other urinary constituents, representing practically a watery-alcoholic extract of urine. The toxic effects of "ureine" on animals resemble generally the action of urinary extractives. It affects the nervous system and, principally, the respiratory center, the immediate cause of death being due to paralysis of respiration. When injected directly into the blood-current it lowers the blood-pressure, diminishes and finally paralyzes respiration, producing general convulsions. The latter, however, are due to the respiratory difficulty and are not observed when artificial respiration is used. In this case there take place increased secretion of the glands, frequent urination, diminished sensibility, disturbances of respiration and dilatation of the pupil. Owing to the large amount of urea this substance contains, it is extremely irritating to the muscles or nerves when applied locally. Dr. Dzershowski, one of the members of the society, remarked that in his opinion "ureine" does not merit the attention it received. In its preparation Dr. Moore employs oxalic acid, mercury, ammonia, etc. These substances are not removed and the preparation therefore is impure. [A.B.]

The Latest Literature.

British Medical Journal.

March 16, 1901. [No. 2098.]

1. An Address on the Causation of Cancerous and Other New Growths. J. GEORGE ADAMI.
2. On the Occurrence of Pyrexia in Cancer and Other Diseases of the Liver and in Cases of Gallstone. C. O. HAWTHORNE.
3. Digestion Leukocytosis in Cancer of the Stomach. CARSTAIRS DOUGLAS.
4. The Palliative Treatment of Carcinoma Uteri. GERALD R. LEIGHTON.
5. The Application of Romanowsky's Stain in Malaria. MAJOR W. B. LEISHMAN.
6. The Milroy Lectures on the Influence of the Dwelling Upon Health. JOHN F. J. SYKES.

1.—After a consideration of the different theories to account for the causation of cancerous and other new growths, Adami concludes that whatever the origin of a tumor, however it is started, that which makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, we get the various grades of tumor formation from the most benign to the most malignant. The katabolic activities of the cell are of two orders: those that determine the relationship of the cell to the exterior, and those that are vegetative and that determine the continued existence and multiplication of the cell. The former activities are excited by stimuli of various orders from without; the latter are only indirectly so excited, but are more directly called into play by conditions obtaining within the cell. The nucleus is the controlling agency in the higher katabolic activities of the cell at least, both functional and vegetative, and nuclear activity is accompanied by breaking down and discharge or by rearrangement of the nuclear molecules. The changes that occur in the nucleus during the active performance of the specific functions of the cell are of a character so different from those observed during the process of cell division that proliferation and active performance of specific function are incompatible to a great degree. It follows, therefore, that active cell division and cell proliferation occur only in conditions in which the cell cannot fully utilize the assimilated material and the energy stored up in the assimilation of that material in the performance of its specific functions. Such conditions are to be met with when the tensions acting on the cell are reduced and certain energies that were formerly necessary to counteract opposing forces are freed and thus become capable of diversion from their purpose, or when stimulation from without results in increased assimilation and storage of nuclear and cell material which from any cause cannot be utilized in the performance of specific function. In either case, the cells will continue to proliferate so long as the primary modification of physical relationships or the primary stimulus continues to act, so long as there is adequate nutriment, and so long as the tensions exerted upon the cells do not become excessive. Provided that these conditions are observed, the greater the amount of cell proliferation, the greater the tendency for certain at least of the newly formed cells to be projected from the relations proper to cells of the tissue giving them origin, and the less will be the opportunity for such cells to carry on their primordial function. The longer the cells are diverted from their proper extrinsic functions to proliferative activity, the greater the momentum acquired by them to continue performing the proliferative act until the functional activities become largely suspended and the habit of growth is set up. When this habit of growth is inaugurated the cells can continue to grow and multiply in the complete absence of those conditions that initiated their proliferation in the first place, and we obtain that purposeless, functionless cell growth characteristic of the true tumor. According to the stage of cell development in which this habit becomes impressed upon the cell, we have the various grades of benign and malignant tumors. According to this theory, microorganisms and their products may be one of the causes originating localized cell prolifera-

tion, provided that they bring about stimulation rather than irritation, or irritation of so mild a type that the cells are stimulated to an increased metabolism which, however, does not go on to exhaustion and excessive breaking down of protoplasm, and provided also, that the microorganisms and their products continue in action for a sufficiently long time to set up the habit of growth. It is quite conceivable that such microorganisms may continue to exist in the tumors they originated, exerting a cumulative effect. The more the cells depart from the type the greater the effect of these microorganisms and their products in producing a tissue of rapidly proliferative and malignant type. This continuance and persistence of microorganismal action, however, must not be regarded as essential. The very fact that after all these years and after the hosts of careful observations, we are still in very grave doubt as to whether any of the bodies seen in tumors are really parasites, the fact that no growth of these bodies have surely been obtained outside the organism and then, upon injection, have induced tumor formation, although by no means proof absolute, may be quoted in favor of the view that if microorganisms originate malignant tumors, they do not continue in them in the living state. It is quite possible, according to this theory, that certain specific forms of microorganismal life originate certain forms of tumor growth and that, like other pathogenic microorganisms, these may show a predilection to attack special tissues under special conditions; and, if it be true that malignant growths are specially common in certain localities, then such microorganismal origin becomes eminently probable. But if this theory be true, it does not follow that, discovering the causative microorganism, we shall be able to arrest the development of carcinoma by antimicrobial or antitoxic means. But above all, the author feels that the greatest benefit to the patient and the greatest triumph and satisfaction to the practitioner will, for some years to come, be the recognition and successful removal of malignant tumors at the earliest possible date, and the removal of benign tumors, in general, before they have taken on possible malignant characters. [J.M.S.]

2.—Hawthorne publishes abstracts of the course of several cases that show that a considerable degree of pyrexia may attend carcinoma of the liver. As a result of these clinical observations it follows that the distinction of carcinoma of the liver from impacted gallstone, abscess, and other hepatic conditions in which febrile disturbances more or less frequently occur, is not facilitated. But the recognition of this clinical truth may at least save the physician from an inclination to place undue stress upon the existence of pyrexia as a reason for excluding carcinoma from the diagnosis. A combination of jaundice, intermittent fever, and hepatic enlargement should demand very careful consideration before the diagnostician decides to cast the verdict for gallstone, on the one hand, or malignant disease on the other. In the various forms of abscess of the liver, rigors and remittent or intermittent fever is to be expected, but this expectation is not always realized. Identical symptoms have followed the bursting of an hydatid cyst with the passage of secondary cysts into the bile-duct. The same association of events has followed the entrance of lumbricoid worms into the biliary passages. Pyrexia occasionally exists as a symptom of hepatic cirrhosis. [J.M.S.]

3.—Douglas reports the result of a study of the blood-formula in 11 cases of malignant disease involving the stomach. It would appear from the results of the investigation that digestion leukocytosis is a broken reed on which to lean in the diagnosis of carcinoma of the stomach, since only a trifle over 54% of the cases give a positive reaction. Out of the 11 cases, digestion leukocytosis was absent in 6, or 54.54%; present in 4, or 36.36%; and inconstant in 1, or 9.10%. [J.M.S.]

4.—Leighton considers the palliative treatment of carcinoma uteri as illustrated by a case which had been under almost daily observation for 2½ years from the first diagnosis of the disease to its fatal termination. His main treatment consisted in the administration of the solution of the hydrochlorate of morphin alternating with chloral hydrate and morphin suppositories. Subsequently the liquor morphiæ was discarded for the tincture which was carried to its limit, and was associated with tincture of belladonna. The suffering of the patient was inconsiderable. [W.A.N.D.]

5.—Leishman describes a modification of Romanowsky's method of staining for the demonstration of the presence of malarial parasites in the blood and, in particular, for the differential diagnosis of the tertian parasite. The chief advantages of the method are: 1. The specific action of the stain upon all red blood-corpuscles infected by the tertian parasite. 2. The greater certainty of the detection of very young intracorporeal forms of all varieties of the malarial parasite. 3. The facility with which the occurrence of a mixed infection may be detected. 4. The ease of application, after a little practice, and the certainty of the results obtained. In the preparation of the blood film care should be taken that the cover-glasses are never subsequently handled except with a pair of forceps, as the slightest trace of moisture from the fingers will endanger the result. A thin even film is necessary and this should be fixed in equal parts of ether and absolute alcohol. The fixed film should be washed well in water and dried in the air before staining. Two stock solutions are prepared; the first is a 1% solution of methylene blue in distilled water which is rendered alkaline by the addition of 0.5% of sodium carbonate. This solution should be heated for some time before use. To prevent the growth of moulds 0.25% of formalin may be added. The second solution is a 1 to 1,000 solution of eosin in distilled water. A portion of each of these solutions is further diluted with 24 parts of distilled water and an equal volume of each diluted solution is poured on to the cover-glass in such a way that they come in contact with the film at the moment of mixing. At the end of half an hour, the film is removed from the stain and examined in water by a $\frac{1}{4}$ or $\frac{1}{8}$ inch objective. If, instead of a deep, red color, the nuclei and blood plates are only purple or deep violet, the staining is insufficient, and the films must be replaced in the solution for a short time. The deep, red color represents a slight degree of over staining and the preparation should be decolorized, after washing in water, by rinsing in absolute alcohol for 2 or 3 seconds, the cover glass should then be immediately transferred to water until all traces of alcohol are removed. Decolorization may be accomplished by holding the film under running water for some time, or by leaving it to soak in water for from $\frac{1}{2}$ hour to an hour. The appearance of the film when it is ready to mount should be as follows: The red cells are transparent and nearly colorless, or, perhaps, slightly green or pink. The polymorphonuclear leukocytes have their nuclei stained ruby red or magenta, the extranuclear portion being colorless or containing a few reddish granules. The nuclei of the mononuclear leukocytes and lymphocytes are of the same color as those of the polymorphonuclears, and their margins are very clearly defined, while the extranuclear portion is stained a beautiful eau-de-nil or pale blue color. The blood plates are ruby red, with definite involuted margins. The films are now dried in the air or by gentle heat and mounted. [J.M.S.]

6.—Will be abstracted when finished.

Lancet.

March 16, 1901. [No. 4046]

1. The Hunterian Lectures on the Topographical Anatomy of the Abdominal Viscera in Man. CHRISTOPHER ADDISON.
2. A Clinical Lecture on the Treatment of Tuberculous Peritonitis. I. BURNEY YEO.
3. Some Personal Experiences of the Epidemic of Enteric Fever Among the Troops in South Africa, in the Orange River Colony. H. H. TOOTH.
4. The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism. ARCHIBALD E. GARROD.
5. The Toxicological Detection of Arsenic and the Influence of Selenium on its Tests. WILLIAM HENRY WILCOX.
6. Septic Disease in Graduated Attacks in the Same Patient. J. SNOWMAN.
7. The Status of the "Country Doctor." HARRY ROBERTS.

1.—Addison, in his lecture on the topographical anatomy of the abdominal viscera, goes carefully into the position and relations of each organ and presents several excellent illustrations. [J.H.G.]

2.—Yeo delivered a lecture on the treatment of

tuberculous peritonitis at the Medical Graduates' College and Polyclinic, on December 19, 1900. The author states that it has been shown that tuberculous peritonitis may be a primary as well as a secondary condition; when primary, the tubercle bacilli, as a rule, gain entrance into the intestinal canal, from infected meat and infected milk; the bacilli pass through the walls of the intestine without producing a lesion, and in this way involve the peritoneum. It frequently happens that lesions are first set up in the intestine and the peritoneum involved subsequently. The author reports 4 cases of tuberculous peritonitis; all of these cases were treated with an ointment containing iodine or iodoform, applied freely to the abdominal surface; iodoform, combined with creosote, was also administered internally; all of the cases made a good recovery. [F.J.K.]

3.—Tooth read the opening paper, entitled "Some personal experiences of the epidemic of enteric fever among the troops in South Africa, in the Orange River colony," before the Clinical Society in London, on March 8, 1901. The object of the occasion being to discuss this recent epidemic. The author believes that the epidemic originated in the Modder River camp; the dissemination of the disease was probably largely due to contaminated water supply and atmospheric disturbances. Sand storms are frequent in South Africa, and Tooth states that the sand was distributed broadcast, and therefore contaminated almost every article of food. He also believes that it is reasonable to suppose that the spread of the disease was in part due to flies and to a less extent by personal infection. Almost every precaution was taken to prevent the spread of enteric fever; the carrying out of sanitary laws was very difficult, and sometimes impossible, as these laws are always subservient to the exigencies of warfare. Preventive inoculation was produced with rather favorable results. From a standpoint of treatment, nourishment was given liberally when it could be done safely; digitalis and strychnia were found to be of great value, and alcohol, as a rule, was used sparingly. Headache was controlled by phenacetin, and sometimes antipyrin was administered; insomnia was, as a rule, treated with phenacetin. A solution containing potassium chlorate, glycerin and perchloride of iron was used to cleanse the mouth; potassium chlorate and sodium bicarbonate were given 3 times a day; these drugs seemed to have a favorable action upon keeping the buccal mucous membrane and the tongue moist. [F.J.K.]

4.—Garrod discusses The clinical and pathological relations of the chronic, rheumatic and rheumatoid affections to acute, infective rheumatism. The most important consideration in his article is whether there is any direct relationship between rheumatoid arthritis and acute rheumatism. The author states that rheumatoid arthritis in the majority of instances appears to be a primary malady with characteristic features from the onset. Infrequently the patient suffering from this form of arthritis has previously been affected with acute rheumatism. He concludes the article by saying that from a clinical and pathological standpoint, there is still much room for the accumulation of facts bearing upon rheumatoid arthritis, and for the present we should take an expectant attitude in this matter. [F.J.K.]

5.—Wilcox, in an article entitled "The toxicological detection of arsenic and the influence of selenium on its tests," concludes as follows: That from his experiments he conclusively proves that the poisoning was not due to selenium primarily and to arsenic secondarily. [F.J.K.]

6.—Snowman describes a patient who suffered after childbirth from septic infection. Several years later the patient suffered from septicemia, and only a year subsequent to this attack she had pyemia, from which she again recovered. [J.H.G.]

New York Medical Journal.

March 30, 1901. [Vol. lxxiii, No. 13.]

1. Congenital Dislocation of the Shoulder, with Report of Two Cases of Dislocation Posteriorly. DANIEL W. MARSTON.
2. The Pathology of Intrauterine Death. NEIL MACPHATTER.
3. The Comparative Pathology of the Jews. MORRIS FISHBERG.

4. The Causes and the Significance of the Obstetric Hemorrhages. J. CLIFTON EDGAR.
5. Tropical Dysenteries. STEPHEN M. LONG.
6. A Dressing for Colles' Fracture. CHARLES L. DEMERITT.
7. A Requisite to Increase the Usefulness of Ambulances. FREDERICK GRIFFITH.

1.—In concluding his article, D. W. Marston comes to the following conclusions: 1. It is of the utmost importance to distinguish between cases of **dislocation and true obstetrical paralysis**. 2. The treatment of the former condition is immediate reduction; by manipulation if possible, otherwise, operative. 3. Every infant should be carefully examined at birth, for it is at this time that reduction is easiest performed. 4. From the facts that a fracture of the glenoid cavity was found in three of Dr. Phelps' cases, and that the history of nearly all cases shows difficult labor, I am led to believe that these cases are not of paralytic origin, or due to nondevelopment, as affirmed by Scudder, but are due to traction made in the axilla by the finger or vectis, or to the arm being caught in some unusual position and dislocated by the contraction of the uterus. Paralysis may be coincident, but it cannot be a primary factor in causing dislocation posteriorly. 5. The prognosis of the operative treatment is excellent. The earlier the operation the more hopeful the outlook. 6. Like congenital dislocation of the hip, these cases of the shoulder are little benefited by mechanical treatment. In connection with the description of the operation here advocated for this deformity, he recommends the new excavator of Dijon, which will be found almost indispensable in the process of cleaning out the glenoid cavity for the reception of the head of the humerus. It is also of value in the open operation for the reduction of congenital dislocation of the hip. The instrument is made in three sizes, and consists of a cylindrical steel tube, conical at one end, furnished with cutting edges like the old-time pot auger used by carpenters. These instruments leave the glenoid cavity with perfectly smooth and regular edges. [M.R.D.]

2.—Will be abstracted when completed.

4.—J. Clifton Elgar divides **obstetric metrorrhagia** into three classes: 1. The metrorrhagia of pregnancy or antepartum hemorrhages. 2. The metrorrhagia of labor or intrapartum hemorrhages. 3. Puerperal metrorrhagia proper, or secondary postpartum hemorrhages. He believes that the most frequently occurring antepartum hemorrhages are indicative of bleeding due to a sudden or inevitable abortion caused by a partial separation of the fetal structures before complete formation of the placenta. Other conditions causing antepartum hemorrhages such as placenta previa, premature separation of a normally located placenta (accidental hemorrhage), ectopic gestation, rupture of the uterus, and menstruation occurring during pregnancy, are discussed, as well as the causes giving rise to each of these conditions. The causes and significance of intrapartum and postpartum hemorrhages are also described. [M.R.D.]

5.—Stephen M. Long believes that **dysentery** should be more thoroughly investigated by the profession living outside of the territories where it is prevalent. He mentions the futility of any treatment devised up to the present time for fulminating catarrhal dysentery. The second type discussed is the simple, acute dysentery starting as a diarrhea and frequently associated with malaria. After discussing the third type generally called the amebic one, and subdivided into the amebic, the trichomonadic, the cercomonadic, and the mixed forms, chronic dysentery as well as the gangrenous and diphtheric forms are considered. The author states that the sequelae of the disease as met with in the Philippine Islands are the following: (1) Its chronicity; (2) chronic gastritis and indigestion; (3) obstinate constipation; (4) paralysis (partial) of the large intestines, due either to obliteration of the glands and lack of secretion or to lack of innervation and blood-supply; (5) anemia, from lack of assimilation of food; (6) the association with it of malarial fever; (7) typhoid fever; (8) neuritis; (9) atrophic cirrhosis of the liver; (10) chronic parenchymatous nephritis; (11) abscess of the liver; (12) metastatic abscesses of other organs, as of the lungs and kidneys; (13) inanition; (14) toxemia; (15) dilatation of the stomach and intestines. He emphasizes the necessity of cleanliness as a prophylactic measure and the avoidance of anything as he terms it "which has not seen the baptism of fire." He does not believe in the employment of alcoholic

drinks as prophylaxis against dysentery, but believes that blackberry brandy, sherry or claret judiciously and cautiously used in the chronic stages, are of value. Sulphate of magnesium, calomel, pecacuanha, opium and bismuth subnitrate are each discussed as to their respective value. Enemata, composed of various drugs that are described individually are extremely valuable when medicines taken per os prove futile. Abdominal massage, turpentine stupes and hot fomentations should also be taken into consideration. [M.R.D.]

6.—C. L. DeMeritt describes a **dressing for Colles' fracture**, consisting of a thin piece of board previously marked out in the desired shape. The ulnar side of the distal end is rounded off, thus permitting the hand to turn in the desired direction. A rounded piece of board with its convex surface above fills out the hollow in the hand. The upper surface of the splint is padded and covered with a roller bandage. [M.R.D.]

Medical Record.

March 30, 1901. [Vol. 59, No. 13.]

1. Some Fallacies of Therapeutics. GEORGE L. PEABODY.
2. Ionization in its Physiological and Pathological Duration. MARTIN H. FISHER.
3. Creosote in Pneumonia; A Résumé. I. L. VAN ZANDT.
4. Orchid Culture in its Relation to a New, Improved, and Completely Effective Method of Disinfection. J. M. W. KITCHEN.

1.—George L. Peabody contributes a suggestive article upon some **fallacies of therapeutics**. He calls attention to that class of mixtures known as "tonics" and "bitters" which are largely consumed by the laity. He has found these very generally to contain a large percentage of alcohol. Almost all of these compounds are sold as being nonalcoholic. The writer believes that in a vast majority of cases in which bitter substances actually do increase the appetite this is due to the fact that the mixture contains alcohol. He states the **boric acid** is another drug which furnishes an illustration of the authority of tradition and the consequent propagation of error. He believes that the disinfecting power of boric acid is so trifling that for practical purposes in this application it must be disregarded entirely. Neither is it to be considered as quite harmless. The use of **tannic acid** is another agent which may be considered of doubtful value. He believes that there is no warrant for the very convenient opinion that after its absorption it can produce **styptic or hemostatic** effects upon remote organs. **Ergot** is known to produce a primary fall of blood-pressure, which is followed almost at once by an enormous and persistent rise of pressure in the arteries. There is no proof that ergot causes any contraction of pulmonary vessels, and it is known to cause a rise in pressure in the pulmonary artery, yet in spite of these facts it is recommended to arrest pulmonary hemorrhage by some authors. **Lithium** is a drug in regard to which much false impression exists. It is practically valueless as a solvent in gout, even when given in reasonably large amounts, and it is especially likely to disorder digestion. Speaking of arsenic, the author mentions the fallacy that a toxic dose which causes death, must necessarily act as a preservative of the body. **Calomel**, he says, is still given to stimulate the liver, whereas experiment has long since proved it to be an **hepatic sedative**. It is at the same time a **cholagogue**, and so is any laxative which acts upon the upper part of the small intestine, and thus causes a discharge of bile that might otherwise be reabsorbed. His conclusions regarding the usefulness of the **iodids** are that except in syphilitic disease they have no power of removing hyperplastic connective tissue or absorbing exudation. He does not believe that it is of any value in chronic lead poisoning. This writer also believes that the sphere of usefulness of **oxygen inhalation** under ordinary oxygen pressure is really very limited. [T.L.C.]

2.—Martin H. Fischer discusses the subject of **ionization in its physiological and pathological relations**. The properties of the aqueous solutions of electrolytes seem to be well explained by the assumption that in these solutions the dissolved substances are split up into ions,

and the properties of the solution are due to the properties of the ions contained in them. For example, HCl dissociates into H-ions and Cl-ions and NaCl disassociates N-ions and Cl-ions. These solutions are the same in so far as they contain Cl-ions and different because one contains H-ions and the other Na-ions. These differences determine the differences in the properties of the two solutions. The physiological action of any substance is due to its chemical character. The chemical character of the solution of an electrolyte is due to the properties of its ions plus the properties of its undissociated molecules. The poisonous properties of a dilute solution are due to the ions they contain, and if at the particular concentration under consideration, toxic ions of only one kind are present, the behavior of the solution is to be attributed to those ions. The change in the irritability of the gastrocnemius muscle of the frog and the amount of water absorbed by it may be taken as an index of the toxicity of the solution of an electrolyte in which the muscle was immersed. The increase in the weight of the muscle is due to an absorption of water, explainable on the ground that the H-ions of the acids or the Oh-ions of the alkalies have a fermented action, which causes hydrolytic splittings in the muscles and an increase in its osmotic pressure. The taste of the solution of an electrolyte is dependent upon the ions contained in it. This theory of **ionization**, which the author presents in a comprehensive and scientific manner, offers, he believes, a new field for investigation in the realm of medicine. He has endeavored to show that in dealing with the action of dilute solution of inorganic substances we are dealing with the action of their constituent ions, and this fact should be borne in mind when we consider physiological, pathological, and pharmacological problems which involve the presence of inorganic substances. [T.L.C.]

3.—I. L. Van Zandt presents a résumé of the **treatment of pneumonia by creosote**. He believes that it cuts short the disease in the most remarkable manner, and that it causes complete resolution of the diseased focus, so that the sequelae are less likely to follow. Furthermore, it is his opinion that the sputum and excreta are voided disinfected. [T.L.C.]

4.—J. M. W. Kitchen contributes a paper upon orchid culture in its relation to a new, improved and complete **method of disinfection**. The author in the course of his experience of raising orchids was met by the difficulty of destroying the insects which interfered with the growth of his plants. He has found that the **formaldehyde** is the most valuable agent at our command. He believes that a number of small generators placed in the several parts of a room are more effective than one large apparatus. [T.L.C.]

Medical News.

March 30, 1901. [Vol. lxxviii, No. 13.]

1. Report of the Committee of the Medical Board of Bellevue Hospital, Appointed January 2, 1901, to Investigate and Report upon Questions Relating to the General Administration of the Hospital.
2. Vaccination, Clinically Considered. FRANK S. FIELDER
3. The Method of Preparation of Vaccine Virus in the Vaccine Laboratory of the New York City Health Department. J. H. HUDDLESTON.

2.—Fielder, in his article on **Vaccination**, emphasizes the following points: 1. Complete natural immunity to vaccination is practically unknown. 2. In primary cases, delayed vesiculation, raspberry excrescence, and abortive course, mean poor virus. 3. Among the complications, there is now no danger of transmitting syphilis or tuberculosis, and other infectious diseases. 4. During the second week of vaccinia, a large painful areola may be considered normal if it be bright red, and if the vesicle be of typical appearance. If the vesicle be irregular, filled with greenish pus, and the areola be of a dark livid, purplish hue, the case is one of mixed infection. 5. Generalized vaccinia, aside from cases in which the eruption is spread by autoinoculation, is rare. Cases of doubtful diagnosis may be tested by the inoculation of lymph from one of the vesicles into another subject. If it be true generalized vaccinia, a localized pock will develop in the inoculated person. 6. The destruction of the vac-

cine vesicle does not interfere with the immunity conferred by the vaccination. 7. Immunity is acquired about the time the areola is at its height—8 to 10 days after vaccination. If smallpox appears at this time it will be mild. If the eruption appears before the vaccination has reached the areolar stage, the disease will not be much modified by the vaccination. 8. Vaccination of the pregnant woman does not protect her child. 9. The fetus in utero may have smallpox, if the mother has it, and may be born with an active rash or with healed scars. A child born while the mother has smallpox is not only not protected, but has been exposed in utero, and will probably develop the disease before there is time to secure protection by vaccination. 10. The duration of immunity to smallpox which is conferred by vaccination is extremely variable, and in the presence of an epidemic, the fact of recent successful vaccination is only presumptive evidence of immunity. Of persons successfully vaccinated within 5 years, very few will contract the disease; but some will, though they will probably have varioloid instead of severe smallpox. 11. The duration of immunity to revaccination which is conferred by vaccination is also extremely variable, and is probably short (two years or under) in a larger proportion of cases than has been supposed. 12. The protective power of vaccination is in direct proportion to its excellence and completeness as shown by the number and quality of the resulting scars. Of the two elements which enter into this protective value, quality of scars is more important than number. 13. While the quality of a scar is a fair indication of its protective power against smallpox, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination. 14. A person who is immune to smallpox can often be successfully revaccinated. 15. Revaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack. 16. A person who has been successfully revaccinated is much less likely to contract or to die of smallpox than a person who has been vaccinated only once. The more successful vaccinations one has had at different times, the more certain is his immunity, and the better his chance of recovery if he does contract the disease. 17. Revaccination, therefore, should be considered as important as primary vaccination, and should be just as systematically practised. 18. Primary vaccination should be performed in infancy, revaccination at school age. In the presence of an epidemic, however, revaccination should be performed even though the primary vaccination was of comparatively recent date. 19. The eruption in revaccination is more likely to follow the type of vaccinoid than that of typical vaccinia. 20. Vaccinoid protects if the virus used is of high grade sufficiency. If the virus is poor, only partial immunity is conferred. 21. All vaccine virus should be subjected to rigid physiological tests before issuance. It should be retested monthly, so long as it is on sale. The virus from each animal should be kept by itself and numbered. It should be known by this number when issued so that it can be called in if retests show that its efficiency has expired. 22. Vaccination should be performed under aseptic precautions. 23. It is not sufficient merely to smear the virus upon the scarified areas. It must be thoroughly rubbed or scratched or pricked in. 24. Vaccination shields often do more harm than good. 25. Cases of infected vaccination should be cared for by the physician and not by the mother. 26. Remember that the destruction of the vesicle does not impair the protective power of vaccination, and in signs of mixed infection appear, open the vesicle, cleanse the wound and treat it upon general surgical principles.

Boston Medical and Surgical Journal.

March 28, 1901. [Vol. cxliv, No. 13.]

1. The Embryological Basis of Pathology. CHARLES SEDGWICK MINOT.
2. A New Method of Treating Fractures. LEONARD F. HATCH.

1.—The ovum is a cell every part of the protoplasm of which is to be regarded as potentially capable of producing any or all of the tissues of the adult. Differentiation in cells resulting from the segmentation of the ovum acts as a progressive restriction of further development. Each successive

stage of differentiation puts a narrower limitation upon the possibilities of further advance. Applied to pathology this law means that the range of possible pathologic changes is determined not merely by the nature or kind, but also by the stage or degree of the previous differentiation of the tissue. The eggs of all animals pass through two well marked phases of development. During the earlier and much shorter phase, the nuclei are multiplying rapidly, while the cytoplasm is growing but little, if at all. During the second and longer period of development, the multiplication of nuclei lags behind the growth of the cytoplasm, which no longer multiplies; the increase is gradual and often shows itself through successive generations of cells. Of the first method of protoplasmic growth, embryonic bloodcells offer a good illustration; of the second, the neuroblasts or young nerve cells afford a striking example. Now cells of the embryonic type show little if any capacity for differentiation, and the increase of the cytoplasm in the single cell is, so far as we can judge, a necessary preliminary step to cell differentiation. The embryonic cells have yet another characteristic of basal significance; they are capable of rapid multiplication. Hence, we conclude, that the growth of the cytoplasm impedes the multiplication of cells, and, therefore, ultimately retards the growth of the body as a whole, while on the other hand it favors differentiation. Accordingly, the growth of cells and their differentiation are essentially antagonistic processes, which are necessarily more or less mutually exclusive. We should conceive of differentiation as a change in the intimate and essential structure of the individual cell, more specifically of its cytoplasm, and perhaps of its nucleus also. It seems probable that the cells of the germ layers are at first quite indifferent, so that if it were possible to graft a young mesodermic cell on to the ectoderm or endoderm, it would become a true ectodermic or endodermic cell. But, in the embryo, each germ layer has its definite, specific value. It is more than probable that all pathologic tissues are as strictly governed by the law of the specific value of germ layers as are the normal tissues. There are 2 distinct types of cell differentiation, for both of which types the starting point is the undifferentiated embryonic cell. In one type we find that as the cells proliferate a portion of them only undergoes differentiation; and another portion remains more or less undifferentiated and retains more or less fully the power of continued proliferation. The second type is characterized by its inclusion of all the cells. Differentiation is a slowly progressive and wholly gradual change in the cell, and we must look upon each step in the process of differentiation as establishing narrower limits for future changes. So in the mesenchyma, after the embryonic cells have changed and large numbers of them have become connective tissue cells, these last still are capable of various further differentiation, and may, therefore, be said to have been arrested in their development at a stage of partial differentiation. This quality of the connective tissue cells is, from the pathologic standpoint, one of the most important facts known to us concerning the structure of the body. The changes that succeed differentiation are destructive and fall into 3 main groups: (1) Changes of direct cell-death; (2) necrobiosis, or indirect cell-death, preceded by changes in cell structure; and (3) hypertrophic degeneration, or indirect cell-death, preceded by growth and structural change of the cell. Necrobiosis and hypertrophic degeneration are normal processes that invariably occur in the normal body and play, in many cases, important roles in the life history of the individual. For example, the thymus and the fetal kidney first attain their full differentiation; their elements die off during the next phase, and finally are resorbed, the greater part of the organ disappearing. In the same category of change belong the histories of the senile ovary and testis. Cell-death on a large scale is a common phenomenon of the tissues. Degeneration, in the stricter sense of an antemortem hypertrophic change of cell structure, is also of widespread occurrence in the healthy body. The various kinds of changes in dying cells, with which the pathologist is most familiar, recur in healthy tissues. Granulation of the bodies of the cartilage cells and of the notochord cells may be observed to precede their resorption. Hyaline transformation is conspicuous in the decidua reflexa. Imbibition or cellular edema occurs in the epidermis of the lips, in the cells of the uterine glands during pregnancy, after they have detached themselves from the gland walls, and in the endothelium

of the placental bloodvessels of the rabbit. Desiccation is the usual accompaniment of cornification. Plasmatorsis is seen in the cells of the secreting milk gland, and also, as an unpublished research of Minot's indicates, to the cells of the secreting glands of the cervix uteri. Karyolysis is, according to present probabilities, the method by which nucleated red bloodcells are converted into nonnucleated blood-corpuscles. Karyorhexis, or the fragmentation of the nucleus, occurs in the cells of the disappearing follicles of the ovary. The sloughing off of cells is one of the most familiar phenomena. On the other hand, cells without access to the external world must be got rid of by resorption, which seems to take place either with or without the cooperation of leukocytes. In the latter case we must, for lack of a better hypothesis, attribute the resorption to chemical means. The author proposes the new term, "cytomorphosis," to designate comprehensively all the structural alterations which cells, or successive generations of cells, may undergo from the earliest undifferentiated stage to their final destruction. This review of normal **embryologic conditions** furnishes us with 3 general conceptions that are valuable for their **pathologic applications**, namely: (1) That each germ layer has a specific and exclusive share in the production of tissues; (2) that undifferentiated cells, characterized by having only a small amount of unspecialized protoplasm, exist not only in the embryo, but also throughout life in certain parts of all 3 germ layers; and (3) that differentiated cells, characterized by having a larger amount of specialized protoplasm, form most of the organs of the adult, and are incapable of undergoing any new unlike differentiation, though they are still capable of completing their cytomorphosis, by necrobiosis or degeneration. We must apply these conceptions as rigidly to pathologic as to normal development. From this viewpoint epitheliomata should be studied in relation to their layership, and it is reasonable to expect that they will be found to have very distinctive characteristics, according to the germ layer from which they take origin, for the layership of a tissue governs the normal differentiation and probably, therefore, the abnormal also. The author especially urges the study of the layership of the various carcinomata. Can we safely assume that there is only one kind of carcinoma? May it not well be that ectodermal, mesothelial and endodermal carcinomata are separate kinds? Undifferentiated cells have the power of multiplication in a high degree, and they have the possibilities of increasing their size and of undergoing further differentiation, and their occurrence in the adult is of the utmost pathologic significance. Such cells exist in 4 important parts: (1) In the basal layer of the epidermis and in corresponding portions of the epidermal appendages; (2) in the adult mesenchyma or connective tissue; (3) in many parts of the adult mesothelium, especially of the epithelia of the genitourinary tracts; and (4) in the endodermal epithelium of the gastrointestinal tract. It is significant that it is precisely from these parts that the development of many rapidly growing tumors takes place, and it is further significant that the least differentiated or specialized of all, namely, the mesenchymal cells, are the ones that produce the greatest variety of tumors. The mesenchyma still exhibits, by the formation of its characteristic tumors in the adult, its embryonic capacity to transform itself in varied ways. Minot would, from the embryologic standpoint, classify new formations into two main groups: (1) Those with marked cytomorphosis, or change in cell structure, as, for example, myoma, lipoma, and chondroma; and (2) those without cytomorphosis, the cells of the new growth resembling those of the parent tissue, as, for example, angioma and glioma. Members of the first group have been termed heteroplasmic; members of the second group have been termed homoplasmic. Accepting these terms, we may say that tumors are either heteroplasmic or homoplasmic. It is probable that highly differentiated cells, such as the nerve cells or the neurons, the liver cells, and the striated muscles, cannot produce tumors. The author concludes (1) that pathologic differentiation in its essential features is identical with the process of normal differentiation; (2) that the character of a tumor depends primarily upon the layership of the cells producing it; (3) that normal differentiation impedes and limits the formation of tumors, precisely as it does of further normal structures, so that tumors arise most readily from undifferentiated tissues and may then be heteroplasmic; arise less readily from differentiated tissues and are then always homo-

plastic; and arise unready or not at all from the most highly specialized tissues. Probably all pathologic necrobiosis and degeneration of cells are essentially identical with normal processes and are pathologic, owing to the abnormality of their occurrence in time and site. [J.M.S.]

2.—Hatch reports a new method for the treatment of fractures, based on modern surgery. The principle is to convert all compound fractures into simple ones, and to operate on simple fractures, making them compound, and then make them simple. The technic of the operation is the same for simple and compound fractures, with this exception, that in simple fracture there is a point of selection for the incision, while in a compound fracture the wound is simply enlarged. There must be the most perfect antiseptic preparation. The site of operation must be shaved and then scrubbed thoroughly with soap and water, bichlorid solution, and permanganate and oxalic acid solutions; all other parts of the patient must be carefully covered with sterile sheets and towels. Hold the extremity in a vertical position for a few minutes, then apply a rubber constrictor. Fit a sterile posterior and anterior splint of any suitable material. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulnar side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good free incision should be made, as it is important to have plenty of room, and the size of the incision does not complicate the case. Wash out thoroughly all clots and debris, removing all shreds of soft tissue and loose pieces of bone. If any sharp points of bone prevent perfect coaptation remove them. Remove rubber band. Tie all bleeding points, and be sure that the wound is dry. If in a case of a compound fracture the periosteum is stripped up, carefully replace it. Secure perfect coaptation. Apply one of the splints before closing the wound, to make sure of holding the fragments in place. Close the wound with catgut sutures without drainage, and lay a thin pad of iodoform gauze over the wound; apply the second splint and bandage quite firmly, as there will not be any swelling like that which occurs after a fracture treated in the usual manner. Remove dressings on the seventh or eighth day and apply plaster cast or ambulatory splint, according to the requirements of the case. With this method it is safe to discontinue splints at least one week earlier than in fractures treated by former methods. With the advance made in modern surgery, where we do not hesitate to enter the abdominal or cranial cavities, in some cases even, simply to establish a diagnosis, we surely should not be deterred from operating on fractures by fear of sepsis, and it certainly is unscientific to adopt a blind way when a better presents. The method would be warranted if it did nothing more than to relieve the pain and swelling, which it certainly does. It shortens the repair process at least one week. It reduces the chances of deformity and nonunion to a minimum. [J.M.S.]

Journal of the American Medical Association.

March 30, 1901. [Vol. xxvi, No. 13]

1. Recent Advances in Dermatology which are of Service to the General Practitioner. L. DUNCAN BULKLEY.
2. Hyperacidity a Cause of Skin Disease. W. R. INGE DALTON.
3. Acute Suppurative Folliculitis of the Scalp. WM. S. GOTTHEIL.
4. Operations for Injuries to the Median and Ulnar Nerves. R. BRINDLEY EADS.
5. Pathological Conditions Found in Meat Inspection. D. E. SALMON.
6. The Treatment of Prolapse of the Rectum. JOSEPH M. MATHEWS.
7. Sanitary Conditions of Peking. JOHN INGLIS.
8. Thyroid Tissue in the Larynx and Trachea. OTTO T. FREER.
9. Open Treatment of Suppuration of the Knee-Joint. W. J. MAYO.
10. Quantitative Tests for Proteolysis. A. L. BENEDICT.
11. The Rule of Rapid Operating and the Importance of Saving Time in Surgical Operations. JOHN S. MILLER.
12. Venereal Disease as a Social Problem. W. C. GATES.

13. Circumcision in Restricting the Spread of Syphilis. HOWARD N. MOYER.
14. Report of Special Committee of the Section on State Medicine of the American Medical Association, Appointed to Inquire Whether and When the Gonorrheic may be Permitted to Marry, and Whether the Matter is a Proper one for Regulation by Statute.
15. Purulent Otitis: Its Treatment and Prevention by the Family Physician. H. GRADLE.

1.—Bulkley reviews the important recent advances in dermatology which are of service to the general practitioner from the standpoint of diagnosis, pathology and therapeutics. [F.J.K.]

2.—Dalton holds that hyperacidity of the contents of the duodenum, due to the hyperacid condition of the stomach, produces derangement of physiologic metabolism, and is the starting-point of nearly all the diseases of the skin, except the contagious exanthemata. [F.J.K.]

3.—Gottheil reports two cases of acute suppurative folliculitis of the scalp. One of the cases is described in detail; this case terminated in recovery and the affected parts returned to a normal condition. The author does not venture to explain the causes which give rise to this acute suppurative process.

4.—Eads reports a number of operations for injuries to the median and ulnar nerves with a good result in each case. For nerve suture Eads prefers silk rather than catgut, or else chromicized catgut. In suturing a nerve care should be taken that it is so placed as not to be caught and pressed upon by cicatrices. [J.H.G.]

5.—Salmon gives a detailed account of the pathological conditions found in meat inspection. He mentions the various statistics in reference to the number of carcasses that were condemned and the reasons for such action. Reference is made in regard to the limitations of authority of the inspectors. Finally, he emphasizes the fact that no public work can be carried to the highest degree of efficiency unless its object and value are understood by the people of the country. [F.J.K.]

6.—Mathews describes a very severe case of prolapse of the rectum in an adult, in which he obtained an excellent result after opening the abdomen and suturing the bowel to the abdominal wall. When he performed this operation he was not aware that it had ever been done by any other surgeon. He thinks that coloproctia in case of prolapse of the rectum of the second or third degree is preferable to other methods of operation for this condition, and that it is accompanied by less danger. In suturing the bowel to the abdominal wall he prefers a continuous suture. [J.H.G.]

7.—Inglis writes upon the sanitary conditions of Peking, and concludes by saying that before China is admitted to the society of enlightened nations, she should make her capital less dangerous as a place of residence, by instituting proper sanitary measures, thereby checking the prevalence of those diseases which are due to the products of filth. [F.J.K.]

8.—In an article on thyroid tissue in the larynx and trachea, Freer gives an account of the symptoms of the condition, the theories regarding the entrance of a thyroid tissue into the larynx and trachea, the prognosis, the diagnosis and the treatment. In the article is included a report of a case, and mention is also made that nine other cases have previously been recorded.

9.—Mayo strongly urges the open treatment for severe suppurations involving the knee-joint, maintaining that he has seen limbs saved by this method of treatment where amputation was thought to be necessary in order to save life. The incision extends across the front of the knee-joint and gives most satisfactory drainage. Ankylosis nearly always follows. [J.H.G.]

10.—Benedict discusses the quantitative test for proteolysis, and formulates the following conclusions (so far as the test breakfast is concerned, the stomach being evacuated after 60 and 90 minutes): 1. In individuals who are normal, the proportions of the three stages of proteids do not vary materially during the third half-hour of digestion, nor according to moderate variations in other respects. 2. A mere trace of syntonin, not exceeding $\frac{3}{100}$ cc. in 10 cc. of filtered chyme, is most typically represented. 3. Albumose (by ammonium sulphate) is most typically represented by

cc. in 10 cc. 4. Most typically peptone is represented by $\frac{1}{100}$ to $\frac{2}{100}$ cc. in 10 cc., but there may be variation between $\frac{1}{100}$ and $\frac{2}{100}$. [F.J.K.]

14.—Tuckerman submits a "Report of the Special Committee of the Section on State Medicine, of the American Medical Association, appointed to inquire whether and when the gonorrheic may be permitted to marry, and whether the matter is a proper one for regulation by statute." Various questions pertaining to this subject were submitted to prominent gynecologists and genitourinary specialists. Their answers are given in the report; no final conclusions are, however, drawn. [F.J.K.]

15.—Gradle urges the importance upon the general practitioner of early incision of the drum in purulent otitis. He condemns most strongly the use of the popular remedy for earache, such as opium and sweet oil and camphorated oil. The only local application which can be of any service is a 10 to 12% solution of carbolic acid in glycerin, and opium internally is the only remedy which will control the pain. The improper use of the nasal douche Gradle thinks is a prevalent cause of otitis. [J.H.G.]

Journal of Experimental Medicine.

January 15, 1901. [Vol. v, No. 3.]

1. The Superficial Glands of the Esophagus. ALBION WALTER HEWLETT.
2. False Diverticula of the Intestine. MARTIN H. FISCHER.
3. Some Theoretical Considerations Upon the Nature of Agglutinins Together with Further Observations upon *Bacillus typhi abdominalis*, *Bacillus enteritidis*, *Bacillus coli communis*, *Bacillus lactis aerogenes*, and some other Bacilli of Allied Character. HERBERT E. DURHAM.
4. Report of a Laboratory Epizootic among Guineapigs, Associated with Gaseous Emphysema of the Liver, Spleen, and Kidneys, due to *Bacillus mucosus capsulatus*. R. G. PERKINS.
5. On the Relation of Chronic Interstitial Pancreatitis to the Islands of Langerhans and to Diabetes Mellitus. EUGENE L. OPIE.

1.—The esophageal glands, which have long been known, are situated in the submucous tissue of the esophagus. Hewlett describes a second group of glands situated entirely within the mucous membrane of the **esophagus**, above the muscularis mucosae, which were originally described by Rüdinger, in 1879. These glands are of the tubercumose type and are found in small circumscribed areas in the upper third and the lower third of the tube. They produce oval defects in the mucous membrane that may readily be mistaken for ulcers. The **superficial glands** present many cyst-like dilations. The acini are lined by low columnar cells and by cells that are identical with the parietal cells in the cardiac glands of the stomach. The morphologic significance of the glands is not clear. The pathologic relations of the glands are of interest on account of the possibility that they may act as a nidus for the development of a pulsion diverticulum of the esophagus. They may be a source of origin of esophageal cysts and they may give rise to carcinomata. [J.M.S.]

2.—A false diverticulum of the intestines is a hernia of the mucosa and submucosa through the muscular wall so that the wall of the pouch is formed of the two layers forming the protrusion covered by the serous coat of the bowel. Fischer describes a case of single diverticulum of the jejunum; a case of multiple diverticula of the ileum; a case of diverticula of the rectum, omega loop, and descending colon, and a case of diverticulum of the appendix. These diverticula are usually found in the position of a dilated bloodvessel and extend in the course of this bloodvessel either between the layers of the mesentery or on one side of that structure. The force producing the outpouching of the mucous membrane apparently comes from within the bowel and, as the hernia passes through the muscular coat, that tissue is broken and then crowded to either side. Doubtless the chronic passive congestion of the viscera due to hypertrophy and dilation of the heart and arteriosclerosis is an important factor in the causation of the diverticula. The walls of the diverticula often present inflammatory changes. The

diverticulum of the appendix described in the paper occurred on the side opposite to the mesoappendix. Its wall was composed of serosa only, so that it is possible that the condition was originally one of true diverticulum produced by traction of an old adhesion and that the accumulation and stagnation of feces in the pouch caused pressure atrophy of the mucosa and muscularis in the wall of the sac. [J.M.S.]

3.—Further experience with the differential actions of serums of treated animals leads Durham to confirm the conclusion that, so far as bacteriolytic and agglutinating actions are concerned, the word specific is inapplicable and special would be a better term to employ. It has been found that the serum reactions are not uniform within the species *vibrio cholerae asiaticae*. From this and other observations it would seem as though the serum test could not be considered a final criterion for the diagnosis of species. The author's experience is contrary to that of Baumgarten concerning the power of the serum of rabbits to agglutinate colon bacilli. He attributes Baumgarten's results to the fact that cultures in broth made with muscle sugar were used. Such broths when mixed with fresh broth or serum may give precipitation of proteid matters that produce an apparent agglutination. The author believes that the bacillary agglutination process is not due purely to an entanglement of the bacilli in coagula formed in the free fluid. The microscopic observation of bacilli mixed with very dilute special sera is most suggestive of some alteration of the surfaces of the bacilli in the direction of increased stickiness. It may be that this surface alteration is due to a precipitation or more or less nascent precipitation upon the surfaces of the individual susceptible bacilli; such bacilli as are secreting more of appropriate substances will be more susceptible to the action of the serum and become more profoundly affected. It is always a striking phenomenon that all the bacilli are not equally influenced in a given dilute mixture. In order to explain the perplexing partial and mutual reactions of agglutinating sera upon different races or groups of bacteria, the author supposes that a given **agglutinin** is not a single substance, but a complex one, while the bacillary components that are capable of giving rise to the formation of agglutinins are also variable and not produced in the same amount in all species or in all races. It is possible that the agglutinin producing substances and the agglutinin overlap in organisms, such as *bacillus typhosus* and *bacillus enteritidis*. Moreover, any given race does not necessarily produce the same quantities of the different constituents at different times, and hence the variations of agglutinability, virulence, etc. It is further supposed that the bacteriolytic, inhibitory, and protective or preventive substances have a similarly complex constitution, the amount of each unit being to some degree independent of the others, although all the substances tend to be grouped together more or less dependently. From numerous experiments, it seems that the most satisfactory method of producing clumping sera is to give considerable quantities of killed bacilli by the intraperitoneal route. It is possible to get moderate potency by giving sterile filtrates of cultures and to induce some power by giving killed cultures by the mouth. These facts seem further evidence that agglutination is no reaction of infection. Agar cultures should be used because broth is unsuitable on account of the precipitation of the peptone from the broth by the serum of the animals, as shown by Myers. The effect of a given injection probably reaches its height, when killed bacilli are given, in about 10 days or 2 weeks. The author concludes that the **clumping reaction is of little value for differentiating and classifying these bacilli** in a satisfactory manner. It appears that we can only find whether the products of bacilli that are capable of giving rise to agglutinins are the same in 2 or more cases. Even then, although these may be the same substances qualitatively, these may not necessarily be present quantitatively to the same extent. Again, by taking the same race of bacilli and its own serum, we find that the susceptibility of cultures made at different times is not necessarily the same. A classification of the types that have been studied follows, with a consideration of the ordinary characteristics, and an account of the media that may be useful for further work. [J.M.S.]

4.—Perkins describes an **epidemic of epizootic** that occurred among his laboratory guineapigs. The fatal cases

terminated with coma and muscular twitchings in from 12 to 48 hours after the onset of the disease. Two animals recovered after infection. Among the fatal cases 65% presented a well-marked peritonitis of the seropurulent type. The liver in every case showed marked congestion and cloudy swelling, and in 60% there was a general gaseous **emphysema of the spleen**. In 39% of the animals a similar condition of the spleen was associated with the **emphysema of the liver**; while the spleen was markedly congested in all cases. The kidneys and the adrenals showed congestion and cloudy swelling only. The gastrointestinal tract contained gas, but no lesion could be demonstrated. With two exceptions each autopsy gave pure cultures of a pleomorphic non-motile organism, most frequently occurring in the form of a short bacillus with rounded ends. There was no capsule. The organism stained readily with the aniline dyes, and decolorized rapidly with Gram's stain. The organism was not like the bacillus *areogenes capsulatus*, although it undoubtedly belongs in the ***bacillus mucosus capsulatus*** group. The 2 animals that recovered possessed a high degree of immunity to the organism causing the disease. [J.M.S.]

5.—Opie has studied 17 cases of **pancreatitis**. In congenital syphilitic pancreatitis he finds that the development of the glandular acini is retarded but that the **islands of Langerhans** are not affected. These bodies are embedded in the stroma, but they are not invaded by it and they maintain their continuity with the small ducts and acini with which they have a common origin. There are two types of chronic interstitial inflammation: (1) Interlobular pancreatitis and (2) interacinar pancreatitis. In the interlobular variety the inflammatory process is localized chiefly at the periphery of the lobule and implicates the islands of Langerhans only when the sclerotic process has reached a very advanced grade. When pancreatitis has followed obstruction of the ducts, the islands remain unaltered for a long time, although they are embedded in dense scar-like tissue. In the interacinar type the process is diffuse, invading the lobules and separating individual acini. The inflammatory change invades the islands of Langerhans. The author has observed a relationship between the lesions of the islands of Langerhans and the occurrence of diabetes mellitus. In one of 11 cases of interlobular pancreatitis, diabetes of mild intensity occurred. The sclerosis, which in this case followed obstruction of the ducts by calculi, was far advanced and affected the islands of Langerhans. In 2 of 3 cases of interacinar pancreatitis, diabetes was present. The third case was associated with hemochromatosis, which at a later stage is associated with diabetes, the result of pancreatic lesion. In a fourth case of diabetes, hyaline deposit between the capillaries and the parenchymatous cells had so completely altered the islands of Langerhans that they were no longer recognizable. [J.M.S.]

American Journal of Medical Sciences.

February, 1901.

1. A Clinical Study of Diphtheria. FRED GRANT BURROWS.
2. Observations on the Character of the Cells in the Exudation in Acute Interstitial Nephritis, with Special Reference to the Presence of Cells with Eosinophilic Granulations. W. T. HOWARD, JR.
3. Rare Cardiac Anomalies. LUDVIG HEKTOEN.
4. Report of a Case of Blastomycetic Dermatitis.
5. Refractory Syphilis, with Report of a Case Utterly Resistant to Specific Treatment. JAY F. SCHAMBERG.
6. Physiological Dilation and the Mitral Sphincter as Factors in Functional and Organic Disturbances of the Heart. MORTON PRINCE.

1.—Burrows, during his service in the department for contagious diseases in the Boston City Hospital collected records of 2,093 cases of **diphtheria**, all of which were treated by **antitoxin**. From these records he has attempted to give a clinical picture of the disease as it has been modified by the antitoxin treatment. There were slightly more females than males. The death-rate decreased with the age of the patient, being 14% of all patients under 15, and 2.85% of patients above that age. The greatest proportion of deaths, 37%, occurred in the first two years; and only 2 occurred in the 127 patients over 30 years of age. As, however, 69 pa-

tients were moribund when admitted, and died within 24 hours, the true death-rate of the disease when properly treated was not over 9%. An interesting factor was the variability in the cases grouped by hundreds according to the order of admission. The death-rate under these circumstances varied from 5 to 19%, showing the extreme inaccuracy of statistics based upon small numbers of cases. In the great majority of cases the membrane showed the ordinary distribution upon both tonsils. In 71 there was diphtheritic membrane in the tonsils, and in a number of others a discharge which suggested nasal infection. Cultures were always taken from the throat and nose. They were positive from both nose and throat in 632 cases. From the nose 159, and from the throat 954. In 228 cases of undoubted diphtheria the cultures were negative. The other organs showed the following alterations in the course of the disease. The heart frequently developed a soft systolic murmur, usually most distinct over the mitral area, but occasionally heard loudest at the base. Irregularity was common, and in a considerable proportion of cases both irregularity and murmurs developed. Cardiac lesions were usually present when the patient entered the hospital, but sometimes did not develop for several days. One-half of the cases gave murmurs, and one-third irregularity. There was usually tachycardia, the pulse ranging from 100 to 200. The proportion of deaths was very much increased when the maximum pulse exceeded 170. Albuminuria was exceedingly rare, and this is, perhaps, the most significant result of the antitoxin treatment. The albumin never exceeded $\frac{1}{4}$ of 1% by weight, and in considerably more than half of the cases was not found. Three hundred and thirty-seven of the 1962 cases had symptoms of laryngeal stenosis; 213 of these required intubation; and 96 died, 37 being moribund when admitted. Three cases subsequently requiring tracheotomy, and all died. Two required tracheotomy, and recovered. It is interesting to note that in both the cases of tracheotomy that recovered the constriction was due not to membrane, but to peritracheal abscesses. Burrows believes that primary tracheotomy is no longer required in diphtheria. Among the other complications were vomiting, middle ear disease, suppuration of the cervical glands, and the post-diphtheritic paralyses. These, however, were not especially common, occurring in only 102 cases. The majority of them occurred during the acute stage of the disease, and many were due to mixed infection. The most striking portion of the paper is the brief section devoted to treatment. Burrows and his colleagues have reached the conclusion, as the result of their extended experience, that the antitoxin is not under any circumstances injurious, and should be given until the symptoms are relieved. The routine treatment, therefore, consisted in the administration of 4,000 units every 4 hours, or in severe cases, every 2 hours. He believes that by this vigorous administration, cases apparently moribund have been saved. He mentions in particular patients that received from 40,000 to 110,000 units in the course of the disease. Comparing the statistics in the hospital before and after the introduction of the antitoxin treatment, he believes that the death-rate has been lowered 33%. The other therapeutic points are the use of alcohol, feeding intubated patients through the esophageal tube, and rectal feeding when the vomiting was annoying. [J.S.]

2.—Howard examined 3 cases of **acute interstitial nephritis**. One was a case of general streptococcus infection, the other 2 without demonstrable microorganisms in the kidneys, although in one of these a large number of streptococci were found in the other organs. The interesting features were the discovery of plasma cells, lymphocytes, and polymorphonuclear leukocytes in the tissues and in the dilated vessels. The plasma cells showed evidence of ameboid activity, and some of them had mitotic nuclei. In addition he found great numbers of typical eosinophilic leukocytes. [J.S.]

3.—Hektoen reports the following cases of **cardiac anomalies**: One in a child recently born, that died of general infection with the *Bacillus mucosus capsulatus*. He found a large defect in the septum between the pulmonary artery and the aorta, consisting of an oval opening about 1.5 cm. in diameter. The ductus arteriosus was patent; the veins were normal. He has collected 10 other cases of this condition. It is interesting that some of these patients lived for a considerable time. They all gave marked evidences of

heart-disease, the physical signs varying from a systolic bruit at the base to both diastolic and systolic murmurs, frequently changing in character. The second sound was accentuated in one case. There was usually hypertrophy of the right ventricle that could sometimes be diagnosed during life. In one or two cases there was cyanosis. The second patient had a curious depression under the base of the anterior aortic valve connecting with the ventricle, through which regurgitation occurred. This is unique, and it is difficult to understand by what freak of embryological development it was caused. [J.S.]

4.—The patient, a man 49 years of age, had had the back of his right hand scratched by the teeth of a cat. He also caressed very frequently his dog which was suffering from mange. A few weeks later he developed a small pustule which broke down, healed, and a crust formed over the opening. Then other pustules appeared, and the condition gradually extended until the whole back of the hand was involved. Cover-glass preparation showed the presence of staphylococci, long streptococci, and a few yeast fungi. Cultures of the yeast plant were obtained on glycerin agar, and a diagnosis of **blastomycetic dermatitis** was made. Mild antiseptic treatment appeared to improve the disease.

5.—Schamberg reports the case of a woman, 39 years of age, who had been inoculated 8 years previously with syphilis. Since then she has had a great number of syphilitic skin lesions which have resisted all forms of anti-syphilitic treatment. Her general health remains good, and she has gained in weight.

6.—Prince, in an article with numerous numbered paragraphs, discusses **functional mitral regurgitation**. He considers that the mitral ring probably dilates and contracts with the dilatation and contraction of the ventricle, and is not rigid as is the aortic ring. The sphincter-like band of muscles around the ring is essential for maintaining its competence. When, however, the tonus of the sphincter is diminished the ring may dilate to such an extent that regurgitation can occur. The work of Roy and Adami has shown that irritation of the various nerves leading to the heart may have great influence upon the size of the organ, and the completeness of the muscular contraction. Prince has observed that in men apparently healthy, who were examined under conditions tending to produce considerable excitement, murmurs not infrequently developed. These murmurs have all the physical characteristics of mitral murmurs. Examination of some of these cases have shown that the heart is considerably increased in size, and it is probable that the murmurs were merely functional in character. He quotes the results of the investigations of various other investigators in support of his views. [J.S.]

March, 1901.

1. Surgical Treatment of Ascites Due to Cirrhosis of the Liver with Report of Two Cases. F. PACKARD and LE CONTE.
2. Splenic Myelogenous Leukemia with Pulmonary Tuberculosis. ESHNER and GROAT.
3. Hemorrhagic Typhoid Fever. ESHNER and WEISENBERG.
4. A Study of Congenital Sarcoma of the Liver and Suprarenal. W. PEPPER.
5. A Case of Sarcoma of the Thigh for which Disarticulation was Performed Through the Hip Joint, with the Formation of a Posterior Flap. DaCOSTA.
6. Stereognosis and Allied Conditions. BURR.
7. Clinical Study of Acute Myocarditis. ROBINSON.

1.—Packard and Le Conte report 2 cases of **cirrhosis of the liver** in which the **operation of stitching the mesentery to the abdominal wall** was performed in order to promote the establishment of a collateral circulation. The first patient, a man of 63, was operated upon only after repeated tapping had failed to relieve the ascites, and the symptoms were rather alarming. After the operation, the patient was very depressed and weak, and he died in 53 days of heart-failure and pulmonary edema. The autopsy confirmed the diagnosis. The second patient, a man of 52, had practically the same indications for operation, but afterward became delirious and died with symptoms of uremia. There was no fever and no signs of infection. The authors give a general discussion of the subject, quoting extensively from the literature. They believe that

the operation may be of benefit in two ways: First, by diminishing the congestion of the liver; secondly, by increasing the vascular supply of the surface cells so that they may undergo compensatory hyperplasia. They regard the ascites, therefore, as due almost exclusively to the portal obstruction. Le Conte gives the following suggestions in regard to the operation. He objects to etherization, preferring chloroform and local anesthesia. A primary incision is made above the umbilicus and a little to the left of the median line, and the liver palpated. A small opening is then made in the median line just above the pubis and the fluid siphoned off through it. The parietal peritoneum over the omentum, liver, and spleen is then rubbed with a gauze sponge, and the surface of those organs is treated in the same way. The omentum is then stitched to the anterior abdominal wall, and the incision closed. Drainage may be made through the larger opening. The abdomen should be encircled with broad adhesive strips. Twenty-two cases have been recorded, giving the following results: Immediate death, 5; ultimate death, 3; unimproved, 3; improved, 2; recovered, 9. As the operation has been chiefly performed upon cases that were otherwise hopeless, and after repeated tapping had failed to make any impression on the peritoneal accumulation of fluid Le Conte regards these results as encouraging, in fact some authors are already urging an early operation. The authors strongly recommend the operation. [J.S.]

2.—A man, 40 years of age, had complained for some months of a sense of fullness in the abdomen, also progressive emaciation and severe cough, with night sweats. He had fever, was anemic, and had a rapid pulse. Tubercle bacilli were found in the sputum, the spleen was enormously enlarged, and the liver moderately so. Repeated examinations of the blood showed progressive diminution in the red blood-cells and a very considerable leukocytosis, at one time exceeding 300,000 whites per ccm., considerable reduction in hemoglobin, and a very large proportion of myelocytes, sometimes amounting to nearly 40%. In the course of the disease the general changes in the white cells were a steady decrease in their number, an increase in the percentage of polymorphonuclear neutrophils and the lymphocytes, and a decrease in the number of myelocytes. During all this period the tubercular process was advancing. The case is reported as one of **tuberculosis associated with splenic myelogenous leukemia**. [J.S.]

3.—Eshner and Weisenberg report the following cases. A man of 39, who had been a heavy drinker, was admitted to the hospital delirious. He developed characteristic symptoms of **typhoid fever**, and on the sixth day after admission, a rose-red eruption appeared that did not disappear upon pressure. The same day he had hematuria and a bluish papular eruption over nearly the whole body, severe hemorrhage from the bowels, and an extravasation of blood in the cornea of the left eye. He died, and at the autopsy, blood was found in the serous cavities. The intestine showed the characteristic ulcers. The second patient, a man of 23, also an alcoholic, gave the characteristic symptoms of typhoid fever. He also developed a peculiar red papular eruption that did not disappear upon pressure. He had symptoms of meningitis; that is, divergent strabismus, retraction of the head, and later Kernig's sign. He became comatose and died. The autopsy showed only the lesions of typhoid fever. [J.S.]

4.—Pepper reports the following interesting cases: A female child, born August 19, remained well until September 14. At this date the abdomen began to enlarge; there was emaciation and diarrhea. The distention was evidently due to an enormous enlargement of the liver. A few days before death there were small hemorrhagic petechiae. At the autopsy the enormously enlarged liver, upon section, was yellowish white in color with a few hemorrhagic areas. The right suprarenal was enlarged, and had the same appearance. Microscopic examinations showed that both the **liver and right adrenal were infiltrated with lymphosarcomatous tissue**. Pepper has been able to collect 5 cases of this nature from the literature, which give the following interesting points of resemblance: Swelling of the abdomen at a very early age, varying from birth to 5 weeks; death a short time afterwards, from 10 days to 16 weeks. The very rapid growth of the liver; the fact that all the cases excepting one were females, and in this one case the sex was not mentioned. The clinical symptoms were, in addition to

distention of the abdomen, moderate wasting, but there was no jaundice nor ascites, nor pigmentation of the skin. The children did not appear to suffer pain. There was no fever and they all nursed well until shortly before death. There was no history nor sign of syphilis. The changes were practically identical in all, nor were any other organs excepting the liver and suprarenal involved. The kidneys were always normal. The disease differs considerably from primary sarcoma of the suprarenal, of which Pepper has collected 46 cases, given in tabulated form. Primary sarcoma of the liver appears to be very doubtful. [J.S.]

5.—DaCosta reports a case of rapidly growing sarcoma of the thigh occurring in a girl of 15 years. This ruptured through the skin, fungated, and bled profusely. Amputation was therefore indicated, and hemorrhage was controlled according to McBurney's method of opening the abdomen and compressing the iliac vein and artery against the psoas muscle. As the anterior portion of the thigh was involved it was necessary to make a long posterior flap. The operation was entirely successful, with the exception of the fact that the weight of the fat caused gaping in the external fourth of the wound. Six weeks later recurrence appeared. Da Costa states that in future cases he would make the posterior flap consist almost exclusively of skin in order to decrease its weight. The growth was a small cell sarcoma. [J.S.]

6.—Burr reports several interesting cases. The first, a man, had received as a boy a fracture of the right parietal bone. Subsequently, although there was no paralysis, he could not locate sensation, and had persistent **stereognosis**. The second patient had tumor of the brain localized in the right parietal region. There was slight hemiparesis. In the right side muscular sense was apparently fair, but the localization sense was greatly impaired. He also had complete stereognosis. The third patient had a fracture of the right parietal bone. Subsequently had impairment in the movements of the left hand, with a good deal of pain when they were moved. There was loss of sensation of position, and partial stereognosis, which apparently was not limited to any particular class of objects. The fourth patient, a man of 52, had hemiparesis of the right side. There was tremor of both arms, ataxia of the right arm, and hypæsthesia. There was some impairment of motion, but complete stereognosis in the right arm, and later some sensory aphasia. The diagnosis was made of tumor in, or near, the left angular gyrus, and this was confirmed at the autopsy. The last patient, a woman of 30, had sluggish movements, and there was complete paralysis of the right side of the face, atrophy of both optic nerves, and complete loss of all sensation in the left arm. Nevertheless, she recognized and correctly named all sorts of objects placed in the left hand. The diagnosis of this case Burr leaves in doubt. Burr believes that stereognosis is produced by disease either of the cortical area for perception or its afferent or efferent tracts. He accepts the cortical sensory area for the recognition of objects by handling them, and calls attention to the analogies between this condition and the various forms of aphasia. He suggests that in the last case, the tactile sensory area is not the same as the cortical area for perception, and that a lesion in the tract uniting them might cause the symptoms. [J.S.]

7.—Robinson discusses the various forms of **inflammation of the heart-muscle**. He speaks of the symptoms of heart-failure that may occur in acute infectious processes, and in which a soft flabby heart is found at the autopsy. He thinks that potassium iodid is less used in such affections than it should be. He also thinks that oxygen, to which a small proportion of nitrogen monoxide has been added should be given continuously. He also makes warm, moist applications to the pericardium, and if necessary small amounts of opium may be given for a soothing effect. Of all cardiac stimulants he is most impressed with the value of coffee and cocoa. After recovery from an acute condition, enlargement of the heart may sometimes occur. [J.S.]

Archives of Pediatrics.

March, 1901.

1. Hemorrhage into the Suprarenal Capsule in Still-born Children and Infants; Report of a Case Showing Rupture of the Sac and Escape of Blood into the Peri-

renal Tissues and the Peritoneal Cavity. S. McCAMILL.

2. The Diagnosis and Treatment of Adenoids by the General Practitioner. FRANCIS HUBER.

3. Some Observations upon the Temperatures of Apparently Healthy Children; An Experimental Study. W. M. DONALD.

4. Case of Apparent Recovery from a Congenital Abnormality of the Heart (? Patent Ductus Arteriosus). JOHN THOMSON.

5. Tumor of the Cerebellum in a Boy of Seven Years. S. R. KETCHAM and L. C. PETER.

7. Report of a Case of Diabetes in an Infant. WILLIAM E. YOUNG.

1.—Hamill's article on **hemorrhage into the suprarenal capsule in stillborn children and infants** is concluded by a review of the literature. [J.M.S.]

2.—The diagnosis of adenoids may be made (1) from the symptoms, (2) by means of the rhinal mirror, or (3) by digital exploration of the nasopharynx. The symptoms are often so plain that no one can fail to interpret them correctly. The use of the mirror for posterior rhinoscopy is impossible, as a rule, in children. Digital exploration after a little practice is readily performed and yields the desired information. For one reason or other it may not be desirable at the time to resort to a digital examination. Under such circumstances, reliance may be placed on two symptoms. Either one or the two jointly offer a ready and easy method for a correct diagnosis. 1. The presence of two small lymph nodes, painless and freely movable at the angle of the lower jaw, one on either side. 2. Upon oral examination and inspection, if the size of the tonsils does not obstruct the view, numerous small hypertrophies will be found upon the mucous membrane of the posterior pharynx, now and then, at the level of the soft palate, larger masses are present. In the **treatment** two points must be considered: (1) The removal of the lymphoid hypertrophies constituting the tonsillar ring; and (2) the effects, local and general, of the interference with normal nasal respiration. The earlier the treatment is instituted the greater the success in preventing secondary changes. In case decided symptoms are associated with adenoids, the growth should be removed. This may be accomplished by the finger, forceps or curet. Huber prefers to operate without narcosis. The existence of an acute otitis, bronchitis, or inflammatory process in any part of the respiratory tract is a contraindication to operative interference. Bleeders, or those who have had petechiæ, are best left alone. [J.M.S.]

3.—Donald selected 20 children and the temperature of each was taken twice daily, at about 8.30 A.M. and 6 P.M., for a period of 14 days. During the 14 days in which the tests were conducted, he had 28 collective readings, and out of these 28, 12 readings, or 42%, gave a mean or average temperature of 99° F. or over. The higher readings occurred at the afternoon tests in the majority of cases; 9 of these being recorded in the afternoon, and but 3 in the morning. On five different occasions, or about 18%, the mean temperature on the collective reading showed a higher range in the morning than in the evening of the same day. There was a tendency toward a constant high temperature in about 30% of the cases examined. The children were especially selected from nearly 100 in an asylum on account of their **perfect condition of health**. No one of them was sick at any time during the tests and none of them has developed any illness since. [J.M.S.]

4.—Thomson reports the case of a girl, 9 weeks old, who was suffering from blueness of the face and hands. The child's cyanosis had been noticed by the parents from birth, but, as the patient seemed well in other respects, they had not been concerned about it. The hands, the feet, and the face, especially the lips, were distinctly cyanotic. The pulse was very rapid, 156, and small but regular; the respirations were 36 in the minute. The lungs and the abdominal organs appeared to be normal. The heart's apex beat was very indistinct, and was situated in the fourth left interspace about $\frac{1}{2}$ inch outside the nipple line. No thrill could be felt in any area. There was no increase of the cardiac dulness and no sign of enlargement of the right side of the heart. On auscultation, a loud systolic murmur was heard, which was most marked over the base of the heart, especially to the left of the sternum, but was also audible in the other

areas, in the axilla, and in the interscapular regions. The pulmonary second sound was normal and not accentuated. There was no clubbing of the finger ends. Two months later, only very slight cyanosis of the feet and legs was noticed. The murmur was distinctly less loud, and over the tricuspid area it was quite inaudible. The pulse was 152. Seven years afterward, the child, who had been tolerably well since last examined, was fairly healthy in appearance. She showed no trace of cyanosis and had no clubbing of the fingers. Her pulse was normal in rate and rhythm. While the facts given above are hardly enough to found a sure diagnosis upon, it seems probable to the author that the murmur and other signs of circulatory disturbance in this patient may have been due to a **patent** and perhaps **dilated ductus arteriosus**, while the disappearance of the symptoms points to the closure of the lumen of the vessel. [J.M.S.]

5.—Ketcham and Peter report the case of a boy in whom nystagmus was noticed soon after birth, followed in a few years by a titubating gait, static ataxia, incoordination of the upper extremities, headache, vomiting, and choked disc. The symptoms are clearly those of **tumor of the cerebellum**. [J.M.S.]

6.—Young reports the case of a boy, 6 months old, who commenced to vomit. His stools were green and contained undigested material. At every weighing a loss of several ounces was noted, the child was emaciated, and his skin was very dry and wrinkled. An examination of the urine showed a specific gravity of 1.030, about 5% of sugar, very little albumin, and a few casts. The child died of pneumonia. At autopsy the cortex of the kidneys was grayish-white and indurated. There were marked hyperemia and inflammation of the parenchyma. [J.M.S.]

Journal of Nervous and Mental Disease.

March, 1901. [Vol. xxviii, No. 3.]

1. The Amelioration of Paralysis Agitans and Other Forms of Tremor by Systematic Exercises. JOHN MADISON TAYLOR.
2. A Case with the Symptoms of Cerebrospinal Meningitis, with Intense and General Alteration of the Nerve-Cell Bodies, but with Little Evidence of Inflammation. WILLIAM G. SPILLER.
3. A Case of Muscular Dystrophy. CHARLES GILBERT CHADDOCK.

1.—Taylor is convinced that in this form of tremor, whatsoever the cause, we may hope to obtain fair amelioration of symptoms, and it may be in some instances a cure, by carefully regulated and systematized movements. These should be such as shall reestablish the largest degree of elasticity in the tissues which have suffered contractures. They should always include passive extensions and flexions, followed by active repetitions of these acts. The most important movements to overcome the milder forms of tremor, as the senile form, are slow, full, forcible extensions. An important part of the treatment is the attainment of normal attitudes. Along with this should be continued conscientious efforts on the part of the patient to acquire full thoracic capacity and as much elasticity of the lungs as possible. [T.M.T.]

2.—Spiller reports a case with **symptoms of cerebrospinal meningitis** existing for six days without lesions sufficient to explain them at necropsy. A very slight round-cell infiltration was observed in some parts of the pia and about some of the intramedullary bloodvessels, but the smaller vessels of the pia and anterior and posterior roots were much distended with blood. Numerous small bacilli were found within the nervous tissues. Some authorities think that this same condition is found in cases of amaurotic family idiocy, but Spiller does not agree with them, and reports cellular infiltration in two cases of children of feeble mental development, one the above reported case and the other of internal hemorrhagic pachymeningitis. A theory of a toxic condition in the first case could be well supported by the clinical history, but not so well in the case of internal hemorrhagic pachymeningitis, although even in this it could not be absolutely rejected. The alteration of the nerve-cell bodies throughout the central nervous system was extraordinary, although the secondary degeneration had not occurred. [T.M.T.]

3.—In a case of **muscular dystrophy** Chaddock notes that the beginning of the trouble was in the face, and it subsequently attacked the arms, and later the lower extremities became involved, and finally the hands. With atrophy far advanced and quite generalized, the wasting at the roots of the extremities predominates decidedly over that at the distal extremities of the members. The characteristic prominence of the middle third of the wasted deltoids is also worthy of note. Absence of all fibrillary contractions as well as the absence of all sensory and central disturbances are points which render a diagnosis of myopathic atrophy certain. [T.M.T.]

Edinburgh Medical Journal.

February, 1901. [N. S., Vol. ix, No. 2.]

1. On Bad Positions of Pelvis Productive of Spinal Curvature. RICHARD BARWELL.
2. The Borderland. Lecture II. G. W. BALFOUR.
3. On Intraperitoneal Rupture of Simple Ovarian Cysts, with Special Reference to Operative Treatment. F. W. N. HAULTAIN.
4. The Bacterial Treatment of London Crude Sewage at Barking and Crossness. A. C. HOUSTON.
5. Medico-Legal Notes. HARVEY LITTLEJOHN.
6. Cholesteatoma of the Temporal Bone and Its Treatment. H. J. WARING.

1.—Barwell has seen no cases of scoliosis in which, either while sitting, standing, or both, the pelvis was normally and properly placed. The **pelvic malpostures** with which we have to do are 3 in number: obliquity, amesiality, and version. Pelvic obliquity means that one side of the pelvis lies on a higher level than the other. It is, unlike the other two, not dependent on a trick or habit, but on a difference in length of the lower limbs. For the diagnosis of this condition the patient, having the garments let down to a level with the hips, standing with feet together and knees straight, is so arranged that there is some straight horizontal line in the decoration or furniture of the room in front of him that may serve as the gauge of level. The surgeon, behind the patient, places the index finger of each hand on the crest of one ilium at the side outline, and gets his eye at such a level that one of his fingers corresponds with the horizontal; unless the other finger also corresponds with the horizontal line the pelvis is oblique. Amesiality of the pelvis is a term indicating that the patient in standing erect habitually places the pelvis to one side of what should be the central mesial line of his figure. In order to diagnose this condition the patient should stand in drill posture, unless that position produces a swaying of the figure. In such a condition he may be allowed to stand with the feet slightly separated but at exactly equal distances from a carpet pin or other mark on the floor. Placing himself absolutely square behind, the surgeon so holds a plummet that it or its cord cuts the mark on the floor. If when traced upwards by the eye the cord does not fall over the intergluteal fissure, the pelvis is (probably) amesial. In order to carry out this method, the patient's back and hips must be bare and the feet must also be easily visible. The camera affords a much more certain diagnostic method, since the image can be accurately triangulated and measured. Version of the pelvis is a fault of posture that is very frequently met with. It is to be determined by measuring the distance from the rima narium to the pelvic side outline. Let a piece of white tape be pinned to the floor, and the patient arranged with the garments dropped a little below the level of the trochanters so that the heels touch its edge. The surgeon then holds some straight rod or sufficiently narrow strip of wood horizontally, and places its edge in equal contact against the patient's glutei muscles, then, stooping his head so that with the right eye he can look along the spine from between the scapulae downward, he notes whether his rod lies parallel to the tape, or cuts it at an angle somewhere between the heels. If one end of the rod lies behind and the other in front of the white line, the pelvis is verted toward the side on which the rod is posterior. The condition may be diagnosed while the patient is sitting. Of these three faulty postures obliquity very often occurs alone, the other two are less frequent; while occasionally all

three coincide in the same person. In the last case rapid and severe deformity is always produced. Pelvic malpostures do not originate in erect but in sedentary postures. A habit thus inaugurated in sitting very easily extends into the standing posture, and, although such juveniles as delight in athletic amusements may obviate the evil effects, yet many even of these suffer, while the more physically inert are certain to do so. A child detected by the means described sitting or standing askew should be intelligently corrected. Later curvature may be thus forestalled or, if incipient curvature is present, it may be redressed. [J.M.S.]

3.—In the majority of instances **intraperitoneal rupture of simple ovarian cysts** is apparently unassociated with discomfort. It is probable, therefore, that this condition is common in small cysts that have not given rise to any symptoms. The absence of symptoms is doubtless due to the innocuous contents of the cyst and to its slow escape, a sudden gush being prevented by the intraabdominal pressure. In a large proportion of recorded cases severe and dangerous symptoms supervened after rupture. In these instances the contents of the cyst must have been intensely irritating, and in many cases probably septic, while in a certain proportion death was produced by hemorrhage. The causes of rupture are numerous and include violence and morbid processes in the cyst wall due to thrombus and intracystic hemorrhage. Nutritive disturbances in the cyst wall, the result of tension of the pedicle, is a further frequent cause. Perhaps the commonest variety of cyst to rupture spontaneously is that with gelatinous contents. The gelatinous contents are, as a rule, more irritative and at the same time are but slowly absorbable by the peritoneum and may continue to distend the abdomen. It is, therefore, possible that this accounts for the greater frequency with which such cysts are found ruptured, because when the contents of a cyst are more fluid and more readily absorbed, operation is seldom undertaken after collapse of the cyst and the disappearance of the abdominal swelling. In a certain proportion of cysts with innocuous contents, in which, after rupture, no abdominal symptoms supervene, ready absorption of the extravasated contents occurs and permanent obliteration of the cyst follows. This occurs more frequently in unilocular cysts of the broad ligament, the fluid of which is practically normal saline solution and is absorbed rapidly, giving rise to temporary polyuria. In another series of cases there is a ready absorption of the escaped fluid, without peritoneal irritation, but the tumor reappears from redistention of the cyst or growth of secondary cysts. When, however, the contents of the cyst, though absorbable, tend to cause a subacute type of irritation of the peritoneum, we have inflammatory adhesions formed between the cyst wall and surrounding structures, which, on redistention of the cyst, may form an almost insuperable barrier to subsequent removal. In a fourth group of cases, practically lacerated cysts with gelatinous contents, no absorption takes place. At the same time, from mucoid degeneration of the cyst wall, the seat of rupture remains patent, and active secretion continues, which results in a steady increase of abdominal distention from free intraperitoneal fluid. According to Haultain, ruptured cysts should in all cases be removed as soon as possible. Having been certain of the presence of an ovarian tumor, its sudden or gradual disappearance should be an incentive to operation. The treatment of perforated cyst associated with acute symptoms must be operative. From our inability to diagnose the papillomatous variety without visual examination, and appreciating their tendency to secondary peritoneal infection, an additional incentive is added to the immediate removal of all ovarian cystic growths. Notes of 6 cases of ruptured ovarian cysts are given. [J.M.S.]

4.—Will be treated editorially.

5.—Littlejohn concludes that the hydrostatic test applied to the lungs is not an absolute means of determining that respiration has taken place, since in those exceptional cases of persistent atelectasis it may afford negative results, and yet the child may have respired for a considerable time. [J.M.S.]

6.—Waring reports one case of primary and one case of secondary **cholesteatoma of the temporal bone**. [J.M.S.]

Münchener medicinische Wochenschrift.

January 29, 1901. [48. Jahrg., No. 5.]

1. A Contribution to the Knowledge of Clitoris Crises. KOSTER.
2. Anterior Chronic Poliomyelitis after Injury. MEYER.
3. The Action of High Temperature upon the Casein of Milk. CONRADI.
4. A Contribution to the Pathology of Lachrymal Glands. STOEWER.
5. The Diagnosis and Prognosis of Gonorrhea in the Male. KOPPEN.
6. The Struggle Against Venereal Diseases among the Students. SCHOLTZ.
7. A New Contribution to Disinfection with Formalin, Especially in Urology. LOEB.
8. A Case of Ischiopagus. STERNBERG.
9. Difficulty in Delivery as a Result of a Double Monstrosity. PALMEDO.

1.—Köster reports the case of a woman, 49 years of age, who had probably had luetic infection, and first manifested disease by lancinated pains in the legs, with numbness of the feet, some uncertainty in gait, etc. Ten years after the first symptoms she had at the menstrual periods crises in which she suffered from intense voluptuous sensations in the region of the clitoris, followed occasionally by a slight mucous discharge. These attacks were always followed by severe pains in the pelvic region, lasting for 24 hours, and afterwards by pains in the legs. The case has been steadily but very slowly progressing, and these symptoms have persisted for 10 years. The frequency with which the attacks occur varies considerably, sometimes every day or two; at others, only at intervals of a month. There were also crises in the larynx associated with pain and severe dyspnea. Treatment with bromides and baths produced considerable improvement. There were also severe pains in the left heel, which gave the patient much discomfort, and were resistant to all forms of treatment. These **clitoridian crises** are either very rare or have escaped observation. Two forms only have been described. One by Pitres, in which they are quite typical; another by Morselli, in which they are replaced by intense pains in the genitalia. The present case appears to combine both types. [J.S.]

2.—Meyer reports the case of a man 59 years of age, who sprained his right ankle. This troubled him for several days, although the pain was not severe. Fourteen days later a physician observed a distinct weakness in the right leg that gradually progressed until there was distinct paralysis. Later the left leg was involved; there were paresthesia, the reflexes were diminished or absent, but there was no disturbance of the bladder or rectum. It was observed that the muscles became weak and atrophic; there were no fibrillary twitchings, and there were distinct reactions of degeneration. There was no tenderness over the muscles or the nerves, and a diagnosis of **anterior poliomyelitis** was made on account of the regular progressive course of the disease, the fact that both legs were not affected simultaneously, the loss of the skin and tendon reflexes, the alteration in the electrical reactions, and the absence of objective disturbances or sensation. Slight paresthesia are not uncommon in anterior poliomyelitis. A diagnosis of ascending neuritis does not seem justified on account of the very slight pains in the beginning of the attack. [J.S.]

3.—Conradi has performed a number of experiments in order to determine what effect the **temperatures** used ordinarily in sterilization have upon the **chemistry of milk**. He found that the addition of calcium chloride favors coagulation considerably at a temperature of 55° until a considerable quantity is added, 1 part in 4 of a 10% solution, when it prevents coagulation completely. This action of calcium chloride is antagonized by the addition of sodium bicarbonate. Under these circumstances the temperature at which coagulation occurs can be considerably elevated, and after enough of the alkali has been added it will not coagulate, even at a temperature of boiling. In general it may be said that from 0.2 to 0.6% of calcium chlorid in cow's milk causes coagulation between 45° and 65°. If, however, the milk has first been heated above 80°, the temperature at which coagulation occurs is reduced from 8° to 12°, indicating an alteration in the casein. The period required for coagu-

lation may vary considerably. With ordinary rennet it was found for normal milk to occupy from 5 to 7 minutes. If, however, the milk had been heated to 80° the period was greatly prolonged, and if it had been boiled, it sometimes required many hours before coagulation occurred, if at all. Conradi therefore recommends that in sterilization temperatures of less than 75° be employed. [J.S.]

5.—Koppen reports some interesting cases bearing upon the **diagnosis of gonorrhea**. One of these, a boy of 17 who had been exposed, was found to have, not gonorrhea, but tuberculosis of the testicles. Another, a man of 60, with tuberculosis, was found to be suffering from acute urethritis. He reports several other cases in which infectious processes had remained latent for a number of years, and then, as a result of some irritation, had suddenly developed. He calls attention to the great importance of careful microscopical examination, and believes that by it we are frequently in a position to make a diagnosis even although a urethroscope is not available. No case is to be recorded as cured until all discharge ceases. [J.S.]

6.—Scholtz believes that the present agitation concerning venereal infection is having considerable success among the German students, particularly in regard to leading them to seek treatment promptly. [J.S.]

7.—Loeb has performed some experiments in order to determine the efficacy of **formalin disinfection**, particularly for catheters and similar instruments. For this purpose he used cultures in gelatine in order to render the access of the disinfecting agent to the germs as difficult as possible. He found that mercuric cyanide solution acted in 6 hours upon the spores of anthrax at a temperature of over 70°, but failed to act in 7 days at normal temperature. He found that formalin vapor destroyed these spores in 6 hours, although this did not occur if the tubes were plugged with cotton. Bouillon cultures were destroyed in 2 hours. He believes that it is important to use some method of mechanical cleansing before the application of the disinfectant. Catheters he sterilized by allowing a solution of corrosive sublimate, 1 to 1,000, to run through them for about 24 hours. This invariably destroyed all spores. [J.S.]

8.—Sternberg reports a case of **ischiopagus**. Delivery was accomplished by extracting first one child and then doing version upon the other. Both portions of the monster died at birth, although one made a few efforts to breathe after delivery. The monster consisted of two heads and necks, four well-proportioned arms, two well-developed legs, and a single, considerably shrunken limb. There were two spinal columns, and two thoraces, which, however, were included in the common skin covering, but only one pelvis. [J.S.]

9.—Palmedo reports another case of **double monstrosity**, which was delivered with great difficulty, one child living about an hour, the other dying at birth. The children were apparently united along the ventral surfaces. [J.S.]

February 5, 1901. [48. Jahrg., No. 6.]

1. Total Abdominal Extirpation of the Uterus in Carcinoma and Sarcoma, with Reference to the Permanence of the Results. FUNKE.
2. What are the Results of Tetanus Antitoxin in Tetanus in Human Beings? WILMS.
3. Epityphlitis and the Present Position Concerning Its Treatment. BERNDT.
4. The Treatment of Eczema. KROMAYER.
5. The Method of Determining the Freezing Point of the Blood, with Reference to Its Freezing Point in Typhoid Fever. RUMPEL.
6. Intermittent Fever as a Symptom of Mediastinal Tumors. WITTHAUER.
7. Medical and Botanical Notes. (2) Further Studies of Menabea Veneata Baillon. MODEL.
8. A Simple Support for the Uterus and Vagina (Hysterophor). REISMANN.
9. Remarks Upon the Article of Prof. Paul, "The Employment of Sand for the Rapid Filtration of Nutrient Agar." WILDE.

1.—Funke reports 19 cases in which he performed **total extirpation of the uterus on account of malignant tumor**. Three died within a few days of the operation,

and the others recovered, but it is still too early to speak positively of the absence of recurrence. He discusses particularly the indications that are given by enlargement of the glands. In 16 cases out of 40, those upon which the operations have been performed most recently, this enlargement was carefully sought for and found in 8. Of these 8, two showed such extensive metastasis that a radical operation was not possible. In 2 others the glands could not be removed on account of extensive adhesions. In another 2, both young women with carcinoma of the cervix, in spite of extensive removal of the glands, recurrence appeared within 5 months, showing that the operations had not been radical enough. In one of these the recurrence appeared on the side from which the glands had been removed. Of the remaining 2 cases, one has shown no recurrence since 1896, and 1 had only recently undergone operation. Funke prefers the combined vaginal and abdominal routes. He believes that the operation should not last longer than any other severe laparotomy, that it should be very thorough and involve the removal of the chain of glands along the iliac arteries and the ureters, and the complete removal of the parametrium and the lymphatics connected with it. The prognosis of carcinoma in young women, that is to say, those about 30 years of age, is very doubtful, on account of the extremely rapid growth of the tumor, and the fact that metastases may occur before adhesions may have formed. In older women the progress is more gradual. It is very difficult therefore, to say which cases are adapted to a radical operation, and which to a palliative one. The higher mortality of Freund's operation, which was the one used by Funke, is apparently due in part to defective technic, for in his own experience the percentage of deaths has steadily decreased. As for the possibility of permanent cure the following figures show that it is not inconsiderable. In 11 cases operated upon before 1896, 2 died immediately after the operation; 4 of recurrence, and 5 are still living and apparently well. Of these cases 2 were sarcomas, 1 carcinoma of the cervix, 1 of the body of the uterus, and 1 of the entire organ. [J.S.]

2.—Wilms reports the following cases of **tetanus in which the antitoxin was employed**. A man of 26 received a severe wound in the knee-joint requiring amputation six days later. Eight days after the injury there were symptoms of tetanus, and 250 units of antitoxin were injected on that day, and on each of the following three days. The patient died on the fourth day of the disease without any improvement. A man of 39 received a severe crush of the skin of the left leg. On the eighth day symptoms of tetanus appeared, and on the following day an injection of 250 units was made. The patient died the same day. The third case, a boy of 18, was injured upon the right foot. On the seventh day the symptoms appeared and 20 hours later 125 units of antitoxin were injected, and a similar amount in three hours. The next day 250 units more were injected and on the third day death occurred. The fourth patient, a man of 22, received an injury to his hand; on the ninth day the symptoms appeared and on the same day 1,000,000 units were injected, and within the first 30 hours altogether 4,000,000 units. No improvement of any kind was observed, and the patient died. In all these cases the conditions which Behring requires to be fulfilled were carefully observed, that is that the serum treatment shall be commenced in 30 hours after the first symptoms have appeared, and that not less than 100 units shall be injected. Nevertheless all the patients died. Wilms reports also two cases of chronic tetanus in both of which the serum was employed, and both of which recovered. In both cases, however, the serum was not employed until the third day. [J.S.]

3.—Berndt, in the first portion of a valuable paper on **appendicitis**, or, as he prefers to call it, **epityphlitis**, speaking of the etiology of the disease, discards entirely the idea of stercoral typhlitis, that is to say appendicitis caused by an accumulation of feces in the cecum; however, he adheres to the view that the majority of cases are caused by some fecal concrement or foreign body in the lumen of the appendix itself, which may cause perforation by pressure, or by setting up an inflammation that distends the appendix and finally ruptures it. In a series of operations he obtained a number of specimens which show practically all stages of the disease, and curiously enough, vary in length from 4 to 20 cm. He accepts the conclusions of Sonnenberg, who recognized the following types: First, acute catarrhal epi-

typhlitis; second, chronic catarrhal epityphlitis; third, perforative ulcerated epityphlitis (*a.* with circumscribed peritonitis, *b.* with diffuse peritonitis). He gives the symptoms of the three types as follows: Acute catarrhal epityphlitis not infrequently accompanies acute gastroenteritis; it is characterized by moderate pains in the iliac region, tenderness over McBurney's point, and in some cases a palpable appendix which may be felt as a cord and is recognized by the patient as the seat of pain; chronic epityphlitis usually occurs in patients who have suffered from digestive disturbances for years. They have loss of appetite, occasionally vomiting, diffuse abdominal pains, and constipation or a tendency to diarrhea. The disease not infrequently occurs in young girls, and may be confused with chlorosis. Upon physical examination the appendix may sometimes be felt as a painful cord, and there is nearly always tenderness over McBurney's point. To this class belongs a group of cases characterized by frequently repeated attacks of pain usually localized in the right iliac region, and accompanied by vomiting and fever, and either constipation or diarrhea. These attacks last usually only a few days. Then finally the patient has a very severe attack characterized by high fever, weak and rapid pulse, and then the formation of an exudate in the region of the appendix. If the symptoms persist, the differential diagnosis from perforative epityphlitis is difficult. Ordinarily, however, the symptoms rapidly diminish, the exudate disappears, and in 8 days there are no further traces of disease. If an operation is performed the appendix is usually found slightly adherent, with thickened and rigid walls. Perforative epityphlitis usually occurs in patients who have had numerous typical attacks, or at least occasional pains in the abdomen. In a few cases no previous symptoms have occurred; these patients are usually robust. The symptoms are a sudden pain in the abdomen, vomiting and high fever often associated with chills, superficial respiration, and small rapid pulse, with an expression of extreme anxiety upon the face, which is often covered with sweat, and a retracted and rigid abdomen. In the course of a few hours or days the pain becomes localized in the right iliac region; the abdomen is slightly distended, there is resistance in the region of the appendix, distinct dullness on percussion and exquisite tenderness. From this point different cases pursue different courses. In some, symptoms of septicemia develop, and the patient dies within 24 hours; in others, they become mild, and in spite of perforation the patients gradually improve. Berndt believes that this is not due to previous walling off of the appendix by adhesions, but rather to the different degrees of virulence of the microorganisms, for in his opinion the contents of the appendix are always expelled into the free peritoneal cavity. In a few cases the pain is felt on the left and not on the right side. In all cases it is extremely important to watch the pulse and the temperature in order to control as far as possible the condition of the patient. In regard to treatment his opinions are interesting. The first form does not require operative interference. The second form, the chronic catarrhal, can be cured only by removal of the appendix. The operation is best performed during an interval. The third form may occasionally heal spontaneously, but no physician should depend upon this. Nevertheless, as the great majority of the cases of perforative epityphlitis pass into a latent stage if treated expectantly, it is obvious that every case should not be subjected to an operation as soon as the diagnosis is made. The choice, of course, depends entirely upon the experience of the surgeon. If the symptoms are grave from the first, an immediate operation is demanded. If, on the other hand, they are mild and steadily improve, expectant treatment is probably the best. [J.S.]

4.—Kromayer and Grüneberg believe that in *eczema* the following indications should be met. Rest of the skin, the removal of the chronic changes in the tissue, and the cauterization of the inflammatory areas. The latter procedure is one that most frequently, if improperly used, causes disaster. *Lenigallol* is the best drug for the treatment of *eczema* that has hitherto been introduced. It is the triacetate of pyrogallol-acid, and occurs in the form of a white crystalline powder, insoluble in water. Brought into contact with skin in a seat of chronic inflammation, it gradually yields free pyrogallol acid. On healthy skin it is entirely nonirritating. The authors have used it in about 600 cases with very excel-

lent results. They employ either 20 parts in 8 parts of zinc paste, or 10 parts mixed with tar and zinc paste, or mixed with Wilkinson's ointment. The zinc paste mixture is used in the milder cases and ordinarily all the inflammatory parts are colored black at the end of the first day. In the deeper cases one of the other preparations is used. In a few cases the results are unsatisfactory because the caustic action is too slight. [J.S.]

5.—Rumpel criticizes the statements of Waldvogel who discovered a remarkable reduction in the **freezing point of blood obtained from typhoid fever cases**. He has repeated these experiments and found that by various technical procedures, or by the dilution of normal blood-serum, an artificial reduction could be obtained. In 11 cases of typhoid fever with varying temperatures he has carefully estimated the freezing point of the blood, and found that it was exactly normal. [J.S.]

6.—Witthauer reports a remarkable case, a woman 24 years of age, who was attacked with pains in the side, cough, and fever. Examination showed an area of dullness on the left side in the region of the lower lobe, in which the breath sounds were weak. Exploratory puncture gave a clear fluid. There was some hectic fever. A second aspiration gave again a small quantity of fluid. For a period of 5 months the patient had a regularly relapsing fever, the remissions lasting 3, rarely 4 days. Then on the fifth day the temperature rose to 39° or 40°, fell the following day to 38°, and the next day became normal. Careful examination of the blood for malarial parasites was negative. No antiseptic measures nor specific treatment had any effect whatever. In the last month the patient showed slight cyanosis of the face, pulsation of the vessels in the neck, and then gradually increasing symptoms of bronchial stenosis that led to death. At the autopsy a large **tumor** was found in the **posterior mediastinum** about the size of two fists. It had invaded the posterior walls of both auricles. It also compressed both bronchi and the left branch of the pulmonary artery and had invaded a considerable portion of the right lung. Microscopically, it proved to be a round-celled sarcoma. The interesting features were the regularly recurring fever and the invasion of the heart. [J.S.]

7.—Model, after a careful analysis of the facts regarding the existence of the *menabea veneata baillon*, reaches the conclusion that this plant does exist, belongs to the *ordalia*, and that it is exceedingly important that fresh specimens should be obtained from Madagascar and carefully studied in relation to their toxicity. [J.S.]

8.—Reismann suggests a simple **apparatus for supporting the uterus**, consisting of a rubber tube stuffed with cotton, and supported at its lower end by 2 other tubes that fasten into the belt. For more accurate description we refer the reader to the original article. [J.S.]

9.—Wilde clears **agar** with the white of egg; then, after prolonged boiling, is able to **filter** it quite rapidly. He believes this method is quite as good as that of Paul. [J.S.]

February 12, 1901. [48. Jahrg., No. 7.]

1. The Functional Results of the Transplanting of Tendons in Paralytic Deformities, especially in the Paralysis of Children. KUNIK.
2. The Upper Temperature Limit of Life. STEUDEL.
3. Acute Puerperal Inversion of the Uterus. FLEISCHMANN.
4. The Indications for Palliative and for Operative Treatment of Myomata of the Uterus. SCHALLER.
5. The Perineuritic Diseases of the Sacral Plexus. GUTTENBERG.
6. China Acid: a New Remedy for Gout. STERNFELD.
7. Epityphlitis, and the Present Opinions Regarding Its Treatment. BERNDT.
8. Remarks upon the Article of Dr. Trumpp: "Progressive Diphtheria with Prompt Serum Treatment." SCHMIDT-MONNARD.
9. Remarks upon the Article of Dr. Frank: "The Disinfectant Action of Alcohol, Especially of Alcohol Steam." V. BRUNN.

1.—Kunik discusses the technical points involved in the **transplantation of tendons for the correction of deformities** of the feet and hands. The various procedures may be roughly grouped as follows: First, the transplantation of the central portion of a healthy muscle into

the tendon of a paralyzed muscle; second, the division of the tendon of a paralyzed muscle and the implantation of its peripheral portion in the healthy muscle, sometimes called "passive transplantation"; third, splitting of the tendon of a healthy muscle and the implantation of one half into the tendon of a paralyzed muscle, sometimes called "active transplantation"; fourth, the implantation of a healthy tendon in the periosteum. In addition to the transplantation of the tendons it is often necessary to employ other operative measures, such as correction of the position, etc., before the transplantation is undertaken. In those cases in which contraction of the muscles antagonistic to the paralyzed muscles has occurred, it is necessary to elongate the tendons by making a series of step-like incisions. Another important procedure is the resection of the tendons of healthy muscles that as a result of vicious position of the extremity have become abnormally elongated. Of course, in many cases it requires a combination of all methods in order to secure the desired result. In addition to infantile spinal paralysis deformities due to injury, or those that are congenital, may be operated upon by these measures. The operation should be undertaken only when cure by any other measure is manifestly hopeless, and as long as traces of spontaneous improvement appear it should be delayed. After the operation the extremity is placed in the position of over-correction and fixed in a plaster cast. [J.S.]

2.—Steudel calls attention to the fact that certain of the lower forms of life, particularly bacteria, are capable of living at temperatures nearly as high as those that coagulate albumin, that is to say, they not only maintain life, but actually multiply actively at from 60° to 70° C. These microorganisms under anaerobic conditions, particularly if associated with other forms, can multiply at other temperatures. It is interesting to note that certain other lower forms of life can resist high temperatures if sufficient water has been abstracted from them. This is particularly true of the rhizopods. Certain rhizopods are capable, as a result of careful cultivation, of supporting a temperature of 70° C.

3.—Fleischmann reports a case of inversion of the uterus occurring in a primipara. After delivery the uterus remained relaxed, and during an effort to expel the placenta by Credé's method, the uterus suddenly became completely inverted, and the patient immediately went into collapse. Upon an attempt to replace it, it was found that the cervix opposed an obstacle, but this was overcome by gentle force. After replacement, the uterus remained relaxed until a warm injection was given, when it immediately contracted, and the subsequent course was normal. He also reports another case that occurred in the service of Dr. Becker, in a multipara, which, however, was easily replaced. In a few remarks upon this condition Fleischmann mentions the collapse that is so common, and is peculiar in that it disappears almost immediately after reposition. The chief obstacle to this is the cervix. This can best be overcome by inserting the fingers, then gradually distending them, and at the same time pressing upon the fundus with the hollow of the hand. The placenta probably always should be removed before reposition is attempted, partly because if this is not done inversion is apt to recur and, moreover, reposition is always more difficult. [J.S.]

4.—Schaller states that in those cases in which the patient has a small myoma of the uterus that does not produce symptoms, he does not advise an operation, nor does he even tell the patients that they have a tumor. Large myomata produce merely mechanical disturbances; small, intramural myomata frequently cause an obstinate dysmenorrhea. In a few cases the myomata become malignant, and then endanger the life of the patient. In all cases in which they undergo suppuration, gangrene, or sarcomatous changes, they should be removed. In case the patient should become pregnant, they usually develop very rapidly. Schaller believes that a conservative treatment is often of great advantage. Thus, the patients can be considerably improved by rest in bed during menstruation, moderate purgation, ice-bag upon the abdomen, and a general improvement in the nutrition. Certain hemostyptics are of value, especially hydrastis, and occasionally ergotin. Locally, hot douches to the vagina may be employed, or certain escharotics to the mucous membranes, such as tincture of iodine, carbolic acid, etc. Electricity does not appear to be of value. Ovariectomy is some-

times of value, particularly in patients suffering extreme cachexia, in whom an operation might be dangerous. In submucous myomata, a vaginal enucleation may be employed, although in these cases recurrence may appear. In the more severe forms, the combined vaginal and abdominal operation is probably the best. [J.S.]

5.—Guttenberg reports 5 cases occurring in women, in which the symptoms were pain in the lower portion of the abdomen, and in whom, upon careful examination, small nodules were found along the cord of the sacral plexus, that, according to Rindfleisch, who examined a similar case, consist of an accumulation of small cells with round or oval nuclei; that is, a form of neuritis nodosa. In all these cases cure was obtained by careful attention to the general condition, and systematic massage of the nerves, with hyperflexion of the thighs upon the abdomen. Cure usually required several weeks. [J.S.]

6.—Sternfeld highly recommends china acid, obtained from various fruits, in the treatment of uric-acid diathesis. This is converted into benzoic acid, and finally into hippuric acid in the body, and when combined with the uric acid promotes the elimination of the latter. The great objection to it at present is its high price. [J.S.]

7.—Berndt, in continuation of his article upon epityphlitis, discusses the methods of operation. The object should always be to reach the site of the primary abscess. The operation is always serious, and is not to be undertaken unless absolutely indicated. A double operation is entirely irrational. When a typical attack has occurred, should the patient recover, operation should be performed 3 or 4 days after the disappearance of the fever. In cases with a mild course, there may sometimes persist a remittent fever, rising in the evening. This usually indicates the existence of a large encapsulated abscess. When this is opened the appendix should be removed if easily found, but it is undesirable to take great pains to search for it. Berndt prefers an oblique incision parallel to Poupart's ligament, and passing through McBurney's point. This is continued through the muscles and fascia until the site of the operation is reached. During an interval the operation is usually more difficult because the adhesions are denser. If the operation is done during an attack, it is usually desirable to tampon the entire wound. The results in 40 cases were as follows: Operation during an interval—15 cases, all cured; made after an acute attack—7 cases, all cured; opening of a large encapsulated abscess after a long febrile period—5 cases, all cured operated upon during an attack (1) without perforation of the appendix—2 cases, both cured; (2) with perforation or gangrene of the appendix—11 cases, 5 cured and 6 died. Three of these were operated on in a state of collapse. Twenty-four of these patients were subsequently observed, 3 had hernia in the wound; all were operated upon during an attack. The others were normal with the exception of 1 who had a very small tumor upon coughing. Two patients had intestinal fistulas; one of these closed spontaneously, the other was not closed by two operations. The histories of the cases are given in detail. [J.S.]

8.—Schmidt-Monnard has observed several cases of diphtheria in which he was obliged to use old serum, and his impression has been that it acted much less efficiently than fresh serum. [J.S.]

9.—Von Brun believes that in disinfection with alcohol the vapor is the effective element. He is delighted that his results have been confirmed by Frank. [J.S.]

Centralblatt für Gynäkologie.

December 29, 1900.

1. Total Extirpation of the Vagina Through the Abdomen. ERNST WERTHEIM.
2. Remarks upon Total Extirpation for Myoma Through an Abdominal Incision. H. A. v. GUERARD.
3. Contribution to the Etiology of Sactosalpinx with Torsion of the Pedicle. J. HARFÖTH.
4. Critical Reports on the Speculum of Professor Dr. Draghiescu. Z. SINTENIS.

1.—Wertheim reports 2 cases of total extirpation of the vagina through the abdominal incision for cancer of that organ secondary to carcinoma of the cervix. His first

patient was a woman, 56 years of age, who presented a cancerous ulcer the size of a walnut upon the anterior vaginal wall, which was accompanied by a slight hemorrhagic discharge. He performed the radical operation through a sagittal median incision, extirpating not only the uterus, but the upper portion of the vagina and a portion of the posterior vaginal wall. No prophylactic catheterization of the ureters was resorted to. Considerable venous hemorrhage from the paravaginal cellular tissue followed the extirpation, but this was easily controlled by ligature. The lymph-glands in the vicinity were also extirpated, the peritoneal edges were closely coapted, and subperitoneal drainage into the vagina was established by iodoform gauze. The patient made an excellent recovery. The second case was a woman, 51 years of age, upon whose portio vaginæ existed a white carcinomatous growth the size of an apple. The posterior vaginal wall also presented multiple small and large capillary outgrowths. A similar operation as in the foregoing case was performed. The carcinoma had descended pretty close to the bladder-wall and had surrounded the ureter; as a result a left-sided uretero-vaginal fistula followed, otherwise the operation resulted well. Three months later a nephrectomy was performed for the relief of the fistula. [W.A.N.D.]

2.—Guérard considers the question of **extirpation of myomata through the abdominal incision versus total extirpation of the myomatous uterus**, which was first discussed by Hofmeier. He is inclined to prefer the total extirpation of the uterus through the abdomen to the mere amputation of that organ at the cervical junction. The operation consists, after opening the abdomen, in enucleating the tumor and then opening into the vaginal fornices anteriorly and posteriorly and securing the vaginal wall to the peritoneal edges. The hemorrhage is but slight, and the operation takes from but 30 to 36 minutes, requiring not more than three ligatures in some cases. He has removed by this method tumors weighing 11 pounds or more and varying in size from that of a child's head to a man's head. [W.A.N.D.]

3.—Harpöth records a case of **sactosalpinx with torsion of the pedicle** in addition to the 22 cases of this condition recorded in 1899 by Praeger in the *Archives für Gynäkologie*, Bd. lviii, Hft. 3. His case was a young woman, 26 years of age, who suffered from severe pains in the right side of the abdomen, the pains localizing themselves in the right iliac fossa. In the intervals between the pains the patient felt quite well. Menstruation had always been regular, lasting four days and was unattended with pain. The patient had been suffering for some time from metrorrhagia. Abdominal palpation revealed a tumor extending above Poupert's ligament, while vaginal examination showed the uterus lying well up in the pelvis and small in size. The tumor could be felt lying on the right side and extending posteriorly into Douglas's culdesac. It fluctuated on percussion, was sensitive to the touch and was about the size of a small child's head. It had a broad pedicle. The ovaries could not be detected, and there was no ascites. Operation revealed a tubal tumor which was slightly adherent and which had twisted upon itself, producing torsion of the pedicle. The tube was ligated and extirpated. Harpöth remarks that sactosalpinx usually occurs in a tube which is quite free or but slightly adherent to the surrounding tissues; this was the case in his own instance of the complication. [W.A.N.D.]

January 5, 1901.

1. Operation for Hernia of the Umbilical Cord with Resection of the Prolapsed Lobes of the Liver. OTTO KÜSTNER.
2. Additional Remarks on the Use of Protargol by Credé's Eye Instillation-Method. FRITZ ENGLEMANN.
3. Another Case of Hypertrophy of the Female Mammary Glands. A. GRASMÜCK.

1.—Küstner reports an interesting case of a male child admitted to the Polyclinic in Breslau presenting a large-sized **umbilical hernia**, as large as an apple, associated with prolapse of the liver. A portion of the latter organ projected through the opening in the abdominal wall and into the hernial sac. The umbilical cord was inserted into the lower half of the sac. It was 34 cm. in length and showed 3 vessels, 2 arteries, and 1 vein. The operation

which was performed for the relief of this condition consisted in drawing the sac out, cutting it off with scissors, and suturing the edge of the sac to the thin peritoneal covering of the abdominal wall. It was found necessary to remove a portion of the prolapsed liver. The vermiform appendix, together with a portion of the ascending colon, lay in view under the thinned-out peritoneal covering. The adhesions to the liver were separated and the liver as far as possible restored to its normal position. Although not narcotized, the child during the operation did not suffer any pain, except when extra pressure was exerted upon the prolapsed organ. A normal convalescence followed. [W.A.N.D.]

2.—Englemann gives a brief critical review of Zweifel's article, published in No. 51 of this journal, 1900, on the **prophylaxis of ophthalmia neonatorum** by Credé's method. He especially speaks of the results obtained by the use of silver salt, protargol, which he claims are very bad in a number of cases, silver catarrh being produced in over 48 children. [W.A.N.D.]

3.—In the *Centralbl. f. Gynäk.*, No. 35, Donati reported an interesting case of **mammary hypertrophy** from Ehrendorfer's clinic at Innsbruck. Grasmück records an additional case, giving the following history: The patient, a peasant woman, 18 years of age, presented herself at their clinic in the last month of her first pregnancy. As a girl she had always been healthy; menstruation began when she was 16, and was regular. The mammary glands were of normal size. The patient married 10 months before she presented herself for treatment. In the second month of her pregnancy she had, for the first time, noticed an unusual size of the breasts, which became so large and heavy as to fall down to and rest upon the abdominal enlargement. They were so large as to require constant support from a mammary binder. The subcutaneous veins were distended, but not varicose. The right breast was considerably smaller than the left, although the tissues were firmer. Grasmück regards this case as one of true mammary hypertrophy. [W.A.N.D.]

Neurologisches Centralblatt.

February 1, 1901. [No. 8.]

1. A New Method of Silver Impregnation for Staining the Axis Cylinders. (Preliminary Communication.) FAJERSZTAJN.
2. The Value of the Measurement of Blood Pressure in the Diagnosis of Traumatic Neurasthenias and Hysterias. STRAUSS.
3. A Case of Myasthenia Pseudoparalytica Gravis. MENDEL.

1.—The principle of this **new silver stain** is as follows: Ammonia added to a solution of silver nitrate causes a precipitate that is soluble in excess of ammonia. If to the latter an aldehyd is added, the liquid becomes cloudy, and after some time the sides of the test tube are covered with a mirror, or if the reaction occurs very energetically a black precipitate is thrown down. The tissue is hardened in a 5 to 10% solution of formalin for several days to several months. It is not necessary that the tissue should be very fresh. The tissues are best cut in the freezing microtone, and then thoroughly washed in water. A 2% solution of nitrate of silver is prepared, and to this ammonia is added drop by drop until the preliminary cloudiness has completely disappeared. Then some of the 2% solution of silver is added to this until a yellow precipitate appears, the solution is then filtered through an analytic filter. No free ammonia now exists in it, and it stains very effectively. It is usually advisable to add a small quantity of baryta water to this. Various mixtures are prepared with a mother solution containing 1 to 2 drops of ammonia, of sodium hydrate, or of baryta water, and several sections placed in them. Impregnation usually occurs in from 5 to 20 minutes. The sections are then placed immediately in a 5% solution of formalin, and allowed to remain for an instant, and then examined in a drop of formalin under a microscope. The axis cylinders are stained an intense brown or black, the nerve-cells are either invisible or stained a faint yellowish brown. Sometimes the nuclei, and sometimes the red blood-cells are also stained, and occasionally the glia cells and glia fibers are slightly colored. If there is too much alkali present the sections are stained a diffuse brown, and if there is too much ammonia

they do not stain at all. If this is the case the process can be repeated several times. If necessary to differentiate the sections, and this may be the case in tissue hardened in Müller's fluid, it can be done by placing them in 10 to 15 ccm. of 95% alcohol solution, to which 1 to 3 drops of a 0.3% solution of chlorid of gold has been added. They are allowed to remain in this in the dark for about 24 hours. Platinum chlorid may also be used. The sections are then mounted in Canada balsam. The author describes the results he obtained in sections from various parts of the body. Certain modifications are required if the tissue has been hardened in Müller's fluid. He expresses the hope that the method may in time be so greatly improved as to add a valuable microchemical test to our laboratory methods. [J.S.]

2.—Strauss calls attention to the fact that the **elevation of blood-pressure** as a result of peripheral stimulation, may be of considerable value in the **diagnosis of traumatic neurosis**. He used chiefly the method of Gerhardt, and performed the experiments between 10 and 12 in the morning, upon the left index finger which was held at the level of the heart. In normal human beings the average pressure was between 90 and 100 mm. of mercury. In 9 cases of uncomplicated traumatic neurosis he found in 25 investigations that in 21 the pressure was between 100 and 120 mm., in 3 cases below 100 mm., and in one case over 130 mm. When the sensitive point of which these patients complained was pressed upon there was an increase in blood-pressure of from 15 to 40 mm. In normal human beings this increase in pressure is considerably less. [J.S.]

3.—A servant, 21 years of age, developed pain in the left leg, then difficulty in speaking, and swallowing. She was easily fatigued and often had cramps in the calves. When examined it was found that the pupillary contraction to light was very transient, and soon disappeared; all the muscles became readily fatigued, there was slight paresis of the right facial nerve. The pharyngeal reflex was absent, the speech was bulbar in type, and there was rapid fatigue of the extremities. The pulse was extremely irregular, and there was often dropping of one beat. Later a typical myasthenic reaction occurred, and the diagnosis of **myasthenia pseudoparalytica** was made. The only etiologic factor that could be discovered was a very pronounced tuberculous family history. [J.S.]

Journal des Praticiens.

February 23, 1901. [15me Année, No. 8.]

1. The Symptoms of Dyspepsia in Older Children. SEVESTRE.
2. The Pathogeny of Gallstones. G. LIROSSIER.
3. The Association of Dyspnea and Angina Pectoris. H. HUCHARD.

1.—The main symptom, **headache**, is almost **constant in children suffering from dyspepsia** during the period from 7 to 15 years. There is also present a tired feeling, with perhaps fever, palpitation, or nervous symptoms. The headache is generally frontal, and persists. While the headache is absent at night, insomnia or nightmares occur. Palpitation is common upon the slightest exertion, and arrhythmia, with an occasional functional murmur, is also observed. Vomiting may appear, with fever, off and on. The stomach and colon are both found dilated. The liver may be enlarged, and constipation is the rule. The tongue may be coated and the breath foul. These children eat quickly, and often drink too much liquid at meals. **Sevestre believes the headache to be due to an intoxication** from indigestion. Therefore, treatment should be directed toward preventing the formation of such toxins, and toward destroying them if already formed. Diet is to be insisted upon, and all food properly masticated. Meals must be regular; bowel movements also. Tincture of nux vomica should be given before meals. Finally daily bathing and exercise in the open air are necessary. [M.O.]

2.—It has been shown by experiment lately, that **gallstones may be due to microorganisms**. The two bacteria which are known to have caused them are the colon bacillus and the typhoid bacillus. The latter will cause the renewed production of gallstones in a person whose gallbladder was affected before taking typhoid fever. Thus, the condition of the part affected will often favor the inva-

sion of bacteria. To keep off such disastrous effects, in those predisposed to gallstones, by heredity, gout, etc., Linossier advises regular yearly visits to some alkaline springs, in order to maintain a good condition of general health. [M.O.]

3.—Huchard reports the case of a man of 63, who neither smoked, drank, nor had had syphilis. For 18 months he has suffered from dyspnea upon the slightest exertion, accompanied by a feeling of oppression. During the last 3 months this has increased so that he can only sleep with difficulty. There is a little albumin in the urine. During this time he has had a few attacks of true **angina pectoris**, first with exertion, later even at night. They are severe and of short duration. Besides, during the past few weeks, he has had **pseudostenocardia**, the pain persisting, localized to the second intercostal spaces on both sides, and to the right shoulder. Upon auscultation the diastolic shock of the aorta is heard, and some arrhythmia. The pseudostenocardia Huchard believes to be neuralgic or neuritic, secondary to the periaortitis evidently existing there. But true angina pectoris also exists, due to probable endoaortitis. The "toxi-alimentary" dyspnea depends upon the renal sclerosis, just as true angina depends upon aortic and coronary sclerosis. As treatment he advises exclusive milk diet and theobromin for two weeks. Then for one week every month, milk diet and sodium iodid. During the rest of the month, special diet, with the theobromin continued. Huchard considers this alimentary treatment most necessary in this complex case of **mixed angina pectoris with pseudostenocardia**. [M.O.]

March 2, 1901. [15me Année, No. 9.]

1. Typhoid Fever and Pleurisy. PAUL REMLINGER.
2. Seven Cases of Shoe-Polish Poisoning. LAURENT and GUILLEMIN.
3. Heteroplasty of the Orbit, with the Use of a Rabbit's Eye. F. LAGRANGE.
4. The Treatment of Syphilis During Pregnancy. GAUCHER AND BERNARD.

1.—**Pleurisy may occur with typhoid in four different ways**. First, the pleurisy may be but the first symptom of beginning typhoid, the diagnosis only being settled by the Widal reaction, after epistaxis or spots have appeared. This the French call "**pleurotyphus**." Then pleurisy may occur as a complication, late in typhoid, with a serous, hemorrhagic, or purulent effusion. While three-quarters of the cases recover, the development of pleurisy is always serious. Rarely a pleurisy in typhoid will be due, not to the bacillus of Eberth, but to some secondary infection. Rarer still is a pleurisy caused by the typhoid bacillus, in the terminal stage of acute phthisis, of which 2 cases are reported, no signs of typhoid fever being found at the autopsies. [M.O.]

2.—Six children in one family, all of whom had worn shoes fresh from the shoemaker, upon which the aniline polish had not yet dried, were attacked suddenly with symptoms of **poisoning**. Their ages ranged from 2 to 14 years, the youngest being the earliest affected. First, pallor of the face, a bluish discoloration of the skin, and a violet color of the lips and nails were noted; then dilatation of the pupils, headache, vertigo, absolute muscular weakness, transitory paralysis, followed by unconsciousness, slowing of the pulse, and arrhythmia, with cold extremities. Slight convulsive movements occurred in 2 cases, besides. In from 1 to 3 days all signs disappeared, including the faint trace of albumin found in the urine. Another case occurred later, in a child of 6. A thorough investigation revealed the fact that in each case the shoes worn had but just come from the shop, and the polish was not yet dry. Chemical examination of the polish used showed **aniline**. Experiments were made upon guineapigs, in which the polish produced precisely the same symptoms as in man. [M.O.]

3.—Lagrange reports 4 cases of operation for loss of vision following traumatism. Three have been quite successful. In each case the **eye was enucleated**, a thread left in the muscles. The hemorrhage was then stopped, either by irrigating with ice-water, hydrogen peroxide, or by a tampon left some time in the capsule of Tenon. Then a **rabbit's eye**, preferably of a young animal, is enucleated, and sutured in the patient's empty capsule. Then

the conjunctiva is sutured at four points and an ordinary occlusive dressing applied. At the end of a week, the conjunctival stitches are removed. [M.O.]

4.—Gaucher and Bernard say that **pregnancy occurring in syphilitics who are well treated is not as serious** as it is generally considered. If specific treatment be begun early enough, and given in large enough amounts, regularly, well children will be borne at term. Such children should be nursed by their mothers, and treated, to prevent later syphilitic manifestations. The treatment advised consists of injections of two centigrams of benzoate of mercury, daily, alternating with pills containing two centigrams of bichloride of mercury, the number of injections being continued over a period twice as long as that of the pills. The intensity of this treatment, if the woman should show albumin in the urine, should be subordinated to the renal function, which can be watched by determining the urinary toxicity, and the elimination of the mercury. [M.O.]

Gazette Hebdomadaire de Médecine et de Chirurgie.

February 10, 1901.

1. Dyspeptic Glycosuria and Diabetes. ROBIN.
2. The Role of the Renal Plexus in the Pathogenesis of the Edema of Bright's Disease, and of Some of the Symptoms of Nephritis. M. F. SÉMERIL.
3. Treatment of Infantile Tuberculosis by Thiocol. KAPLANSKY.

1.—At the meeting of the *Académie de Médecine* held February 5, 1901, Robin read a paper on **dyspeptic glycosuria and diabetes**. As a complication of dyspepsia, simple glycosuria is met with in 5% of the hypersthenic cases. It is irregular, always small, varying from 0.05 to 6 grams per liter. It only exists in the urine during the process of digestion and is wanting in the fasting urine. In half the cases it coincides with digestive albuminuria. The elementary nutrition is characterized in these patients by an exaggeration of the nutritive changes and of the dissimilation of nitrogen and by the excitation of the nervous system. There are no symptoms of diabetes. The patient has only an exaggerated appetite, a distended stomach, an hypertrophied liver, and gastric hyperchlorhydria. One finds also vertigo, phosphaturia, dermatoses, hyperidroses, ocular and auricular troubles. If, in a certain number of cases, gastric troubles are secondary to diabetes, the rule is for diabetes to be consecutive to dyspepsia. This distinction is important because dyspeptic diabetes may yield to treatment while primary diabetes ordinarily resists treatment. This diabetes, as has already been demonstrated, is not a disease characterized by a depression of nutrition, but, on the contrary, by an excitation of nutrition and an increase in the activity of the liver. In fact, all the medicines that excite nutrition aggravate diabetes; whilst those medicines that moderate nutrition ameliorate diabetes. For example, antipyrin diminishes glycosuria, pyramidon augments it. Glycosuria always indicates an hyperactivity of the hepatic function; it is in relation with gastric hypersthenia of the dyspeptic subjects in whom it is observed. The excitation of the liver, at first intermittent, may become permanent, and true diabetes of dyspeptic origin is then set up. Glycosuria of dyspeptic origin is cured by the treatment of the hypersthenic dyspepsia; the administration of powders of the alkaline earths after meals often suffice. In cases that are more severe, absolute milk-diet gives good results, whilst, on the other hand, it is well known that milk diet is unfavorable in cases of true diabetes. When dyspeptic diabetes is established the treatment is commenced by decreasing the quantity of sugar by diet. Then the dyspepsia should be treated. [J.M.S.]

2.—Irritation of the **renal nerves** is proved by histologic examination which shows the existence of degenerative lesions or simple irritations of the nerve fibers. **Renal edema**, as well as being of the nature of a dyscrasia, may also be a reflex nervous edema. The cases of hemianasarca consecutive to traumatic nephritis furnish an undoubted proof of this statement. This nervous action alone allows of an explanation of the character of the variability and the localization of the edema on one side of the body or in a special region, as is sometimes seen in cases of nephritis.

This nervous action is in the nature of a reflex stimulation of the vasomotor centers. Reflex edema is not confined to the kidney. It has been observed in cases in which the point of origin of the reflex producing the edema was the pleuropulmonary nerves and the uterine nervous plexus. This same nervous irritation may account for lumbar pains and the polyuria of cases of nephritis. It also is concerned in the pathogenesis of intermittent glycosuria, and to it also certain cases of sudden death supervening in the course of Bright's disease may be attributed. Opposed to the preceding symptoms, which are attributable entirely or partially to nervous action, it is convenient to place those that are manifestly the result of uremic intoxication. These are the nervous troubles, such as convulsions, delirium, coma, ocular and auditory troubles, nervous dyspnea of toxic origin, and finally gastrointestinal disorders. It is necessary to note, however, that the nervous action may intervene in the beginning in producing the congestive processes found in the nervous centers, the lungs, or the digestive apparatus. [J.M.S.]

3.—The results of experiments on animals show that **thiocol** has an antituberculous action in the animal organism and not merely a favorable effect on the general nutrition and on certain symptoms of tuberculosis. Experimental facts as well as clinical experience authorize the use of thiocol not only in **pulmonary tuberculosis** but also in other forms of tuberculous disease such as tuberculous pleuritis and tuberculous peritonitis. [J.M.S.]

Archives de Médecine des Enfants.

February, 1901. [Vol. iv, No. 2.]

1. A Case of Diphtheritic Stomatitis Due to Oöspora. A. TRAMBUSTI.
2. The Clinical Forms of Infantile Tuberculosis. A. MOUSSOUS.
3. A Severe Case of Atarepsia Neonatorum. BAUMEL and SCHREYER.
4. A Case of Tetany Occurring in Acute Enterocolitis. CHARLES LÉVY.
5. A Case of Adhesion of the Labia Minora. E. CAZAL.

1.—Trambusti reports a case of **stomatitis** occurring in a child of 3 years. The gums and roof of the palate were covered with an exudate in plates, looking exactly like diphtheria. The temperature remained high. Preparations examined bacteriologically gave quantities of filamentous microorganisms, and a few cocci, but no diphtheria bacilli. Beside a few colonies of staphylococci, the great number of colonies showed the filamentous masses, very like leptothrices, yet evidently **oöspora**. They were not pathogenic when inoculated into animals. Trambusti describes their actions upon different media, and suggests that other conditions, thus far attributed to leptothrices, as noma, etc., may be due to oöspora. [M.O.]

2.—In this article Moussous discusses **general tuberculosis** in young children. Tuberculosis before the third year is either thoracic or general, much more frequently the latter. While very few children of tubercular parents are born with tuberculosis, there are born many children with so debilitated a system that, if kept among tubercular people, they will inevitably develop consumption. The fact that they have a good chance of escaping this result, should they be at once removed from their tainted surroundings and brought up in the country, seems often forgotten, even by the medical profession. In healthy-looking children the disease may remain latent for weeks, as it is rarely seen before the third month of life. Whether hereditary or acquired, its course may be chronic or acute. **Chronic generalized tuberculosis** may be divided into 3 periods; first, a very short initial stage, with bronchitis or bronchopneumonia alone, or following an infectious disease, or gastroenteritis. Then, instead of recovering, the child remains ill, without fever, weak, with an ever-increasing cachexia. The spleen, liver, and general lymphatic system enlarge. This is the second stage, and lasts a long time. The last stage is death, occurring quietly in a few days. Or the disease may be complicated by pneumonia, Pott's disease, pleurisy, otitis, etc. It may last even up to 4 or 5 years, but generally only until the fifteenth month. **Acute miliary tuberculosis**, on the other hand, runs a rapid course, with high fever, diarrhea, enlarged spleen, tympany, bronchopneumonia,

etc., and death. But the chronic form may suddenly end with meningitic symptoms, either convulsions or hemiplegia, with death in from 2 to 4 days. After detailing the differential diagnosis between general tuberculosis and the many other infantile cachexias, Mousous speaks in high terms of the serum reaction as obtained by Bard, and hopes that this method of forming a positive diagnosis will soon be perfected. [M.O.]

3.—Baumel and Scheydt report the case of a child who first had convulsions when 1 month old. Stomatitis and constipation next appeared. Vomiting had always existed, though the wet-nurse nursed him regularly every 3 hours. The child was kept in an incubator, and given large doses of bromide and chloral. At 4 months the convulsions decreased in frequency, and the vomiting began to grow less. A month later the child went to the country cured. **At the age of 3 months, he had lost 680 grams. At 6 months he gained 62 grams daily for four days.** These weights show what a baby can lose and gain. [M.O.]

4.—Leroux reports the case of a boy of 2 years, with distinct tetany in the course of a severe acute enterocolitis. In spite of the frequency and severity of the convulsions, the child recovered. He showed no signs at all of rachitis. [M.O.]

5.—Cazal reports the case of a girl of 19 months, whose labia minora were adherent. A tiny opening for the passage of urine was seen just below the clitoris. As there had been no vulvitis, this condition must have been congenital. It was easily divided with very little bleeding. No dressing was necessary as it healed at once. The rest of the genitalia were found normal beneath. [M.O.]

Révue de Chirurgie.

February, 1901. [21me Année, No. 2.]

1. Peritonization in Laparotomy. E. QUÉNU and JUDET.
2. The Surgical Treatment of Purulent Peritonitis Following Perforation in Typhoid Fever. ED. LOISON.
3. Ligation of the Abdominal Aorta. P. TILLAUX and P. RICHE.
4. An Experimental Study of Fracture of the Upper Jaw. R. LE FORT.
5. The Study of Osteomalacia. G. GAYET and L. M. BONNET.
6. Chopart's Amputation. A. LA POINTE.
7. Torsion in Hydrosalpinx. F. CATHELIN.

1.—Quénu and Judet use the term **peritonization**, or **peritoneal autoplasty**, for their method of suturing the cut or torn ends of the peritoneum to the intestine, in operating, so that the intestines only touch the endothelium, and all raw surfaces have a serous covering. Besides, covering a denuded surface with peritoneum prevents exudation and hemorrhage, and further diminishes the possibility of infection. It also hinders the formation of adhesions, which are so often followed by intestinal occlusion. This method was first practised by Hegar, whose name it bears. It should be especially applied in laparotomy for appendicitis, salpingitis, ovarian cysts, and fibromata. The technic in each case is described, with 14 case histories. During 5 years they have performed 129 laparotomies with 5 deaths, 3.8%. When operation is done by this method, colicky pains rarely occur; drainage is necessary only from 2 to 4 days; and micturition and defecation are never affected. Nor do these patients, operated some time before, return with digestive disturbances, or abdominal pain. During these five years, only one case has developed postoperative intestinal occlusion. [M.O.]

2.—Though peritonitis may arise outside of a typhoid ulcer in the small intestine, the majority of cases follow perforation of such an ulcer. A diffuse, purulent peritonitis follows, fatal in 95%, in 3 to 6 days. Of the 90 cases of perforation surgically treated, which Loison has collected, 16 recovered, 21.6%. His own case is described in full. Perforation generally occurs in the second, third, or fourth weeks of the disease, and cases operated within 24 hours after the occurrence of perforation generally recover. But it is always difficult to diagnose positive perforation; the general condition of the patient may not warrant operation; the site of the perforation may not be found, or multiple perforations may exist. Loison describes laparotomy in such cases, when and how it should be performed, the method of finding and suturing the perforation, drainage, etc., in full. [M.O.]

5.—**Osteomalacia** is a disturbance of the nutrition of the bones, making it impossible for the bones to keep their lime salts, resulting in a softening of the skeleton. This disturbance of nutrition may be local or general. Local osteomalacia may be traumatic, infectious, or due to certain nervous affections. Traumatic osteomalacia is more frequent in the vertebral column, and the tibia; it is usually due to direct violence, and it is rather more common past middle age. Pain and softening follow rapidly. The infectious theory is not as yet positively proved, yet influenza, tuberculosis, and syphilis, probably, cause osteomalacia. The lesions found in osteomalacia are the same, whether the process be generalized or local. These lesions vary much, and show nothing specific. After discussing the various theories, and reporting 13 cases, Gayet and Bonnet conclude that different disturbances of the nervous system probably play an important role in the etiology of osteomalacia. A possible explanation of the good results following ovariectomy may rest in the fact that the ovarian secretion causes an active elimination of the phosphates, after the removal of which the softening gradually disappears. [M.O.]

Gazette Médicale de Paris.

February 9, 1901. [Vol. i, No. 6.]

1. The Winsum Skull, a Cranial Malformation. FERNAND DELISLE.

1.—This is a reply to Dr. Folmer's article upon the skull found at Winsum, in Holland, 20 years ago. Folmer considered it a macrocephalic head deformed artificially. Delisle, on the other hand, believes the skull to be a malformation. Its height is striking compared with its length and breadth. The frontal region slopes greatly and the occiput is almost vertical. A study of the sutures and the two teeth remaining lead to the conclusion that the individual, at the time of death, was over 30 years old. The synostosis of the sagittal and frontal sutures show malformation, and not deformity due to pressure. The bones of the top of the head had to give way as the brain grew beneath, especially as the bones were fast below. That explains the bulging of the upper part, just as in hydrocephalus. Besides, the frontal and temporal bones show no signs of pressure. Delisle considers the Winsum skull acrocephalic, a malformation due to development, the lower sutures having been obliterated, the head grew where it could. All the measurements of the skull are given. [M.O.]

Journal de Médecine de Bordeaux.

March 3, 1901. [31me Année, No. 9.]

1. A Case of Traumatic Hysteria. GUYOT and PERY.
2. Regeneration in the Liver. M. B. AUCHE.
3. A Case of Congenital Unilateral Microphthalmia. GINETOUS.

1.—Guyot and Pery report a case of **traumatic hysteria** in a girl of 13. A month ago she fell from a ladder, from a height of about 6 feet, striking upon her forehead. There was no loss of consciousness or convulsions. She was all right for 2 weeks, then during 2 or 3 days her cheeks became flabby, and trismus occurred. This condition of lockjaw persisted for 2 weeks. As she was a foundling, her ancestry was unknown. Paralysis of both branches of the facial nerve existed on the right side. At night, however, she shut her right eye too. There were found scattered areas of anesthesia and hypesthesia. The application of electricity cured the condition very quickly. Guyot and Pery comment upon the fact that the few cases of hysteria or neurasthenia reported in children, followed falls upon the head. A differential diagnosis is given between facial paralysis due to traumatism, or true facial paralysis, and that from traumatic hysteria. [M.O.]

2.—It has been shown by many experiments that when degeneration occurs in the liver, **the cells of the liver regenerate**, producing tissue to take the place of that destroyed. Chauffard says that **compensatory hypertrophy always occurs in the liver**. This is the condition ordinarily found in diffuse or nodular parenchymatous hypertrophy of the liver. In acute yellow atrophy, also, the regenerating cells are found in great numbers with those that have degenerated. When this regeneration exists in

very small amount, Chauffard calls it "radiate compensatory hypertrophy." This Auché found in a case of purulent angiocholitis and periangiocholitis, which is described in full. A case of congestion of the liver in heart disease is then detailed, in which regeneration of the liver-cells was observed. [M.O.]

3.—Ginestous reports the case of a child of 3 months, with **unilateral microphthalmia**. When the mother was 4 months pregnant, an older child kicked her violently in the abdomen. This hurt severely, but the pregnancy went on to term. At birth, the left side of the baby's face was still embryonic in character, the eye-lids being very small. When the baby opened its eyes, at 2 months, the left eye was the size of a small bean only. A congenital cataract existed also. The right eye was normal, as was the body, with the exception of a dermoid cyst under the tip of the tongue. Ginestous believes that the injury to the pregnant mother probably caused the occurrence of the unilateral microphthalmia. [M.O.]

Vratch.

February 3, 1901. [Vol. xxii, No. 5.]

1. A Discharge of a Watery Fluid from the Nose (Hydror-rhea nasalis). A. PH. EKKERT.
2. The Spleen and the Albumin Ferment of the Pancreatic Gland. L. B. POPELSKY.
3. Difficulties Encountered in the Restriction of Diphtheria. E. M. WOLFSON.
4. Corporeal Punishment in Russia in the Twentieth Century. D. N. SCHBANKOW.
5. On the Injection of Sodium Cinnamylate (Natri cinnamyl-lic) in Tuberculous Patients. L. A. FINKELSTEIN.

1.—Will be abstracted when completed.

2.—Popelsky takes up the polemic incited by Dr. Gertsen (See *Vratch*, Vol. xxii, No. 11, recently abstracted in the PHILADELPHIA MEDICAL JOURNAL) and devotes a lengthy article to the exposition of the fallacies with which Gertsen's experiments were surrounded and the erroneous conclusions deduced from them. He claims that his experiments were performed strictly in accordance with the directions given by Schiff, and that they prove only one thing, namely, that Schiff's theory, modified by Gertsen, is wrong. The spleen, according to his observations, has no specific effect on the formation of trypsin. The results obtained by Schiff, Gertsen, Pachon, and Gachet the author explains in the following manner: It has been demonstrated that there exist in the organism bodies in the nature of ferments, possessing oxidizing properties. These bodies are present in the formative elements of the blood and are derived mainly from the destruction of leukocytes. Their presence, therefore, in the spleen is due to the blood and not to the splenic tissue *per se*. During the height of digestion digestive leukocytosis takes place; in other words, an increased destruction of the leukocytes and consequently an increased formation of these oxidizing bodies, the latter aiding in the oxidation of the protrypsin into trypsin—hence the fact that a swollen or hyperhemic spleen is concomitant with an increased formation of trypsin. [A.R.]

3.—Wolfson points out the impossibility of isolating those cases of diphtheria in which a brief attack of sore throat is followed by complete recovery, and yet the diphtheria bacilli persist for a long time, rendering the hosts a menace to the public. The following cases are cited as illustrations: A woman suffered from a slight sore throat without any glandular involvement. On the third day the throat was clear and the temperature normal. A bacteriologic examination, repeated 3 times, showed the presence of diphtheria bacilli. The patient could not be kept in her room for more than a week. She went to concerts, made calls, etc. In another case the daughter of a physician engaged to be married to a physician had an attack of mild sore throat a few days before the wedding was to take place. A bacteriologic examination showed the presence of diphtheria bacilli. On the fourth day the patient was perfectly well. She refused to be isolated or postpone the wedding. In another family, two children took sick with diphtheria and were sent to the hospital. The throats of the other members of the family were examined and diphtheria bacilli found. No isolation was permitted.

The fourth case is of special interest. A servant, 23 years old, had an attack of diphtheria while nursing her diphtheritic child in a foundling asylum. She kept her affection secret, and 2 weeks later, after the child died of laryngeal diphtheria, came to the author, presenting postdiphtheritic paralysis of the palate. A bacteriologic examination disclosed the presence of diphtheria bacilli. The latter persisted for a period of 13 months, and were still to be found at the present writing. However, while morphologically they were proven to be true Klebs-Löffler bacilli, they were found avirulent on two different occasions, when inoculated into guineapigs. The author emphasizes the importance of using local antiseptics, believing that in cases in which the bacilli persist in the completely recovered or the healthy, the persons may be allowed to go about, providing they observe the same precautions with regard to expectoration, utensils, etc., as are recommended in tuberculosis. [A.R.]

5.—Finkelstein devotes an extensive paper to the subject of the effect of cinnamyllic acid or its salts on tuberculosis. After a thorough review of the subject, quoting *in extenso* the observations of others *pro* and *con*, he reports his own observation made in the sanitarium for consumptives. In all 20 cases were studied. The history of each is given, but the cardinal points, as well as the results of the treatment, are summarized as follows: 1. The ages of the patients varied from 19 to 42, the majority from 20 to 30. 2. One of the patients was at the time of admission in the first stage of the disease, the other in the second. By the "first stage" the author understands a condition in which one or both apices, not below the second rib, are affected, and there is no catarrh. In the "second stage" there are marked changes accompanied by catarrh, but without any signs of destruction of lung-tissue. 3. The number of injections was from 10 to 45. 4. The duration during which the injections were made was from 1 to 5½ months. The duration of the observations made prior to the injections was from 10 days to 14½ months. 5. The cough diminished during the injections in 5 patients, in 11 it remained as before, in 4 it became either worse or better. Prior to the injections it diminished in 14, remained stationary in 2, and was either better or worse in 4. 6. The sputum has undergone no change, either in quality or quantity, in 16; in 2 it became less, in 1 more profuse and in 1 lighter in consistency. Prior to the injections it became less in 9, remained stationary in 8, changed in character in 2 and was irregular in 1. 7. The tubercle bacilli remained as before in 13, became less in number in 3 and increased in 4. 8. No special improvement of the subjective symptoms was noticed during the injections. 9. The night-sweats disappeared also before the injections. Only in one case did they disappear during the treatment, while in the other they persisted in spite of it. 10. The weight was reduced in 4; in the other it increased from ½ to 37½ pounds. Prior to the treatment it was decreased in 3 and increased from 1½ to 43 pounds in the others. 11. The enlarged lymphatic glands remained as before. In 1 patient with a fistula of a lymphatic gland the opening did not close. 12. In 1 patient with laryngeal tuberculosis an improvement was observed during the injections, but this improvement is to be credited more to the general hygienic and dietetic treatment than to the sodium cinnamylate. A number of similar cases improved in the sanitarium prior to the use of this drug, and many even recovered. 13. The areas of dulness did not diminish during the injections. On the contrary, in 2 cases the tympanic sound reappeared. 14. In 1 case the breathing became weaker, in 2 it changed from bronchial, and in 1 from weak to amphoric. In 2 it assumed a marked bronchial character, and only in 1 did it become less raspy. In all others the conditions remained the same. 15. Two patients had hemoptysis twice (1 had it twice prior to the injections, the other 4 times). In 1 case hemoptysis occurred once, in the other 5 times prior to the injections, but in neither case was blood found in the sputum during the treatment. 16. The treatment exerted no influence on the temperature. 17. In 1 patient somnolence was observed for from half to one hour after the injection. It thus appears that the results obtained could not be considered either favorable or encouraging. The slight improvement which took place in some of the cases could be very well attributed to general treatment and other favorable conditions under which the patients in sanatoria are placed. The best that could be said about this drug is that it did no harm. [A.R.]

Original Articles.

THE PROPHYLAXIS OF VENEREAL DISEASES.

Medical Aspects of the Social Evil in New York.*

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It would hardly seem necessary in a paper before a learned society of medical men to pass in review the pathological significance of the class of diseases comprehended under the general term—venereal—or the important relations which these diseases bear to the public health.

There is reason to believe, however, that the enormous extent to which these diseases prevail and their far-reaching and pernicious influence upon the health of the community are not sufficiently appreciated by the general profession. Unfortunately, our perceptions of the significance of certain evils become blunted by habituation, and we accept them as natural and among the established order of things.

While we view with lively concern those epidemic waves of disease which from time to time sweep over the community, we are apt to regard with indifference, diseases which are of common occurrence and exist in a state of permanence in our midst. We take alarm and employ active means of defense against the threatened invasion of the cholera, the plague, yellow fever, etc., while we are insensible to the ravages of a disease—syphilis—which is vastly more destructive to the health of the community than all the foreign pestilences that have visited our shores.

It has been estimated by a competent and careful authority that fully one-eighth of all human suffering is caused by venereal diseases or their sequelæ. As regards their prevalence in this city it may be said that there are no data upon which we can base conclusions possessing definite scientific value. Venereal statistics cannot be computed by the methods ordinarily employed for the detection and registration of diseases. Unfortunately, they belong to the category of "shameful diseases," the avowal of which would, to employ a legal phrase, tend "to incriminate or degrade the bearer," so that the actual number of such cases in any city or community must always remain an unknown and unknowable quantity.

It is well known that material as well as moral and sanitary conditions modify venereal morbidity; it is much larger among urban than among rural populations. Then again, even in our large centers of population oscillations occur just as in other current diseases, the explanation of which escapes us.

According to Neisser, the discoverer of the gonococcus, gonorrhea is with the exception, perhaps, of measles, the most universal and widespread of all diseases. Other German authorities have computed that fully three-quarters of the adult male population and one-sixth or more of adult females have contracted gonorrhea.

As regards the prevalence of syphilis, Fournier found in careful personal investigations, extending over a number of years, of the general hospitals of Paris from 15% to 23% cases of syphilitic origin. From these figures,

taken in connection with the enormous number treated in the special hospitals, in dispensaries and in private practice, he estimates that one-seventh of the population of Paris is syphilitic. When we consider the cosmopolitan character of the population of New York, the large foreign colonies of Bohemians, Italians, Russian and Polish Jews, many of whom bring their social vices and sordid, communistic modes of living, it is quite possible that Fournier's figures, with some modification, may apply to this city as well as Paris.

The following statistics of five of the principal dispensaries in New York City give some idea of the proportion of venereal morbidity to general diseases.

The records of the out-patient departments of the following hospitals for 1900 show:

The New York Hospital, total number.....	11,550
Number of venereal cases.....	1,054
The Vanderbilt Clinic, total number.....	48,967
Number of venereal cases.....	2,935
New York Dispensary, total number of cases	42,531
Number of venereal cases.....	3,895
The Good Samaritan Dispensary, total number	86,916
Surgical and venereal cases.....	20,530
(25 to 50% venereal.)	
Bellevue Out-Patient Department.....	67,470
Venereal cases.....	7,320

Averaging all together nearly 10% of venereal cases.

These figures by no means represent the actual number of cases of venereal disease, as a large proportion of the cases treated in the skin departments were syphilodermata.

Furthermore, venereal cases undoubtedly furnish a certain contingent of the classes in the eye, throat, gynecological and other departments.

It is not claimed that these few statistical data afford any correct indication of the amount of venereal morbidity in this city, they simply show that it exists to a larger extent perhaps than is generally realized.

Venereal morbidity may best be studied in taking large bodies of men, such as the army and navy, where every case of disease is carefully tabulated and the results analyzed. To take an extreme case, Sir H. S. Cunningham's report of the health of the British Army in India for the year 1895 shows that out of 68,331 British soldiers stationed in India, the admissions to the hospital for venereal diseases were no less than 36,881 cases, or 53.7%. Of these 17,702, or 25.9%, were cases of syphilis. During this year 15 died from syphilis, 348 were invalided and 130 finally discharged as unfit for service from the same cause. Of economic interest is the fact that these diseases occasioned a loss of 1,155,451 days of active service.

These figures did not in the opinion of the official experts represent the whole amount of venereal diseases, many cases being treated without admission to the hospitals. Moreover, the report shows that of the entire army in India, 13,000 of whom are annually sent home to England, 25% were syphilitic. It is to be hoped that of our returning forces from the Philippines, no such percentage will bring back syphilis as a souvenir of their sojourn in these islands.

While venereal diseases are rarely fatal in their immediate effects, yet in their remote consequences they contribute largely to the bills of mortality. Our mortality statistics throw a misleading light upon the mortality from these diseases. The deaths from the sequelæ of gonorrhea are rarely referred to their true etiological factor. The deaths from syphilis are conveniently grouped under affections of the viscera, diseases of the

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brain, cord, liver, etc., while the determining cause is chastely concealed.

GONORRHEA.

In the estimation of the laity the relations of gonorrhea to the public health would be regarded as of no more significance than a catarrhal inflammation of any other mucous membrane, and, less than a quarter of a century ago, this opinion would, perhaps, have been shared by many medical men. But within recent years our conception of the pathological import of gonorrhea has been singularly amplified, not only as regards its chronicity, but especially its etiological relationship to many morbid states of the general system. To-day we recognize it not only as the most widespread but also as one of the most serious of infective diseases; it has risen to the dignity of a public peril.

Since the discovery of the gonococcus, new facts have been developed showing that instead of being limited to the genito-urinary tract the range of its morbid action is much more extensive and, not infrequently, is radiated to important visceral organs. Staining and culture experiments have demonstrated its presence, not only in the ovaries, tubes and peritoneal cavity, but also in the pleura, the endocardium and pericardium, the bloodvessels, joints and tendon-sheaths, etc. Moreover, it has been demonstrated that it stands in the relation of causal factor to visceral lesions which often terminate fatally. An analysis of the recent literature of the subject shows a surprisingly large number of such fatal complications.

I will pass over briefly the common complications of gonorrhea, the affections of glandular structures, the acute and chronic inflammations of the prostate and bladder, of the seminal ducts and vesicles, the cord, epididymis, testes, etc. These latter affections are most important, as they may entirely destroy the fecundating capacity of the individual. The sequelae of gonorrhea, stricture and ascending inflammations of the ureters and kidney causing pyelitis, etc., which not only seriously compromise the health but may endanger the life of the individual, need only be mentioned.

In the female, the local and general effects of gonorrhea are apt to be much more serious and permanent owing to the extent and character of the structures exposed. In addition to vaginitis and vulvitis, the virus may penetrate the uterine cavity with resulting endometritis, ascend the tubes, causing painful and suppurative swellings, with acute exacerbations not infrequently necessitating laparotomy. Most cases of salpingitis must be classed as gonorrheal. Sanger found that about one-eighth of all his gynecological cases were due to gonorrheal infection. As more permanent results may be mentioned chronic inflammation of the uterus and its adnexes, resulting in fixation of these organs, various disorders of menstruation, anemia, neurasthenia, etc. German authorities state that 80% of all deaths from diseases of the uterus and its adnexes are of gonorrheal origin.

The virus spreading through the lymph and vascular channels may cause generalized metastases. General septicemia and pyemia from foci of suppuration in the genito-urinary tract are by no means uncommon.

Many other grave manifestations of gonorrhea in both sexes might be referred to, such as its frequently destructive effect upon the sight from inoculation of the child at birth. Blennorrhea neonatorum contributes a large contingent to our blind asylums, estimated from

10 to 20%; from 40 to 60% before the Credé method was instituted. Neisser thinks that of the 30,000 blind in Germany from this cause, a large proportion might have been saved by the employment of this prophylactic measure. The prominent role which the gonococcus plays in the etiology of joint-affections of a serious and intractable character should not be overlooked.

It is, however, the destructive effect of gonorrhea upon the procreative functions that I would especially emphasize as of interest in this connection. Neisser contends that gonorrhea is a more potent factor in the depopulation of countries than syphilis even. He regards gonorrheal infection of the male responsible for 30% of sterile marriages. Busch, Fürbringer and others have demonstrated that 90% of all cases of azoospermia may be traced to antecedent inflammation of the epididymis and cord.

A percentage variously estimated at from 40 to 80% of endo-, meso-, and perimetritis is of gonorrheal origin and a cause of sterility in women. Noeggerath found in 81 gonorrheal women, 49 entirely sterile. In 96 sterile marriages Kehrner found 30% due to azoospermia, 33% to perimetritic inflammatory changes, 8.3% to amenorrhea, 4.1 to vaginismus—all of gonorrheal origin.

SYPHILIS.

Syphilis, as we comprehend it to-day, has a much graver significance in its relation to the public health than was formerly supposed; not that the disease exhibits a severer type, but that its pathological domain has been greatly enlarged with our increased knowledge of the vast number, the complexity, and the far-reaching character of its morbid processes. That our conception of syphilis has entirely changed will be evident from comparing the older textbooks with a modern treatise on syphilis. In the former almost the entire symptomatology of the disease was made up of the visible accidents on the external surface of the body and for the cure of which a few months' treatment was all that was deemed essential. In the modern treatises these surface accidents are considered of subsidiary importance, as they rarely affect the integrity of any important organ, while the visceral determinations of the disease, the cerebral, spinal, vascular, ocular, articular, pulmonary, intestinal, hepatic and renal affections constitute its chief significance. We now recognize that the infection of syphilis is of a more profound and permanent character, that it may affect every constituent element of the body, and that these systemic complications are serious and often fatal.

Of the tertiary determinations syphilis of the brain and cord occupies the first rank in frequency as well as gravity. Fournier declares that the nervous system is the preferred victim of tertiarism. His personal statistics, extending over a period of 39 years, and embracing 4,000 cases of tertiary syphilis, show that next to the skin the brain and cord were the organs most frequently affected. The cutaneous accidents number 1,145, while affections of the brain number 758; of the spinal cord 1,098; giving a total of 1,857 cases in which the brain and cord were involved.

It is interesting to note that 354 of these cases of cerebral syphilis were followed up to a known termination; 77 were cured; 68 died, while the remaining 209 survived, but with various infirmities of a grave character and in every case irremediable.

Want of space forbids the mention of the almost

innumerable manifestations of syphilis. Among them may be classed oculomotor paralyses, hemiplegia, paraplegia, epilepsy, chorea, multiple neuritis, progressive muscular atrophy, locomotor ataxia, general paralysis, etc.

We come now to consider certain irradiations of syphilis which constitute a grave social danger and which emphasize the importance of prophylaxis from a humane as well as a sanitary standpoint. I refer to *syphilis insontium*, or syphilis of the innocents. Unfortunately, the risks of this disease are by no means limited to the offender against morality, but are transmitted to innocent wives and helpless children by its introduction into the family. The infected wife is not only made to incur all the individual risks we have been considering, which in her case are much greater as she is most often ignorant of the nature of her disease and does not receive the benefit of prompt and efficient treatment. Incredible as it may appear, many husbands who infect their wives employ every possible means to prevent them consulting a physician from a fear of the detection of their infidelity which would come from the woman's knowledge of the nature of the trouble.

The frequency of marital syphilis, the enormous extent to which it prevails, is not generally known or even suspected. Fournier's statistics embracing only those cases in which the origin of the infection could be positively traced, show that out of every 100 syphilitic women 19, or nearly 5%, are conjugally contaminated.

During the past year I have carefully investigated the origin of the infection in every syphilitic woman who applied for treatment in my service at the New York Hospital. Fully 90% were enrolled as married women. Excluding all cases in which there was a suspicion of irregularity, and including only those in which the statement of the woman that she lived with and was supported by her husband was borne out by every appearance of truth, fully 70% appeared to be cases of conjugal infection. This percentage is large, but it will be remembered that few public women come to this hospital for treatment.

The number of cases of syphilis insontium is not to be measured by the number of victims of marital syphilis. Innocent inoculations occur in the daily occupations and intercourse of life. Infection of children and other members of a family take place in the thousand and one intimacies of family life, children infect their nurses and nurses contaminate children.

The irradiations of syphilis can be traced not only through the family, but through various industrial occupations and professional relations. Professional syphilis, that of physicians, surgeons, and accoucheurs, is vastly more common than generally supposed; more than 50 such cases have come under my personal observation. We hear little of them, as the victims have every motive to conceal the nature of their trouble.

The hereditary consequences of this disease will be only briefly referred to. Syphilis stands as the perfected type of an hereditary disease. No other disease is so susceptible of hereditary transmission, nor so pronounced in its effects, and fatal to the offspring. Statistics show that from 60 to 86% of all syphilitic pregnancies terminate in death *in utero*, or stillborn children. Of children born alive and viable, a large proportion of those who survive the first year suffer from a category of infirmities which can only be briefly recapitulated. Dystrophies and degenerations, cranial and nasal mal-

formations, hydrocephalus, osseous lesions, various affections of the brain and cord, lesions of the organs of special sense, deaf-mutism, idiocy, etc. Rickets has its almost exclusive etiology in syphilis. The predisposition to abortion may be manifest in the third generation. From the statistics of Pinard, Gibert, Tarnowsky, and others, we find that of 81 pregnancies occurring in households in which one of the parents had inherited syphilis, there were 28 abortions, 13 stillborn, 7 died soon after birth, while only 33 finally survived.

The social misery caused by venereal diseases cannot be overlooked; the separations, divorces, the breaking up of families, the dishonor of children, are deplorable consequences which can be too often traced to the introduction of these diseases into the family.

We have thus seen that there exists in our midst a large and important class of diseases which have the most intimate relations to the public health; they entail suffering, they destroy life, they are the fruitful source of a vast deal of social misery. In addition they have important socio-economic relations in their incapacitating effect upon the wage-earner, army and navy invalidism, and also in their undoubted influence as a factor in the depopulation of countries. No disease has such a devitalizing influence upon the procreative function as gonorrhea, no disease has such a murderous influence upon the offspring as syphilis, they literally poison the fountains of life.

In passing, one distinctive peculiarity of venereal diseases may be referred to. The germs of many infectious diseases cannot be guarded against, the recipient is a passive victim; infection is inevitable. The contagion of venereal diseases, exception being made of accidental inoculations, is always evitable; it is effected by the voluntary act of individuals. The communication of venereal disease is therefore to a certain degree wilful.

PROPHYLAXIS.

We cannot well consider the prophylaxis of any disease without reference to our sanitary authorities who are the accredited representatives of the State in all matters relating to the protection of the public health. At the present day the extermination of every contagious disease is the watchword of sanitary science. In an address before the Congress of American Physicians and Surgeons, in 1894, a high Government official proclaimed "that the controlling movement, so far as medical science is concerned, which will mark the closing of the present century and the beginning of the next, is the settled resolution to exterminate every contagious disease." And yet the dawn of the twentieth century witnesses the spectacle of a large class of diseases, dangerous to the public health, confessedly contagious, essentially evitable, and yet absolutely ignored by our sanitary authorities. There is not a single city or community in the United States in which these diseases are subject to sanitary supervision.

We may ask why this apparent indifference, this absolute inaction upon the part of the guardians of the public health? Is it from the traditional conception that these diseases do not come within the legitimate sphere of preventive medicine? But at the present day our sanitarians do not restrict their work upon approved traditional lines, they are constantly enlarging the sphere of its application. They have attacked the modern Sampson of tuberculosis upon the grounds of its contagiousness, but the syphilitic is 20 times more active as a spreader of contagion than the consumptive.

Is it from a conviction that since these diseases are commonly due to voluntary exposure they are in a certain sense *merited* and that society is under no obligation to protect those who are able to protect themselves? But is it not the manifest duty of society to protect the army of innocents who are infected through no fault of their own? Besides, the large proportion of the victims of venereal disease are not the seasoned sinners, the confirmed debauchees, but the young, the immature, and the inexperienced. An analysis of statistics shows that the average at which syphilis is contracted by women is from 18 to 20, in men from 20 to 25.

Is it not rather true that this policy of inaction is a confession of inability to cope with the evil by any methods known to sanitary science?

We must admit that the sanitary control of venereal diseases is much more difficult than would at first appear; the problem is so complicated by the nature of the cause and the mode of contagion, so interwoven with questions of infringement of private rights, restrictions of individual liberty, and, finally, with questions of morality, that there appears no clear way in which the evil can be touched by the strong hand of repression.

Undoubtedly the chief obstacle to sanitary intervention in this country is the inhibitory influence of public sentiment against the legal recognition or license of prostitution.

Prostitution is the *fons et origo*—the baleful source of the diseases under consideration. While not directly concerned in the transmission of syphilis in the family, it is the fountain head to which all innocent inoculations may be traced. Hence the suppression of prostitution and the prevention of venereal diseases are indissolubly linked.

But the suppression of prostitution is a Utopian idea. It has existed in all ages and under all conditions of civilization. The most severe and drastic measures carried out under the most despotic authority have failed to crush it. Almost every conceivable punishment, flogging, branding, shaving the head, banishment and death have been employed in vain. It cannot be annihilated by force. In the existing economic and moral conditions of society it is a necessary evil, not in the sense of being indispensable, but inevitable.

Now the law takes cognizance of certain forms of prostitution. It has made the keeping of disorderly houses a crime; it has made open public provocation a misdemeanor. It can sentence the keeper of a brothel to the penitentiary, it can send the inmates to the workhouse; but the law has its limitations. There are certain forms of the evil which are intangible, the prostitute can solicit in the streets by signs, which though subtle are no less significant than the voiced invitation. She can make whatever disposition she pleases of her body in her private apartments, and in this stronghold of individual liberty the law cannot touch her.

In this city the crusades against vice have been too often campaigns of force. From time to time a cry of alarm is raised against the public peril created by the appalling conditions of the social evil in certain localities. The strong arm of the law is invoked, the police are stimulated to do their duty, and the city is declared purified. Such a movement took place five or six years ago, but the ultimate result of the harsh and punitive measures employed was simply to disperse and scatter the evil, which was comparatively isolated in certain quarters. Unfortunately, dissemination is not destruc-

tion. From an exclusively medical standpoint, segregation represents the least objectionable form of the social evil. To change the *locale* of a shameless traffic from one precinct to another, to drive it to Harlem, or even to Hoboken, is not to break it up. The inmates of disorderly houses when turned into the streets are confronted by the stern necessity of living. They carry in their depraved and often diseased bodies their only means of subsistence—they simply ply their demoralizing trade elsewhere. These crusades can make vice less flagrant, less scandalous; they can render the streets more orderly and more decent; but the volume of vice is not diminished—it is simply directed into other channels. Too often it takes refuge in the crowded tenements of the poor, or in the apartment-houses of the better class, and becomes a co-dweller with virtue and respectability.

Violent measures must always defeat the object in view, because they are of necessity intermittent and spasmodic. Violence is incompatible with the sustained and continuous effort required to combat this evil. The social reformer can accomplish more by measures for the amelioration of the social condition of women; by throwing stronger safeguards around minors, especially the orphans and unprotected; by establishing homes for the reception and reclaiming of fallen women; and by furnishing means and opportunities for the rehabilitation of those wishing to reform.

While the most stringent legislation can never accomplish social reforms, yet the arm of the law may be effectively invoked in preventing scandalous public provocation; in suppressing the affluents of vice—the wine-shops, low concert and dance-halls, and other disreputable resorts; in making the punishment for the seduction of minors more sweeping by raising the age of consent to 21 years; and by meting out the severest punishment against the purveyors of vice—men and women who make a trade of dealing in human flesh by enticing and selling into the slavery of prostitution innocent and unprotected young women.

REGULATION OF PROSTITUTION.

Recognizing prostitution not only as an ineradicable feature of our social order, but as a fruitful source of disease, what are the best methods of dealing with it from the standpoint of public hygiene? The system known as the "Regulation of Prostitution" has been tried in various countries of Europe. It is now in force in France, Belgium, Germany, Austro-Hungary, Russia, Spain and Portugal. It was introduced in England in 1860 and abandoned in 1881. In Norway it was tried from 1860 to 1888. In Switzerland it has been abolished in many communes, but still exists in Geneva. It was introduced in Italy in 1860, suppressed in 1888, and reestablished in 1891.

In all these countries the system is essentially the same with slight modifications. It has for its essential features the registration or inscription of all prostitutes that can be brought within the jurisdiction of the police, and the medical examination of these women at stated intervals. Any woman found suffering from venereal disease is sent to the hospital, where she is forcibly detained until the contagious accidents are cured. The object is to hygienize an insalubrious occupation by the retiring from circulation of all sources of contagion. Men are not subjected to surveillance. The only plea for this discrimination is that the woman who sells her body for money is engaged in a commerce or

traffic, and that the interests of public hygiene demand that what she offers for sale should not be tainted or contaminating to health. Besides, as the woman is the more active spreader of disease, she is the greater offender.

Like any other system, its value depends upon the thoroughness with which it is organized and the activity and energy with which its regulations are carried out. A number of statistics might be cited to show that the regulation of prostitution has an undoubted influence in limiting the dissemination of disease, such for example as the vastly larger proportions of cases of contagion that can be traced to the unregistered prostitutes who are not subjected to surveillance. Without reference to statistics it stands to reason that a public woman who is diseased will almost inevitably infect every comer, it may be four or five a night, while if she is quarantined in a hospital, so many men will escape. The more public women that can be brought under the operation of this measure, the more sources of contagion will be suppressed and the greater the protection of the public.

But right here comes in the limitation of its usefulness. Women do not like to be registered as prostitutes, they do not willingly submit to medical examination, they have a horror of imprisonment in a hospital. The result is they abandon public houses and become clandestine prostitutes, so that the *maisons de tolerance* in which vice is collective and centralized and can be most effectively supervised and controlled are in process of extinction.

In Paris the number of such houses has diminished from 250 to less than 40, although within this time the population has quadrupled. In Marseilles there were in 1875, 120 brothels with 600 inmates, 20 years later there were only 12 with 90 inmates. In Bordeaux the number has decreased from 60 to 21, and so in all cities where regulation has been enforced. Regulation has conclusively demonstrated that the surest way to break up disorderly houses is to subject them to sanitary surveillance. But with the passing of the brothels, there have sprung up hundreds of houses of rendezvous, in which public women do not reside, but to which they go when sent for. Vice takes refuge in theaters, music halls, dance halls, it seeks cover in private lodgings. The industry simply changes its form and methods of business; it becomes clandestine, more elusive, less susceptible of control and infinitely more dangerous to the public health.

To my mind one objection to this system is that it takes cognizance of only one factor in the spread of disease. It is a rank inequality of justice to subject the female offender to surveillance and allow the equally guilty male spreader of contagion to go free. Another objection is the inquisitorial character of this surveillance; moreover, when the police are armed with discretionary power, in the matter of arrests, they are apt to abuse this authority.

In countries where regulation is employed it has its partisans and opponents. While generally sustained by the medical profession it is condemned by others as defective and inefficient. The most violent opposition comes from the religious and moral elements of society on the ground that in hygienizing prostitution by sterilizing sources of contagion, it is rendered safe, and that this safety, however illusory it may prove, is a direct incitement, a provocation to debauch.

Without confuting the fallacy of this charge it may

be said that it is unfortunate that there should be such an irreconcilable conflict of opinion between the hygienist and the moralist upon this important question. The medical man and the moralist are both interested in the correction of the social evil. Instead of working independently, and often antagonistically, there should be cooperation and concert of action. The former looks only upon the *effects* of prostitution, the diseases it engenders, to prevent which appears to him the paramount issue. The moralist looks upon the social evil as a vice, an offence against morality, which should be combated by moral means alone.

Whatever may be the value of the system of regulation, as employed in Continental Europe, it is safe to say that it cannot be utilized in this country. Public opinion, which often has a force quite irrespective of its merits, forbids its establishment in this country, on the ground that it is equivalent to a licensing of vice. The experiment has been tried but once in the United States. In 1872 the Missouri Legislature enacted a law for the regulation of prostitution, modeled on the Continental plan. The system was introduced in St. Louis, but was in operation scarcely over a year when the obnoxious law was swept from the statute-books by an avalanche of protests, principally from women and the clergy.

Again, regulation is impracticable in this city, because the conditions essential to its successful application and working are wanting. This sanitary scheme contemplates the hospitalization of diseased public women and their quarantine during a period more or less prolonged, certainly until their contagious accidents are cured. Now, incredible as it may appear, there are not hospital accommodations for one in 2000 of the prostitutes in this city. The great city of New York provides for the reception and treatment of women suffering from venereal diseases just 26 beds in the City Hospital on Blackwell's Island. There is not a single hospital on Manhattan Island where a syphilitic woman, whether she be a prostitute or an innocent victim of the disease, may be treated. She may be received in Bellevue Hospital, but she is promptly transported to the Island.

Such is the situation. Prostitution, the root of the evil, cannot be extirpated, it will continue to bring forth its crop of dangerous diseases; any proposition for their prevention, based upon the regulation of prostitution, is impracticable. Can nothing be done to restrict or limit their spread?

PROPHYLAXIS BY TREATMENT.

What has been termed prophylaxis by treatment, appears to be the only practicable measure. In dealing with diseases in which there has been a comparative failure of the sanitary measures employed for their prophylaxis the value of treatment becomes magnified in importance. In the case of inoculable diseases, treatment constitutes the best prophylaxis, by sterilizing sources of contagion and limiting the period of their contagious activity. Prophylaxis by treatment is by no means a new idea. It was advocated as the only solution of the problem in the article on "The Relations of Syphilis to the Public Health" (Morrow's System, Vol. II, Syphilology, 1894). Its value and possibilities have been since more fully elaborated by Fournier, Barthelèmy and others.

Indeed the basic principle of any system of regulation is to hospitalize and treat as many sources of contagion as possible. Its chief defect lies in the fact that

the number of cases which can be subjected to treatment is limited. The feature of forced detention in a hospital excites an invincible repugnance. Treatment should be free and patients allowed to come and go at their will. Experience proves that more patients can be treated by liberty than by force, and the more patients we can treat the greater the protection to the public health.

Now it is a notorious fact that the vast majority of syphilitics do not receive proper treatment, not one in 20, certainly not one in 10 receives a treatment sufficiently prolonged. Statistics show that the larger proportion of the dreaded accidents of tertiarism occurs in this class of cases.

Reference has already been made to the lack of hospital accommodations for female venereals in this city. A slightly more generous provision is made for men. There are 56 beds in the male venereal wards of the City Hospital and a small number in the Metropolitan Hospital. This provision is notoriously inadequate. What is needed is the removal of the ban of ostracism which dishonors this class of diseases. Venereal patients should not be discriminated against. Admit that we owe no duty to the debauchees, but if society cannot protect the innocent from contamination, it owes them at least the recompense of free and skillful treatment. Moreover, morality should not qualify disease, medical science is sufficiently broad, charitable and humane to ignore such a petty qualification. The plea that these diseases are excluded from all general hospitals in this city on the ground that they are "contagious diseases" is a mere pretext. They are contagious only by inoculative contact, and in no hospital conducted on modern aseptic principles can there be any chance of contagion in this way. I would urge then that every general hospital in this city, receiving State or municipal assistance, should be required to open its doors to this class of diseases. Special wards or services should be organized for their reception and treatment.

Free hospital treatment is but one of the agencies and by no means the most important for the suppression of sources of contagion. Its application is limited to a small number and for a brief period. The contagious activity of venereal diseases is manifest during a long period, that of syphilis for two or three years. The large proportion of syphilitics are ambulatory cases, they do not require hospital care, they are quite able to go about and attend to their duties and employment. What they require is the prolonged treatment which the well-to-do syphilitic can procure at the office of his physician.

There are seven dispensaries in this city in which there is a venereal or genito-urinary service; in addition there are a few cases treated in the Harlem and Fordham Hospital dispensaries. There are ten others in which there is a skin or dermatological class in which, presumably, the syphilodermata may be treated. The dispensaries with venereal services should be multiplied. They should be located in convenient quarters of the city, readily accessible, so as not to involve too much loss of time to the patients in going and coming. Loss of time means to many patients the alternative of losing their employment or giving up treatment. Night classes should be established for patients unable to come during the regular day hours. In the surgical night class of the New York Hospital when these cases are admitted more than 70% are venereal.

These services should be organized and conducted with especial reference to the nature of the disease, due regard being had to the fact that the patient, whatever may be his position in the social scale is conscious that he has a shameful disease, the avowal of which is more or less humiliating; especially is this the case with women. These services should be conducted with all the privacy possible. There should be separate rooms for women. Time and time again innocently infected women have declared that they could not continue their attendance at my class because their entrance into this particular room, in which men are also received, would convict them of having a shameful disease.

These cases should be treated not only with reference to the individual risks of the patient, but with the cardinal consideration in view that every case is a focus for the spread of disease; and that measures of prophylaxis are quite as important as the cure of the disease. With the object of suppressing as promptly as possible all sources of contagion, the now obsolete practice of destructive cauterization of venereal sores, and the excision of chancres, whenever practicable, should be revived. Mucous patches which, with the chancre, constitute the almost exclusive sources of contagion should be subjected to the same sterilizing medication. For years I have employed the acid nitrate of mercury for this purpose.

Conjoined with the enlarged and improved facilities for treatment there should be a campaign of education. Patients should in every case be enlightened not only as to their individual risks but the risks they convey to others and the necessity of prolonged treatment. Time and time again patients who have infected their wives and children with syphilis have declared to me, with every indication of honesty as well as remorse, "I thought that I was cured; I did not dream that there was any danger." Now the average patient is ignorant of the varied and multiple modes of syphilitic contagion, and it is the duty of the physician to instruct him. In public practice this is difficult. A dispensary physician who sees from 50 to 60 patients or more in two hours cannot give the necessary time for such instruction. The same plan that is employed in many foreign clinics should be adopted here, viz., each syphilitic patient should be handed a printed slip, stating, in plain language, the nature of the disease, the modes of contagion, the risks of personal contact from erosions or mucous patches, the possible contamination of household articles, towels, spoons, drinking utensils, etc., the risks of hereditary transmission and also emphasize the necessity of thorough treatment.

The gonorrheal patients should be instructed as to the details of the technic to be employed in local treatment, the possible gravity of the disease, the danger of contagion even when the discharge may have apparently ceased, the significance of shreds in the urine as an indication that the disease, though latent, is still uncured, etc.

Physicians should never sanction marriage until all possible danger of infection is passed. Too much care and circumspection cannot be employed in this regard. Patients are too prone to take advantage of a guarded or qualified assent on the part of the physician, but they invariably throw upon him the responsibility for unfortunate results.

The medical profession should be better equipped for this prophylactic work by a more thorough knowledge

of venereology. The system of instruction as at present organized in most of our medical colleges is defective in this regard. In the presidential address before the American Dermatological Association, in 1890, I called attention to these defects and urged that the study of venereal diseases should be made an integral, necessary part of the course of medical education, and that a practical as well as a theoretical knowledge of these diseases should be made an indispensable requisite for graduation in medicine.

Physicians can do much in their professional capacity in instructing the young men of their *clientele* as to the dangers of licentious living. Too often the charge has been made against the profession that they recommend or sanction illicit indulgence as a means of health. On the contrary, the opinion of all medical men entitled to respect is that continence is not incompatible with health, and that harlotry is not a safe substitute for marriage.

This campaign of education should be extended to the high schools and colleges for young men. Unfortunately this has always been a forbidden topic. There is no reason why young men should not be forewarned of the pitfalls and dangers which beset their pathway—dangers into which they often ignorantly and unconsciously rush. Whatever may be thought of the innocuity of "sowing wild oats," its consequences are most often disastrous to the health of the individual. They should also be taught that self-restraint, personal purity, and respect for women are among the surest foundations of character. This education, it seems to me, should enlist the interest and cooperation of the moralist. For after all we must look to the education and training which will develop a higher order of morality in men as among the surest means of checking the evil.

Finally, the public should be educated to a recognition of the fact that the prostitute is largely the product of her environment. The vast majority of fallen women become so—not from choice or from innate depravity—but because of the hard and unjust social laws which force many of them into this life. Society should deal with them as unfortunates rather than criminals.

ON CERTAIN DISORDERS OF SLEEP.¹

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Nature of Sleep.—Whether or not the neuron moves or the neuroglia fibrils contract, this doctrine is true that sleep is the period during which the brain rests from its conscious activities, empties itself of the products accumulated by this activity and builds itself up for the work of awakening. There is much truth in the homology between sleep and the diastole of the heart, or the resting stage of a gland, and also in the suggestion that excessive sleep is like a flux, in which too much is carried away, while insomnia is a constipation in which morbid products are retained in the system.

Different Forms of Sleeplessness.—The most common dis-

order of sleep is insomnia, but this is only a very general term, for there are many kinds and degrees of sleeplessness. The approach of sleep may be accompanied with a strain and stress which are very uncomfortable; during sleep there may be an unnatural activity of the sensory and association centers causing dreams, or of the motor centers causing shocks, starts, and spasmodic symptoms. Ordinary control of the visceral centers may be lessened, causing discharges from the bladder, sexual organs and intestines; or the vagus may let go its hold and the patient be awakened by palpitations and dyspnea. The sensory centers may be stirred up causing the patient to awaken with sensations of light, colored scotomata, thundering noises, violent vertigo, or terrific pain. In fine, the ordinary smooth current of the subconscious activities breaks against some pathological condition, and now one symptom, now another is thrust out and so unpleasantly disturbs the sleep and awakens the sleeper.

It is to some of these phenomena that I wish to call your attention this evening.

The Fear of Insomnia.—I would like to say a word in the beginning about the seriousness of insomnia. It is sometimes a much overrated and overtreated symptom. Nervous people who cannot sleep well often get the idea that that they must sleep or they will get ill, possibly crazy. Hence, an artificial apprehension is created, and the patient becomes as solicitous about his 8 hours of sleep as the constipated hypochondriac is about the daily movement of his bowels. He makes his whole life and that of his family conform to the acquisition of nocturnal quiet. He restricts his evening meal, gives up all study, social life, and evening amusements, takes the back room, puts blankets over the doors, stops the clock, and poisons the back-yard cats, all to secure his eu-hypnosis.

As a matter of fact, adults can get along very fairly for a long time with from one-half to two-thirds the regular hours of sleep if they nightly rest in bed for 10 or 12 hours, and therefore, I hesitate before I treat insomnia in the sane, and never treat it with drugs, except temporarily, for there are no good drugs for the trouble.

Morning Insomnia.—Insomnia has all kinds of phases and, as is found by questioning those who suffer, it does not always mean the same thing. There is a very common type which is extremely annoying, and which has a rather distinct etiology and therapeutics. It is what I term "morning insomnia." In these cases the patients go to bed at the ordinary hour and go to sleep without any trouble, but wake up at 2 or 3 o'clock and then lie awake, or, at best, have only a little imperfect slumber for the rest of the night. Such cases occur most often in persons over the age of 45 or 50, and are associated with the development of degenerative changes in the arteries to which is the added factor of ill-health or worry. It may be an accentuation of a habit formed in youth, of very early rising. It is natural in old people to wake up early in the morning. When this symptom comes on, however, in middle or shortly after middle life, it is a very annoying and a morbid condition. Such patients often are helped by general tonic treatment, and by giving the heart tonics and arterial depressants, such as glonoin, potassium iodide, and strophanthus. They often also get some relief by getting up and taking a drink of hot milk or hot water, or some simple food. A small dose of bromide (10 gr.) or of trional (5 gr.) at bedtime helps them.

¹ Read at a meeting of the Bellevue Hospital Alumni Association, December, 1900.

A man of 61 came to me complaining of morning insomnia. He had a slight apex systolic bruit and signs of arterial sclerosis but no other organic disease. For the past 15 years he had had morning insomnia, and for 6 years had kept a daily record of the number of hours he slept. This averaged 5 hours and 20 minutes, and had not varied half an hour in any month, summer or winter, by the sea or in the mountains. The range was from 5 to 6 hours.

There is another form, however, of morning insomnia. When this occurs in younger people, generally in the thirties, the symptoms are, if anything, rather more marked and distressing. The patient goes to sleep satisfactorily, but wakes up at about 2 or 3 o'clock and lies awake in a state of nervousness and discomfort until the daylight comes.

Mr. L. A., 33 years of age, came to me with this type of insomnia. He was a man of good physique, and sound in all his organs, except that his heart was not a very strong one. He was of a nervous temperament; one sister was insane and one brother neurasthenic, but he, himself, was an intelligent, well-balanced man. His habits were good, he was careful of his diet, and as regards indulgences of all kinds. There was a slight rheumatic factor in his history and he had a rather irritable heart. He was treated by me for his morning insomnia with very little relief for considerable time. He did not respond to tonic measures, to anti-rheumatic measures or to the ordinary hypnotics. He would go to sleep at 11 and wake at 2 or 3 A.M., no matter what I gave him. I discovered, however, finally, that he was carrying a very heavy burden domestically and financially and that he had, although he did not confess it, feelings of depression nearly all the time and that a fixed idea of a worrying character was with him. When circumstances changed so that this disappeared he promptly got over his insomnia.

A very similar case under my care is that of a man, aged 30, whose bodily organs were sound except that he had a slight blowing murmur at the base of the heart over the aortic valve. He had been very well, until he found that his family and children were beginning to suffer. Although he ate well and looked well, his sleep became impaired. He would go to bed at 9, go to sleep in about an hour, wake up at 2 or 3 o'clock in the morning and stay awake all the morning thinking of his troubles.

In this, as in other similar cases, a fixed idea of a depressing character is working upon the brain all the time, and it is the important factor in finally waking the person up after he has gone to sleep, there being a sort of subconscious activity of the brain which finally bursts into consciousness and rouses the patient. No doubt the other awakening factors are defective heart and some neurasthenia entering into the cases; but happiness is the cure and is the best hypnotic in these cases.

Motor Shocks.—Sometimes persons go to sleep normally, but have their sleep disturbed by a succession of awakenings due to motor, sensory or psychical discharges. One very distinct form of intermittent awakening is by motor shocks.

Just as the patient is dropping asleep he suddenly wakes with a start. There is usually a very decided spasmodic extension of the legs and sometimes a jumping of the whole body. The patient is at once awake and the spasm is not repeated and he soon falls off to sleep again. The attack may occur several times before sleep is permanently secured. It is usually simply an evidence of fatigue and nervous irritability and rarely requires anything more than rest. In some instances, however, this condition continues through the night and becomes very annoying. It may even end in some serious condition.

A man of 35 had suffered from neurasthenic insomnia for 3 years and had got in the habit of taking trional in 20-grain doses at night. Under advice he stopped it, and for a long time was annoyed by these motor shocks. A return to trional stopped it and another attempt to break off the habit led to the same result.

I have a patient whose case shows that motor shocks may end seriously. She is a single woman; age, about 38, who for 10 years has suffered from neurasthenic troubles of a mild but persistent type. She suffered from general weakness so that she could not walk far or sit up long nor do any physical labor. She had rather frequently some slight amount of vertigo, she often had attacks of migraine, and slight exertion would bring on feelings of weakness and dizziness and pain in the head and back; when quiet, however, her symptoms were very few. She had always been accustomed to sleeping well and her appetite, digestion, and nutrition were good. She was of a nervous temperament and one brother had been a sleep-walker in early life. She herself had always been a very sound sleeper until the last two years of illness. Objectively she showed nothing but a rather weak heart with a functional murmur over the pulmonic valve. In the last two years she had had attacks of intermittent heart-beat which annoyed her a great deal. She had never had any fainting turns or any spasmodic troubles of any kind. The heart intermissions would occur during the daytime and in later periods annoyed her when beginning to go to sleep at night. About two years before her severest symptom developed, she suffered from startings just as she dropped off to sleep. These occurred only rarely, were not often repeated, and gave her but little annoyance. In the summer of 1900, however, both the sense of the intermission of the heart and the startings at night increased in frequency until finally when she went to bed she would be annoyed for 3 or 4 hours by repeated startings, it being 12, 1, or 2 o'clock before she finally got to sleep. She would have 20 or 30 successive starts during the night. All of this broke up her rest and disturbed her generally. On July 5 she retired as usual, but the startings continued through the night and until 5 o'clock in the morning. The skippings of the heart annoyed her occasionally also. At 5 A.M., just as daylight was breaking, she started up again and felt at the same time a cold sensation on her left side. She sat up suddenly in bed and felt a profound sense of objective vertigo. She called for her maid and then fell back and lost consciousness for about a minute. After this she felt dizzy and uncomfortable, but had no more starts until half-past 10 in the forenoon. She then had another severe one; sat up, got extremely dizzy and lost consciousness. At the same time she was found by the nurse in a state of slight, general clonic spasm. These spasms lasted only for a few seconds. She became conscious after a few moments. After coming out of this she was very dizzy again and vomited a good deal during the day. In the evening she had two more of these seizures. She was then seen by a physician who gave her bromide and she slept. She was seen by me next day and placed upon iodide of potassium and small doses of bromide of potassium, not larger, however, than she had had on previous occasions. She was kept upon this for several months and had no recurrence of the attacks in any way. For several weeks she passed very bilious passages.

The whole history of the case would suggest that out of a simple, persistent and predormital start there had developed some attacks of an epileptic character. Still, I am loath to believe that they were genuine epilepsy, for the patient had never had any signs of any type of petit mal before and inherited no tendency in that direction. They were more likely symptomatic of the weak and intermittent heart-action.

It seems to me that "motor shocks" are due to the change in the circulation of the brain that occurs while passing from the waking to the sleeping state. When this takes place in very irritable and tired-out brains, a slight motor explosion is brought about. In fact, the cardiac mechanism seems to be a very important one in the production of bizarre types of sleep disorder. The condition of the liver is also an important factor. One of the causes of the predormital starts is perhaps the removal of the inhibition exercised on the motor cortex by sensory stimuli from the outside world, especially from the visual organs. A girl of 12 who has frequent abortive attacks of epilepsy, has always

starts and slight seizures, when she goes suddenly into a dark room and even when she closes her eyes. She has to have a light in her bedroom at night and has had to give up closing her eyes when she says her prayers at church.

Psychical and Sensory Shocks.—At times persons are disturbed by sudden wakings from sleep accompanied with a sense of anxiety or distress over some particular idea; generally some work forgotten or duty neglected or apprehension which seems about to be realized. In these cases there is no sensory shock and no muscular starts or particular motor disturbance. The patient simply wakes suddenly and sits up in bed with a fear upon him that something should be done or ought to be done. Upon realizing the real state of affairs he falls to sleep and then, after a time, starts again with the same apprehensive idea.

A lady, 35 years of age, married, childless, of nervous temperament, had always been a good sleeper. She had had weak digestion and was rather neurasthenic. She underwent a severe strain in organizing certain charitable work involving much responsibility. While doing this, and for two years afterwards, she became subject to disturbances of sleep of the above character. After sleeping an hour or two she would suddenly become quite wide awake and sit up in bed with a sense of fear that she had left something undone about her work. After a moment she would realize the state of things and go to sleep again, to be again awakened; and this was repeated through the night. The sudden awakenings were not convulsive starts or associated with auras. They continued as a kind of nervous habit two years after she had been relieved of her responsibilities and when she had regained comparative health. They returned a year later when she had again become neurasthenic.

Sensory Shocks.—Dr. Weir Mitchell, in his book on nervous disorders, 1881, describes a condition somewhat analogous to this which I have described, but not identical with it. He refers to his cases as illustrations of sensory shock and finds them much more frequently in women than in men.

"When just falling asleep, one of his patients became conscious of something like an aura passing up from his feet. When it reached his head he felt what he described as an explosion. The sensation was that of a pistol shot, or as of a bursting of something, followed by a momentary sense of deadly fear. These sensory shocks may be accompanied by a flash of light or a sense of odor, or an abrupt and general motion, such as the ordinary attack of any violent and sudden sensation."

In the patient whose case I have described, there was nothing in the shape of an aura, nor in most of the cases which I know has there been anything like a sensory shock. These shocks, whether of psychical sensory or motor character, occur in neurasthenic and hysterical persons and are not associated with epilepsy.

Waking Vertigo.—A condition belonging to the class of sensory shocks may be termed "waking vertigo."

A man, 58 years of age, suffered from recurrent vertigo which he had had at various periods in the previous 15 years. His father had been very deaf, and he had a sister who suffered from Menière's disease. He himself had always been a healthy man with no specific history and no history of excesses of any kind, except that he had been a very hard worker. He had never had headaches, but had some inclination to sluggishness of the liver and suffered from bleeding piles. He was always a sound sleeper. In the earlier periods of the vertigo he used to be suddenly awakened up at night with an intense feeling of objective dizziness. This always occurred when he lay upon the right side. If, during

sleep, he turned over on this side for a time, he would suddenly be roused and sit up in bed with a feeling of dizziness and a sense of alarm in connection with it. This speedily disappeared, and if he turned over upon his left side he had no more trouble. The attacks were especially apt to occur when he suffered from what he termed "biliousness." At this time also he awakened with numb fingers and sometimes, sleep palsy. The attacks were, as he said, "very dreadful." They disappeared under tonic regimen and attention to the condition of the liver. When examined by me he presented no objective signs except a rather large heart and a systolic murmur at the apex, but he had no subjective symptoms of cardiac trouble and could ride a bicycle and go up stairs without any difficulty. Whether he had the heart trouble at the time of his previous attacks, or, at least, whether it was of any serious consequence, is very doubtful in my mind. The attacks must be ascribed to some mechanical cause. Theories as regards it could easily be developed, but I know of none that is perfectly satisfactory. That the position in some way interferes with the portal circulation and disturbs the hepatic function is perhaps the most likely explanation.

This waking vertigo is a condition not very rare in those who have chronic vertiginous troubles. Usually they suffer from an unpleasant dream of falling or of being carried swiftly along, an unpleasant sensation finally awakening them, and they sit up finding themselves in the midst of an attack of vertigo. It sometimes occurs as an awakening aura of epilepsy.

Migrainous Seizures in Sleep.—Migraine sometimes produces sensory shocks or perhaps less explosive disturbances that lead to sudden awakenings and broken sleep. The migraine occasionally takes a fulgurating type in which the patient, with hardly a moment's warning, is taken with a terrific pain in the head accompanied with nausea and eventually all the classical symptoms of the disease.

One of my patients, a man of 55, is often waked without warning from a sound sleep by a terrific temporal pain, which keeps him in agony for several hours, then gradually abates. This nocturnal attack of migraine is precisely similar to nocturnal spasms of epilepsy, and is measurably helped by antiepileptic remedies. The less sudden arousal of a patient with migrainous pains is quite common.

Waking Paresthesia.—A neurasthenic woman of 30, anemic, and overworked, was constantly awakened from sleep by her arms and legs going to sleep. The sensations would arouse her; she would wake, rub her limbs till they felt normal, and drop off to sleep again, and again be awakened. Sleep thus became imperfect and distressing. Two patients, reported by Schurster, would go to sleep quietly, but soon after would awake with a feeling that they had lost their muscle-sense and sense of position. The attacks came on successively during the night and allowed no sleep.

The condition here is similar to that of waking-palsy or waking-numbness,² only in the cases referred to, the sensations of numbness and anesthesia come first and are the cause of the awakening. They soon disappear but recur repeatedly, breaking up the sleep. Such attacks are more apt to occur toward morning, while the motor shocks occur often in the earlier part of the night. It is as though the motor cells lose their irritability more slowly and go to sleep later, while the sensory cells begin to become irritable sooner as the morning comes on. They precede the motor cells both in going to sleep and awakening.

² Waking-palsy and waking-numbness are very common symptoms and are generally and rightly considered in most cases to be due to a rheumatic or lithemic condition.

This is, in a measure, similar to the phenomena observed in diseases which cut off the peripheral nerves or injure the conductivity of the spinal cord, when sensory symptoms come on first and disappear first.

Painful Sleep.—(Hypnalgia, dysoneiria.) A chapter might be written upon the psychoses of the night; by which I mean those peculiar and unnatural mental states which come on as bedtime approaches and which mingle with or disturb the sleep. The period of retiring gets to be with some people who sleep ill, an event looked forward to with despondency and dread almost amounting to terror. On retiring they toss about, the mind jaded with worries and depressing emotions. They get up, walk about the room, read, take their medicine, go to bed again, still with no relief until perhaps toward morning, under the influence of some drug, they finally drop off. This is a state, of course, which is to a certain extent experienced by all sufferers from insomnia, but in some instances the condition during the night amounts to an acute melancholia, while in the daytime they are fairly comfortable.

Mr. J. H. R., a married man and traveling salesman, came to me some time ago with such a story. He had been well until about three years ago. He had always been a hard-working man, a moderate drinker and smoker. He showed no distinct objective symptoms, but gave the rather ordinary history of an irritable type of neurasthenia. His worst trouble was at night, during which time he suffered from disturbed sleep and a mental depression which was most excessive and to him alarming. He looked upon the approach of night with absolute horror. The condition I characterized by the term of "night despondency" because it was so sharply marked and acute.

The condition in which sleep is not refreshing or enjoyable, but actually a pain, has been called hypnalgia.

Dysoneiria.—Absolutely healthful and restful sleep is dreamless; and hard dreaming is largely a product of modern civilization; yet dreaming, like drinking, in moderation is harmless and not even disagreeable. This is the common experience and is confirmed by systematic observation. In an analysis of 118 consecutive dreams (Strong, *American Journal of Psychology*, October, 1900) there was an unpleasant emotional element in only 29 and here it was not acute. Painful dreams are usually incidents in early sleep and are often readily traced to indiscretions accounted sufficiently enjoyable to overbalance the nightmare. The sleep of early life is peculiarly sensitive to irritations from below the diaphragm. In later life it is more affected by the heart, bloodvessels and lungs. It is rare for an adult to be disturbed by disagreeable dreams.

There are, however, conditions in which sleep is a continuous succession of painful or disagreeable dreams. The moment sleep begins dreams begin, and when the patient awakens it is with a feeling that the whole night has been a series of fretting, depressing and annoyingly incoherent incidents.

A lady of 35 has had about seven attacks of epilepsy annually in the past six years; she has some chronic headaches but is otherwise well. She takes about 40 grains of bromide a day. She says that every night the moment she goes to sleep she begins to dream, and she keeps it up till morning when she wakes up tired and unrested; the dreams are unpleasant but not frightful. They make her sleep a burden.

A neurasthenic man of 30 years, sound of body, sensitive and inclined to despondency, tells the same story. He goes to sleep instantly, but begins at once to dream of trivial but unpleasant things, and wakens tired out. He agrees that the free play of fancies in dreaming is more wearying than systematic mental effort.

Such people are never quite well. They are usually tired out and have poisoned or degenerate brains.

The condition of unpleasant dream-slumber is called dysoneiria. It can be artificially and acutely induced by tobacco, coffee, and other poisons.

Waking Syncope.—It is a pretty safe general clinical rule to say that all serious spasmodic disturbances that occur in sleep are of an epileptic character. There are, however, a good many minor disturbances not of a convulsive character but associated with mental aberration or fainting turns which are often very puzzling and which belong, perhaps, sometimes to the epileptic class and very often may be considered simple evidences of a hysteria or neurasthenia, or of some temporary disturbance of the vascular mechanism.

A lady of 45, married, and the mother of several children, came to me in great distress of mind because it had been intimated to her by her nurse that she had nocturnal epilepsy. She was a woman of nervous temperament, but very intelligent and usually self-controlled; still, she was inclined to fits of depression and at times to hysterical outbreaks. As a girl she would often faint; once when vaccinated, again after taking a very large or powerful cathartic, again once when riding in a very hot car while pregnant with her first child. These attacks were simple fainting turns without any convulsions. When about 30, while nursing her baby, she would sometimes be awakened up suddenly at night by his cries; she would jump out of bed, run quickly to him and then faint away; she would remain unconscious for a short time, then get up and attend to her task. These nocturnal fainting turns ceased as the baby got older. Some 10 years later she became very much depressed and neurasthenic and took the rest-cure under my care for a period of several weeks. Twice during that time she awakened up suddenly at night and then went off into a fainting turn without any observed spasm, however. Four years later, while sleeping at night, her boy being in a neighboring room, called to her in a hurry. She jumped out of bed and had this same fainting turn. It seemed to me that I was not justified in calling these attacks epileptic, although I regarded them with some suspicion. The patient had a rather weak heart and was not a strong woman and it might easily be, it seems to me, that the sudden shock of being roused from sleep and getting up on the feet would cause a fainting turn, owing to the sudden change from a horizontal to a vertical position and the sudden demand upon the exercise of the mental faculties before the heart had time to adjust itself to the new situation.

Nocturnal Oratory.—Automatic disturbances of sleep such as sleep-walking and talking, are seen rarely and almost always in children. They are not of any serious significance, and rarely come to the attention of the neurologist.

Automatic phenomena occurring in the adult during sleep are of importance. They are not seen often in frankly developed epilepsy and yet they are usually significant of this.

A common form of this trouble is one called nocturnal oratory.

A man of 35 and lawyer by profession; a healthy, strong, vigorous man, came to me complaining that his wife did not like the way in which he passed the nights. He would go to bed and go to sleep like a normal individual, but in the early morning hours he would suddenly sit up in bed and say: "boo! boo! boo!" This would be followed by a short oratorical display upon some passing topic. For a short time he would quiet down and then go to sleep again. In the morning he would sometimes remember these attacks, but this was not always the case. At one time his wife, being a little irritated by his habit, tried to persuade him to stop, when he jumped at her and held her rather violently, quickly, however, quieting down and resuming his elocution.

I assumed the attacks were not associated with any

nightmares or dreams or any emotions of terror of any kind, nor could they be related to any habits of self-indulgence. I took them to be of an epileptic character and under the use of bromides they gradually ceased.

In the foregoing I have considered a special type of insomnia—morning insomnia.

Disturbing phenomena of sleep causing more or less insomnia, and these I classify as:

Motor shocks, psychical and sensory shocks, including waking in fright, waking sensory shocks of various kinds, and waking parasthesia.

Painful sleep, in which there is a kind of nocturnal melancholia, and in other instances a series of painful dreams (dysoniria).

Certain epileptoid and automatic disturbances of sleep.

A large part of the above phenomena occur from somewhat similar causes, viz., neurasthenia, lithemia, arterial sclerosis, and cardiac weakness, and a few can be attributed to digestive disturbances, and a few perhaps to abortive forms of epilepsy.

The treatment of these symptoms is the treatment of the underlying condition. They are usually easily helped by bromides and hypnotics, but these drugs are not often curative. It is especially dangerous to use the ordinary hypnotics; and I have come to the belief that all sleep-producing drugs are bad and useless in dealing with chronic and established neuroses. More can be accomplished by heart and general tonics, by dealing with the lithemia and arterial sclerosis and thus promoting the patient's general health. Exercise in moderation and long drives or long exposure to the fresh blowing air, are the best hypnotics given, also peace of mind, and especially a removal of that dread awakener—fear of not sleeping. The safest medicinal agent, if any is to be used, is single small doses of bromide, persistently kept up.

GENERAL METABOLISM IN DIABETES MELLITUS.*

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THE fact that my discussion is to be limited purely to metabolism in diabetes, without considering the relations of the metabolic disturbance to various organs, will necessitate omission of some points which are apparently of extreme importance in connection with the portion of the subject assigned to me. In the case of the pancreas in particular valuable discoveries have been recorded, and knowledge of these is practically essential to a proper conception of present views concerning the nature of the metabolic abnormalities in this disease. Such matters will, however, be more properly discussed by other speakers.

Since so large a number of points must be touched upon in discussing the general metabolism, I must repeatedly throw together facts which are rather distantly related in order to accomplish the duty which has been assigned to me within the limit of time.

The whole nutritional difficulty in diabetes, so far as is definitely known, is one that in an ordinary case relates, primarily, solely to the carbohydrates. The sum

total of the activity of the metabolic processes is practically normal; and the demand for and expenditure of energy are normal, except in so far as these are influenced by the disturbance of the carbohydrate "mechanism." Speaking freely, we may say that the diabetic expends the same amount of energy and suffers the same daily amount of tissue loss as a normal person, and requires in his food the same amount of energy and of material for repair as does the normal man. In one small way, to be sure, the diabetic does use, and therefore does demand, more energy than a normal man under the same circumstances. He goes through the labor of digesting carbohydrates, he produces carbohydrates within himself, and he, perhaps, constantly builds up glycogen and then produces glucose from it. All these processes serve a useful purpose in the normal subject and yield far more energy than they consume. In the diabetic, on the contrary, the energy of this labor is wasted, the partially prepared food is cast out without being used and without having furnished in return even the energy which it has itself demanded. Modifying the previous statement, therefore, in slight degree, a diabetic may, in regard to his nutritional demands, be looked upon as differing from the normal person only in that he uses slightly more energy in accomplishing the same amount of work. It is, however, essential to recognize that his real fault does not lie in a pathologically increased expenditure of energy and a consequently increased demand, such as is seen in many febrile and toxic states; it is a fault which does not lie in the demand for food or in the quantity of food ingested, but in a more or less complete loss of the normal ability to derive energy from carbohydrate food, and a consequent necessity for the vicarious assumption by the protein and fat of the role in producing energy normally taken by the carbohydrates.

It has always been known that diabetics hunger and emaciate; it has also long been known that a diabetic practically always excretes much more nitrogen than a normal man. The first impression that these facts give is that there is some essential factor in the disease which causes abnormal activity of tissue destruction, and that the excess in nitrogen excretion is direct evidence of excessively active protein metabolism. It was taught for many years by authorities that an essential feature of the disease was azoturia, and that the nitrogen excretion regularly exceeds the intake; and, indeed, the same statement is still often made or implied. As regards the fats, too, it may usually be observed that the loss in weight is more than the nitrogen loss will explain, and it is known that a diabetic early loses practically all his reserve store of carbohydrates. The conclusion is, therefore, justified that the man is losing fat, and his tissues themselves show this. Hence, wasting of the fatty tissues is often accepted as an essential part of the disease. In neither instance, however, is such a conclusion justified. The losses of fat and of nitrogenous tissues may be shown to be, in ordinary cases, purely secondary and due to the fact that the subject of the disease, though taking large amounts of food, is excreting so much of it practically unchanged that he is actually using for the production of energy an amount which is decidedly below the demand. The continuance of the demand for energy necessitates a proper supply, however, and the protein tissues and fat are broken down in order that they may yield this energy and not because their functions are abnormal.

* A part of a Symposium on Diabetes. Read at a meeting of the Philadelphia Pathological Society, January 24, 1901.

The unusual appetite exhibited by a diabetic is then a really normal appetite in that his tissues show no abnormal excitation of their food demands. Large amounts of food must be ingested merely because much of the food is wasted; and the subject emaciates only because he does not, as a rule, take a sufficient amount of the proper kind of food, that is, the kind that he can use; his supply of energy is below the demand, and his body protein and fat must fill the gap so far as possible. To appreciate the correctness of this view and the fact that the contrary teaching is erroneous, one must remember certain facts relating especially to the metabolism of the proteins in a healthy subject when the food supply is normal and when too little or too much food is given. There is not a sufficient general understanding of certain well-established facts which are all-important in this relation. In the first place, it should be more generally recognized that under normal circumstances the excretion of nitrogen is regulated almost entirely by the character and amount of food that a man takes and not by his manner of life as regards exercise, etc. If a mixed diet of normal quantity be given a man his tissues will in a very short time, usually a very few days, accustom themselves to the diet, and it may then be seen that whatever the amount of protein contained therein, his nitrogen excretion during a given period will be equivalent to the amount of nitrogenous food he absorbed during that period; in other words, that he maintains a nitrogen balance. It is necessary only to see that the total value of his food in units of energy is sufficient to meet the demand for energy, and that the daily ration does contain a certain amount of protein. The active tissues of the body are nitrogenous, and their activity means a certain amount of wear and tear, and consequently some protein is necessary to replace the loss. But this loss is small, and the protein may be reduced to as low as 30 to 50 grams a day without causing any loss of body protein during an extended experiment. Even active muscular exercise causes practically no increase in the nitrogen excretion if only the other foods are increased so that the total intake meets the increased demand; and a reduction of exercise, while the protein is still given in large amounts, does not cause any distinct reduction in the nitrogen excretion though it may cause the subject to grow fat. If food is given in very large amounts, more than necessary for the body needs, the subject will generally grow fat, but a nitrogen balance is again soon reached even if very large amounts of protein are given. If, however, the food is reduced in total quantity below the amount which is necessitated by the man's expenditure of energy, a loss of nitrogen will be seen almost at once if the excretion be compared with the intake. This loss will occur even though a relatively large amount of protein is taken. If the man be now given an amount of food which will bring the total food value up to the point demanded by his circumstances, he will reach a nitrogen balance again. The increase in foods need not be in protein, providing the protein has not been reduced below the relatively low limit of absolute demand, for it has been conclusively shown that protein loss can be easily controlled by giving more carbohydrate and, to a less complete and satisfactory extent, by giving fats.

There are a number of conclusions that can be drawn from these facts, which are of importance in connection with diabetes. In the first place, protein is evidently

not stored in the body. This conclusion is not wholly justified, as Krug's work seems to show that overfeeding with protein may, under favorable circumstances, cause some storage. His results, however, are justly questioned, and even if accepted they show extremely slight protein storage (producing only 5% of the increase in weight as compared with 95% due to increase in fat), and it is probable that the conditions producing such a storage could not be long maintained. Secondly, the protein both of the food and of the tissues is evidently readily broken down; with a general excess of foods or with an excess of any kind of food, even of protein, the protein is broken down at once, the fats and carbohydrates being stored; while if there be a demand for more food than is given the body-protein practically always suffers. And thirdly, and much more important in direct connection with the question under discussion, it is evident that a negative nitrogen balance, while it may mean excess in the activity of protein metabolism, may mean merely that the subject is taking too little food, all told. In health this is evidently the explanation, and in disease it is the first thing to be thought of. Fourthly, and quite as important in diabetes, it is evident that a nitrogen loss may, with healthy nitrogen metabolism, be converted into a nitrogen balance if more food is given, and that it matters little what form of food is given so long as the protein is not extremely low and the total value in energy units is normal under the circumstances. The possible explanations for the increased nitrogen elimination in diabetes are, therefore, three. It may be due to an increase in the ingestion, to a lack of sufficient food, or to a pathological essential increase in protein metabolism. The diabetic takes enormous quantities of food, hence the first factor evidently explains some of the increase in urinary nitrogen. It is not this alone, however, for the loss exceeds the intake. Of the other two, then, it may, in the ordinary uncomplicated case, be readily shown that a lack of proper food is at fault. A pathological increase of protein metabolism does sometimes occur in the late stages of diabetes, particularly when the patient is in danger of coma; but under ordinary circumstances, if the total caloric value of the food be calculated, and the loss in the sugar excreted be deducted, it will be found that the diabetic is making use of food only in amounts too small to meet the necessities of the occasion. If now his fats and proteins be increased to such a point that the total food value, after deducting the excreted sugar, is equal to or greater than the amount he needs, it will be found that the nitrogen balance is normal, and he may even retain nitrogen until the previous loss is replaced. Evidently, then, the protein metabolism is normal. As to the fat, conclusions are much more difficult to reach, except by inference. As has been stated, however, if a diabetic is given sufficient food, with consideration of the sugar loss, he will cease to lose weight, and with more food will gain weight, more even than the protein retention will explain. He tends, therefore, to retain fat and not to destroy it, if given the opportunity by being furnished enough total food, for a carbohydrate retention cannot explain the increase in weight. Further, there is no evidence of any increase in the oxidation of fats in studies of the respiratory quotient. There is also no good evidence that fats can contribute largely to the formation of carbohydrates in the body, indeed, the most satisfactory evidence points against this; there is, therefore, no opportunity for an indirect increase of fat de-

struction through contributing to the sugar production and loss. And finally, many cases of diabetes even show a distinct tendency to obesity. There is, therefore, no reason for believing that there is any increase in the oxidation of fats, either direct or indirect, excepting in an attempt to replace a deficit in the food.

But while there is no destruction of fats and protein in diabetes, excepting that which has the normal purpose of supplying the energy demanded, there is an evident disturbance of the metabolism of the carbohydrates, which is most easily seen in the characteristic and generally known symptom, glycosuria. The primary reason for this disturbance is both the most important and the most obscure question in diabetes, but valuable facts concerning the abnormality are known. Normally, we take the carbohydrates of our food chiefly in the form of hexoses, *i. e.*, their molecules contain six atoms of carbon, or a multiple of six. It is now known that our food does contain pentoses in considerable quantities, and that they play some part in our nutrition. It is not improbable that they are of decidedly greater importance in this way than is even now admitted, but they are probably largely transformed into hexoses after their absorption before they are used by the tissues. At present our interest certainly attaches chiefly to the hexoses. These are absorbed largely as glucose, though to some extent as levulose and also, in small amounts, as polysaccharids. Absorption takes place into the portal circulation almost exclusively. After this point the changes in the sugar are somewhat uncertain as to the main facts and entirely obscure in many details. It is quite possible that all the sugars, including glucose, pass through the glycogen stage before they are admitted to the general circulation. It is certain, at any rate, that practically speaking all the sugar normally admitted to the general circulation is in a form which gives the chemical and physical reactions of glucose, and that normally the amount in the general circulation is kept at a fairly constant but low level, the percentage being about 0.12 or 0.15. Any excess taken as food or formed in the organism is stored in the liver and muscles as glycogen, or if these reservoirs are filled to the limit, is changed into fat and deposited as such. If the supply is low the glycogen reservoirs are called upon and the glycogen is transformed into glucose and furnished to the circulation as such and not as glycogen. The existence of the glycogen reservoirs makes it possible to keep the percentage of sugar in the blood at the normal level in the long periods between meals, and in spite of temporary starvation or other unusual demands; the glycogen lost is soon replaced from a new supply of food, so that the total quantity of glycogen shows only temporary variations and a reserve is always on hand. The sugar admitted to the blood is, practically speaking, entirely used in the economy, the excretions containing only end products of its breakdown. The normal urine does contain a small amount of carbohydrate, and some of this seems to be glucose, but the quantity is too small to be considered of any practical importance.

The alterations in diabetes manifest themselves in all these main points—in the storage of glycogen, in the quantity of sugar in the blood, and in the striking change in excretion. The glycogen becomes reduced in amount and may almost disappear; sugar is found in the blood in abnormal amounts, constituting a so-called hyperglycemia, and more or less of this sugar is excreted in the urine as glucose, and the energy con-

tained in it is lost. The characteristic and distinguishing feature of diabetes is that these conditions are not dependent upon temporary causes, but are persistent and usually tend to increase. Any of the changes mentioned may occur temporarily as the result of numerous causes. The store of glycogen may be more or less completely reduced by starvation, particularly when associated with active muscular exercise; various nervous insults, particularly the *piqûre* of Claude Bernard, and many operative procedures will have a similar result, the latter probably acting largely through the nervous shock which they produce. Undoubtedly a hyperglycemia results in most of these instances, except in starvation, from the sudden flooding of the circulation with glucose formed from the glycogen, and hyperglycemia results in most if not in all of those conditions in which we observe so-called alimentary glycosuria. As to temporary glycosuria, this is a practically inevitable sequel of hyperglycemia when this reaches any notable degree, and consequently occurs in any of the conditions mentioned in which the percentage of sugar in the blood rises distinctly above the normal. It is in this way that the glycosuria may probably be explained when it occurs after trauma, experimental nervous insults, shocks in various diseases (as in gallstones), and in so-called alimentary glycosuria. In some cases a glycosuria is, however, independent of any mere sudden excessive production of glucose from glycogen or of a flooding of the blood with sugar by other means, such as the ingestion of large amounts of sugar. In some poisonings, particularly that produced by phloridzin, there is, without any hyperglycemia, a more or less decided glycosuria. In these instances the glycosuria is evidently not due to increase in the amount of sugar in the circulation, but to either a change in the chemical character of the sugar itself, or a change in the kidney permitting of the passage of the sugar. Infections also may cause glycosuria. They probably act as a rule through the production of a hyperglycemia, but may possibly act at times by alteration of the sugar or of the kidneys. But while it is possible that all the factors mentioned—poisonings, infections, shocks of various kinds, over- ingestion of carbohydrates (when protracted and particularly when largely of sugars), and even starvation,—may cause diabetes, and it is certain that some of these factors do at times produce the disease, the usual characteristic of the changes which they set up is that they are but temporary and disappear at once when the cause ceases to act, or at most soon afterward. If this is not the case the abnormality is actual diabetes. Of the conditions mentioned the one that most closely approaches diabetes is alimentary glycosuria, when this occurs persistently and after taking only moderate amounts of sugar. A normal person is evidently limited in his power of making immediate use of the carbohydrates which are absorbed from his gastrointestinal tract. Under normal circumstances the sugars absorbed are formed gradually during the process of digestion, and hence are absorbed in only small amounts within a given time. Only small amounts need to be dealt with, therefore, at one time. If, however, a normal person is given readily absorbable sugar in large amounts he absorbs large quantities within a brief period, particularly if his stomach and small intestine are practically empty when the sugar is taken. If the quantity given is large enough, any normal person will react by the excretion of some of the sugar in the urine. The

most evident reason for this, and the one generally accepted, is that he is unable to consume or store quickly such large amounts of sugar, his general circulation is flooded with sugar, and his kidneys excrete the excess. In other words, the normal ability to consume or store sugar quickly is limited. It may be observed in a large series of abnormal conditions that while there is no actual diabetes, an alimentary glycosuria may be produced much more readily than normally, *i. e.*, the ingestion of quantities of sugar that are normally fully used in the economy results in glycosuria. Among the prominent conditions in which this occurs may be mentioned neuroses (traumatic and other forms), organic nervous diseases, chronic or acute alcoholism, infectious diseases, pancreatic disease, and exophthalmic goiter. It is found in disease of the liver at times, but not in the large percentage of cases at one time thought. The essential point of distinction between a pure alimentary glycosuria and diabetic glycosuria is that the former occurs only after taking sugars and ceases when the excess is excreted, while the latter occurs after taking carbohydrates in any form, and often even when no carbohydrates are taken, it is more or less constantly present, even under normal conditions of life, and it is persistent and shows a strong tendency to increase. Alimentary glycosuria is present in diabetes, but does not necessarily mean diabetes. When the assimilative power is decidedly low, however, there is a dangerously close resemblance to diabetes in that in both conditions the normal power of making use of carbohydrates is reduced; but in pure alimentary glycosuria the alteration is quantitative only, while in diabetes it is both qualitative and quantitative. One striking difference between alimentary glycosuria and diabetes is that in the former the sugar excreted is practically always purely the kind ingested, while in diabetes the sugar found in the urine is, with very rare exceptions, glucose. But while the sugar excreted in diabetes is nearly always glucose, there is a distinct difference usually seen in the effects of the ingestion of different sugars. While all forms of sugars almost always increase the glycosuria, glucose is always badly tolerated and more or less completely eliminated, and the various polysaccharids are also but poorly borne. There is, as a rule, some power of using lactose, and levulose is frequently consumed to a very considerable extent, and may even cause an accumulation of glycogen, and the latter point is one of importance in attempting to make the course of diabetes clear. Besides the effect of the carbohydrates of the food, a striking effect may be seen from the food protein and the protein of the body. It is now certainly known that both these forms of protein furnish some carbohydrate normally, though whether it is a mere splitting off of a carbohydrate molecule already present in the protein, or the carbohydrate is formed by a more complex synthetic process after the partial breakdown of the protein molecule, is not known. Normally, this carbohydrate, like that already found as such, is completely used in the economy, but in diabetes it frequently increases the difficulty and is more or less completely excreted. But certainly the carbohydrate formed from protein is more readily assimilated than that taken as carbohydrate, as the exclusion of the preformed carbohydrates from the food will frequently cause the glycosuria to cease, and it is only in severe grades of the disease that the carbohydrate formed from protein is excreted in large percentage. Fats do not, from all satisfactory

work on the question, seem to increase the glycosuria, or indeed to form sugar at all. Bouchard and Desgrez have claimed recently that they may cause increase of the muscle glycogen, however, and this may possibly prove to be true.

The power of using preformed carbohydrate of any variety is rarely or perhaps never completely lost. Rumpf has recently claimed to have shown its absolute loss, and some other writers agree with him that this may occur, though no conclusive evidence of it has ever been offered. There are a number of cases on record, however, in which the loss was almost complete, and there seems no good reason that it should not occur at times. There is, however, never an entire loss of the ability to use carbohydrates in general, whether preformed or produced from protein. The possible variations are from the almost complete (or possibly complete) loss of the use of preformed carbohydrates, to a very slight and variable loss. In general there is a tendency for increase in the disability, and if carbohydrates are taken in any considerable amount this tendency is usually increased, often strikingly so. The most rational explanation of this is that the carbohydrate function, already weak, becomes overtaxed and still further reduced if excited to any degree. The abnormality also shows a decided tendency to more or less protracted fluctuations in degree, and may even spontaneously disappear for varying periods. Daily fluctuations are also seen in the sugar excretion, but these are probably due, as a rule, chiefly to the pauses between meals and consequent variations in the amount of sugar absorbed from the gastrointestinal tract.

Turning now from the characteristics of the metabolic disability to its effects—the chief immediate changes which can be determined are, as stated, an accumulation of sugar in the blood, a reduction of the glycogen in the liver, and to a lesser extent of that in the muscles, and a loss of sugar in the urine. The most striking clinical effects are largely secondary to those mentioned; they are chiefly hunger, emaciation, thirst and polyuria. The hunger and emaciation are, as previously stated, evidently due to food loss through the excretion of sugar in the urine. They are due to the fact that while the subject of diabetes takes a normal amount of what to a normal man is useful food, a very considerable portion of this is actually not food to the diabetic and cannot be used as such, and is excreted practically untouched. Hence he provides his tissues with an abnormally small amount of the substances which they can use as food. The hunger and emaciation are then their expression of a lack of sufficient food. An explanation of the thirst is usually simple enough. It is entirely or almost entirely dependent upon the polyuria; the loss of water, in the excessive excretion through the kidneys, makes the tissues poor in fluid, and the symptomatic expression of this is thirst. The polyuria is not quite so readily explained. It is certainly in chief part and in most cases explainable through the existence of a hyperglycemia. The kidneys are so constituted that they will not allow of the passage of sugar unless it be present in the blood in abnormal amounts. When it is present in abnormal amounts, however, the kidneys practically always make an attempt to excrete the excess. The sugar must pass the kidneys in solution, and for the solution of large amounts of sugar, large quantities of water are necessary, hence polyuria is an almost inevitable accompaniment of glycosuria.

The fact that the kidneys allow the sugar to pass

when it is present in the blood in excessive amounts is commonly spoken of as if it were an overtaking of the kidneys, and the glycosuria is apparently usually thought of as an unfortunate occurrence. It is, of course, generally recognized that the glycosuria is not of itself the cause of symptoms, but is the expression of some abnormality further back in metabolism; but it should be recognized also that instead of being a misfortune in itself, the excretion of sugar through the kidneys in hyperglycemia may be looked upon as a happy event; it must be largely an altruistic and purposeful act of the kidneys rather than the mere expression of a limit of power in retaining sugar. Hyperglycemia is an unfortunate condition in many ways, and were there no attempt on the part of the kidneys to reduce the excess of blood-sugar so far as possible, the results upon the tissues of the mere hyperglycemia itself would probably soon become grave in nearly all cases of diabetes. These results of hyperglycemia are among the most important of the secondary effects of the metabolic disturbance. They consist chiefly in a striking tendency to infection and necrosis of the tissues. It is generally known that the subjects of diabetes have a very marked tendency to pyemia, to tuberculosis in particular, to sepsis, to gangrene, and to many other infections. The gangrene can be explained to a considerable extent through the arteriosclerosis; but considering the strong tendency that diabetics show to other forms of infection, it is rash to follow the recent tendency of some surgeons and medical clinicians, and attribute the liability to gangrene almost exclusively to the arteriosclerosis that is often present. As to the tendency to tuberculosis, to pyogenic sepsis, and to many other infections, there is fairly general acceptance of the idea that these are largely due to the hyperglycemia. The existence of an excess of sugar in the blood and other body fluids makes this a much more favorable culture medium for bacteria, and it is perfectly reasonable to consider that the peculiar liability of diabetics to infection is largely due to this alteration of the body fluids. There are two other factors which must be considered, however. A diabetic is often an extremely ill-nourished person, and his very severe reduction of nutrition certainly favors infection, as infection is favored in other conditions of malnutrition. The third possible cause has recently been insisted upon by Teissier, who found that the presence of glycogen in culture tubes largely or completely hindered the growth of various forms of bacteria. He considers these observations added testimony of the correctness of the view previously expressed by Roger and Amato that the reduction of the glycogen of the liver so commonly seen in diabetes favors infection by reducing the bactericidal power of the liver. This is a somewhat theoretical explanation which may have considerable truth in it, but the actual knowledge of the role played by the liver in the prevention of infections is not yet sufficiently accurate to base ideas chiefly upon that, and it is certainly not yet sufficiently proved that the glycogen in the liver prevents bacterial growth and activity. The hyperglycemia is almost certainly the most important factor in favoring infection; one fact which seems to make this very definitely evident is that v. Mering and Minkowski in their original communication on experimental pancreatic diabetes strongly emphasized the tendency exhibited by the animals experimented upon to acquire infection almost at once. This infection usually took place locally through the wound made in

operating, and this seems much more like local infection due to a proper condition of the body tissues and fluids than a tendency to general infection through reduction of the bactericidal power of the liver; the tendency to infection was also so rapidly developed in these animals that the reduction in nutrition does not seem to have played a very important role. In closing this portion of the subject it may be mentioned that it is claimed that diabetes is demonstrable by certain methods which consist in observing the reaction of the blood to dyes, particularly to methylene blue. These reactions probably depend almost exclusively upon the existence of hyperglycemia. The tests which have been used in this connection are those of Bremer and Williamson. Bremer has two reactions: one of them consists in a peculiar behavior of diabetic urine to stains, the other in alterations in the staining reactions of diabetic blood. Williamson's test consists in a rapid decolorization of a weak alkaline methylene-blue solution when diabetic blood is added to it. Investigation of Bremer's reactions has shown, as might have been postulated without special study, that while it is almost always present in diabetes when hyperglycemia and glycosuria are marked, there are other conditions of the blood and urine that may give an apparent reaction, and there are also so many possibilities of error in the technic of the preparation of the blood that the reaction is of no serious consequence in actual diagnosis. As to Williamson's test, it is, in the first place, necessary to carry out the reaction with the utmost care as to details, and errors in technic are very likely to occur. Furthermore, the only instances in which the reaction is likely to be of any real value are in cases in which there is no opportunity to determine the existence of glycosuria, for glycosuria, if present, is a sign which is much more readily and certainly demonstrated. Such conditions are probably at most two. One of them is the absence of glycosuria, while hyperglycemia is present. If such a condition exists it is extremely rare, and even if the possibility of its occurrence be admitted, certainly hyperglycemia can be present in only extremely slight degree without a coexistent glycosuria, and it is questionable whether a very slight degree of hyperglycemia could be determined by this rough test; probably it could not. The condition in which Williamson thinks the test is more likely to give useful results is in diabetic coma, when urine cannot be obtained for examination, and when one desires immediate security in his diagnosis. A negative result, however, under such conditions, could never be depended upon as indicating the absence of diabetes, as it is well known that preceding or during coma, glycosuria and hyperglycemia not very infrequently disappear more or less completely. For this reason alone it is probable that Williamson's test would be negative in a certain proportion of cases of diabetic coma, if glycosuria were absent. There are instances in which the bladder contains no urine, and yet glycosuria and hyperglycemia are present. In these extremely rare cases Williamson's test might be of value. It must be remembered, however, that up to the present the test has not been well studied in relation to the other conditions which might possibly give a reaction. From some investigations that have been made it appears that the reaction, or something practically undistinguishable from the reaction, may occasionally appear in other conditions. It would seem, therefore, that the possibilities of a negative result in actual diabetes and of a positive result in other con-

ditions make the test so far unreliable that it is a very insecure basis of diagnosis. The proper observation of the symptoms, together with the investigation of the urine, if this is possible, and the discovery in it of large amounts of acetone, diacetic acid, and, perhaps of β -oxybutyric acid, afford much more satisfactory and far more reliable methods of diagnosing diabetic coma.

The discussion of metabolism in diabetes would, of course, be incomplete without a mention of the conditions in coma; but the questions arising in connection with this complication are so intricate and have given rise to such extensive discussion that only the most notable points and those which seem fairly well established can be given. So far as nitrogen metabolism has been studied, it seems, while somewhat variable, to be very likely to suffer an abnormal excitation with the approach of coma. The subject of the disease, while previously in nitrogen equilibrium if properly fed, shows with approaching coma a loss of nitrogen which cannot be replaced by increasing the protein food within safe limits. The cause of this increase in metabolism is not clearly evident, though it is certainly an expression of toxemia. With the nitrogen loss the patient commonly suffers a loss of fat. The carbohydrate disturbance usually continues, and at the period when coma is approaching, has generally become of severe degree. One striking point, however, which is always worthy of being remembered, is that, as previously noted, in some cases the sugar excretion disappears as coma approaches and during the course of coma. This is perhaps due chiefly to reduction in the amount of food taken, and a consequent reduction in the amount of carbohydrates supplied to the circulation, though this is by no means a complete and satisfactory explanation. But the most notable facts about diabetic coma, so far as one is directly concerned with questions of metabolism, are the evidences of intoxication that precede or accompany the coma. The facts best known to the clinician are that acetone and diacetic acid are found in the urine in more or less considerable amounts. It has also been shown chemically, and is evident upon mere observation, that acetone is given off in large quantities from the lungs. Acetone is known to be toxic, and it was long taught, and is still widely believed, that diabetic coma is actually an intoxication with acetone. It has, however, been shown satisfactorily that acetone, while it may and probably does play some part in the production of coma, is far from being the sole or even the chief cause of the coma. Acetone is really an end product of the acids which cause the coma rather than itself the cause; and although acetone may readily be conceived of as contributing to the production of intoxication, it cannot be considered to be chiefly active in causing the peculiar symptoms seen in diabetic coma. In the first place, acetone is but mildly poisonous, and when given to man or animals, even in the amounts excreted during the course of diabetic coma, produces only mild symptoms, if indeed it causes any; also, the amount excreted shows no regular parallelism with the progress of the intoxication; and further, the symptoms produced by poisonous doses are not those of diabetic coma. It may properly be said, also, that it has never been quite conclusively proved that acetone is ever found in large amounts in the body, and a number of observers contend that all the acetone found in the urine is excreted as diacetic acid, and this is subsequently oxidized to acetone. This

view is probably not correct; the reasons given are sufficient, however, to show that acetone can not be considered to be the cause of the peculiar coma. But a still better reason is found in the fact that other substances are present in diabetic coma and preceding its onset, which show a close and almost constant relation to the symptoms, and which may, from analogy with the results of experiments, be fairly considered to be the cause of the coma. It is now well known that preceding and during coma there is so large a production of acids as to flood the blood and tissues with these, to reduce greatly the alkalinity of the blood, and to cause the excretion of large amounts of alkalies combined with the excess of acid. It is also well known to experimenters that administering large amounts of acids of various kinds will result in the appearance of a condition which resembles diabetic coma in several of its most distinctive features. Somewhat similar symptoms of intoxication may also be produced by giving to animals large quantities of those forms of food which will produce acids in large amount in the process of the breakdown of the food, providing that the animals are not accustomed to such a method of feeding.

The most satisfactory explanation of typical coma then, so far as our present knowledge goes, is to consider it a form of intense acid intoxication, due not to any special toxic agent, in its typical form, but to the mere excess of acid, and to the consequent reduction of the alkalies of the blood and tissues through their neutralization by the acid. The substance which is undoubtedly chiefly active in the production of the intoxication is β -oxybutyric acid. This has been shown, since the work of Minkowski and Külz first demonstrated that it may be found in this condition, to be present in large quantities during coma or preceding its onset in the great majority of cases. It has not any severe toxic action which is peculiar to itself; it is, however, present in such large quantities as to be capable of producing acid intoxication through its action simply as an acid. Diacetic acid is also found in large amounts when coma is imminent or present; it is very probably derived from the β -oxybutyric acid, though it is possibly separately produced. It is almost devoid of any special toxic properties and is active in the production of diabetic coma only through its acid properties, but it is almost certainly present in sufficient amounts in many cases to aid, at least, in the production of the acid intoxication; it is impossible to state this absolutely, since the amount of diacetic acid cannot be satisfactorily determined quantitatively. β -oxybutyric acid is, however, present in much larger amounts and is of itself somewhat toxic; it is certainly much the more prominent factor in the production of the coma. Acetone is a derivative of β -oxybutyric acid and diacetic acid, and is therefore chiefly the expression of the conditions causing the coma rather than itself the cause, though as previously stated its toxicity is sufficient to make it probable that it aids in the production of intoxication though not directly in the production of the peculiar symptoms of diabetic coma. There has recently been an attempt to demonstrate the possibility that diabetic coma is due to a substance which, besides its mere acid influence, has a special toxic effect, and which through this latter action produces the special symptoms of diabetic coma. Sternberg, assuming that β -amidobutyric acid might be present in diabetic coma, has investigated the effect of this acid upon animals, and claims to have produced

with it a condition practically identical with the peculiar coma of diabetes, and Grube states that he has confirmed Sternberg's results. Magnus-Levy very properly objects to the acceptance of these results, however, upon the ground that the amido-acids found in the human organism are of the alpha, not the beta, series, and that the theoretical assumption of the existence of β -amidobutyric acid is unjustified. There is also question whether the conditions produced were really those seen in diabetic coma. While it may be true that some special toxic agent produces the peculiar symptoms, this does not from our present knowledge seem at all essential. The conditions in true diabetic coma vary to a certain degree, and other acids beside β -oxybutyric and diacetic acids (lactic, volatile fatty acids, etc.) have been demonstrated to be present in large amounts in some instances, and were very possibly the cause of the coma in these cases; hence coma seems to be produced by a flooding with acids of various kinds. Also a condition practically indistinguishable from diabetic coma has been observed in a number of other diseases, such as carcinoma and pernicious anemia, when there was evidence of profound acid intoxication. These facts, together with the observation of experimenters that various kinds of acids produce a similar condition when the amount given is large enough, demonstrate with a considerable degree of certainty that the coma is at least in chief part due to the action of the acids as such, and not to any special toxic substance.

The source of the acids has been a matter of great controversy. It is demonstrated by both experimental work and by clinical observation that the use of carbohydrate food not only does not produce these acids, but tends to decrease any existing acid intoxication. It has until recently been very generally accepted that the acid intoxication is produced by destruction of proteins. It is well known that the destruction of proteins does produce considerable quantities of acid, and, further, one of the most striking reasons for accepting this source of the intoxication is that when acid intoxication occurs the subject is usually losing large quantities of nitrogen in spite of the large intake, and is therefore breaking down large quantities of the protein of the body tissues as well as of the food. It has, however, not been satisfactorily established that β -oxybutyric acid, diacetic acid, or acetone can be produced from protein, though the recent work of Blumenthal and Neuberg makes it seem probable that this may actually be accomplished in the human organism as well as artificially. Their work, however, is not yet confirmed. In the absence of thorough proof of production of these substances from protein, and in the very satisfactory demonstration, by Geelmuyden and Magnus-Levy in particular, that they may be produced from fats, the belief has become quite generally accepted that the fats of the food or the body, or both, are probably the source of the acids producing the intoxication. One must at present therefore consider the source of these acids to be chiefly the fats; though it is highly probable that the protein also contributes to their production, and it must be accepted as practically certain that proteins at any rate contribute to the acid intoxication through the production of other acids, since the breaking down of protein food always produces a considerable amount of acid. It has been very definitely demonstrated by both clinical observation and experiment that the acid intoxication occurring in diabetes may be due to the use of a protein-fat diet, or to break-

down of similar body tissues. A complete or almost complete restriction of carbohydrates from the food is very likely to be followed by the appearance of acetone and diacetic acid in the urine in diabetes, as is well known to clinicians, and the experiments of Gerhardt and Schlesinger show that a similar result may be produced in normal persons; while the substitution of carbohydrates for some of the protein and fat frequently causes the disappearance of the acetone and the diacetic and oxybutyric acids and the symptoms of approaching coma if they were present. In what way the carbohydrates exert this action is not fully understood, as such an effect may sometimes be seen when comparatively little carbohydrate is given. It seems probable that the carbohydrates in some way influence the metabolism of the protein and fat, besides reducing the quantity of the latter which it is necessary to give. While the appearance of large quantities of acetone, and more particularly of diacetic acid, in the urine furnishes what must continue to be the best general clinical index of the danger of the onset of coma, a more exact method of determining the degree of acid intoxication and its progress is by estimating the ammonia of the urine; one may practically always see that with increasing acid intoxication the ammonia excretion in the urine coincidentally increases and in most cases this increase is practically proportionate to the degree of intoxication with acids. The reason for this is that the acids produced in the body are normally neutralized largely by the fixed alkalies, only small amounts of ammonia being excreted. If, however, the amount of acid to be neutralized becomes much larger than the normal, the fixed alkalies do not suffice to neutralize the acids or they cannot be so largely used without causing a dangerous reduction in the alkalinity of the body fluids. Under such circumstances, according to the teaching of the Schmiedeberg school, which is the most satisfactory, the ammonia formed in the body, instead of being excreted as urea, unites so far as necessary with the acids and is excreted in combination with them.

An interesting fact which has been well shown recently by Gerhardt and Schlesinger, and has previously been indicated by the work of others, is that the excretion of calcium and magnesium, particularly of the former, is increased during acid intoxication, and there may even be a decided calcium loss which may be controlled to a considerable extent by modifying the diet or by giving alkalies. This fact is of great abstract interest, and it is wholly probable that it may have a good deal of actual clinical importance. The calcium salts play an extremely important role in organic chemistry in numerous ways, one of the most important of which in animal physiology is their influence upon coagulation of the blood. An influence similar to that just mentioned is exerted by calcium salts upon the action of other ferments than the fibrin ferment, and it seems not at all impossible that reduction of the calcium salts in acid intoxication may have an important relation to the symptoms produced during such intoxication. The results of metabolic experiments make it wholly worth while to investigate more thoroughly the effects of calcium upon the disease, particularly when there are evidences of acid intoxication.

In conclusion, the main theories concerning the definite nature of the disturbance in metabolism which produces diabetes may be mentioned. These are

that the disease is due to overproduction of sugar; that it is due to imperfect oxidation of sugar and its consequent accumulation; that it is due to insufficiency in the production of glycogen so that the sugars absorbed from the digestive tract or formed in the body constantly reach the circulation at once, and the excess, instead of being stored, is constantly being excreted; and that some special toxic agent is the primary cause. The first and last theories at present deserve little consideration. There has never been any proof offered that there is an overproduction of sugar; indeed, the testimony is wholly against such a belief. The whole amount of sugar excreted is never continuously greater than the amount absorbed, plus the amount that we know can be produced from the food-protein and body-protein which are being destroyed at the time. The theory of a special diabetic toxemia, which has recently been put forth by Leo, is based upon inconclusive experiments, which amount to nothing more than the production of glycosuria in a small number of dogs by injecting the urine of diabetic subjects. Urine from other diabetics did not give the same results, and there was no demonstration that actual diabetes occurred in the animals, or that a special toxic agent caused the glycosuria. The choice lies between the other theories—the disease seems to be either a loss of the normal power of destroying sugars, or a lack of the normal power of producing glycogen, and of controlling thereby the amount of sugar supplied to the blood. Either of these theories would satisfactorily explain the facts observed in most instances. The general tendency, more particularly of the v. Noorden school, is to put faith in the theory of imperfect oxidation of the sugars. The most important point upon which such a belief is based is that the respiratory quotient (the amount of oxygen taken in in respiration divided by the amount of CO_2 given off) is low in diabetes. Under normal circumstances the oxidation of carbohydrates in large amounts increases this quotient, while when the amount of fats being oxidized is relatively high, the quotient decreases. It would seem, therefore, that in diabetes the amount of oxidation of carbohydrates is below the normal.

This is serious testimony, but it is based upon a very small number of observations, and hence the influence of chance factors cannot well be excluded; and against such results may be adduced the fact that oxidative processes in general are certainly not reduced in diabetes, as it has been shown that many substances which are difficult of oxidation may be oxidized in large amounts by the organism of the diabetic. Further, under ordinary circumstances levulose and glucose are oxidized with about the same facility, but in diabetes levulose is assimilated but glucose is not. This points against suboxidation as the cause. Chauveau and Kauffman also found that comparing the venous and arterial bloods of the diabetic with those of the normal subject there was evidence of oxidation of the sugars in the diabetic subject as well as in the normal one. Their methods were subject to question, however. The work that has been done on glycolysis has not demonstrated anything clearly, unless it be, as Biernacki has recently claimed, that glycolysis is very variable in diabetes; Lepine's attempts, and those of others, to demonstrate the absence of the glycolytic ferment or reduction in its activity have not been successful, and his suggestion of a loss of glycolytic action of the body fluids in diabetes is therefore not at all supported by experi-

mental work. The theory of imperfect glycogen production is suggested by a number of facts, the most important of which is perhaps the observation that levulose is frequently made use of in large amounts by the diabetic organism when glucose is largely or completely excreted unused; and more particularly that levulose will frequently produce an accumulation of glycogen in the liver while glucose will not. This would seem to indicate that it is impossible in diabetes to produce glycogen from glucose, while this occurs normally with levulose. It seems improbable when viewed in this connection that the oxidation of glucose is at fault, because the levulose after producing glycogen in the liver is normally furnished to the circulation in the form of glucose; in spite of this it is largely or completely oxidized thereafter, apparently even by the diabetic in many instances. Further testimony of the possible correctness of this view has been recently furnished by the results of Sachs who found that extirpation of the liver in frogs did not alter the power of these animals to assimilate glucose, but did produce a strong tendency to alimentary levulosuria. He uses these results as testimony of the lack of importance of the liver in the production of diabetes; but since, as has been repeatedly stated, levulose is often satisfactorily assimilated by the diabetic while glucose is not, and since extirpation of the liver produces exactly the contrary conditions to those seen in diabetes, these results would seem to indicate also that if levulose passes the stage of glycogen production in the liver, it is properly used by the organism, and that the reason that levulose is well assimilated in diabetes is that there is still power of transforming it to glycogen while glucose cannot be so transformed.

A PRELIMINARY COMMUNICATION OF A STUDY OF THE BRAINS OF TWO DISTINGUISHED PHYSICIANS, FATHER AND SON.*

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To a great extent, the more recent studies of human brain anatomy may be termed one-sided, inasmuch as the numerous examinations made of individual cerebra were of such derived from criminals, lunatics, and other defectives, nay, most frequently from subjects whose life-history and characteristics were and remained unknown, or were unworthy of record. On the other hand, the brains of public men of professional or scientific eminence, whose actions and attainments were "writ large upon the pages of history" are seldom obtainable. In the words of Wilder, this is "both illogical and unprofitable." . . . "It is at once a reproach and an irreparable loss to science that the community has not yet been convinced that the preservation and study of one's brain is an honor to be coveted. Who can set a limit to the result that might have been attained from the examination of the brains of soldiers like Grant, Sherman, and Sheridan; of preachers like Beecher, Brooks, and Howard Crosby; of naturalists like Agassiz, Gray, and Jeffries Wyman; of lawyers like Tilden, Conkling, and Benjamin Butler. How long must sci-

* Read before the Association of Anatomists at Baltimore, September, 1900, and before the Section on Anatomy at the New York Academy of Sciences, February 15, 1901. In view of a preliminary study by the publication of which is contemplated the writer regrets that a number of those details essential to the latter and whose reproduction were unnecessarily repetitious.

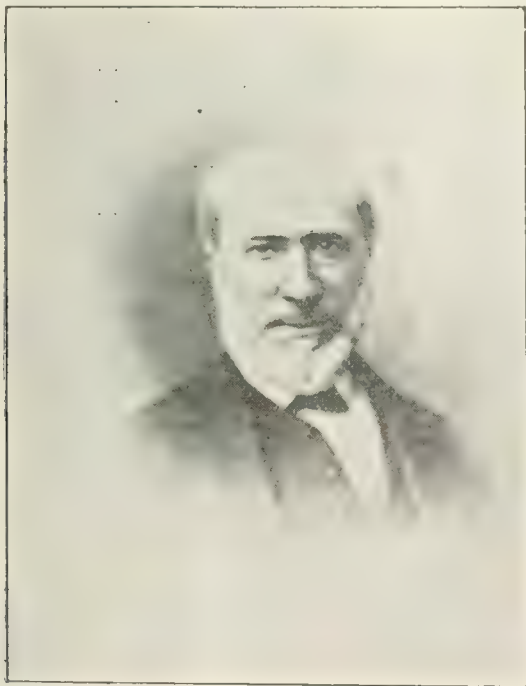
ence wait for a general sentiment such as is embodied in the declaration of an eminent historian, that science is as welcome to his brain as his old hat, and that he wishes he had ten of them."

To this day only a few brains of eminent men have been studied and described: that of Chauncey Wright, a philosophical writer; that of George Grote, the well-known historian of Greece, and those of five or six members of the French "Société Mutuelle d'Autopsie." I might add that of a woman, Laura Bridgman, who, though bereft of the powers of language, sight, and hearing, displayed an intelligence and education of a remarkable degree. Less detailed descriptions were made of the brains of the mathematician Gauss, Dr. Fuchs and a few others.

In this view of the subject the writer ventures to assume that the presentation of the following preliminary account may not be uninteresting when it is learned that it is based on the examination of the brains of two eminent physicians, which have been "saved for scientific uses rather than wasted upon worms." But what is of especial importance and without precedent is that one is the descendant of the other, and furthermore, that their ancestors and several relatives of the same name had been for several generations physicians, chemists, engineers, and architects, and that the ancestral history is marked by many meritorious achievements. The brains of which I speak are those of Dr. Edouard Seguin, and his son, Prof. Edward C. Seguin, both of whom were distinguished for high scholarship and brilliant attainments.

BRIEF BIOGRAPHICAL SKETCHES.

The elder Seguin was born at Clamecy, Department of Nièvre, in France, on January 20, 1812. As I alluded



Dr. Edouard Seguin.

to above, his ancestors for several generations were eminent as physicians, architects, etc., ranking at the head of their professions in the department. Dr. Edouard Seguin received a very thorough education at the

college of Auxerre, and at that of St. Louis, in Paris. He then commenced the study of medicine with the celebrated Itard as preceptor, and was subsequently associated with Esquirol, the distinguished alienist and



Dr. Edward Constant Seguin.

psychologist, in his investigations. The study of what is now known as arrested mental development began with Seguin's devotion of his young life and talents to the welfare of the idiot children at the Hospice de Bicêtre, and for over 40 years he remained devoted to the cause he had made his own. The works he published have been recognized as authorities to the present time. In this country he was the pioneer in advocating the introduction of the metric system, and he is equally noted for his contributions to the subject of medical thermometry. His son, Dr. Edward C. Seguin, departed this life so recently that it and his work are yet a fresh reminiscence. With the favoring ancestry already alluded to, it is not surprising that the younger Seguin should attain his prominent position. Born in 1843 in Paris, and coming to the United States with his father in 1850, he received a public and high-school education in Cleveland, Ohio. In 1861 he began the study of medicine with his father and after a 3 years' course at the New York College of Physicians and Surgeons—showing his brilliant qualities even as a student—he graduated in 1864, being then only 21 years of age, and after having at that early age served as a medical cadet in the regular army. Among other appointments which he received, was that of house-physician at the New York Hospital. He developed a pulmonary trouble which was recovered from during a sojourn at Forts Craig and Selden, in New Mexico. From 1871 to 1885 he was lecturer at the College of Physicians and Surgeons on diseases of the nervous system and insanity. In 1873 he founded the clinic for nervous diseases in that college. He was a member of many societies in both hemispheres, and his contributions to the pathology and therapeutics of nervous disorders are especially

valuable and rendered his position in the literature of the medical world a very prominent one. He will always be distinguished as one of the pioneers of American neurology. An indefatigable worker, his labors were all characterized by a methodicity which has become traditional among his friends and pupils. He died on February 19, 1898.

BRAIN OF DR. EDOUARD SEGUIN.

The elder Seguin's brain was removed within 24 hours after death by Dr. E. C. Spitzka, assisted by Dr. R. W. Amidon, on October 29, 1880. Its appearance and texture were normal, but there appeared to be a trifle less cerebrospinal fluid than usual. The brain-weight was recorded as 2 pounds, 12 ounces, $5\frac{1}{2}$ drams, equivalent to 44.344 ounces or 1,257 grams. At the present time, after over 20 years' immersion in alcohol, this weight is reduced to 880 grams, the loss amounting to 377 grams, or 30% of the original weight.

The weights of the different parts of the brain* on December 3, 1900, were as follows:

Left hemisphere	365 grams.
Right hemisphere	367 grams.
Cerebellum	84 "
Isthmus	64 "
Total,	880 grams.

According to Marshall's tables the average brain-weight for a man of the height of 65 inches or under, and between the ages of 40 and 70, is 45.74 ounces (= 1,296 grams). It must not be forgotten, however, that the brain-weights of the French are somewhat less than those of the English which Marshall's figures represent; and if we remember that Dr. Edouard Seguin was about 64 inches in height and was in poor health for some time prior to his decease, his brain-weight of 1,257 grams cannot be said to deviate much from the normal figures, and, if anything, would point to the occurrence of some wasting of the brain-tissue from disease, or age, or both. Various estimates of Dr. Seguin's body-weight range between 125 and 145 pounds, giving ratios, as compared with the brain-weight, ranging between 1:45 and 1:52. The latter ratio was also found in the case of George Grote by Marshall, and was probably due to the same or similar causes.

In the following list of brain-weights of eminent men compiled by the writer from various sources, Dr. Edouard Seguin's position is rather a low one, but the idea that intellectuality always presupposes a heavy brain has long ago been demonstrated as groundless. Still, such a table has its value in showing that the maximum frequency of brain-weights of eminent men occupies a distinctly superior position as compared with those of ordinary individuals, and that the significance of brain-weight as an index of intellectual capacity must depend upon the proper collation of a sufficiently large number of cases, and the correlation of contributory and complicating factors.

BRAIN-WEIGHTS OF EMINENT MEN.

[This table is only provisionally arranged, as a few of the figures have not yet been verified by the writer. The

* The division of the cerebral segments was not made strictly in accordance with Meynert's plan, but according to a modification which utilizes the caudal border of the optic tract, and the tentorium thalami (riparia) as guides for a single simple incision; those of either side converge forward to meet in front of the chiasm; the usual cut through the callosum and lamina terminalis complete a trisection which leaves the prosencephalon and brain-axis separated as nearly the ideal as can be.

authorities for these weights have been omitted here, but will be fully supplied in the final report.]

NAME.	OCCUPATION.	AGE.	BRAIN-WEIGHT.
Ivan Turgenieff	Poet and novelist	65	2042
G. Cuvier	Naturalist	65	1800
E. H. Ousey	Mechanic and author	56	1616
E. H. Knight	Mechanician	51	1613
von Bismarck	Statesman	83	1607
Abercrombie	Physician	61	1785
B. F. Butler	General and lawyer	74	1758
Olney	College professor	74	1701
W. M. Thackeray	Humorist	62	1608
John Goodsir	Anatomist	53	1629
F. B. W. v. Hermann	Economist	73	1560
J. K. Ribbeck	Industrial	61	1580
K. Spurzheim	Phrenologist	56	1559
J. Y. Simpson	Physician	59	1591
P. G. Dirichlet	Mathematician	54	1520
C. A. De Morny	Statesman	74	1520
D. Webster	Statesman	70	1518
John Campbell	Lord Chancellor	82	1517
Chauncey Wright	Philosopher	45	1517
Schleich	Writer	56	1503
Thos. Chalmers	Theologian	67	1502
E. C. Seguin	Physician	55	1502
von Helmholtz	Physiologist	73	1500
Napoleon III	Sovereign	65	1500
K. H. Fuchs	Pathologist	52	1499
L. Agassiz	Naturalist	66	1495
De Morgan	Mathematician	73	1494
K. F. Gauss	Mathematician	78	1492
Babbage	Mathematician	79	1488
K. von Pfeufer	Physician	63	1485
Paul Broca	Anthropologist	56	1484
Louis Asseline	Journalist	49	1468
M. D. Skobeleff	General	39	1457
C. H. E. Bischoff	Physician	79	1452
J. A. H. Gyliden	Astronomer	79	1452
Lamarque	General	63	1449
F. R. von Kobell	Poet and geologist	79	1445
Dupuytren	Surgeon	58	1445
J. E. Oliver	Mathematician	65	1416
Melchior Meyr	Poet and philosopher	61	1415
George Grote	Historian	76	1410
J. Huber	Philosopher	49	1409
J. Asezzat	Journalist	45	1403
Bertillon	Anthropologist	62	1398
W. Wh well	Philosopher	72	1389
Coudereau	Physician	50	1378
H. T. von Schmid	Writer	64	1374
J. G. J. Hermann	Pathologist	76	1371
K. F. Hermann	Anatomist	51	1358
von Schlagintweit	Explorer	51	1342
J. von Liebig	Chemist	50	1342
Ludwig II	Sovereign (insane)	41	1349
J. P. Fallmerayer	Historian	71	1349
J. H. Bennett	Physician	47	1332
Seizel	Scholar	5(?)	1312
R. E. Grant	Mathematician	80	1290
Walt Whitman	Poet	72	1282
Edouard Seguin	Physician	62	1250
v. Eschsch	Physician	57	1250
J. Herress	Physiologist	42	1248
L. von Buhl	Physiologist	61	1224
J. F. L. Hausmann	Microscopist	77	1205
I. von Döllinger	Physiologist	71	1197
F. J. Gall	Physiologist	70	1198
Léon Gambetta	Statesman	44	1100

Concerning the general form of the cerebrum the reader is reminded that during its immersion in alcohol for a score of years there has naturally been considerable shrinkage and flattening. Giving due allowance to this unavoidable distortion, its striking features can be enumerated as follows:

Marked development, with great breadth and fullness of the frontal lobes.

A great width and ample development of the parietal and temporal lobes.

Relative smallness of the cuneus in both halves, especially the left.

General tortuosity of the fissures and gyres.

A full and ample development of the left insula, especially of its cephalic (anterior) portion, the insular pole being very fully developed, and far better than on the right side. A portion of the left preinsula is visible.

The sylvian cleft is more horizontally directed than in most brains. This approach to the horizontal is more marked on the left side, and is generally considered an important indication of superior development.

* The weight of these brains when fresh will always remain unknown.

The left parietal and paroccipital fissures are separated while on the right side they are confluent. This arrangement is quite rare, having been found in 6% of cases by Wilder¹ and the writer.²

The fissures on the whole are characterized by their generally tortuous paths, by their great depth, and perhaps by a greater frequency in their deep interruptions by vadums and interdigitating subgyres. In general the gyres are neither of maximum nor minimum width; their size seeming to be determined by a tendency to crowd the greatest number—more or less regularly and evenly—into the available space. They are bold and massive, so that in spite of the intricate fissuration the configurations of the brain are neither “overcrowded” nor “cramped-looking.” There is that in the “physiognomy” of the brain as in the son’s, which it is impossible to describe, otherwise than in terms the very use of which would suggest the having preconceived notions of a relation between structure and function, to say that it portrays the culture, refinement and intellectual capacity of its erstwhile owner when living.

The indices of the lobes* of the left hemisphere are :

Frontal index	60.4
Parietal index	22.2
Occipital index	17.4

On the right hemisphere :

Frontal index	58
Parietal index	20.6
Occipital index	21.4

These figures indicate in a measure the better development of the left frontal and parietal lobes.

The frontal gyres are the most complex of the entire brain, being particularly rich in their windings, though the parietal gyres are almost as rich in their development. The subfrontal gyrus (Broca’s convolution) of

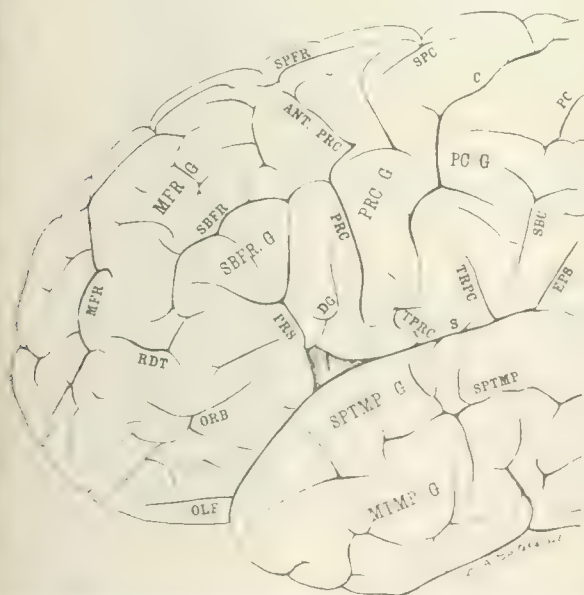


Fig. 1.—Frontal portion of the left hemisphere of Edouard Seguin (father) showing exposed area of the preinsula, and also the well-developed opercula.

the left half is very well developed, as might be expected, in a right-handed individual with a left speech center. (See Fig. 1.)

* These indices are measured along the dorsomesal border of the hemisphere, from pole to pole, and are expressed in terms regarding the entire length so measured as equivalent to 100.

Upon the left half the “intraparietal fissural complex” is remarkable in that all four of the so-called segments are distinctly separated from each other, a condition rarely observed and found by Cunningham³ in only four hemispheres out of sixty-two; once on the left, once on the right, and once on both halves.

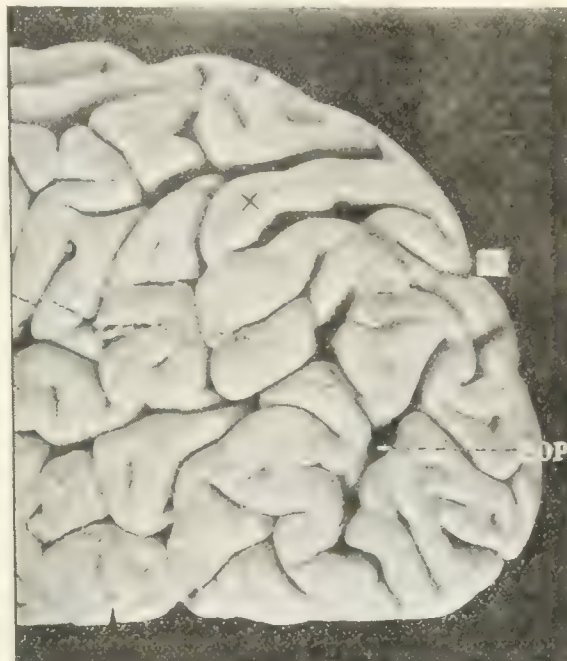


Fig. 2.—Occipital portion of left hemisphere of Edouard Seguin (father) showing the remarkably distinct exoccipital fissure (EOP) as well as the paroccipital isthmus, marked by the cross (X). Oc marks the occipital fissure. Photograph by Dr. E. Leaming.

Mickle⁴ regards such bridging of the so called “intraparietal sulcus” as a mark of superiority in brain evolution. The paroccipital fissure, which is of the true zygal type, is absolutely separated from the parietal fissure by a well-developed “paroccipital isthmus.” (See Figs. 2 and 3.) Upon the right half there is a confluence of the corresponding fissures. This brain, therefore, presents an additional example of a rare arrangement hitherto unnoticed in the brains of moral and educated persons, at least so far as the writer knows. Of the six cases recorded by Wilder¹ there were three of unknown history, while the remaining three whose history was known, were insane, one a Swiss woman, one an engineer, and one a negro. The writer² has since found a similar arrangement in six of the one hundred brains of dissecting-room subjects, derived mainly from the pauper class dying in the municipal hospitals and charitable institutions.

As stated above, the occipital index on the left half is as 17.4:100, and on the right half as 21.4:100, according to Cunningham’s method. This index averages 20.8 for human adult males, and 21.7 for females; and it increases as we descend to the anthropoids and apes. The following are Cunningham’s figures :

Orang	23.2
Chimpanzee	24.2
Hamadryas	24.5
Cynocephalus	29.7
Mangaby	30.5
Macaque	31.
Cercopithecus	32.9
Cebus	33.1

It was recognized as being of considerable importance by even so early an observer as Gratiolet, and it would seem to indicate, other things being equal, that relative smallness of the cuneus, measured in this manner, signified superiority. Its exemplification upon the better developed left half of both of the Seguin's brains would seem to lend force to this hypothesis.

Notable for its extent and well-marked course is the exoccipital fissure on the left side. (Fig. 2.) It begins very near the zygon of the paroccipital, at its caudal part and separated from it by a narrow (3 mm.) "deuxième pli de passage." Morphologically speaking, therefore, the fissure falls into the first class of Wernicke's descriptions,⁵ a condition occurring normally in some apes. As the fissure passes ventrad a notable fact is the nature of the slope of its walls, which, as in the right half, incline distinctly caudomesad. It resembles a cleft rather than an ordinary fissure, and in its depths can be seen several interdigitating subgyres. As the fissure approaches the ventro-lateral border it takes an abrupt caudal direction and terminates just at the border. Around this end curves a narrow "quatrième pli de passage." The "troisième pli" may be any one of the several interdigitating subgyres alluded to above.

Upon the right half the "troisième pli" instead of being totally submerged, approaches to within 7 mm. of the surface and is capped by the lip of the poma (occipital operculum), so that it may properly be termed a subgyre. The exoccipital fissure consists, therefore, of two segments, a superior (EOP') and an inferior (EOP''), superficially confluent with each other.

In both hemispheres the occipital lobe exhibits a distinct tendency to overlap the parietal gyres; the walls of the exoccipital fissure slope distinctly mesocaudad, suggesting the pomatic homology and derivation of the occipital lobe.

The insula on the left side is far better developed than its fellow on the right half, corroborating the statement made by Waldschmidt,⁶ that in educated men the left insula is "incomparably richer" in its development than the right. Upon close inspection, and by means of soundings made in the sylvian cleft, this redundancy is found to be most marked in the preinsular region.

BRAIN OF DR. EDWARD C. SEGUIN.

The autopsy upon the younger Seguin took place on February 21, 1898, and was made by Dr. J. S. Thacher, assisted by Drs. J. Arthur Booth and E. C. Spitzka. Drs. Hallock and Pooley were present. The brain was

removed about 30 hours after death, also by Dr. E. C. Spitzka, my father, and to him I am indebted for the opportunity of studying and describing both of these valuable brains, unprecedented in so far as I can find no other instance where the brains of father and son were available (both being of marked characteristics) and the nearest approach being the case of the brother Leidy, of Philadelphia, undescribed as yet—and a present in the collection of the Anthropometric Society of that city.

The appearance and texture of the younger Seguin's brain were normal. After dissection draining the total weight was 1,502 grams, or 52.98 ounces. The parts of the brain while still fresh weighed as follows:

Right hemisphere	642 grams.
Left " "	653 " "
Cerebellum	140
Isthmus	67

Total 1,502 grams.

The brain was again weighed on December 3, 1900 after nearly 3 years immersion in for maldehyde solution

Right hemisphere	555 gram.
Left hemisphere	563 " "
Cerebellum	109 " "
Isthmus	57 " "

Total..... 1,284 gram.

The loss in weight amounted to 21 grams, or 13% of the original weight.

This brain-weight (53 ounces in round numbers) is about 12 ounces, or about 12 grams above the average for one of Dr. E. C. Seguin's

age and height, and his position in the list of brain weights of eminent men is comparatively high.

Owing to the excellent preservative qualities of for maldehyde, this brain is only slightly flattened, and the shrinkage amounts to very little. As in the father's brain there is a slight but unquestionable exposure of the left preinsula. The left sylvian fissure more nearly approaches the horizontal, and there is a similar amplification of the frontal lobes characteristic of the father's brain. The indices of the lobes are:

Left hemisphere:

Frontal index	61
Parietal index	23.6
Occipital index	15.3

Right hemisphere:

Frontal index	57.2
Parietal index	23.8
Occipital index	16.8

The relatively small index of the occipital lobe is particularly noteworthy in both halves of this brain.

The left separation and right continuity of the parietal-paroccipital fissures spoken of in the father's brain are in the son's brain reversed as to sides. O

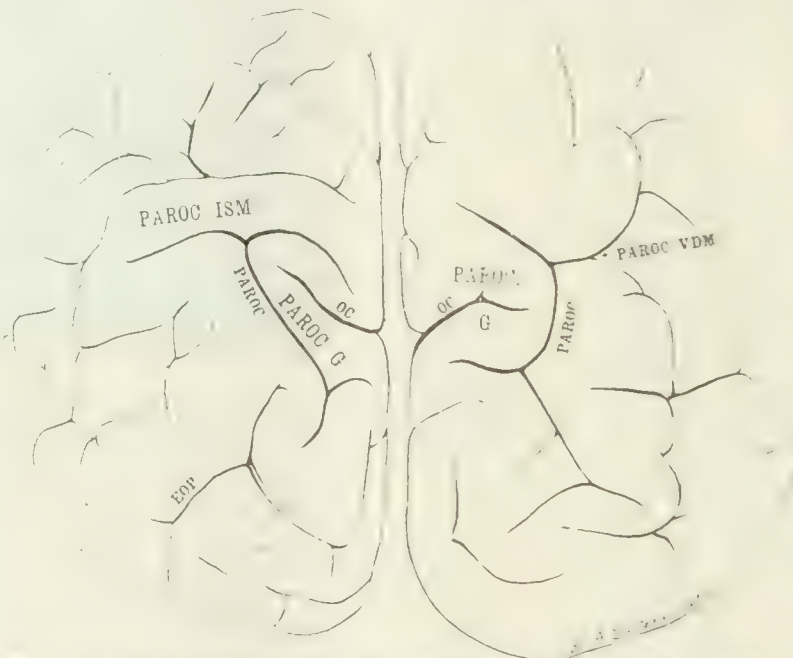


FIG. 3.—View of the occipital regions of both hemispheres of Dr. Edward Seguin (father). On the left a distinct paroccipital isthmus (PAROC' ISM) separates the parietal from the paroccipital; on the right these fissures are confluent over a vadium at a depth of 11 millimeters.

the right side a well-marked isthmus separates the fissures, on the left they are confluent over a vadium.

On the right half the exoccipital fissural complex does not differ very much in its appearances from the left half of the father's brain, except that the "troisième pli" is flush with the cerebral surface and not submerged.

The left insula as in the father's is far better developed than the right, and the preinsular portion is so redundant that the surrounding opercular parts have been crowded apart and a small triangular portion of the insular pole is thus made visible upon the lateral aspect.

If one be permitted to indulge in such an expression I would say that the *physiognomy* of each of these brains reproduces that of the other, much as the outer physiognomy of their bearers did in life. By the metaphoric term "physiognomy" used in this connection, I mean the general feature of the arrangement, relations and molding of the convolutions, difficult to describe in so many words and renderable only through photographic or other reproduction, and even through these imperfectly. Every brain I have yet examined had its distinct features, as much distinct as the outer ones of its owner. One may distinguish brains resembling each other as a group, and as distinguishable from other groups as are different families and races of men. No more striking instance of a prevailing typical difference can be adduced than that of the Mongolian brains recently studied by Dercum and others. It were futile to attempt basing a discrimination on any single factor. It is the general physiognomy that seems to be so peculiar to the race, but by this I do not mean that given a certain brain an investigator could declare it to belong to such and such a race or sex. We are not advanced far enough for that yet, if we ever attain such a point; and how mistaken we may be in regard to the outer features I need not remind the reader. We are much like the traveler who merely touching the shores of a new land is struck by the, to him, strangely and strikingly uniform character of a new race—yet whose individuals are as distinguishable to their fellow-tribesmen as that traveler's companions are to him.

Perhaps the most significant feature common to both brains is the exposure of the insula, and although this feature formed the theme of a special paper⁷ a brief summary thereof may not be out of place here.

Heretofore it was only in the brains of deaf-mutes, of negroes, of idiots, and of the defective classes generally, where the opercula are commonly atrophied, that the insula has been found visible. It was therefore regarded as an indication of inferior development. The brains of the Seguins, however, present the very reverse of low form or defective type. Nor are the opercular regions at all defective, though they fail to come into typical apposition. The explanation of this anomaly is that the left preinsula is far better developed than its fellow on the right side, corroborating the findings of Waldschmidt (in 1887) upon the brains of two professors of the University of Freiburg. But in the Seguin brains this redundancy of development upon the left side is so pronounced, that the insula in a *quasi*-struggle to reach the general cerebral surface, has virtually thrust apart the opercula and made itself visible.

The interpretation of this exposure as due to the relative hypertrophy of the insula is sustained by the results of "soundings" taken at various points, and given in millimeters in the following table.

The terms pre-, medi-, and post-insular depth refer to

the three points at which the Sylvian cleft was sounded, the preinsular point being the junction of the Sylvian with its presylvian ramus, the medi-insular point being at the middle of the course of the Sylvian, the postinsular being at the junction of the Sylvian cleft with its episylvian ramus.

DEPTHS OF THE SYLVIAN FISSURE IN THE FOUR HEMI-CEREBRUMS OF THE TWO SEGUINS.

EDOUARD SEGUIN (Father).

	Left.	Right.
Pre-insular depth.....	11 mm.	18 mm.
Medi-insular "	11 "	22 "
Post-insular "	24 "	22 "

EDWARD C. SEGUIN (Son).

	Left.	Right.
Pre-insular depth.....	7 mm.	15 mm.
Medi-insular "	20 "	23 "
Post-insular "	25 "	25 "

The conclusions naturally to be drawn from the above are that the causes potential in insular exposure must be discriminated or classified as follows:

Class 1.—In the highly intellectual (for example, the two Seguins), owing to the excessive growth and development of the left preinsula, causing a displacement of the opercula, thrusting them apart, as it were, and even though the latter be very well developed.

Class 2.—In the defective, exposure of the preinsula is due to deficient development of the opercula and because these fail to approach each other. In such cases the insula itself is, without a single exception in the series that I have studied, of inferior development, indicated not only by the soundings of the Sylvian cleft, but also by the flatness of configuration and lesser area of the insular cortex.

In the paper referred to, the writer said: "Among the reflections which occur in the course of such a study, is the possibility of some paternal influence exerted on the brain of the offspring under circumstances such as the following: Dr. Edouard Seguin (the father) was most actively engaged in the teaching of the idiot children at the Hospice de Bicêtre, wrote many treatises, and delivered many lectures upon the subject in the six years prior to the younger Seguin's birth. If physiological tendencies are transmitted from father to son, and if such transmission of function finds structural expression, one would expect it to be demonstrated where the circumstances are so favorable as here. Of course, all such statements are made tentatively; yet what would be a more natural conception when we view the circumstances, the visible evidences in the two brains, and the corroborative soundings of the Sylvian fissure of both sides. Both men were of high intellectual capacity; both were facile writers and speakers—if anything the son excelled the father; and both were polylinguists, speaking and writing three languages fluently. The teaching capacities of both men were remarkable, in the one case being especially devoted to the patient efforts required in the training of the feeble-minded, in the other developed in the highest degree in didactic lecturing and clinical teaching."

This unexpected exposure of the insula has been noted on both sides in the brain of Chauncey Wright, now in the care of Prof. Burt G. Wilder. In his Handbook article,⁸ written in 1889, Wilder called attention to the fact that possibly pressure may have caused sufficient displacement to artificially expose the insula. In a letter to me (March 12, 1901) in response to a communication

in which I suggested the explanation here advanced, Dr. Wilder states that probably the exposure of Wright's insula was also natural. This investigator proposes to review the matter as soon as he returns to Ithaca.

There are a number of facts which, naturally grouping themselves together, justify as a strong surmise, if not a scientific probability, this anticipation: that hereditarily transmitted and identifiable individualities in gyral disposition will be first satisfactorily determined in the region of the insula. To attempt sustaining this proposition by the experience of the single case here presented were absurd; it simply points in the direction of the following logical chain—partly of obtained facts, partly of natural conclusions from these.

In a study made of heredity, whose results were placed at my disposal, covering the parentage and descent of individuals prominent in various fields of

The speech faculty in its intimate relations to thought-expression, to memory—in its reading-form to sight, in writing to manual muscular innervation, exquisitely hereditary as it is in life, and most accurately localizable in the ravages of disease, as shown after death, appears one whose transmission is most likely to be expressed by morphological signs—be they relative and quantitative or purely morphological—and these in and about the Island of Reil.

I have said that there exists a resemblance between the "physiognomies"—if I may use that term—of these brains. But if the various features of these specimens be separately analyzed and compared this resemblance becomes a striking one. The view that a coincidence of features in the brains of parent and child is due to an actual *transmission*, as that term is now understood, gains in plausibility in proportion as such features

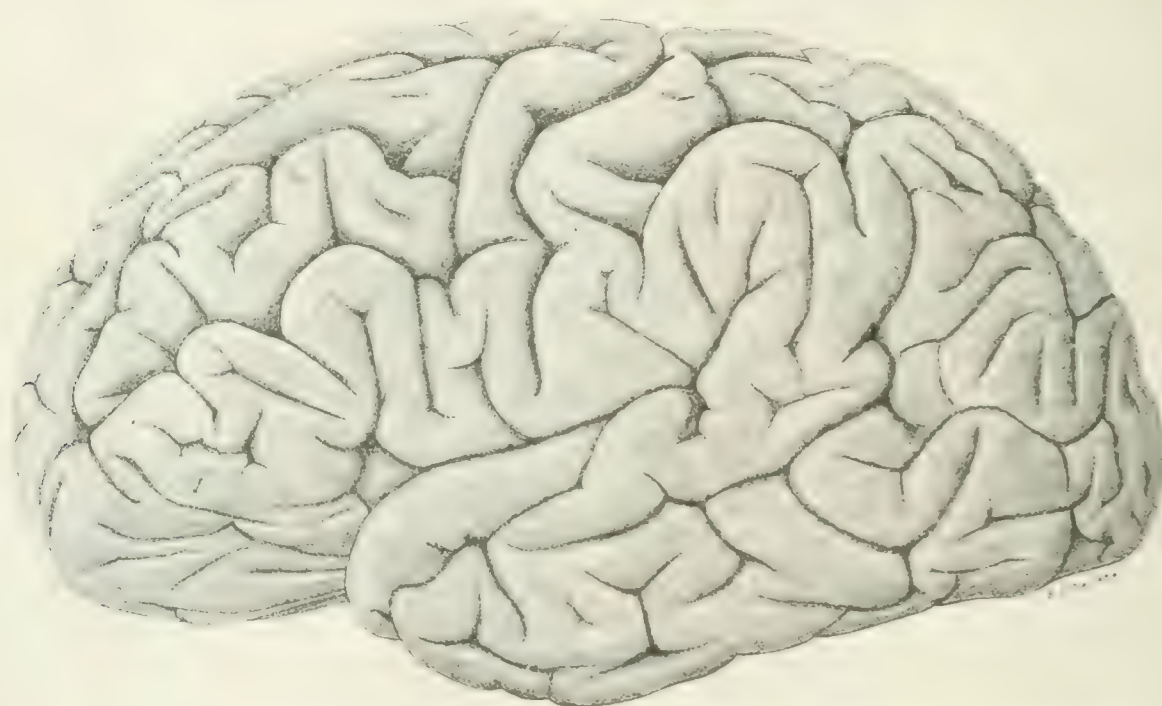


FIG. 4.—Lateral view of the left hemisphere of Dr. Edward C. Smith, son. Aside from the redundant development of the opercular, and the nearly horizontal course of the Sylvian fissure, the most striking feature is the visibility of the process, whose summit approaches within 7 mm. of the cerebral surface. $\times .83$ natural size. From a drawing by the author.

science, politics, art, and handicraft, it is found that the cases where both father and son attained distinction sufficiently to merit place (in the biographical encyclopedias), in intellectual fields of labor, they had been of those in which skilled motor innervations in their association with sensory impressions and registrations are prerequisites. Preeminently is this the case with two professions; that of the composer-musician and that of the philologist. As defects in speech are so likely to be repeated in a family line, it seems that its skilled employment by the ancestor is similarly reflected in the way of facile acquirability on the part of the descendant. Not unrelated may be the fact that among those recruited for the ranks of linguists of other than philologist parentage, there largely predominate those whose parents had emigrated or who were born on islands, in seaport towns or in lands where two dialects are spoken, not to mention those in whose families it has been the custom to maintain an ancient tongue for sacerdotal reasons.

are marked or exceptional, and most so, as in the brains before us, where they approach the atypical.

The term *atypical* as here used is so in a morphological sense only, and not as equivalent to the sense of aberrant atyp—heterotyp—being a grossly asymmetrical and pathological brains. Just as it is the simplest brains that are more symmetrical than the higher ones, so the simplest arrangement of gyres is also the one which is most purely and symmetrically typical. With higher development, a certain degree of deviation from the type seems an inseparable accompaniment of the luxuriant development, contorted foldings, and deep as well as complicated fissuration, which represent a struggle for surface and expansion, in which the interests of neighboring formations often balance unevenly. This irregularity is regular even in its irregularity, however; of the surface only and in this respect parallel to those perhaps not unrelated manifestations of the living organ of the mind, which in the shape of originality or ingenuity are often mis-

apprehended and interpreted as evidence of unbalancing and eccentricity. It is because the simple mind has not breadth enough that it neither indulges in excursions into a field of original thought, nor understands such when indulged in by others. So it is because there is little rivalry of growth interests in an unexpansive organ that its simple gyres repose in the rough and comprehensible simplicity of the Bechuana folds.

"To certain minds fate narrow bounds has set,
In vain they try beyond those bounds to get."

In reality all these qualities are but expressions of a strong individuality; and individuality is not conceivable otherwise than as an expansion beyond the average mediocrity,—expansion in the direction of deviation from that of the common rut.

In the case of the two Seguin brains it is safe to say that if they had been scattered among a hundred other brains, and these had been grouped according to the type of gyral disposition, they would have come together as the classification became finer and finer until ultimately they probably would have constituted a group by themselves.

The asymmetry of the halves of highly-developed brains must therefore form the basis for demonstrating hereditary transmission in the brains of parent and child before us; and it is for such unilateral features that we must search. They are present in sufficient number to establish the proposition, and while I am prepared to enumerate these at length, their presentation and discussion would require more space than it is my privilege to occupy. Briefly stated, the most important of these features common to both brains are:

The left insula exhibits an incomparably richer development than the right.

The left occipital index is smaller than the right.

The left frontal index is larger than the right.

The left subfrontal gyrus is larger than the right.

On both right operculums there is a single isolated fissure embraced by the limbs of the presylvian fissure.

The left medifrontal fissure is in two segments (in one case separated by a superficial isthmus, in the other by a slight vadium of 4 mm.). Furthermore, the medifrontal is poorly represented on the right sides.

The left cephalic limb of the paracentral fissure is short; long on the right.

The left episylvian fissure, and also the hyposylvian are longer than on the right half.

The left fronto-marginal fissural segments are easily traced; they are absent on the right sides.

The left olfactory fissure is shorter than the right.

The left Sylvian fissure more nearly approaches the horizontal than does the right.

The existence of these and other facts give strong evidence of *direct hereditary transmission*. In addition, however, there are other interesting points of resemblance in attributing which to such transmission, one strange apparent difficulty is encountered, namely: their reversed position as to sides. This "crossed heredity," or the reproduction of unilateral asymmetrical peculiarities of one side in the father's brain upon the opposite side in the son's, would constitute an interesting chapter in itself. An enumeration of the facts in support of this mode of *crossed hereditary transmission* can only be briefly made here.

FATHER'S BRAIN.

I. Left parietal f. and paroccipital f. separated; continuous on right.

SON'S BRAIN.

Left parietal f. and paroccipital f. continuous; separated on right.

II. Postcalcarine f. bifurcated on right only.

III. Right occipitocalcarine angle=70°; left 60° (circa).

IV. Father's right "exoccipital complex" almost identical with son's left.

V. Left parietal f. joins supertemporal f. and intermedial f.

VI. Mode of junction of right medifrontal f. with orbitofrontal f. exactly as in son's left.

VII. Father's right half heavier.

Postcalcarine f. bifurcated on left only.

Right occipitocalcarine angle=60°; left=70° (circa).

Son's left "exoccipital complex" almost identical with father's right.

Right parietal f. joins supertemporal f. and intermedial f.

Mode of junction of left medifrontal f. with orbitofrontal f. exactly as in father's right.

Son's left half heavier.

The last item is one to which I am not prepared to attach too much importance, for observations upon the weight of the halves of a dissected brain come within the range of error usually ascribed to the "personal equation."

The history of inheritable peculiarities, such as sex, polydactylism, abnormalities of the external ear, and the like, show that the problematical mechanism of their transmission acts without regard to any other plan, in this respect, than that of "symmetry in asymmetry;" namely, it impresses the same or similar variation from the typical, if not on both sides, on either side alone, and indifferently as to correspondence with the one parentally involved.

Any declaratory explanation for the contralateral situation of the same or similar atypy in the brains of parent and child must rest on conjecture. The influences at work in molding organic forms are profoundly mysterious; particularly is this the case where symmetrical relations are in question. I need but refer to the possible relations of this fact to the more familiar ones just referred to, such as one-sided peculiarities of the pinna, the digits, or the orbits; and that these influences act contralaterally as well as unilaterally, and as harmoniously in their inversion as in those rare cases of complete transposition of the viscera. Let me instance an authentic case of maternal impression reported by Dr. W. L. Swift (*New York Medical Journal*, October 9, 1886, p. 407), where the birthmark not only repeated the original one-sided maternal impression, but was also duplicated, both sides of the body showing it. . . . Brown-Sequard demonstrated the hereditary transmissions of lesions in the nervous system of guineapigs, the change in the descendants often being bilateral where they had been unilateral in the animals experimented upon. (*Comptes rendus*, vol. xciv, 627). The deformities of "hammer-toe" and "syndactylism" may likewise exhibit unilateral, bilateral or even contralateral transmission. Lastly, I would allude to the mirror like reproductions of physiological and pathological phenomena on opposite sides in certain forms of hysteria.

If such modes of transmission be wonderful and mysterious how much more so is that of the hereditary influences of which we speak. When we remember that we are dealing here with the one organ of the body that is so variable that no two individuals possess it exactly alike, so far as external appearances are concerned, the importance of determining as nearly as possible the influences of heredity will be understood readily enough. More material of this kind, and extended observations upon this line are necessary before we can arrive at any satisfactory conception of the external appearances of this most important organ. Anatomists and scientists

in general cannot urge too strongly upon their fellow-men and women the importance of bequeathing their brains to the uses of a science which might well regard such bequests, if not as invaluable as the legated brains once had been to their original owners, of the very highest one, such being indispensable to progress in psychological physiology.

For valuable aid and information cheerfully given while pursuing this study, the writer wishes to express his sincere thanks to Mrs. E. M. Seguin, and to Drs. J. Arthur Booth, E. Leaming, and Professor B. G. Wilder.

ABBREVIATIONS.

Fissures

ANT. PRC.	"Anterior precentral."
C.	Central.
DG.	Diagonal.
EOP.	Exoccipital.
EFS.	Episylvian.
MFR.	Medifrontal.
OC.	Occipital.
OLF.	Olfactory.
PAROC.	Paroccipital.
PAROC. VDM.	Paroccipital vadium.
PRC.	Precentral.
PRS.	Presylvian.
RDT.	Radiate.
S.	Sylvian.
SBFR.	Subfrontal.
SPC.	Supercentral.
SPFR.	Superfrontal.
SPTMP.	Supertemporal.
TPRC.	Transprecentral.
TRPC.	Transpostcentral.

Gyri

MFR. G.	Medifrontal g.
MTMP. G.	Meditemporal g.
PAROC. G.	Paroccipital g.
PAROC. ISM.	Paroccipital isthmus.
PC. G.	Postcentral g.
PRC. G.	Precentral g.
SBFR. G.	Subfrontal g.
SPFR. G.	Superfrontal g.
SPTMP. G.	Supertemporal g.

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SANTIAGO AS A YELLOW FEVER CENTER.

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In 1898 I frequently heard the statement made, that for many years Santiago de Cuba and Santos, Brazil, had been in a class of their own, universally accepted without question as the two filthiest and most unhealthy cities on the globe.

The death-rate here given for Santiago is made from records for the years 1888-1897, both inclusive; they were compiled by Dr. M. J. Rosenau, Marine-Hospital Service, who says in submitting his report:

"SANTIAGO DE CUBA, May 8, 1899.
 "Sir—I have the honor to transmit herewith mortality statistics for the city of Santiago de Cuba during the past ten years. These interesting figures were kindly collected for me by Sr. Eduardo Yero, the Alcalde's clerk, after much searching through musty records. The figures were taken from official reports."

It is fair to presume that these records are faulty, and that the number of deaths given is less than those that occurred. The population of Santiago during these years can be only approximately determined, after exhausting all sources of information. I have taken 45,000 as a standard, upon which the following calculations are based:

Year	Smallpox	Tuberculosis	Yellow Fever	Pernicious Fever	Fever other than Yellow and Pernicious	Other Diseases	Total	Death-rate per Thousand
1888 . . .	4	139	151	109	53	701	1157	25.97
1889 . . .	7	139	131	11	86	702	1157	25.71
1890 . . .	2	124	51	58	44	730	1009	22.42
1891 . . .	1	169	119	13	149	913	1354	30.53
1892 . . .		125	6	96	14	817	1059	23.42
1893 . . .	0	100	4	57	70	911	1137	25.27
1894 . . .		132	55	13	68	711	1031	22.91
1895 . . .		111	101	241	306	1451	2110	46.44
1896 . . .	559	316	206	177	477	1845	4012	89.15
1897 . . .	4	410	225	229	128	2001	4497	99.93

During this period it will be noted that tuberculosis and yellow fever caused about one-fifth of the total deaths, also that the death-rate for 1895, 1896 and 1897 is abnormally high, even for a filthy tropical city; this rate reached an alarming height in 1898. The statistics for 1898, 1899 and 1900 are fairly accurate; yet there can be no question but that there were many more cases of yellow fever in Santiago during 1898 than were officially reported, and also, that during July, August and September of that year the population was well over 45,000, but the confusion owing to the campaign is responsible for lack of data.

Year	Smallpox	Tuberculosis	Yellow Fever	Pernicious Fever	Fever other than Yellow and Pernicious	Other Diseases	Diagnosis Unknown	Total	Death-rate per Thousand
1898 . . .	1	415	20	428	181	29	1179	2053	45.71
1899 . . .	1	171	10	107	100	801	4	1394	30.75

Tuberculosis attracts but little attention here. The same remark applies to yellow fever, so far as natives are concerned, and yet the natives suffer from the former, while free from the latter; their constitutions are accepted as a necessary evil, and judging from my experience here during a period of 28 months, 80% if not more of the population are subject to recurrent attacks.

In the tables will be noted deaths under the heading "diagnosis unknown"; this is a relic of past carelessness, which will not be permitted in the future.

With all of her drawbacks, the Santiago of today is very far removed from the Santiago of 1898: her principal trouble at the present time is malaria, which prevails in all of its forms, but it is not so serious as formerly, nor is the pernicious form found so frequently. With the exception of eleven cases of diphtheria, from which disease we are now free, there have been no contagious or infectious diseases this year.

Incomplete as the records are, they show yearly visitations

of yellow fever; these records can be traced to the year 1840. It is within reason to say that yellow fever has existed here continuously for over 100 years; many of these annual visitations were epidemics and were very severe, but the data obtainable are too unreliable to quote.

The fever has frequently visited El Cristo, 10 miles, and San Luis, 26 miles north, also Palma Soriano, 42 miles northwest; all of these points are about 650 feet above the sea level. On the east, Guantánamo has had many visits; the city is 14 miles from its harbor, Caminera; little hamlets within a radius of 15 miles of Santiago have also reported frequent visitations. Santiago never having been free from the disease, was always considered the source of infection. The results this year establish the justness of the claim, for while no such precautions were taken at other places as were taken here, there was no yellow fever within 150 miles of Santiago.

The Provinces of Santiago and Puerto Principe comprise nearly one-half the extent of the Island, and the following harbors, large and small, are on their sea-coasts: Nuevitas, Puerto Padre, Banes, Gibara, Mayari, Sagua de Tanamo, Baracoa, Guantánamo, Santiago, Manzanillo, Santa Cruz and Jucaro. These harbors are visited by vessels of all sizes from every part of the world.

During the year of 1900, the following has been the report from Nuevitas in the Province of Puerto Principe:

Three cases of yellow fever occurring as follows:

The first, a Spaniard, on April 14, 1900; the second on April 27; this case I saw on May 6, and did not agree with the diagnosis; it was the case of a discharged soldier who had been on a prolonged spree; my diagnosis was acute alcoholism, with malarial complications and a prognosis of a fatal termination; after results did not bear out a diagnosis of yellow fever. A sporadic case at that season of the year was out of the question: it was the time for an epidemic; the season of the year, climatic conditions and materials were there—nonimmunes from La Gloria, discharged soldiers and newly arrived Spaniards to the number of 90—and no other case was reported until June 21, 55 days later; this latter case was also a Spaniard, and a study of the temperature, pulse and symptoms which had been received by telegram and from which a chart had been made, made a diagnosis in this case by no means certain. Cuban physicians, as a rule, are not accustomed to meeting cases of drunken and worthless fair-skinned foreigners who may be taken sick from the effects of alcohol, climate and neglect; such cases have been frequent since American occupation (and noticeably, drunkenness is not a failing of the Cuban race). Given such a case as above stated, you have a congested face, violent frontal headache, congested eyes, jaundice, epigastric tenderness, vomiting and nearly always albumin, all of which are pronounced symptoms of yellow fever; add to this malarial complications, and a diagnosis of yellow fever is easily made.

HOLGUIN.—The town is situated about thirty miles from the coast; yellow fever had not visited there for several years; on May 17, 1900, a case was reported, an American six months on the Island, the last two months of this period spent in Holguin, from which place he had not been absent during that time. He reported to the post surgeon sick, was admitted, and six days after admission a diagnosis of yellow fever was made. Symptoms, temperature and pulse-rate, three observations were asked for by wire; from these telegrams a chart was made; a study of that chart and the fact that in the face of exposure from this patient and the place of his supposed infection no other case occurred in Holguin, rendered the diagnosis in this case extremely doubtful.

On October 13 a Spanish passenger from Havana took sick on the Steamer *Julio* three days out from Havana; he was left at Gibara, the diagnosis was yellow fever; all precautions were taken against its spread. The case resulted fatally; of this case I have received no data; there were no other cases.

In all, four cases have been reported as occurring in these two provinces, three in Puerto Principe province and one in Santiago province, one was not yellow fever, and in the three other cases there was sufficient reason for doubt.

I give in *extenso*, tables for 1898—1899 and for 1900 to October 31.

MORTUARY STATISTICS—SANTIAGO DE CUBA.

(Based on a population of 47,000)

YEAR 1898.

	Smallpox.	Tuberculosis.	Yellow Fever.	Perniciou Fever.	Fever other than Yellow and Pernicious.	Other Diseases.	Diagnosis Unknown.	Total.
January.	0	0	4	76	45	315	7	516
February.	0	38	0	50	35	275	1	399
March.	0	50	1	22	15	283	3	374
April.	0	31	0	23	13	193	2	262
May.	0	28	5	17	15	188	1	254
June.	0	38	2	22	12	174	5	253
July.	0	25	0	26	11	271	8	431
August.	0	33	8	86	239	772	414	1552
September.	0	21	0	11	35	277	512	863
October.	1	31	0	24	46	296	118	516
November.	0	29	0	21	68	178	5	301
December.	0	22	0	50	47	171	6	296
Total.	1	415	20	428	581	3393	1179	6017

Annual death-rate, 133.71.

YEAR 1899.

	Leprosy.	Smallpox.	Tuberculosis.	Yellow Fever.	Perniciou Fever.	Fever other than Yellow and Pernicious.	Other Diseases.	Diagnosis Unknown.	Total.
Jan.	0	0	23	0	29	45	117	1	215
Feb.	0	0	10	0	21	19	92	5	147
March.	0	0	17	0	16	18	74	3	128
April.	0	0	16	0	6	7	89	4	122
May.	0	0	18	0	5	9	63	6	101
June.	0	0	13	14	9	7	73	5	121
July.	0	0	14	27	12	7	51	5	116
August.	0	0	17	6	9	8	54	2	96
Sept.	3	0	9	3	4	12	44	3	78
Oct.	0	0	10	1	8	6	46	3	74
Nov.	0	0	14	0	4	13	54	4	89
Dec.	1	0	12	2	13	12	54	2	96
Total.	4	0	173	53	136	163	811	40	1383

Annual death-rate, 30.73.

YEAR 1900.

	Leprosy.	Smallpox.	Tuberculosis.	Yellow Fever.	Perniciou Fever.	Fever other than Yellow and Pernicious.	Other Diseases.	Diagnosis Unknown.	Total.
Jan.	0	0	11	0	16	9	80	1	120
Feb.	0	0	16	0	12	1	70	2	101
March.	0	0	14	0	10	5	72	3	104
April.	0	0	14	0	7	8	68	3	100
May.	0	0	14	0	15	7	80	1	117
June.	0	0	16	0	17	9	44	4	95
Total.	0	0	85	0	77	42	422	14	687

Annual death-rate for the six months, 28.35

YEAR 1900

	Tuberculosis.	Enteric Fever.	Malarial Fever.	Whooping Cough.	Diphtheria.	Tetanus, Infant.	Measles, Infant.	Intestinal Diseases.	Heart Diseases.	Pneumonia.	Bronchitis.	Nephritis.	Other Causes.	Total.
July.	13	1	13	4	0	3	2	10	5	1	0	2	15	70
August.	14	2	16	1	0	4	1	5	4	7	0	4	13	71
September.	10	1	7	0	0	1	1	4	9	8	4	4	24	73
Total.	37	4	36	4	0	8	4	19	18	18	4	10	52	214

Annual death-rate for the above three months, 19.00.

CAUSES OF DEATHS FOR THE MONTH OF OCTOBER, 1900.

(Estimated population, 45,000. Rate mortality, 14.93.)

	Alcoholism.	Appendicitis.	Bronchitis.	Diphtheria.	Cancer.	Enteritis.	Enteritis, chronic.	Fever, enteric.	Fever, pernicious malaria.	Fever, remittent.	Fever, puerperal.	Grippe.	Heart, valvular disease of.	Hemorrhage, cerebral.	Meningitis.	Nephritis, chronic.	Nephritis, parenchymatous.	Noma.	Old age.	Pneumonia.	Spinal sclerosis.	Syphilis, congenital.	Tetanus, infantile.	Tuberculosis, pulmonary.	Tuberculosis, intestinal.	Premature birth.	Total.	
1	1	1	2	1	1	2	1	2	7	1	1	1	3	1	1	1	1	1	1	6	1	1	1	2	13	2	1	56

Death-rate for the ten months ending October 31, 1900, 24.18.

BIRTHS FOR OCTOBER, 1900.

MALE.		FEMALE.		TOTAL.		Average.
White.	Colored.	White.	Colored.	Male.	Female.	
11	22	13	13	33	26	59

This is the first month in which the above statistics have been kept.

For 1900 the vital statistics are given in more complete form, showing the changes that American methods have made in the manner of their keeping; all of these changes are new innovations, and much time and labor has been given to introduce them and accustom physician and officials to their use.

The following tables are self-explanatory, and the consideration of the generally accepted theory, that heat and moisture under certain conditions have a definite influence on the propagation of yellow fever, gives to these tables a peculiar interest.

In accordance with that theory, other things being equal, the season of the year 1900 was far more favorable for a yellow fever epidemic than the season of 1899.

For ten days preceding June 15, 1900 (date of outbreak in 1899), the temperature was higher with slightly less moisture than for the same period in 1899, and for the ten days following June 15, the temperature was higher, and there was a greater rainfall in 1900 than in 1899.

From the 11th to the 20th of June, 1900, both dates inclusive, the maximum was but once below 90°, and the minimum ranged from 75° to 77°, dropping to 74° but once in that period, June 18th.

The height of the epidemic in 1899 was in July. During July of 1900, the maximum temperature was 1.1° higher and the minimum .3° lower than in July, 1899. The precipitation was .03° higher in 1899 than in 1900.

MAY, 1899.

Date.	Temperature.		Rain-fall.	Yellow Fever.		Date.	Temperature.		Rain-fall.	Yellow Fever.	
	Max.	Min.		Cases.	Deaths.		Max.	Min.		Cases.	Deaths.
1	84	68	.26			1	87	76	.0		
2	85	70	.0			2	85	75	2.31		
3	81	71	.22			3	87	78	.0		
4	89	70	.1			4	86	77	.0		
5	85	70	.18			5	89	72	.0		
6	83	70	.57			6	90	74	Tr.		
7	85	70	.02			7	90	73	.03		
8	86	71	Tr.			8	89	76	.02		
9	88	70	.0			9	89	74	.01		
10	90	72	.0			10	90	72	.0		
11	90	72	.0			11	84	74	.1		
12	87	76	.0			12	80	72	.2		
13	88	72	.0			13	86	73	Tr.		
14	84	71	.25			14	88	73	.01		
15	81	72	.30			15	87	73	.80		
16	86	71	Tr.			16	84	76	.49		
17	88	71	.0			17	84	75	.25		
18	84	72	.01			18	84	76	.03		
19	87	70	.58			19	84	75	.17		
20	87	69	.0			20	89	74	.0		
21	88	71	.0			21	89	74	.0		
22	90	71	.0			22	89	76	.0		
23	89	72	.0			23	89	73	.01		
24	90	73	.0			24	90	73	.0		
25	91	72	.0			25	91	74	.0		
26	91	71	.6			26	91	74	.0		
27	91	72	.04			27	92	74	.0		
28	89	71	1.27			28	91	75	.0		
29	87	72	.15			29	84	74	.4		
30	89	71	.01			30	90	74	.23		
31	85	73	Tr.			31	89	72	.14		

JUNE, 1899.

Date.	Temperature.		Rain-fall.	Yellow Fever.		Date.	Temperature.		Rain-fall.	Yellow Fever.	
	Max.	Min.		Cases.	Deaths.		Max.	Min.		Cases.	Deaths.
1	86	72	.0			1	89	67	1.78		
2	88	72	.0			2	88	71	.20		
3	88	72	.0			3	88	75	.19		
4	87	70	.94			4	91	71	.09		
5	88	71	Tr.			5	91	71	.0		
6	87	70	.86			6	90	74	.0		
7	87	70	.35			7	87	73	Tr.		
8	82	70	.01			8	88	74	.29		
9	87	72	.02			9	89	71	Tr.		
10	87	72	.0			10	91	73	.0		
11	91	71	.03			11	88	75	.0		
12	91	71	.12			12	90	76	.0		
13	88	74	.49			13	90	76	.0		
14	89	71	Tr.			14	90	77	.0		
15	88	72	Tr.			15	93	75	.0		
16	88	72	.0			16	90	75	.0		
17	89	73	.0			17	91	76	.0		
18	90	74	.0			18	91	76	.0		
19	89	74	.0			19	92	76	.0		
20	90	74	.0			20	92	75	.26		
21	91	75	Tr.			21	91	74	.0		
22	93	75	.11			22	90	74	.65		
23	89	71	.01			23	91	73	.0		
24	90	71	.24			24	90	75	.0		
25	91	75	.0			25	92	75	.0		
26	91	74	Tr.			26	93	74	.0		
27	89	74	.16			27	91	76	.65		
28	90	75	.0			28	91	75	.0		
29	90	74	.0			29	88	75	.10		
30	92	75	.0			30	89	74	.14		

JULY, 1899.

Date.	Temperature.		Rain-fall.	Yellow Fever.		Date.	Temperature.		Rain-fall.	Yellow Fever.	
	Max.	Min.		Cases.	Deaths.		Max.	Min.		Cases.	Deaths.
1	91	74	.0	5	2	1	81	61	Tr.		
2	91	75	.0	20	2	2	92	72	.01		
3	91	75	.0	13	2	3	90	71	.19		
4	94	75	.0	8	2	4	90	74	.0		
5	91	74	.03	1	5	5	90	74	.0		
6	90	73	.03	1	1	6	92	73	.02		
7	89	73	.0	1	1	7	89	73	.01		
8	90	76	.1	1	8	8	92	73	.08		
9	90	72	.0	1	1	9	91	74	.0		
10	92	74	.0	1	1	10	91	75	.0		
11	90	73	.03	1	1	11	91	74	.0		
12	91	74	.0	6	1	12	92	74	.0		
13	91	74	.02	1	1	13	91	74	.0		
14	92	73	.0	1	1	14	91	74	.0		
15	91	74	.0	1	1	15	92	76	.0		
16	89	74	.21	1	1	16	92	75	.0		
17	90	74	.0	1	1	17	92	74	.0		
18	89	75	.0	1	1	18	92	74	.0		
19	91	75	.0	1	1	19	92	74	.0		
20	91	71	.0	1	1	20	92	74	.0		
21	89	72	Tr.	1	1	21	92	74	Tr.		
22	91	72	.0	1	1	22	91	74	.02		
23	93	75	.0	1	1	23	91	74	Tr.		
24	90	76	.0	1	1	24	91	74	.08		
25	90	76	.0	1	1	25	91	74	.01		
26	90	76	.0	1	1	26	92	76	.08		
27	91	75	.05	1	1	27	91	75	.01		
28	91	75	.52	1	1	28	91	74	.04		
29	87	74	.0	1	1	29	91	74	.0		
30	91	74	.0	1	1	30	91	74	.0		
31	91	73	.0	1	1	31	91	74	.04		

AUGUST, 1899.					AUGUST, 1900.				
Date.	Tempera- ture.		Yellow Fever.		Date.	Tempera- ture.		Yellow Fever.	
	Max.	Min.	Cases.	Deaths.		Max.	Min.	Cases.	Deaths.
1	90	74	.0	2	1	92	73	.0	
2	92	74	.0	1	2	91	73	.0	
3	91	73	.01	1	3	91	74	Tr.	
4	90	74	.11		4	94	74	.0	
5	90	73	.0	1	5	94	75	Tr.	
6	90	71	.0	1	6	92	74	.36	
7	92	74	.0	2	7	90	74	.10	
8	96	74	.0	1	8	91	74	Tr.	
9	94	75	.0		9	91	72	Tr.	
10	88	75	.57	1	10	92	74	.0	
11	84	68	4.38		11	92	74	.40	
12	86	76	.06	1	12	92	74	.0	
13	89	76	.0	1	13	93	74	.01	
14	90	74	.0		14	92	74	.30	
15	92	73	.0		15	91	73	Tr.	
16	90	75	.0		16	94	75	.0	
17	91	74	.0	2	17	93	76	.0	
18	90	74	.0	1	18	92	75	Tr.	
19	90	75	.0		19	93	73	2.11	
20	92	74	.0	1	20	90	75	.12	
21	91	74	.0		21	90	75	.0	
22	90	73	.0		22	92	72	.06	
23	92	73	.0		23	93	73	.0	
24	92	76	.0	1	24	91	75	.31	
25	91	75	.0		25	95	76	.0	
26	91	74	.06		26	92	75	Tr.	
27	92	73	.0		27	91	75	.17	
28	91	74	.0	2	28	92	74	.75	
29	92	74	.0	1	29	88	73	Tr.	
30	93	75	.0		30	87	74	.64	
31	96	76	.0	2	31	89	75	.36	

SEPTEMBER, 1899.					SEPTEMBER, 1900.				
1	92	77	.03	1	1	91	74	.68	
2	94	75	.0		2	89	73	.54	
3	90	74	.03	1	3	89	72	10.89	
4	92	76	.26	1	4	76	69	7.22	
5	91	75	.0	1	5	86	72	1.78	
6	91	74	.15		6	86	72	2.29	
7	91	75	.30	1	7	77	71	3.25	
8	89	74	.11		8	82	74	.29	
9	91	75	.06	2	9	86	71	1.24	
10	92	75	.12	2	10	89	73	.14	
11	90	73	.28		11	89	73	.0	
12	88	74	1.58	1	12	90	75	.0	
13	86	70	1.15		13	91	73	.0	
14	89	72	.0	2	14	91	72	.63	
15	90	74	.0		15	89	73	.02	
16	91	75	.02		16	89	72	.0	
17	90	74	.0		17	90	73	.0	
18	90	74	.0		18	92	70	.0	
19	91	75	.0	1	19	92	74	.0	
20	91	75	.0	1	20	92	73	.0	
21	91	75	.0		21	91	73	.0	
22	87	73	.05		22	90	73	.19	
23	91	73	.0		23	91	73	.0	
24	91	73	.01	1	24	92	73	.0	
25	92	75	.0		25	94	75	.11	
26	90	76	.0		26	91	74	.0	
27	90	75	.52		27	90	73	.0	
28	92	73	.63		28	92	73	.0	
29	90	74	.01		29	93	74	.0	
30	90	74	.04		30	90	71	.0	

OCTOBER, 1899.					OCTOBER, 1900.				
1	90	74	.14	2	1	86	74	.0	
2	90	74	.03		2	84	71	.82	
3	86	73	.16		3	88	71	.14	
4	85	74	.69		4	89	73	.29	
5	85	73	.91		5	88	72	.0	
6	89	73	.0		6	89	72	.0	
7	90	75	Tr.		7	91	72	.0	
8	91	74	Tr.	1	8	90	73	.0	
9	89	72	Tr.		9	90	73	.0	
10	91	72	Tr.	1	10	92	74	.06	
11	88	74	.15		11	89	75	.0	
12	90	74	.03		12	90	72	.0	
13	87	69	.50		13	90	72	.03	
14	84	70	.06		14	90	71	.0	
15	83	71	.41		15	88	70	.95	
16	84	73	.23		16	89	72	.0	
17	88	69	.0		17	90	71	.0	
18	90	74	.26		18	90	72	.0	
19	90	74	.36	1	19	90	73	.0	
20	88	74	.25		20	89	75	.0	
21	88	72	Tr.		21	92	72	1.17	
22	88	72	.25		22	89	73	.14	
23	85	72	.12		23	89	74	Tr.	
24	87	72	1.25	1	24	89	72	.0	
25	91	73	.09		25	87	71	Tr.	
26	84	71	.38	1	26	84	69	.14	
27	74	71	6.09		27	84	72	.62	
28	78	71	2.73		28	86	71	.0	
29	82	72	2.58		29	87	71	.03	
30	85	71	2.29		30	81	74	.07	
31	85	70	.0	1	31	89	74	.02	

A COMPARATIVE STUDY OF THE CONDITIONS EXISTING DURING THE YELLOW FEVER SEASONS IN HAVANA AND SANTIAGO GIVES THE FOLLOWING TABLES:

1899.	TEMPERATURE.				YELLOW FEVER.			
	Max.		Min.		Cases.		Deaths.	
	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.
May.	89.0	87.6	66.0	71.1	1.64	3.92	2	0
June.	90.0	89.1	68.0	73.1	2.79	2.20	4	1
July.	91.0	90.5	69.0	74.1	3.87	1.34	6	2
Aug.	92.0	90.9	73.0	74.0	0.14	5.16	34	13
Sept.	90.0	90.4	73.0	74.2	2.97	5.35	54	18
Oct.	89.0	86.3	68.0	72.5	5.82	19.06	63	25

1900.	TEMPERATURE.				YELLOW FEVER.			
	Max.		Min.		Cases.		Deaths.	
	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.	Ha- vana.	San- tiago.
May.	88.0	81.1	69.0	73.9	9.96	5.23	5	2
June.	91.0	90.1	68.0	73.9	3.43	3.15	19	8
July.	90.0	91.6	71.0	73.8	5.40	1.31	96	30
Aug.	90.0	91.7	72.0	74.2	1.72	5.89	219	49
Sept.	90.0	88.7	71.0	72.7	4.25	29.49	269	52
Oct.	90.0	88.3	70.0	72.3	1.95	4.34	308	74

AVERAGE FOR SIX MONTHS.

	TEMPERATURE.				YELLOW FEVER.			
	1899		1900		Cases.		Deaths.	
	Max.	Min.	Max.	Min.	1899.	1900.	1899.	1900.
Havana	90.01	69.70	89.83	70.16	17.23	26.71	133	916
Santiago	89.13	73.13	89.90	73.46	7.03	49.41	235	0

Manson on tropical diseases, voices the accepted view of experts, when he says:

"For its development in epidemic form, yellow fever requires a temperature of over 75° F. It ceases to extend its area when the thermometer sinks below this point, and it stops abruptly as an epidemic when the freezing point is reached; although—as proved by the recurrence of the disease two years in succession in one of the Spanish epidemics, and that without a fresh introduction—the vitality of the germ may not be extinguished and killed outright by frost. Dampness favors yellow fever; it is therefore most prone to occur during the rainy seasons.

"Conditions of soil required.—Further, it is not every spot that affords the extracorporeal conditions demanded by the germ. It would appear that an admixture of animal matter must enter into the composition of the nidus; decomposing vegetable matter does not suffice."

If this means that a case of yellow fever must exist, before these conditions will have any effect in causing an epidemic, I have not been so taught. In a city wherein yellow fever is due to importation, a case must be brought before any meteorological condition can be considered as bearing on its spread. It is also true that these conditions are co-existent with an epidemic of yellow fever.

But how apply such theory here where the disease has been endemic for years, and is also presumably indigenous? Must importation also be had?

I have until now always believed that such weather was the one thing necessary to cause an outbreak of yellow fever in a city wherein the disease was endemic, if the other requirements were there and the nonimmunes were present.

A study of the tables given, and consideration of conditions existing at Havana and Santiago, indicates that the theory is fallable.

Here we have two cities wherein yellow fever has been endemic for many years: Havana in 1899, from May to October, both months inclusive, had a mean temperature of 79.75, precipitation 17.23, cases of yellow fever 163, deaths 59. For the same period in 1900 the mean temperature was 79.49, precipitation 26.71, cases of yellow fever 916, deaths 215.

For the year 1899 the immigration was 16,260, for the 10 months ending October 31, 1900, the immigration was 16,859.

For the same 6 months, Santiago in 1899 had a mean temperature of 81.13, precipitation 37.03, cases of yellow fever 235, deaths 53; and for the same period in 1900 the mean temperature was 81.68, precipitation 49.41, and no yellow fever.

In 1899, Santiago had a nonimmune population of from 1,300 to 1,500. In 1900 the nonimmune population was over 1,300.

All of the conditions required by the heat and moisture theory were present in both cities. Havana had a higher mean temperature in 1899 and less of a rainfall than she had in 1900; the difference in the epidemic can be seen.

Santiago had a higher mean temperature and a greater rainfall in 1899 than Havana had in either year cited, and in 1900 Santiago's rainfall was much greater and her mean temperature higher than in 1899.

It seems to me that in view of these facts, the theory that heat and moisture play the all important role in the development of yellow fever, must fall, and the admission only granted that these conditions are coexistent with an epidemic of yellow fever.

The deductions made from his observations by Touatre in New Orleans cannot apply to conditions here in Santiago, for the reason, it is affirmed, that when yellow fever appears in New Orleans it is due to importation. Here it is endemic.

It would be egotistical to assert that our work here was the sole cause for the nonappearance of yellow fever in 1900, especially after the severe epidemic of 1899. Also, to further assert that the sanitary work done in Havana had been a failure would be pessimistic.

I have endeavored to obtain data from Kingston, Jamaica, for comparison with conditions existing here, but it is difficult to obtain official information. On November 11th I had the good fortune to meet Mr. Goldsmith Williams, of the Cuba Fruit Company, a gentleman of keen observation who has lived much and traveled extensively in the West Indies; from him I gathered the following facts:

He thinks that until 1897 Kingston was nearly as filthy as Santiago. He described the open sewers in the streets and characterized the odors as unbearable; the older and business portion of the city, he said, was built much similar to Santiago; climatic conditions were almost identical; they do not fear yellow fever, and until 1897 they took no precautions other than quarantine against infected ports. The disease has never been considered endemic there. The inhabitants attribute their safety to the trade winds which blow steadily over the city for from 10 to 14 hours daily; so much are they impressed with the truth of this that the trade winds are called their doctor.

After the epidemic of 1897 the sewer system was completed, and since then Kingston has been in a much better sanitary condition.

Jamaica is 80 miles south of here, and Kingston is on its south coast; in all, about 140 miles from Santiago, a little west of south. The letter here given contains all the official information I have been able to obtain:

British Consulate,
SANTIAGO DE CUBA, July 12, 1900.

Major L. C. Carr,
Chief Surgeon, U. S. V.,
Santiago.

Sir:—I have the honor to inform you that I have just received under date 25th of June, an answer from the Superintending Medical Officer, Jamaica, to my enquiry of April, regarding yellow fever epidemic in Kingston, and which is as follows:

"I have the honor to acknowledge receipt of your letter dated 11th April last, and, in reply, to inform you that the records at my disposal do not go further back than the year 1879, from that date to the year 1899, with the exception of 1 or 2 sporadic cases at long intervals, there was no yellow fever in Kingston.

"In 1897 we had an epidemic when 72 cases were recorded, since then Kingston has been free from yellow fever.

"I regret that a press of work and other matters have prevented my replying to your letter earlier."

I am, sir,

Your most obedient servant,

(Signed) ROB. MASON,

Consul.

Mr. Williams further informed me, that in 1897 the authorities claimed to have located the first case of yellow fever. The patient was a man who had left an infected port of Central America a short time before. The authorities agreed that this case was responsible for the epidemic, which they asserted was due to importation. I give this statement without comment.

The question here raised as to the part played by heat and moisture in the development and propagation of yellow fever, is worthy of more study than has been given to it in the past. It appears to me that too much has been taken for granted.

Consideration of the obstacles that were encountered, and the steps taken to overcome them, may enable the reader to arrive at a conclusion as to what fact or factors we owe our escape.

1. Meteorologically, the conditions existing in 1900 were more favorable for an epidemic of yellow fever than the conditions which existed in 1899.

2. Food for the fever.

A careful census made by First Lieutenant Edward F. Geddings, Assistant Surgeon, U. S. A., and Dr. Richard Wilson, Acting Assistant Surgeon, U. S. A., shows that during the dangerous period, from April to October, we had a resident and floating population of over 1,300 nonimmunes, and the greater majority of these were of that dangerous class—migratory loafers. This condition varies very little from that of 1899.

3. Owing to the style of architecture, the manner of construction and the crowding together of the buildings, disinfection by fumes or vapors was out of question.

4. There were 41 distinct foci of infection in the city and 12 in the outskirts and small towns adjoining; these were known. It was the unknown points that were feared.

5. The residents, being immune, have no fear of yellow fever, consequently their carelessness, and in many instances their resenting of American methods of sanitation, made our work very difficult.

6. The custom of the people, throwing urine and other filth into the streets was an element of grave danger: this practice has not been overcome, nor will it be until a system of sewerage shall have been established.

7. Our limited water-supply has made our work very trying; at this writing it is the best we have ever had, 5 gallons per capita. During the dangerous season it was very much less, and but one-fourth of the city was supplied at one time, the average being 18 hours of the 24 without water.

8. The privy system here is abominable; many of the old vaults had not been cleaned for over 50 years. Their location adjoining kitchens and cisterns rendered them very offensive and extremely dangerous. Butcher shops, bakeries, and groceries, were invariably found to be in bad condition. In the bakeries horses were found in stalls adjoining ovens, and seepage of decomposing urine into the work rooms was the rule, some mixing rooms were found covered with living filth; butcher shops and groceries with piles of rotten offal in back rooms and patios; but, nevertheless, this class of people have been found amenable to reason when shown the way.

9. Owing to the fact that we had an inadequate water-supply, the newly laid sewers had not been in use and the manholes along their course would fill rapidly and become very offensive and dangerous.

10. I feel constrained to here call attention to the most serious among the obstacles that were encountered:

The evident and expressed wish of the Marine-Hospital Officer that we should have yellow fever here.

His printed circular prior to April 1, 1900, which had the full force of an order, driving all of the army ladies out of the country.

His curt refusal to cooperate with the military and civil authorities.

His strenuous endeavor to prevent our having a quarantine against Havana.

His public and written statement that we would have yellow fever here, the only question being in which month it would develop.

His prophecies and public utterances, all of which were a grave reflection upon the service he represented.

Circular Letter No. 3, Headquarters Department of Santiago and Puerto Principe, March 30, 1900, by order of Colonel Whitside, contains this paragraph:

"All cases of contagious or infectious diseases, or suspected to be such, shall be reported to the President of the Board (Chief Surgeon's Office), who shall immediately notify at least three members of the Board to examine and decide the nature of each case so reported. The opinion of the examining members shall be expressed in writing over their signatures and handed to the President of the Board.

"No case of contagious or infectious disease shall be officially recognized except when reported by the Board of Health."

In direct opposition, he endeavored on April 23, to place in our yellow fever hospital, over which hospital he had no control, a case diagnosed by him as yellow fever; this endeavor on his part created great consternation in the city; a committee of four physicians visited the sailor, who was then in the eighth day of his sickness, diagnosed the case as typhoid fever, sent the patient to the Civil Hospital, and so reported to the Department Commander.

This act resulted in his recall; that it was his first official experience in a position of command, that he had only a superficial knowledge of yellow fever and that he was a youth, may be offered in extenuation.

The Marine-Hospital Service knew that Santiago was a station of great importance; also one entailing grave responsibility, and it has too many well equipped officers and gentlemen in its corps to have permitted, even for a day, such conditions to exist after the facts were brought to its knowledge.

Dr. M. J. Rosenau, who preceded the officer referred to, on duty here, was thoroughly equipped, did his work carefully, effectually and without friction, and was always a gentleman.

So with Dr. R. H. von Ezdorf, the present incumbent, who succeeded him; coming, as he did, into an atmosphere of discontent, distrust and general misunderstanding, he cleared it in a remarkably short space of time, and won the confidence and respect of all with whom he came in contact. This report shows what our success has been and much of the credit belongs to Dr. R. H. von Ezdorf, who in addition to his other qualities is an untiring worker.

To a station of such importance the Marine-Hospital Service should detail only of its best officers, for competent and gentlemanly medical men will always work in harmony with other authorities when the object is the greatest good for the greatest number.

I have weighed this matter long and carefully before concluding to make these facts public, but the gravity of the situation, the possibility of a similar happening, the powers for good or evil that lie in the hollow of one man's hand when appointed to such a post by the Marine-Hospital Service have outweighed all other considerations.

STEPS TAKEN FOR A PREVENTION OF AN OUTBREAK.

1. TRAMPS.—Recognizing the danger from this element, among whom yellow fever usually makes its first appearance, and fully aware of the utter hopelessness of locating the foci when such people would be attacked, an effort was made to reason with them to protect themselves while protecting the city; work was found on roads, buildings and in the iron mines, and on May 25, some 68 of the most dangerous were arrested; 40 were Spaniards, 3 Americans, 8 Jamaicans, and the rest of various lands.

The Spanish, French, and English Consuls, all in thorough accord with this movement, in company with the Chief Surgeon, visited them and matters were fully explained; 11 of them were sent to the hospital and 57 were instructed to call at an office where a clerk was kept on duty all day distributing them to places as seemed suitable; the next day 4 of the 57 called for work. In June another effort was made; about 60 were arrested and told that there was work for 50,

but that it was not compulsory; only 5 of the number agreed to work. The Department Commander then authorized the Alcalde to have them arrested under the Spanish tramp act, as vagrants. This form of arrest began July 1, 1900, and arrangements were perfected to rid the city of this dangerous element. They caused us more or less trouble during the entire period until October 31.

2. On March 1, 1900, the general re-disinfection of the foci began with a trained force, under the direct control of an experienced and capable chief. The disinfectant used was corrosive sublimate (strength $\frac{1}{2}$ pound to 50 gallons of water with the addition of $1\frac{1}{2}$ pounds of salt to a 50-gallon barrel).

Force pumps were used on wells and ceilings, and floors were scrubbed and drenched; where the force pump could not reach, swabs were used. This disinfection was completed by July 1, 1900. All of these places were re-disinfected; some of the filthy houses, 3 or 4 times, and cafés, lodging houses, and resorts frequented by non-immunes, every 3 or 4 weeks.

3. A careful watch was kept over the town. The indiscriminate throwing of filth into the streets was in a measure prevented, and it was only permitted at a stated hour, while not avoiding, this requirement lessened the danger. It was Hobson's choice.

4. Our limited water-supply is a proposition upon which the Engineer Department is still at work.

5. About 500 latrines were found to be in a dangerous condition; the records of the Sanitary Department show that of this number, 350 were cleaned or contract made for their cleaning. On June 22, the second inspection began of places reported dangerous on the first inspection; a list of houses with owners and tenants who had failed to comply with the sanitary regulation was submitted to the Alcalde with request that these parties be proceeded against at once in accordance with the regulations. The inspection showed that the most dangerous part of the city is the district bounded on the north by the Paseo de Concha, the south by Marino, the east by Gallo, and the west by Cristina streets, which is owing to the fact that this section receives all of the ground wash of the entire city and the privy vaults here are constantly filled to overflowing. The regular force of vault cleaners were not enough for the increased work made by these inspections; therefore, many of these contracts were sub-let to contractors whose work has proved very satisfactory. In pursuing this work, a remarkable condition has been presented, which it is hoped is only a local and not a general characteristic of the people of Cuba; the poorer and uneducated classes have offered no objections and where poverty did not absolutely prohibit, obeyed the instructions of the inspectors as best they could. *Per contra*, many dangerous places were found belonging to and inhabited by the people of education, refinement and wealth, a number of whom had traveled extensively abroad, representing the different professions and belonging to the best families in the city; several of such have not only positively refused to clean their homes, but have been discourteous and insulting in their refusals.

6. The manholes referred to were pumped out every day and arrangements were made to thoroughly disinfect them after every pumping.

In all of this work, the Department Commander, Colonel Samuel M. Whitside, took an active interest and was in hearty sympathy with all efforts to this end; his suggestions as to ways and means were ready and valuable, and he always accomplished measures recommended by his Chief Surgeon in the shortest possible time and with but little or no friction.

For an officer so long connected with purely military duties to quickly grasp and thoroughly comprehend the manifold difficulties solely sanitary and altogether civil was an agreeable surprise to me, and it is beyond question that without his earnest support and advice results here given could not have been obtained.

The Cuban, from a sanitary standpoint, is of a class with which the American sanitarian is not familiar. The manners, creeds and customs of his forbears are to him sacred; any attempt to improve his sanitary condition that conflicts with his inherited beliefs, is regarded as bordering on sacrilege.

Santiago as a home of yellow fever was part of his heritage; that existing conditions affected the future of the people,

crippled the commerce of the island, endangered the lives of others and retarded the growth of his city, did not appeal to him. He was immune and had no fear.

The following from the *New York Medical Record*, page 20, July 7, 1900, shows this feeling:

El Cubano, an Havana newspaper, recently revealed one of the reasons for this opposition. It said, "the Cubans justly and properly object to the expenditure of such a large proportion of the revenues of the island in measures intended to repress yellow fever, for the only result of such measures is to protect the lives of the Americans, since the Cubans themselves are immune from yellow fever."

Spanish law is admirably fitted to interfere with sanitary procedure, and its aid was frequently invoked by people of the better class, when they thought that the health regulations being enforced were interfering with their personal comforts or desires.

My observations, covering a period of 28 months, have led me to the conclusion, that for some time to come the people of this island will not be prepared or inclined to take hold of sanitary measures, and therefore whatever Cuba's future may be, the United States will be culpably negligent of her own interest, of the interest of her southern States in particular and of the world in general, if she permits health regulations, sanitary measures and quarantine restrictions to pass from her control before she is convinced that these matters are thoroughly understood and will be faithfully and intelligently prosecuted by the people of Cuba.

Wasdin says in his conclusions (*The Journal of the American Medical Association*, October 6, 1900):

"That the bacillus icteroides is very susceptible to the influences injurious to bacterial life, and that its ready control by the processes of disinfection, chemical and mechanical, is assured."

This statement will not be questioned, as it is one of the few points in connection with yellow fever that admits of no dispute.

Even in a filthy tropical city, without proper sewerage, without any sanitary standard whatever, the work of disinfection can be pushed to a successful issue.

This fact is fairly in evidence; the foci of yellow fever are in certain definite places in a city where it is endemic. The habitat can be located and as fast as one appears it should be guarded closely, and with all of its belongings, disinfected thoroughly, and, as an added precaution, redisinfecting at intervals during the danger period; these places should be kept under continual surveillance and treatment and no pains or expense should be spared to render the contagion at such points inert.

I am further convinced that our work in Santiago did much to ward off an attack, and yet this question intrudes itself, were there not many foci that escaped us? That there were is undoubtedly true; but we took care of all that were of record and were prepared for any new ones that might appear.

There is still much in connection with meteorological conditions and nature of nidus necessary for the propagation of this scourge that we do not clearly understand.

Nearly all of the best men, men of scientific attainments who have had practical experience in the care of yellow fever, and in the sanitation of cities wherein the fever was epidemic, are now engaged in laboratory work, endeavoring to demonstrate which germ is responsible for this scourge. We all must admit that the object is a most laudable one and our hope is that it will soon be determined beyond all doubt.

But would not the interests of humanity be better served if the sanitary measures in the cities wherein yellow fever is endemic, were under the constant watch and control of some such men?

After an epidemic, this important work—looking to a prevention of a recurrence—is often left in the hands of inexperienced and careless persons. Why should not some of these men devote their entire time and attention to preventive measures, giving intelligent supervision to methods that we have, and know to be reliable?

Before closing I wish to call attention to the work of First Lieutenant Ira A. Shimer, Assistant Surgeon, U. S. A., as Sanitary Inspector. He enthused the whole force with his energy and personally supervised all details. He satisfied himself by personal inspection that all work outlined was

being faithfully performed. During his absence on leave, this work was in charge of Acting Assistant Surgeon Milton Vaughan, U. S. A., who carefully directed its prosecution. First Lieutenant Edward F. Geddings, Assistant Surgeon, U. S. A., was on duty in connection with contagious diseases, his knowledge of yellow fever and the methods of its handling, made him especially valuable at this time.

I desire to express my thanks to Major Valery Havard, Surgeon, U. S. A., Chief Surgeon Division of Cuba; Major William C. Gorgas, Surgeon, U. S. A., Chief Sanitary Officer of Havana; Assistant Surgeon R. H. von Ezdorf, Marine-Hospital Service; and also Mr. A. V. Randall, of the Weather Bureau, for data, from which these tables have been compiled, and further to thank the officers of the Departmental Staff for their unvarying courtesy and the assistance rendered me whenever it was required.

November 26, the date of completion of this paper, 11 months have passed, during which Santiago has been free from yellow fever.

Under these conditions the possibility of a case occurring in December is very improbable.

A CORRELATION OF SOME FACTS IN THE PROPAGATION OF YELLOW FEVER, WITH THE THEORY OF ITS CONVEYANCE BY THE CULEX FASCIATUS.

By H. R. CARTER, M.D.

Surgeon United States Marine-Hospital Service.

UNTIL the life-history of the *Culex fasciatus* is worked out it is not possible to fully compare with the theory of the conveyance of yellow fever by this agent as a host with such facts as are known of the propagation of the disease.

Still it seems that a correlation of some such facts well established and generally admitted with the above theory may be of interest.

First.—Yellow fever is not transmitted directly from the sick to the well. It is propagated from the sick man by his infecting his environment, from which it is contracted by others exposed thereto.

Second.—Certain conditions of environment are necessary for it to become infected. Besides temperature and moisture, there are others of which we are ignorant, and many localities habitually have not received infection from the presence of the sick, although there are no differences in climate, which we could appreciate, between these localities and others that did so become infected.

This quality of a place, its being infectible by yellow fever, sometimes, probably frequently, varies from year to year. Cases of yellow fever may be introduced some summers with impunity and in others in the same place spreads on introduction.

From the first a necessary deduction is that the disease is not propagated by material conveyed directly from the sick to the well; that some material after leaving the body of the patient undergoes some change outside of his body, and after this change produces yellow fever in one susceptible to that disease.

This change, which takes place outside of the body of the sick man, may be:

A. A change in physical condition of the excretion containing the microorganism rendering it able to reach the proper atrium for the infection of others. Analogous to the drying and pulverization of tubercular sputum, etc., etc.

B. The infection of a host, by which host (or its offspring) the microorganism is transmitted analogous to the transmission of malarial fever, or the Texas fever of cattle.

C. A change in the microorganism itself; it undergoing development outside of the human body into some stage different from that in which it leaves the body.

This last has been the theory accepted by most of the writers who have considered this subject, but there is no analogy with the propagation of any other disease, so far as is known to the writer.

So far as postulate first is concerned the conveyance of yellow fever by this mosquito as a host is perfectly consistent with it.

As for postulate second this theory would make an environment "infected" if infected mosquitoes existed there, and "infectible" or its reverse as the *Culex fasciatus* was present or not. If an investigation shows its absence (or general absence) in noninfectible localities and the converse it would be very strong corroborative evidence.

I am informed that this mosquito was abundant the past fall in Washington, D. C., a place usually considered (although for not sufficient reasons) a noninfectible one.

To the above two postulates the writer is inclined to add a third one, viz., "that a certain period of time, from the exposure to the patient, is necessary for an environment to develop infection."

But while this is supported by a good many observations, and is he believes true, yet it is not universally admitted, as are the other two. It will, therefore, not be considered on the basis of an admitted postulate.

The theory of the mosquito host is also perfectly consistent with this—as are both of the other two theories of infection.

Third.—Infection may apparently be retained a long time by an environment without a reinfection. That is, a case of yellow fever may be contracted from an environment after a considerable period of time from the last exposure of that environment to infection. I do not mean cases like those aboard the *Plymouth*, which were altogether exceptional, or the occasional hibernation of the fever in the United States. I mean cases like the following—I quote from only one season's note book:

"British ship *Avon*, in rock ballast, 22 in crew, all except 4 nonimmune, left Rio Janeiro April 20, 1900. All well in port and en route until the thirty-ninth day out, when entering Ship Island, a boy sickened with yellow fever and died; one other man, a quarantine employe who assisted in cleaning up the room where this boy was treated aboard ship, sickened 14 days after."

"British ship *Curlew*, from Rio, in rock ballast, crew mainly nonimmune. All well in port, en route, and on arrival. After cleaning ship, one man sickened with yellow fever, 64 days from Rio."

"British ship *Chippewa*, from Rio, rock ballast, 21 in crew, all save 3 men and the master nonimmune to yellow fever. All well in port, en route, and on arrival. After cleaning ship, one man sickened with yellow fever, 68 days from Rio."

None of these vessels made a port of call (except Pensacola) on the way up, and the date of leaving Rio was positively the last possible chance for any one of these vessels to acquire infection. We have, then, persistence of infection for not more than 39, 64, and 68 days.

Although the life history of Finlay's mosquito has not been worked out, the intervals of time here given exceed the life of any of the culicids whose life-history

is known and exceeds that given by Finlay for his. He states (verbal communication) that he has kept the female of his *Culex* alive, after feeding, only from 8 to 14 days; that the time from eggs laid in water to the time mosquito is from about 14 to 18 days. This agrees fairly well with what has been found for other culicids.

To explain cases like the above which, while not common, are by no means very exceptional on sailing vessels, in accordance with the theory of conveyance by the mosquito, one of three hypotheses must be adopted.

1. This mosquito has a far longer life than the other culicids, or than Finlay has been able to keep him in confinement.

Observe, there is no question of hibernation here, the route from Rio to Chandeleur in the spring and early summer is all under tropical conditions.

2. Unrecognized cases of yellow fever had occurred abroad en route.

3. That the immediate progeny of the infected mosquito coming aboard in Rio, are themselves infected and capable of transmitting the infection, as is the case with the host in the Texas fever of cattle.

The first is hardly reasonable; the time is so much in excess of the life of any other of the culicids. It is left, however, until the life history of this variety is better known.

The second seems to me also improbable. Still these cases are not common, and it is possible. Something too, I think, not much, must be allowed for the chance of a non-fatal case being concealed successfully from the quarantine officers.

The third hypothesis has, I think, not been in terms advanced by either Finlay or Reed, but is naturally implied (as a possibility at least) in the theory, and Dr. Finlay was engaged in investigating it when I left Cuba. He had secured eggs from a female which had been fed from yellow-fever patients, some laid on the surface of the water, and some on the side of the vessel above. These he intended developing and experimenting with the resulting mosquitoes to see if they would convey infection.

Even taking this third hypothesis, the time for the *Curlew* and *Chippewa* (and there are other cases) seems too long to be covered by the cycle from an infected mosquito to the life of his immediate progeny from eggs laid in water.

The eggs laid above the surface of the water, however, seem to be able to keep a long time (thirty days in Reed's case with eggs furnished by Finlay) and then hatched out when put in water. Taking this into consideration, even these long periods of time between cases, or after leaving infected ports to first cases, are not absolutely incompatible with the mosquito theory; although they are certainly not what we would expect therefrom.

Mosquitoes will not breed in bilge water (Finlay's verbal communication), and for them to so frequently deposit their eggs above water aboard ship, so that they will be wet, with fresh water, and come to maturity just when the vessel is cleaned, is decidedly improbable, less probable than the last hypothesis.

Fourth.—That the infection of yellow fever is conveyed by fabrics, clothing, and bedding especially, as fomites, is well nigh a universal belief.

With this the theory of Finlay and Reed is of course absolutely incompatible.

I have said that the conveyance by fabrics, directly

to men or by infecting an environment, is universally believed. Is it established?

There are many cases reported which are ascribed to this origin, and the writer has seen some which he believed thus due; those on the *Curlew* and *Avon* for example; and with the best revision he can give them, this seems for many the most, for a few the only, probable explanation, although it may not be the only explanation possible.

Yet it is fair to admit that his deduction from his own reports were influenced by his belief that yellow fever was habitually thus conveyed, and that he did not consider the possibility of its being conveyed by a host. He accepted this because it was universally accepted and because it was in accordance with the analogy of many other transmissible diseases. He used it as a proven theory to explain observations and did not make it as a necessary deduction from facts observed.

There is an experiment on a large scale which bears on this matter.

For a number of years (preceeding 1899), a large amount of baggage (used clothing) of passengers from Havana and Vera Cruz has been going to New York without disinfection. It is not possible but that much of this stuff came from infected houses and while most of it was clean, yet much of it was not. All of this baggage was opened at the Custom House at New York and handled in hotels there and at Saratoga, and no yellow fever is reported among the Customs Inspectors in New York.

The baggage going from the same ports to Spain for last 29 years is even more to be considered. Its amount has been enormous; much of it (from the class of people to whom it belongs) must have been foul. Some, the lesser part it is true, of this traffic goes to the Mediterranean ports of Spain—Valencia, Malaga and Barcelona, etc.—which at times, 1870 and before, have been infectible places, yet I think we have had no yellow fever reported in the Peninsula since the epidemic of 1870.

The facts cited above seem to me to have great negative weight and might be balanced against the positive evidence on this subject. It seems to the writer that the subject should be reopened, and that cases where this mode of conveyance is accused should be carefully scrutinized.

Fifth.—It is generally held by New Orleans physicians, that certain precautions of cleanliness will prevent the infection of his environment by a patient sick of yellow fever. These precautions take no account of the mosquito, and, save the general selection of an upper room for treatment, should not interfere with their access to the patient.

With this theory that of conveyance by the mosquito is inconsistent. There is some good evidence for this theory, yet it may be questioned if it is "proven." It is not universally accepted.

Sixth.—On the other hand the theory of conveyance by a mosquito is entirely consistent with the belief, very general but not universal, that yellow fever occasionally hibernates in the States north of the Gulf; as well as with the belief, less general, that it does not do so in the extreme southern portion of the United States, mosquitoes habitually hibernating in the first region and not doing so in the second.

There are several other postulates relative to the propagation of yellow fever which could be advanced;

but it seems advisable to set out only those which are well-known and universally, or very generally, accepted. Indeed the last three are outside of this pale—the last one especially.

SUPRARENAL CAPSULE—ITS USE IN RHINOLOGICAL OPERATIONS.

By CHARLES C. ROYCE, M.D.,

of Philadelphia, Pa.

Assistant in Rhinological Clinic, Jefferson Medical College Hospital.

THE literature is seemingly so full and complete concerning the employment of suprarenal capsule in rhinology, that one hesitates to further add to it; yet the results obtained by its use as herein indicated, while not altogether original, seem to justify recording, because the writer cannot recall having seen this method described elsewhere.

In all operative interference within the nose, it is desirable to have as small an amount of primary hemorrhage as possible, and certainly no secondary hemorrhage. The last result I have always obtained whenever this method was employed.

In doing a turbinectomy, the naris is completely filled with a tampon of cotton soaked in a 5% solution of cocain. This is retained within the naris some ten minutes, to be replaced by a fresh tampon similarly filled with a like cocain solution and retained another ten minutes.

Before placing this second cocain-soaked tampon within the naris, it is rolled in, and completely covered with dry suprarenal capsule, (Armour's).

When the second tampon is removed, a third is put in its place, soaked only with a 5% solution of cocain. This third tampon remains in the nose the same length of time as the others. In this way is complete and protracted anesthesia obtained.

Objections as to the amount of time incurred in this method will be raised, but the end surely justifies the means.

In hospital practice this method is obviously impracticable. A modification is to saturate a cotton tampon with a 5% cocain solution, then roll the same in dry suprarenal capsule, and tamponade for 15 minutes. The results are much more satisfactory than with the simple solution of cocain.

CASE 1.—Fred R., 25 years of age. Anesthesia was observed for upwards of 90 minutes. The case was only diagnosed as ethmoidal empyema. The anterior half of the middle turbinate was removed, four or five small polypi, and the anterior ethmoidal cells opened up.

CASE 2.—Edward O., 19 years of age. The patient's left naris was anesthetized with the three separate tampons. The inferior turbinate was completely removed. It was a great thick mass, twisted on itself posteriorly, like a conch shell, so that it was impossible to insert a catheter into the eustachian orifice by this route.

In neither case did the patient feel any pain nor was there any primary or secondary hemorrhage.

In Case 2 I wish to report an interesting sequel. While nothing other than a slight general hyperemia of the conjunctiva was observed at the end of the seance within 24 hours the patient complained of dizziness. The second day after the operation his vision was so imperfect that he was compelled to abandon his work. By the fourth day vision was normal.

In this relation it will be recalled that F. R. Packard¹ had a similar result after a turbinectomy, only his patient was temporarily blind.

In closing, it will not be amiss to allude to suprarenal capsule in the treatment of hay fever. I have yet to see one case benefited where it was used *internally*. The *dry* powder used in *insufflation* does remove lachrymation, coryza and the characteristic itching, or greatly modifies the same.

It is true that pure suprarenal capsule applied to the mucous membrane of the nose is likely to produce sneezing, and no little pain at first, but one can accustom oneself to these in view of the relief which supervenes.

To meet such conditions, Formula No. 1 is suggested :

R.—Cocain (pulv.) 2 grains.
Suprarenal capsule..... 3 drams.
Amyli, enough to make 1 ounce.
Mix.—Sig. Insufflate ad. lib.

In conjunction with Formula No. 1 during the autumn of 1900, I had most happy results with Formula No. 2, which appeared in *Medical Council*. Salicylate of soda was substituted for salophen. I am advised that this formula is now on the market in tablets.

Formula No. 2 :

R.—Heroin 1 grain.
Atropini sulph $\frac{1}{4}$ grain.
Caffeine cit 15 grains.
Sodii salicylas 75 grains.
Mix.—Ft. Cap. No. 15. Take 1 three times a day.

A CLAVICLE CRUTCH.*

By CARTER S. COLE, M.D.,
of New York.

In *Pediatrics*, December 1, 1899, Dr. Henry Ling Taylor illustrates "a new clavicle splint," which had, as he himself says, been invented by his father 20 years



A clavicle crutch.

before and used as a part of a spinal apparatus. He speaks of the case in which he used it as a clavicle splint for Dr. Powell, S.D., at the latter's request several years ago (about 1896). Since that time the constant employment of the Taylor splint has convinced me that one made distinctly for the purpose of supporting a



A clavicle crutch.

broken clavicle in the proper position, and at the same time furnishing a false clavicle, would relieve a great deal of the discomfort to the patient in the usual forms of dressing for fractures of that bone, and with it give as good results as we could get by more cumbersome methods. For more than a year I have used with great satisfaction the splint presented here to-night. The steel bands are held by a thumb-screw, thus enabling the easy change in distance between the two hard rubber supports. The latter are made to fit in the infra-clavicular space, and also to support the broken fragment of bone, and the simple adjustment of them by a thumb-screw allows us to change the angle of support as we may desire. The two circular pads, to rest upon either scapula, connected by a steel band may also be put further apart or closer together, as the case may demand. The broad straps passing from the hard rubber pads in front (over and under the shoulder) to the posterior leather pads, grasp and hold the shoulders with sufficient firmness to dispense with all forms of bandaging. A leather pad to fix the axilla, with a loop through which the lower strap can pass, would add solidity to the whole, but is not a necessary addition to the apparatus. The employment of this crutch in a single case will satisfactorily demonstrate its availability and superiority over the ordinary methods now employed in fractures of the clavicle.

A NEW TENACULUM.

By R. C. COFFEY, M.D.,
of Portland, Oregon.

BELOW is described an instrument, or set of instruments, which I have devised, and, I believe, is useful. It was intended to represent a tenaculum in idea, but acts on a principle different from any other I have

¹ "Reflex Disturbances of Nasal Origin," THE PHILADELPHIA MEDICAL JOURNAL, July 16, 1898.

* Presented to the Surgical Section of the New York Academy of Medicine, October 8, 1900.



FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.

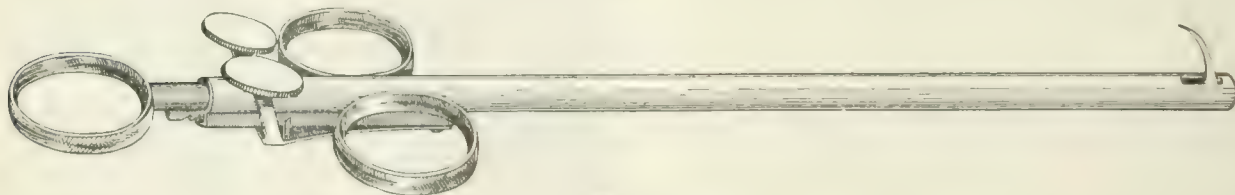


FIG. 5.



FIG. 6.

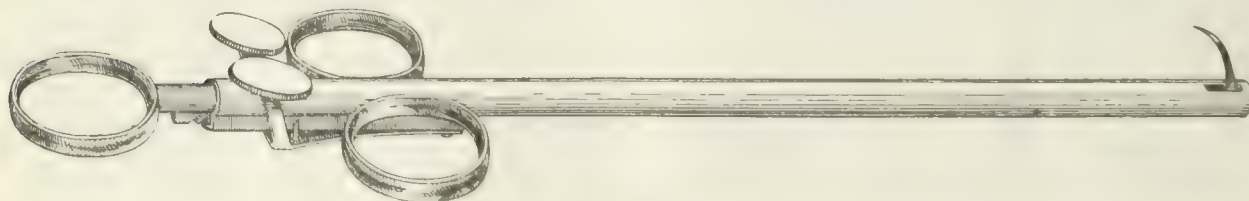


FIG. 7.

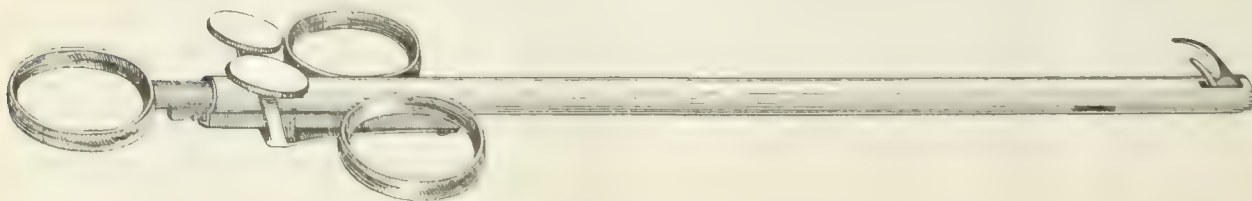
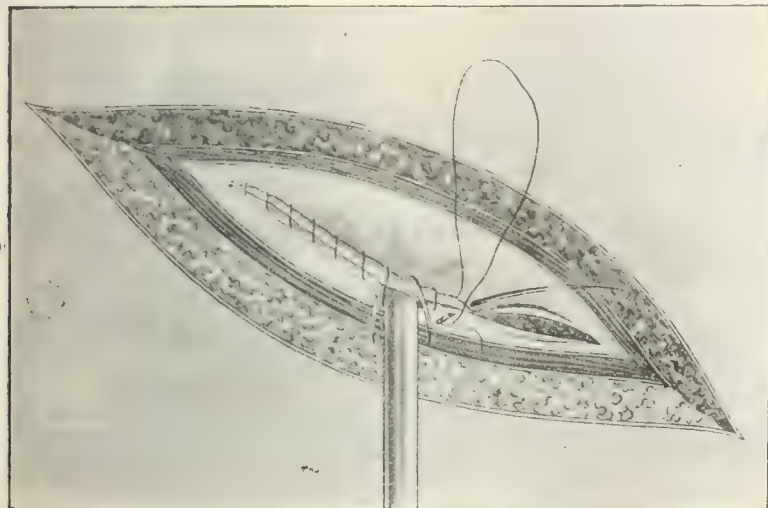


FIG. 8.

hitherto seen demonstrated. Because of the manner in which the tenaculum is hidden when not in use, protruded when needed, and again drawn back into its receptacle when it has served its purpose, it has been called a "cat-claw" tenaculum. The mechanical principle by which the tenaculum is protruded and brought



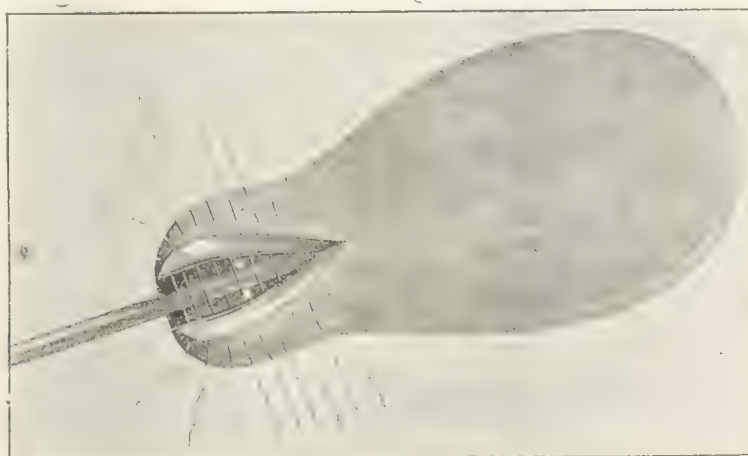
CUT I.

into action is new, I believe, as applied to surgical instruments, and my instrument-maker believes it is new as applied in any kind of mechanics. At least we are safe in saying it is new as applied to the instrument represented. The accompanying cuts, I hope, will sufficiently illustrate its mechanical principles and uses. The instrument is composed of two principal parts, consisting of a metal tube represented in Fig. 1, and a steel rod which fits inside the tube, represented in Fig. 2. The tube and rod represented are adapted to either single, double, or quadruple tenacula. It will be observed, aside from being an ordinary straight tube, it has two rings for the index and middle fingers, a chamber on the bottom side for the reception of a ratchet which projects from the lower side of the rod, a spring with a catch which passes into the chamber and fits in the notches of the ratchet to prevent the rod being forced outward when traction is made on the tenaculum. At the lower end of the tube will be noticed openings or eyes through which the fangs are protruded. Inside the tube, just at the lower margin of each opening, is a small piece of metal, shown in the sectional view represented in Fig. 3, which serves to direct the point of the fang out through the opening and also to support it and acts as a fulcrum after it has been protruded. It will also be noted that on the spring are two arms which pass on either side of the tube, terminating in buttons by means of which the spring is thrown out of the notch in the ratchet by the index and middle fingers when the operator wishes to withdraw the fangs. The steel rod has at its upper end a ring for the thumb, on its lower side is the ratchet which receives the catch of the spring. Near the end of the rod are two hooks or fangs hinged on a rivet. One inch from the

end is a slot into which are fitted two other fangs when the quadruple tenaculum is needed. They are held in and hinged on to a screw rivet so they can easily be removed when not needed or replaced when needed. These fangs may be made any length necessary, but the curve must be great enough to comfortably fit the tube so the point will not pass the protrusion intended to direct them outward. Fig. 3, representing a sectional view of the instrument, shows the rod in the instrument with fangs just beginning to project. As the rod is pushed down by the thumb the fangs are forced out. If it is pushed still farther the points of the fang may be forced to a point almost touching the body of the instrument, making of it a very effective holding agent. The curve of the tenaculum thus formed is maintained by the ratchet and spring. Fig. 4 represents the instrument ready for use with the fangs still hidden. Fig. 5 represents the single cat-claw tenaculum in half curvature. Fig. 6 represents the quadruple cat-claw tenaculum. By removing the proximal fang, Fig. 6 would represent the double cat-claw tenaculum as shown in Fig. 2. The single and quadruple tenacula in Figs. 5 and 6 are shown in half curvature. By pushing the rod down one notch farther the points

are made to almost touch the staff of the instrument. Fig. 7 represents a cat-claw needle which might be used for passing ligatures in very inaccessible places. Fig. 8 represents a cat-claw knife with its edge protected by a second hook. This appliance may be used with advantage in removing sutures high up in the vagina or cervix. These two last appliances, however, are probably not important and may be fitted to the rod used for the single tenaculum.

Cut I illustrates one of the uses of the double tenaculum; namely, holding two membranes in position for a continuous suture. The tenaculum is shown in this case holding the peritoneum while a continuous



CUT II.

suture has been passed around it and drawn, the operator still continuing his suture to the upper end of the wound. After the suturing is completed the fangs of the tenaculum are withdrawn and the instrument slips out, leaving no opening. The double tenaculum is use-

ful also in closing rents or incisions in any of the hollow viscera as well as in applying continuous sutures in other parts of the body.

Cut II represents the use of the quadruple tenaculum in doing an operation for lacerated cervix. The distal fangs are pushed out into the sides of the uterine body while the proximal penetrate the anterior and posterior lips, holding the uterus down well, and fixing the two lips while the lacerated surfaces are properly denuded and later while the sutures are passed and tied. The staff acts as a guide so that the operator knows exactly how much of the mucous membrane is necessary to surround the instrument, thus making a cervix of exact and normal size. One side may be completed and the sutures tied before the other side is incised if the operator sees fit, and still he is assured that his result will be accurate. The sutures are drawn down tightly over the tube and tied firmly, assuring perfect approximation as well as an absolutely smooth canal. It has been my observation that the majority of operators do not get a smooth, even canal, and if a sound is passed it is hard to penetrate the body of the uterus because of the pockets which exist along the course of the newly made canal, due to some stitches being placed deeper than others.

The quadruple cat-claw tenaculum is also a very valuable aid in doing a vaginal hysterectomy. The instrument may be introduced well up into the body of the uterus and the fangs protruded. A suture is then passed around the cervix and tied tightly around the instrument, effectually closing the cervical canal and preventing any of the secretions from the uterine cavity infecting the field of operation. In this way the uterus is really forced up, down, from side to side, backward or forward, in fact in any direction for the convenience of the operator with just as perfect action as if the uterus were part of the instrument itself.

The single cat-claw tenaculum is especially useful where a tenaculum is needed in deep or close cavities which, under other circumstances make it difficult to remove the ordinary tenaculum on account of its tendency to reinsert itself into everything with which it comes in contact. For instance, it is well adapted for holding the uterus while stitches are being passed in the operation for ventrosuspension of the uterus; for the sutures may be even partially tied around the instrument; yet it is withdrawn without complication. No amount of sutures, omentum, gauze, or intestines will entangle this tenaculum; for while it is in action the point may be turned in to such an extent that it will not catch the surrounding parts and is still easily withdrawn along the inside of the tube. The instrument is manufactured by Charles Truax, Greene and Company, of Chicago.

While one instrument, the quadruple tenaculum, may be used as a double tenaculum by removing the two proximal fangs, or as a single tenaculum by removing all the fangs and putting in a single tenaculum with a wide base, it would be more convenient to have three separate instruments, a single tenaculum, a double tenaculum, and a quadruple tenaculum; for we frequently need at the same operation the quadruple tenaculum for a cervix operation, a single tenaculum for a ventrosuspension, and a double tenaculum in closing the abdominal wall.

Diphtheria Antitoxin as a Treatment for Pneumonia.—At a recent meeting of the Medical Society of the Paris Hospitals, Dr. Talamon (*Journal des Praticiens*, March 9, 1901, No. 10) reported observations made upon **50 cases of pneumonia**, ranging in age from 5 to 75 years, **treated by enormous injections of antidiphtheritic serum.** Complications due to the serum, cutaneous and articular, occurred in but 5 cases, one of whom, an old woman, 72 years old, died. No cardiac symptoms were noticed, though 6 patients were between 60 and 75 years of age. All cases showed albuminuria while the fever lasted. Talamon believes that diphtheria antitoxin is only contraindicated in cases with liver or kidney disease. Under 50, he advises 2 or 3 injections of 20 ccm; 4 or 5, over 50. In extreme cases, 6 or 7 injections may be necessary. This should be decided by the temperature; if it rises again, the injections must be continued. The sooner this treatment is begun, the less will be the number of injections necessary. In very grave cases, the injections should be given twice daily. By the use of diphtheria antitoxin, Talamon thinks the duration of the pneumonia is diminished; the chance of complications occurring is less; and the mortality is lowered 10%. Though a man with Bright's disease or diabetes often cannot recover from pneumonia, Talamon's results, 25 cases, treated before the fifth day, with one death (at 72 years), predict a bright outlook for this new treatment. Let us hope that further experiments will be undertaken. Heubner has already shown that diphtheria-antitoxin is harmless, by the method he employs at the Charité Hospital in Berlin, where every child in the ward receives an injection of antidiphtheritic serum once a month. [M.O.]

Suppurative Chickenpox, and Secondary Suppurations in the Course of Chickenpox.—Lucien Désandré (*Gaz. Heb. de Méd. et de Chirurg.*, February 24, 1901, 48me Année, No. 16) says the vesicle of **chickenpox** does not normally suppurate, although in certain instances pus is met with in the lesions of the disease. In the **suppurative form** the vesicles usually evolve normally, but at the end of a day or two they increase in volume, become flattened and filled with a yellowish or greenish pus. Sometimes they become umbilicated and surrounded by an inflammatory areola. This suppuration lasts several days, then the vesicle ruptures or desiccates slowly. In these conditions the crust is much thicker than that met with in ordinary chickenpox and is also much more adherent. Furthermore, after it is shed a depressed cicatrix, analogous to that met with in smallpox, remains. The duration of the evolution of a suppurating vesicle may be more than 3 weeks, whilst the normal lesions of chickenpox only persist for about 15 days. The purulent transformation of the contents of the vesicle is often accompanied by a true fever of suppuration, as in smallpox. Among the complications of suppurating chickenpox, general infection, gangrene, and nephritis are the most common. The bacteriology of simple chickenpox is little known; but in suppurating chickenpox the constant presence of the *Staphylococcus pyogenes* has been shown in some instances associated with the streptococcus. The pus of these lesions contains a number of polymorphonuclear leukocytes. On the other hand, pus of smallpox and the fluid of simple chickenpox contain mononuclear leukocytes in greatest proportion. The differential diagnosis between smallpox and suppurative chickenpox is based particularly upon the induration of the skin which accompanies the pustule of the former disease, and also on the fact that in suppurative chickenpox the pustules are more elongated and larger than those of smallpox. The suppuration of chickenpox vesicles has been explained either by general causes, such as debility or cachectic states in patients or by local causes depending upon a former condition of the skin. But suppurative chickenpox is often epidemic and contagious, and in order to explain such cases it would seem as though the patient had been inoculated by the virus of chickenpox and the ordinary organisms of suppuration at the same time. In the course of chickenpox secondary suppuration, such as furuncles, abscesses, and general infection through the lymph channels have been noticed. Furthermore, multiple abscesses in the skin, in the subcutaneous tissue, and in the joints and viscera have also been recorded as complications or as sequelae of chickenpox. In such cases the infection is spread by the blood-paths. [J.M.S.]

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The Cause of Vaccinia and Variola.—There has been no lack of reports concerning the cause of vaccinia, but in spite of the claims of a number of investigators that the cause is a bacterial one, it must be said that the protozoa described years ago by Guarneri, Pfeiffer, and others, have, perhaps, the greatest number of points in their favor as the actual cause of the affection. The active interest awakened by the earlier reports concerning these organisms has quieted down, because of the years that have passed without any addition to our knowledge concerning them. New interest has, however, been added to these organisms by the recent report of Funck (*Deutsch Med. Woch.*, Feb. 28, 1901), who states very positively that they are the cause of vaccinia; indeed, the very positiveness of his statements is likely to arouse a certain degree of skepticism. The results he has obtained are, however, of value, and a more complete report will be awaited with interest. The organisms described are apparently actually those written of nearly fifteen years ago by the authors mentioned, though Funck gives further details concerning their morphology, and contributes some additional points concerning the method of demonstrating and studying them. The chief point upon which he bases his statement that he has demonstrated their etiological relation to vaccinia, is his observation that while the individual organisms are small and range from 1 to 3 microns in diameter, large cyst-like bodies, which have a diameter as great as 25 microns, were often to be seen, and these were, by careful examination, shown to be filled with spores. A culture, in a bacteriological sense, of these protozoa, cannot be made, but Funck states that he took so-called sterile lymph which contained only a small number of the protozoa, and was therefore much more readily examined than the contents of pustules, smeared this lymph over the surface of an ordinary agar plate, and place it in the thermostat for 24 hours. Examination at the end of this time by means of a low power of the microscope enabled him to pick out the large spore-containing cysts with readiness, and by means of a fine platinum needle he isolated these cysts, and used them for purposes of injection. The

injections produced what he believed was a typical vaccinia, and after suffering from this disease, the animals were immune to inoculation directly from vaccinia pustules. He states that the protozoa can, by his more complete and accurate methods of examination, be found in all vaccinia pustules and in the immediately surrounding tissues, and he considers that their constant presence in the disease, together with the fact that injection of the isolated sporoblasts, produces typical vaccinia, demonstrates conclusively that they are the cause of vaccinia. He was also able to find protozoa of identical appearance in a case of variola, and concludes from this that the two diseases are due to the same cause, differences in the virulence of the protozoa being the cause of the variations in the results of infections produced by them. It has been quite thoroughly established that cowpox is actually a modified form of smallpox, and one cannot reasonably object to Funck's conclusion that variola and vaccinia are due to the same cause. It may, however, be properly stated that the investigations reported do not fully support the statements made by Funck. There are too many possibilities of contamination in the method used to exclude the possibility that some other infection was introduced at the same time with the sporoblasts. The results described, however, do approach fairly closely to a demonstration that these protozoa are the cause of vaccinia, and, with our present knowledge, it seems highly probable that if they are the cause of vaccinia, their virulence becoming increased, they may also be the cause of variola. This report, taken in conjunction with the older reports concerning the same organisms, constitutes the most interesting contribution yet made to the nature of the specific cause of these two affections.

Pregnancy Subsequent to Double Salpingo-Oophorectomy.—The occasional report of a gestation occurring in a woman from whom both tubes and ovaries had been removed at a previous operation, attracts a passing attention and temporarily awakens speculation as to the cause of such a remarkable phenomenon. The recent interesting paper of Morris in the *Boston Medical and Surgical Journal* of

January 24th, brings the subject again to the front. Morris reports an instance of this peculiar accident, and culls from the literature a number of other reported cases, the most remarkable of which is that of a German surgeon, the pregnancy resulting in a tube implanted in the vaginal vault after hysterectomy. Such cases sooner or later find their places among the curiosities of medicine and surgery. It is not at all improbable that in some such manner first arose the supposition as to the existence of a third ovary, it being at once admitted that gestation could not occur without the presence of ovarian tissue from which a Graffian follicle had been developed and an ovum discharged.

In a certain small percentage of female pelves that have been examined post mortem undoubted instances of a third ovary have been noted. A further search must be made, however, in order to arrive at a definite conclusion as to the cause of these curious, and at first sight almost impossible, pregnancies occurring in women in whom no such additional ovary could be discovered. Excluding the existence of a third ovary, two other factors must be taken into consideration, namely, the retention of a portion of healthy ovarian tissue after excision of both organs, and a re-patency of the Fallopian tubes after ligation. The case of tubal pregnancy already referred to occurred in a patient in whom the uterine appendages were retained and carried down to the vaginal vault, where their function not being interfered with, gestation was quite possible.

There has of recent years occurred a marked reaction in the technique of abdominal section, and it is now recognized that whenever possible a portion of ovarian tissue should be retained in the pelvic cavity. There thereby results an arrest of the unpleasant phenomena of the induced menopause, in consequence of which the patient is more comfortable and the natural phenomena of the period of sexual activity continue. This retention of normal tissue is, of course, a *sine qua non* for the occurrence of a subsequent pregnancy, granted a third ovary does not exist in the pelvic cavity. It is not necessary that the ovarian fragment occupy its normal site; a piece of cortical tissue transplanted to the uterine fundus or implanted in the broad ligament can just as surely functionate. In order for the discharged ovum to find access to the fertilizing element, however, a second essential element in the process must be present, namely, a patent condition of the Fallopian tube. In fact, according to Frankel, the difficulty lies not in securing firm ligation of the oviduct, but in preventing a subsequent restoration of the lumen of the stump. Not only has every variety of ligature employed by him to secure accurate apposition of the walls of the tube failed to

accomplish its purpose, but even after resection of a portion of a tube and the use of the thermocautery the tube has again become patent. Only after total exsection of the oviduct from the uterine fundus with closure of the wound by a peritoneal flap did he succeed in obliterating permanently the opening into the pelvic cavity.

When the foregoing fact is borne in mind, and it is also noted that in a very large number of abdominal sections, as now performed, a fragment of ovarian tissue is intentionally retained, the wonder is not that subsequent pregnancy should occur, but that it should occur so infrequently. This possibility of retained fecundity opens up a new question in the agitated subject of conservative gynecological surgery in those cases in which offspring may be desired.

It will be seen, therefore, from the foregoing resume, that three elements may be concerned in the development of the obstetric paradox—gestation subsequent to double salpingo-oophorectomy—namely, the possible presence of a third ovary, the retention of a fragment of functioning ovarian tissue, and a patency of one or both Fallopian tubes, the latter two facts being absolutely essential to the occurrence.

The Conference on Tuberculosis in Canada.—

The *Montreal Medical Journal* sees much to hope for in the fact that Canada has now a Tuberculosis Conference of its own. We congratulate the *Journal* and also the Dominion in view of this progressive step. Lord Minton, the Governor General, gave his full support in helping forward the crusade against tuberculosis by calling the recent Conference at Ottawa and allowing himself to be termed its "patron". The *Montreal Medical Journal* sees in such a permanent Association, working satisfactorily to one end, the promise of much better results than can be obtained by sporadic attempts to obtain legislation. Its publications, as the *Journal* says, can reach all sorts and conditions of men from the school room upwards. It is an important move on the part of the Association that it established its headquarters at Ottawa, where, as the *Journal* says, it can not only make its needs felt by the Government, but can also obtain upon its Council prominent members of the Dominion Parliament.

The addresses delivered at the recent conference in Ottawa were not as a rule strictly scientific, but the object of the articles was evidently to bring forward the general subject of tuberculosis in a way that could readily be understood by the general public. Papers of this kind, we are convinced, are highly important in all such Conferences on tuberculosis. In other words, these national associations, which are now getting to be the fashion, should not

apply themselves too strictly to technical papers, but should devote part of their time to an endeavor to educate the people on this subject. We are to be congratulated in this country that there has been a large awakening of public interest, in some parts at least, on the subject of tuberculosis. We know that in some States an active campaign has been undertaken, and that even the pulpit and the lecture room have been used to disseminate knowledge. This was done so successfully in the State of Maine, which is near to Canada, that the Health Officer of the State, in his recent annual report, was able to claim that the lower rate of mortality from tuberculosis was due in part, if not wholly, to such instrumentalities. It seems probable that the Twentieth Century will be especially identified in the history of medicine with the great advances that are to be made in the field of public and preventive medicine. Tuberculosis, leprosy, plague, yellow fever, malaria, and cholera are some of the most conspicuous diseases that call for widespread national treatment and State control.

The Antitoxic Action of Bile.—*The Literary Digest*, quoting from several French scientific journals, gives some curious information on this subject. The natives of Bengal have believed for centuries, it seems, that the liver is a reliable antidote for hydrophobia, and they do not "some of the hair," but some of the liver, "of the dog that bit you." We have it on the authority quoted, that when a mad dog bites a man in India, the animal is killed and his "palpitating liver" is removed, cut into pieces and fed to the patient. This is said to be a sure cure. To come nearer home, in the interior of France the peasants have used bile as a remedy for the viper's bite from time immemorial. This empirical knowledge seems, according to Neufeld, to be about to acquire a scientific basis. This observer publishes a series of experiments in a recent number of the *Zeitschrift für Hygiene*, which show the destructive action of the bile on certain microbes. The action of the rabbit's bile is very disastrous to pneumococci. Under its influence these microbes diminish rapidly, their contours become less and less clear, and they finally disappear in the liquid. These bacteriolytic properties of bile exist in the healthy as well as in the sick rabbit, and the bile can dissolve three hundred times its volume of a culture of pneumococci. The bile of man, as well as of the monkey, the guineapig, the dog and the cat, has this faculty, but not so actively as that of the rabbit. It is claimed that a subcutaneous injection of bile in which pneumococci have been dissolved, makes a guineapig immune to infection. The serum of the rabbit's blood has none of the bacteriolytic action of the bile. On the other hand, the rabbit's bile

exerts no such action on the cholera bacillus, the bacillus of Eberth, or the diphtheria bacillus. But it seems to have an action on the virus of hydrophobia. The active ingredient of the bile is probably the cholic acid, a non-nitrogenized substance formed in the hepatic cells.

Traumatism of the Pharyngeal and Laryngeal Mucous Membranes.—Among the many interesting features of the investigations which have been carried on by Crile, of Cleveland, for the past few years, are those observations upon the inhibitory effect upon the respiratory and circulatory apparatus attending traumatism of the pharyngeal and laryngeal mucous membrane. In his studies of the pathogenesis of shock, Crile has paid particular attention to the effect of trauma in different regions and tissues upon the blood pressure, and of particular interest were the results attending traumatism inflicted upon the mucous membrane of the larynx and pharynx. It was found that the subjection of the mucosa of the larynx or pharynx to any insult always had an inhibitory effect upon the respiratory and sometimes upon the cardiac apparatus, the upper or superior portion of the larynx being particularly sensitive. These inhibitory messages were proven to have been transmitted through the superior laryngeal nerve, as upon section of this nerve these inhibitory phenomena were not exhibited. The sudden deaths attending the introduction of the intubation or the tracheotomy tube may, according to Crile, be accounted for in this way. Many a surgeon can recall one or more occasions in his experience when sudden death from respiratory failure, not from asphyxia, immediately followed the introduction of the tube. In some cases the anesthetic was held at fault, in others it was said that the tube had become plugged with a piece of membrane, and in other ways attempts were made to account for this sudden and fatal complication. Just at the time in which relief to the already partially asphyxiated subject is at hand, sudden death robs the surgeon of a recovery that seemed assured. That these deaths are not due to asphyxia will be admitted if one but stops to think of the clinical picture, noting particularly the almost instantaneous interruption of the respiratory act in sudden death from respiratory failure, which contrasts strongly with the increased respiratory efforts, lasting several minutes, by which the subject with asphyxia attempts to overcome the effects of obstruction to the ingress of air. If one could anesthetize the mucous membrane of larynx or pharynx before the introduction of the intubation or tracheotomy tube, or in laryngectomies before attacking the larynx itself, there is reason to believe that this complication could be averted. To this

end Crile has introduced into his technique of this operation the complete anesthetization, by the infiltration method, of the tissues of the larynx.

The results of investigations upon the pharynx would seem to condemn the practice of vigorously swabbing out the fauces during ether narcosis. This is a practice which no doubt is justified in certain instances, as, for example, when the collection of mucus is large enough to embarrass respiration. We are inclined to believe, however, from our observations, that it is resorted to much more frequently than necessary, and in such instances it should be regarded as a mischievous practice. If, as Crile reports, vigorous traction of the tongue likewise produces reflex inhibition of the respiratory function, some caution should be observed in the restoration of patients by the Laborde method—the rhythmical traction of the tongue. So, too, in those cases in which, in its relaxed state, the tongue falls back into the pharynx, the anesthetizer should be mindful of this possible inhibitory effect and should not apply the tongue forceps needlessly, nor make too vigorous traction upon that organ.

Experimental Hepatic Cirrhosis.—In few varieties of hepatic cirrhosis is the etiological relationship more clearly and definitely established than in that form due to the action of bile on the organ, in the course of obstructive jaundice.

Dr. Vaughn Harley and Dr. Wakelin Barratt have recently published a very valuable contribution on "The experimental production of hepatic cirrhosis" (*Journal of Pathology and Bacteriology*, February, 1901). These observers, after careful and painstaking experimental researches made upon rabbits and dogs (on the effects that are produced by the ligation of a biliary duct) have deduced several important conclusions. They demonstrated that bile continued to be secreted in the area affected by the ligation of the biliary duct. It appears that the bile escapes from the fine biliary capillaries by osmosis. The constant presence of bile outside of the biliary passages causes irritation, and interlobular fibroid tissue is produced.

The increase in the interlobular bile ducts, which the authors observed, they believe is due to overdistention of these vessels, thereby causing elongation and tortuosity. After a careful study of their sections, they do not feel justified in sustaining the view that new bile ducts are formed.

The atrophy of the liver cells, occurring in the course of this form of obstructive biliary cirrhosis, they show, is most probably not due to the contraction of the newly-formed fibrous tissue, but to the toxic action of the bile. This atrophy primarily, and almost exclusively, involves the peripheral cells of the liver lobule.

Different animals of the same species, experimented upon, reacted with a considerable degree of variation, although the operative procedures were identical.

The Classification of Disease.—That medicine is an art and not a science, is such a trite saying that it seems almost useless to repeat it. And yet to read a modern text-book of medicine, particularly that department which is designated by the continentals as "internal pathology," brings the matter to our attention with such force, that it is worth while to inquire why physicians, of all men, should be so unscientific in the broader field of their work. That is to say, in that department in which medicine is considered as a whole, and not as the mere practical application of a more or less imperfect knowledge of therapeutics to some pathological symptom or morbid condition. What we mean by speaking of the manifestly unscientific nature of the whole subject is illustrated by the classification of disease. Now we take it that the following definitions, taken from the *Standard Dictionary*, are fair representations of the modern conception of the significance of the word. (1) "Disease is any departure from, failure in, or perversion of, normal physiological action in the material constitution or functional integrity of the living organism. (2) The morbid condition resulting from such disturbance or failure of physiological functions." But medical men have employed the word in at least three different senses, none of which are covered by this definition. They are: (1) "Disease is a morbid condition resulting from some particular pathogenic agent. (2) It is the morbid condition resulting from the involvement in some definite manner, of a certain tissue, or group of tissues, constituting an organ, (3) It is a collection of symptoms commonly occurring together, and apparently bearing some mutual relation to one another." It will be seen from these three definitions that the first involves the etiology; the second, the pathology, and the third the symptomatology. Perhaps we can make this a little clearer by illustration. For example, epidemic cerebro-spinal meningitis is a special form of disease due to the invasion of the organism by the diplococcus intracellularis of Weichselbaum. This usually develops its chief activity in the pia-arachnoid of the brain and spinal cord, and is therefore a disease according to the first definition. Acute cerebro-spinal leptomeningitis is an acute inflammatory process affecting the pia-arachnoid of the brain and cord, and may be produced by a great variety of microorganisms, besides the meningococcus. It is a disease according to the second definition. Finally we may have a condition characterized by certain symptoms, such as headache, photophobia, and

retraction of the head, from which the patient may recover or die, and absolutely no pathologic changes can be discovered in the central nervous system. This is sometimes spoken of as meningism, and would be a disease whose sole characteristic, according to our present knowledge, would be an occurrence together of a certain group of symptoms. Or, to take a more familiar example, we might speak of migraine, which has, as far as we know, no anatomical or definite etiological basis. Now, unfortunately in our text-books on medicine, the authors do not content themselves with the adoption of a single definition of this nature, classifying all disease according to it, but they jumble all three together in a most heterogeneous and unsatisfactory fashion. The great majority believe that they approximate accuracy if they give an etiological classification, and they proceed to do this as far as possible. Nevertheless, they describe croupous pneumonia in the "diseases of the lungs"; they put together all the forms of acute leptomeningitis, excepting the epidemic form, and place them in "diseases of the nervous system"; they put the epidemic form, very properly, it is true, according to their adopted system, in the "infectious diseases." They do not discriminate between the various forms of pericarditis, appendicitis, and pleuritis, although any one of these diseases may be due to a great variety of specific germs. They do not even attempt to carry out their own principles. A section is devoted to diseases of the kidneys; one to diseases of the lungs; although both of these organs may be affected by tuberculosis, and these two forms should properly be grouped together. The different types of cirrhosis of the liver are discussed as pathological entities, not etiological, and the functional diseases of various kinds are grouped, often without reference to the organ affected, or even to the characteristic symptoms, as a rule in the section on nervous diseases, where many of them certainly do not belong. Of course, it will be urged that this unscientific, and to a certain extent, unsatisfactory method of classification is caused by the limitation of our knowledge. That we are not sufficiently acquainted with the etiology of many diseases; that it is necessary for convenience to group the various affections of the different organs together, and that the diseases characterized only by symptom groups, are usually instances of disturbed nervous energy, or at least disturbance of certain of the ductless glands whose functions are not clearly understood, may be granted, and yet, if it is, it would seem more rational either to discard the etiological factor as far as possible, or to adopt it to the fullest possible extent, and to group the other diseases according to pathological processes, rather than according to organs.

It is our firm conviction that the confusion of the other prevailing method is rather a matter of custom, than of the actual superiority or necessity. Unfortunately, at the present day men take a broad, comprehensive view of medicine as a whole, but each is devoting himself to some little domain, or to the exposition of some particular fad, and the exposition of the mutual relations of the different parts suffers.

The Social Evil in New York Tenement Houses.

— The Committee of Fifteen, which is now trying in a practical way to bring about some reforms of vice in New York city, has taken up the subject of prostitution in the tenement houses of that city. In a letter recently written to Governor Odell, it says that the existing condition of affairs is not only deplorable, but intolerable. It seems that the practice of prostitution has become very prevalent in these over-crowded tenement houses. The Committee draws attention to the fact that the most shocking feature of this evil is the prostitution of young children. Women of ill-repute find shelter in these houses, where they are apparently exempt from police surveillance, and here they sow the seeds both of vice and of the venereal diseases in a promiscuous population, both of young and old of both sexes. The social evil must be attacked and exterminated in the tenement houses before any permanent control can be gained over it in that city. The Committee endorsed the legislation proposed by the Tenement House Commission. We learn from the *Medical Record* that the penalty for allowing any part of a tenement house to be used for immoral purposes is a fine of one thousand dollars, which shall be a lien on the property. This makes the owners of such houses, and not the wretched women who pursue their avocation in them, directly responsible for suppressing this vice.

The Symptoms and Treatment of Mercurial Sore-Throat.

—A. I. Liants (*Klinicheskoye Zhurnal*, December 1900) believes that the mercurial affection is as a rule circumscribed and limited to certain areas. Frequently the inflammation is bilateral. In the majority of cases only the pharynx is affected, the mucous membrane of the gums, cheeks and tongue remaining healthy. Mercurial angina is accompanied by pain on deglutition which is at times severe and transmitted to the ear and temples, and also painful enlargement of the submaxillary glands. Acute onset with diffuse redness of the mucous membrane of the throat, dizziness, headache, nausea and vomiting and elevation of the temperature is rarely observed. The necrosis of the epithelium produces indentations which are covered by a grayish-white substance composed mainly of epithelial debris. These erosions are superficial although they have a tendency to extend to the deeper structures. To prevent mercurial inflammations, the patients taking mercury should wash their mouth with some antiseptic both before and after each dose. The mercurial angina is best treated with peroxide of hydrogen, while the ulcerations should be treated by applications of nitrate of silver, chromic acid and glycerin-emulsion of iodoform. [A. R.]

Correspondence.

THE OXYTOXIC ACTION OF SPINAL ANESTHESIA

BY S. MARX, M. D.

of New York City.

To the Editor of "The Philadelphia Medical Journal."

Sir:—In your issue of last week, date March 23. I note your leader entitled "The Oxytoxic Action of Spinal Anaesthesia," I read your comments with considerable surprise. Since they are at variance with the views held by men well experienced with this form of anaesthesia. This differing in opinion is the right and privilege of all free men; it should always be encouraged in order to fathom that which we all are after; scientific truth. This is well exemplified in your editorial so far as the general run of statements go. So far, so good, but when further on I note the tone of some of the sentiments expressed I certainly wish to call an emphatic halt. Spinal cocaineization will never supplant cerebral anaesthesia, because it will ever have an extremely limited field. What this limitation is does not enter into consideration. I feel satisfied that the gentleman who wrote this editorial is a capable and careful writer and that the errors committed in the following lines are not those of a deliberate misquotation but errors of inadvertence. "The very decided mortality rate attendant upon cocaine injections, etc." Now, Mr. Editor, in a spirit of fairness, of honesty, of equity, will you kindly state in your next issue upon what evidence you base your remarks. More than likely you were influenced by the remarks made in the New York Academy of Medicine some months ago. Are you aware of the fact that the very men who alarmed the whole community by their wholesale misrepresentations of facts were men with little or no experience in this method at all? I can tell your readers something which has never appeared in print before; why, I do not know, though it occurred in open meeting before the Greater New York Medical Association. The gentleman who was supposed to be responsible for the following damning statement absolutely denied having said so and had excused those men for having twisted words in his own mouth. His supposed words were to the effect that a certain French operator had reported that out of 100 punctures there were only 17 successes and 5 deaths. These remarks were made before the most prominent society of this country. They were written and copied and sent broadcast, north, east, south and west. When these same men were proven wrong; that their quotations were decidedly fakey, when the medical journals and their reporters who were present on the two occasions knew well the same, did any of them have the honesty of their convictions and state in writing in such large letters that the whole world could read, that they wished to correct a wrong? If it has appeared, I for one have not seen it. In the many of the hundreds of cases of spinal anaesthesia reported, Tuffier is the only one who reports a fatal case, but the autopsy with its heart and lung lesions makes me rather a doubting Thomas as to the real cause of death. There have been rumors of deaths in various parts of the country but on investigation they all as quickly disappear as the snow does before the spring-time sun. Now, as to another erroneous quotation and a personal one: "Thus Marx, of New York, in a series of cases thus treated, was compelled to hasten delivery in 16 instances by the application of forceps." This statement I never made and I

call for proofs. Nearly all of my cases were operative ones or were made so because of the presence of an ever inquiring audience. All my cases were delivered before an audience of physicians, and while they were willing to remain for a short time to watch the progress of labor they were most unwilling to camp out over night in a pauper hospital to watch a tedious labor case, no matter what the inducement was, short of a pecuniary one and that neither the commissioners nor I were willing to stand for. Enough to my own satisfaction was the proof that most of the cases would have delivered themselves normally even as they would have done under ordinary conditions. Only in one case did I notice secondary weak pains, but since this occurs quite often during the parturient act I could not at that time nor can I to-day hold the cocaine responsible. Neither have I, on the other hand, ever noticed an oxytoxic action after spinal anaesthesia. I have performed all the obstetric operations under its influence. They are all readily done but not with quite as much ease as under chloroform. There was never a greater predisposition to bleed. Personally, I believe that the contractions are not influenced one way or the other, neither made stronger nor weaker. Now, Mr. Editor, this letter is written in a spirit of the frankest criticism, and I hope you will receive it in such a spirit and grant me a little space in which to ventilate my thoughts.

[Reference to the editorial in question will show that the writer, after commenting on Prof. Doleris' suggestion that spinal injections of cocaine should be used to hasten sluggish uterine contractions, felt impelled to take the conservative course and refrain from speedily adopting what he felt was a method of treatment not yet demonstrated to be free from danger. The experiments of Bier and Seldowitsch indicate the possibility of serious results following the cocaine injections. The conclusions of the writer are merely in accord with those of other students of surgery, notably Keen and Da Costa, who in the last volume of the American Year-Book of Medicine and Surgery, remark that "the real value of the method is uncertain," and again the "view that absorption of cocaine produces the unpleasant after-effects seems to receive confirmation from the fact that the injection of normal salt-solution into the subarachnoid space is not followed by giddiness, vomiting, or headache. "As to the statement concerning the statistics of Prof. Marx, we would kindly refer to an editorial in The Lancet of March 2, 1901. When ample statistics are at hand to prove conclusively the desirability and safety of lumbar puncture for inertia or other conditions, the writer will prove that he is

"Not the first by whom the new is tried
Nor yet the last to lay the old aside."

Fixation Abscesses.—About ten years ago, Professor Fochier proposed the production of abscesses by the subcutaneous injection of an irritant, as a treatment for grave septicemia. Arnozan (*Journal de Medecine de Bordeaux*, March 17, 1901, No. II.) reports eight cases in which he followed this plan. They were cases of pneumonia, typhoid fever, phthisis, and bronchitis. Four of them recovered, two improved greatly, and two died. Turpentine was used as the irritant, and those who died both had nephritis. Great care should be taken to avoid secondary infection, as the fixation abscess is perfectly sterile. Arnozan believes that the polynuclear leukocytes, which accumulate on reaching the abscess, there give up the microbes which they have absorbed from the blood. Were it not for this means of exit, the polynuclear leukocytes, on reaching a hematopoietic organ, might become the cause of autointoxication. [M. O.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

College of Physicians.—At a meeting of April 3, Dr. James Tyson read A Memorial of the late Dr. William Pepper. In it he reviewed the work of that great man as a physician, teacher, organizer, founder and philanthropist.

Dr. S. Osmond Goldan, of New York, read a paper on Nitrous Oxide and Oxygen as a Surgical Anesthetic; Description of a new apparatus for administering these gases, report of 100 operations, the narcosis lasting half an hour upward; remarks regarding the use of nitrous oxide as a preliminary to ether in general anesthesia. Nitrous oxide and oxygen was stated to be a safe anesthetic, to which there is no contraindication. Nitrous oxide is said to cause anesthesia by asphyxiation but by the fact that it will produce anesthesia when oxygen is given in conjunction with it. When more than 30 per cent. of oxygen is used, anesthesia cannot be obtained. In the use of this anesthetic there must be given the full attention of the administrator. The patient should be placed on the operating table first. The nitrous oxide is first begun, about 6 breaths of it being given, then oxygen. Anesthesia is induced in from 60 to 120 seconds. The apparatus is a 7-shaped tube with a cut off to regulate the amount of oxygen given. The 100 cases reported consisted of hysterectomies, nephrectomies, amputation of the breast, etc. The time varied from one-half hour to 2 hours and 40 minutes. The pulse is raised very little above the normal if any, and respirations remain about normal. Nausea, vomiting and headache follow in some cases, the latter not being severe. Alcohols are difficult to get under. The large quantities of gas used make it the most expensive method in use. Nitrous oxide is also of value as a preliminary to the use of ether. Dr. Thomas R. Brown, of Baltimore, stated that he had used nitrous oxide as a preliminary to ether anesthesia in 15 or 20 cases and that his faith in the method increased with the number of cases in which it was used. Dr. John G. Clark said that with this method a specialist was needed to give the anesthetic. With the present arrangement regarding hospitals it was not practicable here. In the London hospitals where professional anesthetizers are hired, it would probably work very well. Dr. Keen stated that Dr. Goldan had anesthetized patients in his clinic that day and that he was well pleased with the results attained, very little cyanosis being caused. Dr. Goldan said that hospital internes should be arranged as junior and senior so that one experienced man would be anesthetizing and the new man simply watching and helping him for the first months of his service. He believes that all minor operations should be done under nitrous oxide and oxygen anesthesia. If it will not answer then another anesthetic can be used.

A paper by Dr. Orville Horwits entitled **Hydrocele—Its Treatment; Summary of 338 Operations; Description of a new method suggested by Doyen for the radical cure of Hydrocele of the Tunica Vaginalis**, was read by Title.

Physician Killed by an Insane Patient.—Dr. R. Erskine Johnston, of the Medical Staff of the State Hospital for the Insane, at Danville, was killed by a patient in that institution. Dr. Johnston, who entered the room of the patient in order to take his temperature, was warned by the insane man to keep away from the bed. The doctor called an attendant to assist him, the latter holding one hand of the patient, while the physician taking the other, seated himself at the side of the bed. Disengaging his right hand, the patient struck Dr. Johnston several blows. The doctor staggered out of the room, fell over and expired. Where each one of the blows took effect on the doctor's body a puncture was found as if produced by a slender instrument. The matter is being thoroughly investigated.

Presentation of Dr. Keen's Portrait.—The students of Jefferson Medical College presented to that institution on Thursday evening, April 4, a portrait of their Professor of Surgery, Dr. W. W. Keen. The exercises were held in the amphitheatre of the Jefferson

Medical College Hospital, which was beautifully decorated with palms and college colors. The presentation speech on behalf of the students was made by Prof. J. Chalmers De Costa, with his usual eloquence. The address of acceptance was made by William Potter, President of the Board of Trustees, who spoke of the fidelity of the students to their alma mater. The portrait shows Dr. Keen wearing the robes of a Fellow of the Royal College of Surgeons.

Vital Statistics of Philadelphia for the week ending April 6, 1901:

Total mortality	490	Cases.	Deaths.
Inflammation of appendix 7, bladder 2, brain 13, bronchi 7, kidneys 14, larynx 2, lungs 73, pericardium 1, peritoneum 6, pleura 3, stomach and bowels 20	148		
Inanition 18, marasmus 13, debility 6, Tuberculosis of the lungs	37		
Apoplexy 23, paralysis 3	66		
Heart-disease of 31, fatty degeneration of 1, neuralgia of 5	26		
Uremia 7, diabetes 2, Bright's disease 9, Carcinoma of face 1, breast 2, stomach 3, uterus 2, liver 1, pelvis 1, tongue 1 ..	37		
Convulsions 19, convulsions, puerperal 3 Diphtheria,	18		
Brain abscess of 2, congestion of 3, softening of 2	11		
Typhoid fever	22		
Old age	72		
Cyanosis	12		
Scarlet fever	7		
Influenza 1, aneurism aorta 1, alcoholism 1, asthma 1, anaemia 1, atheroma 1, burns and scalds 1, casualties 12, congestion of lungs 2, cirrhosis of the liver 2, diarrhea 1, drowned 1, dropsy 3, dysentery 1, eczema 1, epilepsy 1, erysipelas 3, hemorrhage from uterus 1, hernia 3, jaundice 1, obstruction of the bowels 2, edema of lungs 3, poisoning 2, pyemia 1, rheumatism 1, sclerosis arterial 1, septicaemia 5, smallpox 1, sarcoma, neck 2, stricture of esophagus 1, suffocation 4, suicide 5, syphilis 2, teething 1, tumor 1, unknown coroner cases 2, whooping cough 6 ..	43		
	7		
	8		
	10		
	2		
	7		
	99		

Legislators at the Jefferson Hospital.—The members of the Legislative Committee on Appropriations were the guests of the Trustees of the Jefferson Medical College on Saturday, and were taken through the various departments of the institution with the view of demonstrating the need of an additional appropriation of about \$300,000 from the State, in order to make many necessary enlargements and improvements.

The demands upon the hospital and the inadequate facilities now predominating were shown, and the architect's plans for a new fireproof hospital exhibited to the visitors. The Trustees have acquired by purchase all the properties between the present hospital and the old college, and have arranged for the construction of a new building, with an isolated Maternity Department, of the most modern type of fireproof construction on the plot bounded by Tenth, Sansom, Clifton and Moravian streets.

The Founder of the U. S. Life Saving Service.—Dr. William A. Newell, aged 83 years, is still a practicing physician in Allentown, N. J. In 1839 Dr. Newell witnessed the wreck of the Austrian brig "Count Perasto," on Long Beach, Ocean County, south of Barnegat Inlet, on the New Jersey coast. Thirteen men of the crew were drowned and their bodies were washed up on the sands the following day. The force of the gale was so great that the vessel was driven far up on the beach, and yet for want of a rope to the shore the unfortunate men were unable to swim through the surf to safety, although the distance was but short. The incident suggested to Dr. Newell the idea that if some means were devised for throwing a line from shore across a wrecked vessel, many lives might be saved. He experimented with various kinds

of projectiles, and later, when serving in Congress from New Jersey, he secured legislation for establishing the Life Saving Service. Dr. Newell was afterwards (in 1857-59) Governor of New Jersey, and in 1861 was appointed by President Lincoln to be Superintendent of the New Jersey coast Life-Saving Service. From a small beginning this life-saving service has grown to be a great thing and now extends all along our coasts. To-day the Government appropriates more than \$1,500,000 annually for its support, and it is estimated that 250,000 lives have been saved by the methods which Dr. Newell originated, and in great part perfected, half a century ago.

The Kensington Hospital for Women.—During the month of March thirty-three patients were under treatment. There were thirty-two patients in the Hospital March 1st, and thirty-five are under treatment at the present time. There have been twenty-four abdominal sections and forty-one plastic and other operations during the month. In the Dispensary there have been fifty-three new patients, who have paid one hundred and ninety-four visits.

Fangothorapy.—Dr. W. C. Hollopeter, Professor of Pediatrics at the Medico-Chirurgical College, presented a paper on the above subject to a recent meeting of the Philadelphia County Medical Society. Fango is a grayish-brown slime or mud obtained from certain Italian lakes. It contains iron, sulphur, magnesium, lime, etc., and its properties are not lost by transportation. Its use is indicated in diseases of the muscles, rheumatism, gout, neuralgias, paralysis, etc. Local application to the part affected is made, a layer 3 cm. thick, at a temperature of 98 degrees to 120 degrees being used, the patient being placed between blankets to maintain the heat. After one-half to one hour the fango is easily removed by a tepid bath. Several cases in which this treatment gave good results were reported. Among them were cases of rheumatism, synovial swelling of the knee, gastric disturbances, etc. Dr. C. W. Burr said that the indications for the employment of this material were the same as those for a hot poultice. He considers it of no value in diphtheritic or spinal-cord palsies. The chemical composition of the mud probably plays but little part in the effect produced.

The Philadelphia Polyclinic and College for Graduates in Medicine.—Special Week in Ophthalmology, May 20th, 1901. During this week, in addition to the regular work on the eye and its diseases, given in the Clinics, there will be a number of extra hours of demonstration, clinical conferences, and lectures devoted to the subject of ophthalmology.

College of Physicians.—Section on Medicine.—The first case exhibited at the regular meeting of April 8 was one of **sacculated aneurism of the carotid artery of the right side.** The patient was an old colored man who has had the aneurism only a few years.

Dr. J. A. Scott exhibited a case of **endocarditis from typhoid fever.** The condition developed during a mild attack of typhoid fever in which the temperature became normal on the 28th day. The heart became irritable and nose-bleed occurred once. The diagnosis was based on the occurrence of cardiac symptoms, a systolic murmur which appeared during the third week of the disease and which still persists and is increasing, and on the leukocytosis which was as high as 15,000. Drs. Hare and Tyson considered the case to be rather one of relative insufficiency. Dr. Packard believed it to be one of endocarditis. Dr. Eshner saw no reason why endocarditis, as well as phlebitis and arteritis might not occur in typhoid fever. Dr. A. O. J. Kelly reported a case of **enlargement of the spleen and liver which has no other symptoms.** There are some points which resemble the cases of splenomegaly reported by Brill. Dr. S. M. Hamill exhibited photographs of a woman who had a **thoracic aneurism** since 1898. Recently a large multilocular intracavitary cyst was removed. No untoward result from the anesthetic occurred. Dr. J. M. Sailer reported a case of **aortic regurgitation** having a **flint murmur.** The theories regarding the cause of this murmur were reviewed. It was suggested that the condition was one of relative stenosis caused by the dilated condition of the ventricle. Dr. D. J. Milton Miller ex-

hibited specimens showing a **multiple thrombosis from a case of aortic and mitral disease.** The thrombus involved the innominate, external and internal jugular, and axillary veins as well as some smaller ones.

Lying-in-Charity Hospital.—The Lying-in-Charity Hospital of Philadelphia has been fitted out with a Pathological Laboratory. This laboratory has been provided with all the appliances necessary for the examination and preparation of tissues. The laboratory is under the direction of the pathologist of the Hospital, Dr. Fred. J. Kaltefleiter.

Philadelphia Hospital.—The Bureau of Charities has elected a dental staff constituted as follows: Dr. R. H. Nones, Dr. M. H. Cryer, Dr. J. Norman Brownell, and Dr. Thomas C. Steinwagen, Jr.

Dr. J. H. Grove.—Dr. John H. Grove, a well-known physician, died after a brief illness, aged 76 years. Dr. Grove was born in Maytown, Lancaster county, January 13th, 1825. His father was Christian Grove and his mother Elizabeth Heistand Grove. His ancestors were natives of Geneva, Switzerland, from which place they removed to The Hague, where they resided for a short time, after which they emigrated to America in 1865, locating in Pennsylvania.

After receiving his preliminary education in the public schools of his native county, Dr. Grove took a course at the Barnet Academy, in Marietta. He then entered the Medical Department of the University of Pennsylvania, graduating in 1849. He received the degree of A. M. from La Salle College, this city, and of LL. D. from Manhattan College, New York.

Soon after graduating he commenced the practice of his profession in Marietta, where he continued until the outbreak of the Civil War. In 1861 he received the appointment of Brigade Surgeon in the United States Volunteers, with the rank of Major. He was later breveted a Lieutenant Colonel and served until 1865.

In 1867 Dr. Grove commenced the practice of his profession in this city. During his long residence here he often contributed articles to medical journals. Immediately after the building of St. Agnes's Hospital he was chosen Medical Director, at the same time holding a similar position at St. Mary's Hospital, which positions he held for several years.

In 1899 Dr. Grove presented a handsome memorial chapel to the Presbyterian Church at Marietta, Pa., where he will be buried on Wednesday.

He was a fellow of the College of Physicians, also a member of the Association of Military Surgeons of the United States, the Legion of Honor, Union League, American Medical Association, Pennsylvania Medical Society, Philadelphia County Medical Society, the Pathological Society of Philadelphia, the General Alumni Society of the Medical Department of the University of Pennsylvania, the Alumni Society of Manhattan College, the Medical Club of Philadelphia, Loyal Legion and Meade Post, G. A. R.

NEW YORK.

New York Neurological Society.—Stated Meeting March 5, 1901, Joseph Collins, M. D., President. Dr. Joseph Collins presented for diagnosis and discussion a boy of ten years who presented a complex of symptoms which could not easily be placed under any one designation. He was one of twelve children, seven of whom had had in infancy marasmus or gastro-intestinal disorders. The present ailment had begun about nine months ago, at which time the boy had commenced to "hop." He complained of pain in the great toe of the left side, and also of pain in the precordial region. He had been taken to the Mt. Sinai Hospital and while there it had been noted that there was some stiffness or weakness in the lower limbs on walking. This impairment of motion had steadily increased, so that at the present time he was practically unable to walk more than a few steps. According to the history, there had been early in the disease great difficulty in commencing the act of micturition. At present there were no symptoms referable to the bowel or bladder. He has a peculiar waddling gait, and when standing, there is a typical flat foot. There is a peculiar knocking together of the thighs. The spasticity of the gait had been found, on closer examination, to be more apparent than real. There is a marked ankle clonus. There are no sensory

disturbances. He gets up from the lying position as children do in the early stages of progressive muscular dystrophy. These symptoms, the speaker said, seemed to point distinctly to a lesion in the spinal cord in the crossed pyramidal tracts.

Dr. B. Sachs said that he had been much interested in this boy at the time he had been in the hospital. The combination of the waddling gait, so characteristic of the dystrophy, with an increase in the reflexes, seemed to be especially unusual. When the boy was stripped, it seemed to him very evident that he had progressive muscular atrophy of the Landouzi type. In addition to this he thought there was a subacute myelitis, possibly of traumatic origin. There could be no question that the calves are hypertrophied. This diagnosis had been arrived at only after careful observation for a period of several weeks. The frequent falls which such children have would easily explain the occurrence of a subacute myelitis. The spasticity had been more marked nine weeks ago.

Progressive Muscular Dystrophies with a Report of a Post-Mortem Examination.—Drs. B. Sachs and Harlow Brooks presented this paper. The authors stated that it could not be denied that there was any sufficient distinction between the amyotrophies and the dystrophies. In former years much stress had been laid on the muscular structure. Hypertrophied fibres were found in abundance in dystrophies, whereas in the amyotrophies these fibres were not found. But later it had been shown that the hypertrophied fibres were found in other diseases than dystrophies. It was also a question whether the gray matter of the cord was affected in the primary dystrophies. The case to be reported was one of progressive muscular dystrophy of fifteen years' duration, yet the structural changes, as demonstrated by the latest methods of staining, were very slight. The patient had been admitted to the Montefiore Home eleven years ago at the age of twelve years. Early in life the parents had noticed peculiar movements of the head and eyes. He had been in good health up to about the age of ten years, when he had fallen and broken his leg. At the age of twelve years, after an attack of typhoid fever, it had been noted that the calves were decidedly hypertrophied. The head was enlarged and exhibited certain movements. There was a marked atrophy of all the muscles of the shoulder girdle, arm and forearm. The deep spinal muscles were intensely atrophied. The thigh muscles were atrophied. The case became an extreme illustration of a progressive muscular disease of the pseudohypertrophic type. The lad's intelligence was fair. Dr. Brooks said that at the autopsy the organs were normal with the exception of an acute pneumonia and a slight myocarditis. There were no gross lesions of the brain or spinal cord. No lesion of the smooth voluntary muscular tissue could be found anywhere in the body. The psoas muscle showed extensive fibrosis. The muscles of the back all showed extensive fibroid replacement, and in places, there was a replacement by yellow fat. The trapezii were very extensively invaded. The most extreme changes were in the muscles of the calves, where normal muscular tissue was lost. The autopsy had been done twenty-four hours after death, and at that time there had been no evidence of post-mortem decomposition. On microscopical examination, the muscles showed extensive replacement with areolar tissue of the adult type. In the calf, occasional remnants of voluntary muscle were found. Most of the fibres of the psoas muscles were either larger or smaller than normal. The coarse striae could usually be made out. The changes in the other voluntary muscles were of the same character, though varying in extent. In the occipital muscles the amount of connective tissue hyperplasia was less, but nuclear proliferation was prominent. Examination of various portions of the smooth muscles failed to show degeneration or hyperplasia of the connective tissue forming its framework. The heart muscle showed much less connective tissue increase than had been expected from the gross examination. The cardiac muscle was in a very natural condition, there being no atrophy, no abnormal pigmentation or abnormal nuclear activity. The blood vessels in the various tissues showed uniformly an increase in the connective tissue. No evidences of new vessel formation were found. Numerous peripheral nerves were examined,

but no appreciable degeneration of fibres was discovered. Only a few of the spinal ganglia had been properly prepared for examination, but these few showed a shrinkage of the ganglion cells similar to that produced by fixing agents. The irregular perilymphatic spaces were, however, found filled in with proliferating capsular cells, apparently that this was not an artefact, but a distinct process. Apparently the connective tissue of the ganglia had been increased. The connective tissue throughout the entire cord was found to be increased. The blood vessels of the cord were universally congested, but this was apparently of a hypostatic nature, due to the position of the patient before death. Nothing in the nature of a systemic degeneration of the fibres was found at any level. In the cervical region of the ganglion cells in the anterior horn showed a slight nuclear eccentricity. The dendrites universally retained their power to respond to the stain. Occasionally the achromatic elements stained to a slight degree. Eccentricity of the nucleus was found more commonly in the dorsal cord than elsewhere. Lesions in the cells of the posterior horns were more infrequent than in the anterior horns. The most common lesion was a finely granular subdivision of the plaques, usually not involving the entire cytoplasm. A few of the lumbar cells showed an unusual amount of brown pigment collected about the nucleus. The chief lesions were (1) Extensive atrophy, which affected apparently all of the voluntary skeletal muscles and was confined to these muscles; (2) the production of areolar connective tissue and adipose; (3) slight general perivascular hyperplasia; (4) moderate interstitial myocarditis; (5) extensive degenerative changes in a few of the posterior root ganglia, and (6) rare changes in the cytoplasm of the ganglion cells of the spinal cord. The complete absence of the changes in the smooth muscles showed that the disease process was strictly localized in the voluntary muscular system. The authors did not look upon the connective tissue increase as an essential feature of the pathological process, but as an example of a universal function of this tissue to take the place of any tissue which had been removed. The perivascular connective tissue hyperplasia was very slight, and could not be considered as typical of the disease or as produced by it. Possibly the moderate myocarditis was associated with the connective tissue hyperplasia of the blood vessels. It did not seem to be in any way connected with the factors producing atrophy of the voluntary muscles. The changes in the posterior root ganglia seemed to be of great significance, though it was not clear that they bore any direct relation to the changes in the voluntary muscles. These degenerations seemed to be secondary in their nature, and dependant upon death or disease of certain portions of the neuron. A process similar to this occurred after amputation. There were, therefore, no evidences of tract disease. The cytoplasmic degeneration of the ganglion cells in the cord were rare, and might represent the early stage of post-mortem change. Dr. Sachs said that these findings did not indicate that the cause was to be found in the gray matter of the cord. The disease represents a primary affection of the muscular fibre. The occurrence of stigmata of degeneration in so many cases of this dystrophy would lead one to think that these should be broadly classified under family affections. The question arose as to whether these muscular dystrophies were essentially progressive, and the statement was made that in every case the possibility of great improvement by systematic exercise should always be kept in mind in the early stage. Two illustrative cases were briefly reported which had been followed for many years.

Dr. C. L. Dana said that so far as the dystrophies were concerned, which were not strictly of the so-called pseudohypertrophic type but rather of the leg type, it seemed to be a well known fact that many of them cease to progress and live for many years in comparative comfort. He had personal knowledge of two families in which there were six or seven persons, going through three generations, who were afflicted with the leg or arm type of dystrophy. Some had lived to old age with only an inability to use the upper arm or perhaps the thigh muscles. One of these cases had been seen at many clinics in this city when thirty-nine years of age. The atrophies had begun at the age of nineteen, and had reached their height at about the age of twenty-

nine. His weight had been reduced to eighty-eight pounds. A fairly hopeful prognosis could be given in this class of cases especially when the atrophies do not begin very early in life. In his experience with pseudomuscular hypertrophy there had been only one case in which the disease had been really checked. This person was a lady of twenty-three in whom the trouble had begun at the age of eighteen. She had presented all of the typical symptoms of pseudohypertrophy of late development. He had put her upon systematic exercises, and as a result the disease had not only ceased to progress, but she had absolutely improved. In another case which had been faithfully treated by exercise and massage for four years, there had been continued progress. Dr. Dana said he would like to have Dr. Brooks explain why there should be so much fibrosis in these cases. It might be that in the death of the muscle fibre an irritant poison is formed, and that this gives rise to the increased proliferation. There was a striking difference clinically between a typical spinal atrophy and an ordinary dystrophy, and he believed these diseases were very different in their origin also. The hereditary cases were of a type which is quite distinct from that of the acquired forms.

Anti-Spitting Crusade.—The medical profession is indebted to Magistrate Mott, of New York City, for enforcing the ordinance against expectorating in public vehicles. Some communities have adopted the plan of having the conductor present to everyone violating the ordinances a small card on which is printed the legislative restrictions against promiscuous "spitting."

First Aid to the Injured.—The annual meeting of the Society for Instruction in First Aid to the Injured was held recently in New York city. The annual report, which was read by President Charles H. Marshall, shows that over 13,000 persons had been instructed by the society since its beginning. President William H. Baldwin, Jr., of the Long Island Railroad, stated that the instruction given to the employees of the road last year was very beneficial.

The New York School of Clinical Medicine.—Special lectures at the school will be held as follows: April 5th, Examination of the Male Urethra by the General Practitioner—Clinical Demonstrations, by Ferd. C. Valentine, M. D.; April 12th, Medical Questions of the Responsibility of Alcoholics, Opium and Other Drug Takers, by Thomas D. Crothers, M. D.; April 18th, Complicated Fractures: Diagnosis and Modern Treatment, by Thomas H. Manley, M. D.; April 26th, Diagnosis and Surgical Treatment of Prolapsed Kidney: With Clinical Demonstrations, by Augustin H. Goelet, M. D.; May 3rd, Treatment of Strangulated Hernia, by Carl E. Pfister, M. D.; May 10th, Pelvic Trillogy in the Diagnosis of Diseases of Women, by A. Ernest Gallant, M. D.; May 17th, The Technics of Major and Minor Amputations, by Robert H. Cowan, M. D.; May 24th, Treatment of Obesity, by Heinrich Stern, Ph. D., M. D.; May 31st, Diseases of the Stomach—Practical Examinations and Treatment—Demonstrations on Patients, by Freeman F. Ward, M. D.; June 7th, Psoriasis and Acne—Effective and Practical Methods of Treatment—Clinical Demonstrations, by W. R. Inge Dalton, M. D.

Manhattan Dermatological Society.—A regular meeting was held on Friday evening, April 5th at the residence of the Chairman, Dr. Wm. S. Gottheil. Dr. Sobel presented two cases of *pityriasis maculata et circinata* or *pityriasis rosea*, the first in a girl of twelve, the second in a boy of eight. Both showed typical patches on the face. The first was a classical one, the second presented in parts a close resemblance to seborrheal eczema. The condition was very itchy. He has frequently seen the disease confounded with syphilis. Recently he had observed a number of these cases in children under ten years of age. Dr. Weiss remarked that if one scratch an erythematous patch with the finger nail it becomes scaly. This test he considers almost pathognomonic. Dr. Gottheil said that the name *rosea* carried little meaning with it. Dr. Gottheil demonstrated an elaborate apparatus for the phototherapeutic treatment of dermatological lesions.

Dr. Geyser presented a case of extensive *lupus vulgaris* of the face successfully treated with the X ray. The right side of the face now showed a smooth, soft shining cicatrix. The left side was in the process of repair. On this side

a mild degree of alopecia had resulted. Each seance lasts 7-10 minutes and is followed by the static spray. This is the fourteenth case so treated and all have been successful. Dr. Weiss showed a case of *mollusca fibrosa*, showing the development of the lesions; some of these were more apparent to the touch than to the sight, some were sessile, some pedunculated, others again were soft. Dr. Ochs remarked that such cases often do well with asiatic pill. Dr. Gottheil presented a case for diagnosis. A young boy showed under the right arm pit a large growth consisting of tuberculous excrescences, very dark in color and for the most part dry. There were a few isolated patches to the outer side and on the inner side of the forearm a row of similar lesions. No secondary disturbances were noted. Dr. Weiss said that this was a rare and interesting condition, *acanthosis nigricans*. The region of the axilla is characteristic. Dr. Sobel said that while various conditions could be thought of the linear condition or the forearm led him to diagnose nervous linearis verrucosus. Dr. Gottheil stated that the growth did not correspond to *acanthosis nigricans* and is inclined to call the condition, *naevus unis lateris* or *naevus papillomatosus*.

Dr. Sobel presented a patient with diffuse dermatitis and pigmentation following the use of a two per cent. chrysarobin ointment for psoriasis. He prefers to use collo-dium or traumaticin.

Dr. Gottheil showed a gummatous deposit in the sternocleidomastoid muscle and in the clavicle. Also a case of undoubted disseminated cutaneous sacromata, corroborated by microscopic examination and a second one in which the diagnosis rested between syphilis and a beginning sarcoma cutis.

DELAWARE.

Small-Pox in Delaware.—The epidemic of small pox in the State is on the decline. Although about one hundred cases were reported. Of these 53 occurred in Seaford, 3 in New Castle, 15 in Concord, 3 in Bethel, and 7 are at the pest-house at Farnhurst. The others are scattered throughout the lower part of the State. Most cases are varioloid but there are a number of typical ones, and several terminated fatally. The State Board of Health has been very active and efficient in suppressing the epidemic. Dr. Lowber, the secretary of the board visited all the infected places, instituting quarantine whenever necessary and looking after proper disinfection. It is noteworthy that the town most affected is Seaford, which is blessed with an unusual number of antivaccinationists. Forty families are quarantined and supported by the town, Dr. Dawson having been placed in charge of the district.

The State Board of Health.—The three vacancies which occurred in the board were not filled by the governor, owing no doubt to the fact that physicians are not very anxious to serve now when they would have to expose themselves to small-pox. Dr. E. W. Cooper, of Camden, one of the most active members and the president of the board was reappointed. Although of different faith, the governor was forced to feel that the doctor could not be dispensed with. He has been serving on the board for the last ten years, and always proved equal to his tasks no matter how hard they were. Dr. Ellegood, of Concord, will probably also be reappointed. There is a feeling among prominent men that the members of the board that proved efficient in time of need are the ones whose services should be requested regardless of party.

NEW ENGLAND.

New Hospital for Insane.—On account of overcrowding the State Hospital for the Insane at Augusta, Me., the erection of a new hospital has begun six years ago at Bangor. Thus far \$440,000 has been expended, of which \$35,000 has been advanced by the Governor from his private means, and the new hospital is still incomplete. The Legislature is to be asked for an appropriation of \$200,000.

American Neurological Society.—The twenty-seventh annual meeting of the American Neurological Association, will be held at the Boston Medical Library.

CHICAGO AND WESTERN STATES.

American Academy of Medicine.—The twenty-sixth annual meeting of this society will be held at the Hotel Aberdeen, St. Paul, Minn., on Saturday, June 1, 1901, at 11

A. M. (Executive session); the open session beginning at 12 M. and continuing through Monday, June 3d. The principal features of the meeting will be a symposium on "Institutionalism;" and another on "Reciprocity in Medical Licensure." Series of valuable papers on both topics have been promised, as well as interesting papers on some other subjects. The President's address (Dr. S. D. Risley, of Philadelphia) will be delivered on Saturday evening, June 1st, and the Annual Social Session held on Monday evening, June 3d.

The St. Paul "Special."—Arrangements are being made for a special train from New York to the St. Paul Meeting, to leave New York city, Saturday, June 1st. Parties who wish to use this train in making the journey will communicate with Dr. F. H. Wiggin, 55 W. Thirty-ninth street, New York city, for further information.

Preparations for the St. Paul Meeting.—The *Journal of the American Medical Association* states that those who desire to attend the meeting in St. Paul, need have no fear that the city will be overcrowded, or that there will not be sufficient good accommodations for all. The people of St. Paul are making extensive preparations to take care of the visitors, all will be provided for. A program of entertainment for the ladies is being arranged. St. Paul has quite a reputation as a convention city, and there is yet to be heard complaint of the management or lack of accommodation. St. Paul has a number of first-class hotels, several of which are situated in the business district, while others are on the hill in the residence portion of the city, and many of the citizens will be glad to open their houses to the city's guests. The women of St. Paul have already formed committees, made preliminary arrangements, and are preparing to help make this year's meeting of the American Medical Association a memorable one.

Helped to Populate Two States.—It is said that a passenger on a train between Portland, Ore., and Spokane, Wash., went into labor and was delivered of twins. The elder, a boy, was born in Oregon; the younger, a daughter, arrived an hour later, and is a native of Washington.

Restrictions in Indiana.—In Indiana a regular licensed physician, who removes his residence to another county, must obtain a license from the clerk of that county, or he can not recover payment for his professional services.

Small Pox Epidemic Caused by a Letter.—According to the officials in charge of the quarantine squad at Saginaw, Mich., an epidemic of small pox affecting in all 34 people, has been traced to a letter received by a young lady from a soldier of the United States Army, stationed in Alaska.

SOUTHERN STATES.

Farm for Tuberculous Convicts.—It is not generally known that the State of Texas has isolated her consumptive convicts, thus showing a proper appreciation of the modern idea regarding this most destructive of human maladies. The Wynne farm, on which the diseased prisoners are located, is a large plantation situated about two miles beyond Huntsville and is the property of the State. For several years it has been cultivated by convicts, but not until December, 1899, was it set aside for the exclusive occupancy of consumptives. On October 31, 1900, there were confined in the Texas Penitentiary, 4,109 convicts. Of this number there were: Whites, 1421; negroes, 2,226; Mexicans, 460; Indians, 2. Many of the whites came from the tramp contingent of the population, and are the class of beings who indulge in the common vices of the age, thus weakening the power of the system to throw off disease. Added to this, many of them lie in crowded and unsanitary jails for months, and even years, before commitment. As to the negro element it is well known that a large proportion of the race is particularly susceptible to tuberculosis. For the most part the Mexicans are from the salubrious prairies of the West. Consequently, when they are housed in the buildings of the prison the change of life seems to point them out as an easy prey to consumption. To the above evils may be added as of prime importance the fact that a great many consumptives are sent to

prison—some arriving in the last stage of the disease. The Wynne Farm is an ideal "consumptive camp." The buildings are admirably located and constructed, and everything about the place is kept scrupulously clean. The water is pure, and every convenience for bathing is provided. The food furnished is of the most suitable character, such as vegetables, fresh meats, poultry, cereals, milk, butter, etc. The men live and sleep in a capacious pavilion or stockade, where each enjoys as much breathing space as he would in a forest camp. The Wynn Farm convicts are required to keep clean—person, clothing and bedding. The buildings are frequently whitewashed and constantly fumigated. Doctor Fowler says the principal medicines used are cod liver oil, creosote, the hypophosphites and whiskey. On this farm no one is required to work beyond his strength. But all are required to go into the open air and sunshine when their strength admits of leaving the bed. Thus far results have been most gratifying. Many men who went to farm apparently in the last stages of consumption, and who were scarcely able to feed themselves, are now hearty and stout. A remarkable feature of the arrangement is that it is self-supporting. The farm is credited with garden, orchard and other products furnished the prison proper, and for the overplus sold in the markets. At present there are fifty-nine men at the camp, and in general appearance seem to be the healthiest men among the convicts. The crop now being worked by this force consists of 250 acres of oats, 250 acres of corn, thirty acres of tomatoes, eighteen acres of onions, besides seven modation. St. Paul has a number of first-class hotels, several acres of melons and cantaloupes and other feed and vegetable crops.

Rappahannock Valley Medical Association.—At a meeting of the Rappahannock Valley Medical Association held here Dr. S. W. Carmichael was elected president for the ensuing year and Dr. J. N. Barney secretary and treasurer. A paper on "Epidemic Influenza or Grip" was read by Dr. Carmichael and discussed by many of the members present.

Kentucky State Medical Society.—The forty-sixth annual session of the Kentucky State Medical Society will be held in Louisville, May 22, 23, 24, 1901.

Louisville.—The sum of \$5,000 has been appropriated by the Aldermen for three public baths.

Alabama Medical Association.—The Alabama Medical Association will meet at Selma, Ala., April 16th to 19th.

New Orleans Polyclinic.—On account of various requests the Sessions of the Polyclinic will be continued to May 31st, instead of May 11th, as announced in catalogue.

Richmond, Va.—The section of Halifax Co., Va. known as "South of the Dan," is again visited by small-pox. Heretofore the disease was confined almost entirely to negroes, but now the whites have it also. There are 20 cases reported in this neighborhood and two deaths have occurred. The magistrates have ordered several localities quarantined.

Law Against Employment of Cream of Tartar.—A measure has been introduced in the Legislature of Arkansas prohibiting the sale of bitartrate of potash either alone or combination with bicarbonate of soda for the purpose of leavening or otherwise preparing food products, under a penalty of a fine of \$500 and six months' imprisonment.

Florida Medical Association.—The twenty-eighth annual meeting of this Association will be held in Jacksonville, April 10th, under the presidency of Dr. William L. Hughlett, of Cocoa. Dr. Jay H. Durkee, Jacksonville, is chairman of the Committee of Arrangements.

CANADA.

Toronto.—The contagious diseases report for March, for Toronto, is as follows: Diphtheria, 77 cases; scarlet fever, 97; typhoid fever, 6. The figures for February were: Diphtheria, 91; scarlet fever, 87; typhoid fever, 2.

MISCELLANY.

Drug Habits in the United States.—*The London Lancet* of March 2nd, 1901, contains the following notice: "The New York School of Clinical Medicine has established a special department of neurology, of which Dr. T. D. Crothers, of Hartford, Conn., has been elected professor—viz., the study of the neuroses and psychoses of alcoholism and of drug habits. Dr. Crothers is announced to deliver immediately a course of clinical lectures on inebriety from alcohol, opium, chloral, cocaine and other narcotics. These lectures appear to be timely, for the disease dependent upon or associated with the abuse of alcohol, opium, chloral, cocaine, and other narcotic drugs are steadily increasing in the United States of America, and the demand for special treatment in institutions and retreats is becoming more pressing every year.

Monstrosity.—M. Lannelongue presented at the meeting of the Académie de Médecine a Hindoo boy, aet. 8, well developed, but who had attached to the epigastric region a body without a head, constituted by a trunk and four limbs incompletely developed. The palpation of the parts revealed a certain number of vertebrae, the iliac bones, and a rudiment of a skeleton of the limbs. No trace of intestines could be found, but the sexual organs, which were that of the male, were somewhat developed, and both subjects urinated at the same time.—[Exchange].

Obituary.—Dr. Charles R. Stoddard, in California on March, 1901, aged 65 years.—Dr. George Hayward, at Boston, Mass., on March 30, aged 82 years.—Dr. George P. Jones, at East Newmarket, Dorchester county, Md., on April 2, aged 55 years.—Dr. Merritt H. Chandler, at Woodstock, Vt., on April 6, aged 57 years.

RUDOLPH VIRCHOW FUND.—On October 13th, 1901, Rudolf Virchow will be eighty years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolph Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large Committee containing among others the names of A. Bastian, v. Coler, A. Entenburt, B. Fraenkel, O. Israel, Fr. Koenig, C. Posner and W. Waldeyer has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The Committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and ask for the sympathy and co-operation of all those engaged in the study and practice of scientific medicine all over the globe. The undersigned have formed a sub-committee for the purpose of making the American Profession acquainted with the intentions of the Berlin Committee, and urge their colleagues to participate in honoring the very man who has done more, these fifty years, than any other to make medicine a science and international. Subscriptions should be sent to their secretary, who will receipt therefor. Charles A. L. Reed, President of the American Medical Association; Henry P. Bowditch, President of the Congress of American Physicians and Surgeons; William K. Welch, John-Hopkins University; Robert F. Weir, President of the New York Academy of Medicine; A. Jacobi, 110 West 34th Street, Secretary.

Changes in the Medical Corps of the U. S. Army, for the week ending April 6, 1901:

THOMAS W. BATH, acting assistant surgeon, will proceed to his home, La Harpe, Ill., for annulment of contract. S. O. 63, March 19, D. Cal.

VERDO B. GREGORY, acting assistant surgeon, will proceed to his home, Dam, Wis., for annulment of contract. S. O. 63, March 19, D. Cal.

JAMES W. MADARA, acting assistant surgeon, will proceed to his home, Lexington, Ky., for annulment of contract. S. O. 64, March 20, D. Cal.

MAJOR HENRY D. THOMASON, surgeon, will proceed to Benicia Barracks, Cal., where he will report for temporary duty at that post during the absence of acting assistant surgeon Charles Y. Brownlee. S. O. 65, March 21, D. Cal.

porary duty at that post during the absence of acting assistant surgeon Charles Y. Brownlee. Upon the return of acting assistant surgeon Brownlee to Benicia Barracks, Major Thomason, surgeon, will stand relieved from temporary duty at that post and will proceed to San Francisco, Cal., for further orders. S. O. 65, March 21, D. Cal.

HENRY KIERSTED, acting assistant surgeon, is granted leave for one month. S. O. 65, March 21, D. Cal.

CAPT. FREDERICK W. COX, A. S., is relieved from temporary duty at the Army general hospital, Presidio, and will report to the commanding officer, squadron 6th cavalry, for duty with that command on the Army transport Hancock, to sail for the Philippine Islands. Upon arrival at Manila, Capt. Cox will report for assignment to duty. S. O. 66, March 22, D. Cal.

CAPT. FRANK P. KENYON, A. S., is relieved from temporary duty at the Army general hospital, Presidio, and will report to the commanding officer, battalion 7th infantry, for duty with that command on the Army transport Hancock, to sail for the Philippine Islands. S. O. 66, March 22, D. Cal.

CAPT. HENRY A. LITTLEFIELD, A. S., is assigned to temporary duty with troops on the Army transport Hancock, to sail March 25. Upon arrival at Manila, Capt. Littlefield will report for assignment to duty. S. O. 67, March 23, D. Cal.

FREDERICK C. JACKSON, acting assistant surgeon, is granted leave for one month, on surgeon's certificate with permission to apply for an extension of one month.

HOSP. STEWARD MILTON T. ESTERLY is relieved from further duty at the muster out camp on the military reservation of the Presidio, and will proceed to Fort Lisum, Alaska, for duty at that post. S. O. 67, March 23, D. Cal.

MAJ. WILLIAM BOWEN, surgeon, recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 29.

CAPT. EDWARD F. HERR, A. S., recently appointed, now on duty at Manzanillo, Cuba, will as soon as his services can be spared by the commanding general, department of Cuba, proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 29.

CAPT. W. HOEPFNER WINTERBERRY, A. S., recently appointed, will proceed from Fort Mason to San Francisco, and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 29.

CAPT. IRA A. ALLEN, A. S., recently appointed, is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., to take effect upon the expiration of the leave granted him March 26, and will then proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 29.

CAPT. GEORGE W. DAYWALT, A. S., recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 29.

SURG. H. M. JAMES, acting assistant surgeon, granted leave March 1, is extended one month. H. Q. A., March 29.

CAPT. GUY G. BAILEY, A. S., recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 30.

MAJ. GEORGE W. MATHEWS, surgeon, is relieved from duty in the division of the Philippines, and will proceed to Fort Warren for duty, to relieve 1st Lieutenant Frederick M. Hartsock, A. S. Lieut. Hartsock will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 30.

MAJ. HENRY C. FISHER, surgeon, is relieved from duty in the division of the Philippines, and will proceed to Jackson Barracks for duty, to relieve Maj. Aaron H. Appel, surgeon. Maj. Appel upon being thus relieved will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., March 30.

FIRST LIEUT. HARRY L. GILCHRIST, A. S., is relieved from duty in the division of the Philippines, and will proceed to San Francisco, Cal., and report by telegram to the adjutant general of the Army for further orders. H. Q. A., March 30.

MAJ. JOHN M. BANISTER, surgeon, granted leave March 26, is extended ten days. H. Q. A., April 1.

CAPT. JUSTUS M. WHYATE, A. S., recently appointed, will upon the expiration of leave granted him March 12, proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment for duty. H. Q. A., April 1.

CAPT. FREDERICK C. JACKSON, A. S., recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 1.

CAPT. FREDERICK C. JACKSON, A. S., recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 1.

MAJ. EDWARD B. MOSELEY, surgeon: orders of February 14, which assign him to duty at Fort Sheridan are revoked. H. Q. A., April 2.

MAJ. EDWARD B. MOSELEY, surgeon, will upon the expiration of the sick leave granted him December 8, proceed to Denver, Col., and report to the commanding general, department of the Colorado, for duty as chief surgeon of that department, to relieve Lieut. Col. Henry Lippincott, D. S., G. Lieut. Col. Lippincott will proceed to Governors Island, and report to the commanding general, department of the East, for duty as chief surgeon of that department. H. Q. A., April 2.

MAJ. FRANCIS J. IVES, surgeon, is relieved from further duty with the United States forces in China and will proceed to Fort Sheridan for duty, to relieve Maj. George W. Adair, surgeon, who upon being thus relieved will comply with the requirements of previous orders. H. Q. A., April 2.

CAPT. FREDERICK A. W. CONN., A. S., recently appointed, will proceed from Philadelphia, Pa., to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 2.

THE following-named officers, recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where they will report for assignment to duty: Maj. Frederick Hadra, surgeon; Capt. Francis J. Purcell, A. S.; Capt. Thomas W. Jackson, A. S. H. Q. A., April 2.

HOSP. STEWARD CLINTON F. HENDERSON, now at Fort Skaguay, Alaska, will be sent to San Francisco, Cal., for assignment to duty. H. Q. A., April 2.

ACT. ASST. SURG. JULIUS C. LEHARDY will proceed to Fort Wood and relieve Capt. Charles R. Gill, A. S., and Act. Asst. Surg. Adrian S. Williams. The latter will return at once to Fort Columbus for duty with the 1st battalion 11th infantry. S. O. 73. March 30, D. E.

COL. CHARLES C. BRYNE, A. S. G. H. A., April 3.

CAPT. EDWARD L. MUNSON, A. S., is relieved from further duty at Washington Barracks, and will proceed to Buffalo, N. Y., and assume charge of the exhibit of the medical department of the Army at the Pan-American Exposition to be held in the latter city. H. Q. A., April 3.

Changes in the U. S. Marine Hospital-Service, for the week ending April 6, 1901:

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine Hospital Service for the 7 days ending April 4, 1901:

SURGEON D. A. CARMICHAEL, relieved from duty at Honolulu, H. I., and directed to proceed to San Francisco, Cal.—March 29.

SURGEON G. T. PECKHAM, granted 20 days' additional leave of absence on account of sickness—March 30.

ASSISTANT SURGEON HILL HASTINGS, to proceed to Bakersfield, Cal., for special duty—April 1.

ASSISTANT SURGEON C. H. LAVINDER, granted leave of absence for 10 days from March 26—March 27.

ASSISTANT SURGEON M. J. WHITE, to report to Surgeon J. H. White, for duty—March 29.

ASSISTANT SURGEON W. C. BILLINGS, to proceed to San Francisco, Cal., for special temporary duty—March 29.

ASSISTANT SURGEON D. H. CURRIE, to proceed to San Francisco, Cal., for special temporary duty—March 30.

ACTING ASSISTANT SURGEON R. S. PRIMROSE, granted leave of absence for 5 days from March 30—March 29.

Changes in the Medical Corps of the U. S. Navy, for the week ending April 6, 1901:

DR. A. E. PECK, appointed assistant surgeon from March 24, 1901.

MEDICAL DIRECTOR W. K. SCHOFIELD, placed on retired list, April 28, 1901.

SURGEON G. PICKRELL, granted sick leave for three months, from April 2.

ASST. SURGEON E. M. BLACKWELL, detached from Abarenda, upon reporting of relief, and home to wait orders.

ASST. SURGEON R. C. MARCOUR, detached from Havana Naval Station and ordered to Abarenda after temporary duty, on Philadelphia, May 4.

ASST. SURGEON E. DAVIS, granted sick leave for three months.

MEDICAL DIRECTOR G. F. WINSLOW, detached from Boston Navy Yard, April 18, and ordered home to wait orders.

MEDICAL DIRECTOR E. BOGERT, retired, ordered to the Boston Navy Yard, April 18th.

P. A. SURGEON E. R. STITT, commissioned surgeon from June 7, 1900.

PHARMACIST J. COWAN, detached from Glacier and ordered to the Manila and to additional duty at the Naval Hospital, Cavite.

SURGEON C. I. STOKES, detached from the New Orleans and ordered to the Solace upon her arrival on the Asiatic Station.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 days ended April 4, 1901.

D. A. CARMICHAEL, surgeon, relieved from duty at Honolulu, T. H., and directed to proceed to San Francisco, California, March 29, 1901.

C. T. PECKHAM, surgeon, granted 20 days additional leave of absence on account of sickness, March 30, 1901.

HILL HASTINGS, assistant surgeon, to proceed to Bakersfield, Cal., for special temporary duty, April 1, 1901.

M. J. WHITE, assistant surgeon, to report to Surgeon J. H. White for duty, March 29, 1901.

W. C. BILLINGS, assistant surgeon, to proceed to San Francisco, Cal., for special temporary duty, March 29, 1901.

D. H. CURRIE, assistant surgeon, to proceed to San Francisco, Cal., for special temporary duty, March 30, 1901.

R. S. PRIMROSE, acting assistant surgeon, granted leave of absence for 5 days from March 30, March 29, 1901.

The Treatment of Trachoma by Bichloride of Mercury in Glycerin.—U. Samtshuk (*Woennomeditsinsky Journal*, January, 1901), treated 186 cases of trachoma in soldiers. The majority of them were far advanced, the secretion in most being muco-purulent or purulent. Of 485 patients 266, or 54.7 per cent., recovered; the others were considerably improved. The solution employed was 0.12 gm of bichloride in 30 grms of glycerine. This was applied to the everted lids every second, third or fifth day, according to the severity or the progress of the case. The applications were made by means of a small cotton swab. The burning after each application lasted for a short time only, not more than half-hour. On the day following the addition of cocain, was used. If the conjunctiva was the addition of cocain, was used. In the conjunctiva was found much affected the author a 2-3 per cent. solution of nitrate of silver followed by irrigation with normal salt solution. The author believes that strong solutions of bichloride of mercury not only have an antiseptic but produce an irritation and consequent hyperemia of the conjunctiva, facilitating the disintegration and absorption of the granulations. [A. R.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

March 23rd, 1901.

1. A Clinical Lecture on the Diagnosis and Treatment of Intussusception. CHARLES P. B. CLUBBE.
2. Auto-Reduction of Hernia en masse as a Cause of Abdominal Obstruction. W. J. WALSHAM.
3. Some Practical Points in the Diagnosis and Operative Treatment of Perforated Gastric Ulcer. R. C. B. MAUNSELL.
4. A Case of Hour-glass Stomach; Non malignant; Gastroenterostomy. CHARLES P. CLUBBE.
5. Ulcer of Stomach; Acute Hematemesis; Gastrotomy. H. BRUNTON ANGUS.
6. A Case of Gastric Fistula; Operation; Death. C. F. M. ALTHORP.
7. Perforated Ulcer of the Stomach. WILLIAM H. HORROCKS.
8. A Case of Subphrenic Abscess; Operation; Recovery. H. J. CAMPBELL and T. JASON WOOD.
9. Four Cases in which the Murphy Button was used. G. P. NEWBOLT.
10. A Case of Acute Intestinal Obstruction due to a Papillomatous Ovarian Cyst and a Carcinoma of Small Intestine. H. SAVORY and W. G. NASH.
11. A Case of Extreme Stenosis of the Small Intestine in an Infant. ERNEST W. HEY GROVES.
12. Notes on the Anatomy and Surgery of Meckel's Diverticulum. GEORGE A. CLARKSON.
13. The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE. Lec. II.

1.—Clubbe during the past 7 years has treated 49 cases of intussusception. Four of these cases were reduced successfully by injection and the remaining 45 were operated upon, 24 recovering. The average duration of time from the onset of the symptoms till the operation was performed in the successful cases was 24 hours, and in the fatal cases was 56 hours. These figures show the great importance of an early diagnosis and early treatment in these cases. Of the 49 cases 30 were ileo-colic, 3 colic, 1 enteric, and 6 double (ileum into ileum and both into cecum). In 4 cases, all fatal, resection of the bowel was necessary. In making a diagnosis the important symptoms are the sudden onset of pain with pallor, followed by vomiting. The pallor disappears and the pain returns at intervals. A normal bowel movement accompanies the attack, but is followed in a short time by a passage of blood, and it is this symptom which usually alarms the mother and causes her to seek medical advice. The general condition of the little patient is apt to be misleading. It may be listless or it may be playing about with its toys in the intervals between the pains, the temperature may be normal and the pulse but little accelerated. An examination of the abdomen will usually reveal the presence of a "sausage-shaped" tumor. The presence of this mass with the other symptoms will enable one to make an absolute diagnosis of intussusception. If because of the pain in the abdominal muscles are rigid and a satisfactory examination cannot be made, then the child should invariably be anesthetized. Examination per rectum is usually unsatisfactory. It, however, must be remembered that the colon may be invaginated into the rectum and presenting at the anus be mistaken for a prolapse of the rectum. Intussusception occurs not infrequently during attacks of diarrhea, and under such circumstances an improper diagnosis is frequently made. It is possible to have an intussusception with all the usual symptoms absent. If the intussusception is acute after 24 hours there will always be symptoms of intestinal obstruction.

Treatment. Clubbe finds injections very useful in cases of intussusception. In four out of his 49 cases reduction and recovery occurred from this means of treatment. In all cases diagnosed early this treatment should first be instituted, and although it may not result in a cure, it empties the lower bowel and enables the more perfect examination of the abdomen and a more successful operation, if this is found necessary. Before using the injection the child should be prepared for operation and an anesthetic

given. The tumor may reappear after apparently being relieved by the injection and then operation should be done. When the mass is small and confined to the right side of the abdomen, incision should be made to the right of the rectus muscle, but in other instances the incision should be median and extend both above and below the umbilicus. When the abdomen is opened the tumor should be delivered and reduction accomplished by squeezing the intussusciptions, traction of the intussusception being dangerous. Resection becomes necessary when reduction cannot be accomplished, or where the bowel has been so damaged as to render gangrene probable. Resection, however, should not be done unless absolutely necessary, as it greatly increases the danger. In making an anastomosis catgut is used in preference to silk, but bobbins or buttons are not to be commended. The after-treatment should be carefully looked into, and it must be remembered that children cannot bear post operative fasting as can adults, but must be fed within the first few hours after operation. Clubbe thinks it a mistake to keep the child too rigidly on the back. Very minute doses of morphia are usually required at varying intervals during the first 24 hours after operation. The abdomen is closed by silk worm gut sutures, which are not removed for 10 days. [J. H. G.]

2.—During the past few years Walsham has seen 7 cases of intestinal obstruction due to the reduction of a hernia en masse. He thinks the reduction en masse is much more apt to occur from the manipulation by the patient himself than by the attending physician. In each of the 7 cases reported the reduction was accomplished by the patient. Great stress is laid upon the necessity of making careful inquiry regarding the pre-existence of a hernia in all cases of intestinal obstruction, even where the abdominal rings show nothing on examination. In one of the cases reported the reduction en masse had been done 2 months before the development of symptoms of intestinal obstruction. In one case the patient had ruptured the bowel in reducing the hernia. [J. H. G.]

3.—Maunsell thinks that in cases of perforated gastric ulcer treated by operation the per cent. of recoveries in the hands of those accustomed to operate will be found to be between 45 and 50. The sooner the operation is done the better will be the chances of recovery. Of Mayo Robson's 6 cases 3 were operated upon within 24 hours and recovered, 3 after 24 hours and died. Of Ulster's list 8 cases were operated upon within 12 hours with 64 per cent. of recoveries, 6 after 12 hours with 33 per cent. of recoveries. The disease is more common in men than is generally supposed. Maunsell reports 4 cases of his own, 2 of which were operated upon within 13 hours and one recovering. The other 2 were operated upon respectively 19 and 31 hours after perforation and both died. In making a diagnosis the sudden onset of the symptoms upon some exertion is of great importance. Although the onset may be severe, not infrequently the patient is not incapacitated, one of the cases reported having walked to the hospital. The onset is frequently preceded, but not often followed by vomiting. The pain begins in the epigastrium and spreads, but does not shift its position. Thirst is not intense, and there is no restlessness, as is often present in severe hemorrhage. In muscular subjects distension is rare. The pulse does not aid one in making an early diagnosis. The "stomach note" does not exclude perforation as a perforation as perforated and a collapsed stomach are by no means synonymous terms. Liver dullness is diminished or absent in every case. Treatment. In every case in which a diagnosis of perforation is made should be operated upon, and in every case in which the condition is strongly suspected an exploratory incision should be made. The best time to operate is as soon after the diagnosis is made as suitable arrangements and surroundings can be had. It is never too late to operate unless the patient is moribund. In over 80 per cent. of cases the perforation will be in the greater peritoneal cavity. The stomach should be emptied by a catheter through the perforation. After closing the opening Maunsell places over it an omental graft. Where the soiling of the peritoneum is general he thinks that both douching and wiping with gauze are requisite in order to thoroughly cleanse the abdominal cavity. He does not think that douching alone will remove infection from the pelvis and from the upper surface of the liver. [J. H. G.]

4.—Child reports a case of hour-glass contraction of the stomach due to ulceration. All the symptoms which

this patient complained of pointed rather to a malignant disease of the stomach, and the operation was performed with the idea of doing a gastro-enterostomy. The anastomosis was done and the patient died on the fourth day after operation. The postmortem examination showed a stomach constricted in its centre, the opening between the two cavities admitting the little finger. The cardiac portion extended far up beneath the ribs and costal cartilages but at the time of operation because of its position, was not recognized. This case resembles closely one recently published by Dr. Martin and Mr. Pollard. The patient's ribs extended nearly to the iliac crest, and the interspace between the costal cartilages was very narrow, and Childe doubts whether it would have been possible to make an anastomosis between the cardiac portion of the stomach and the bowel. The anastomosis which he did make was between the pyloric portion and the small intestine.

[J. H. G.]

5.—Angus reports a case of ulcer of the stomach complicated by acute hematemesis. The patient was a 19-year-old girl who had suffered some epigastric pain after eating for 12 months. Occasionally vomiting had occurred, but she had never vomited any blood. The hematemesis occurred at 11 P. M., and the patient was immediately sent to the hospital and the abdomen was opened at 3.30 A. M. The greater peritoneal cavity was found in a normal condition. The lesser cavity was opened, and on the posterior wall of the stomach near the lesser curvature an indurated patch was found. The stomach was opened and the ulcer found opposite the patch mentioned. A purse-string catgut suture was passed around the ulcer, the bleeding being controlled in this way. The stomach wound was closed with three rows of catgut sutures; no drainage. Two weeks after the operation the patient developed a phlebitis of the left leg, and a week later the same condition occurred on the right side. The patient, however, made a good recovery. Angus does not think that the phlebitis was of a septic origin because the constitutional disturbance was slight, there was no pus formation, the condition disappeared and the vascular channels became reestablished. [J. H. G.]

6.—Althorp reports a case of gastric fistula in which he operated after the following method: The fistula was dilated to admit the finger, and through it was passed into the stomach several small sponges with silk ligatures attached. The fistulous tract was then sterilized with pure carbolic acid and an incision made two inches away from the opening into the peritoneal cavity. The adhesion to the abdominal wall was found to extend over an area of 3 by 1½ inches. The general cavity was protected by gauze pads, and the entire fistulous tract was excised. The opening into the stomach was closed and an omental graft placed over it. The patient died on the sixth day from pneumonia. The post-mortem showed no evidence of peritonitis and no escape of stomach contents. [J. H. G.]

7.—Horrocks reports a case of perforated ulcer of the stomach which was operated upon 8 hours after perforation, the patient making a good recovery. There was no indication of gastric ulcer before the perforation took place. The ulcer was near the cardiac end and close to the lesser curvature. There was no evidence of any exciting cause for the perforation. There was marked tension of the abdominal wall over the stomach, but no distension and the hepatic dullness was not diminished. [J. H. G.]

8.—Campbell and Wood report a case of subphrenic abscess which recovered after drainage through the abdominal wall. The case was complicated by an effusion of serum into the pleural cavity, which was removed by the aspirator on several occasions. [J. H. G.]

9.—Newbolt reports 4 cases in which he has used the Murphy Button with satisfaction. Two were cases of strangulated hernia requiring resection; one was a case of malignant disease of the pylorus in which he did a gastro-enterostomy; and the fourth case was one of intussusception. Recovery followed in all cases excepting the last. [J. H. G.]

10.—Savory and Nash report an interesting case of intestinal obstruction coming on after violent exertion, and in which subsequent abdominal section revealed the presence of a papillomatous ovarian cyst and a carcinoma of the small intestine. The cyst was removed at the first operation and resection of the small intestine done 12 days later. The patient made a good recovery. [J. H. G.]

11.—Groves reports the case of a girl aged 1 year and 8 months, who was suffering from distended abdomen and great emaciation. When the patient was about 1 year old she began to lose flesh and was constantly crying as if in pain. When first seen, she was extremely emaciated. There were no signs of rickets, tubercle, or syphilis, and the dental development was good. The abdomen was uniformly distended: was tympanitic to percussion; but there was no tenderness on palpation and no hard masses or tumor could be felt. Rectal examination showed nothing abnormal. The bowels were opened with great regularity two or three times a day; the stools were soft, but well formed and rather clay-colored. The temperature rose above 100 degrees F., and the patient refused her food. This continued for 6 days, when the child died. At the post-mortem examination the calibre of the ileum was suddenly reduced by a hard, unyielding stricture three-quarters of an inch long, which admitted a probe with difficulty. The other parts of the intestine were normal, but the mesenteric glands were slightly enlarged. The condition was most certainly congenital. [J. M. S.]

12.—Clarkson urges the consideration of Meckel's diverticulum as a cause of internal hernia, and suggests the importance of ascertaining whether or not the tube is a pervious one or only a simple fibrous band before resorting to its division. [J. H. G.]

13.—In the second Lettsomian lecture, Bruce continues his discussion of the diseases of the heart and the arteries in middle and advanced life. The uncomplicated effects of tobacco on young healthy hearts, as they present themselves clinically, are palpitation in every instance, a sense of irregular action, post-sternal oppression and pain in half the cases, and in 1 out of every 8 sufferers either angina or uncomfortable sensations in the left arm. Faintness or actual faints occurred in one-third, and giddiness and a feeling of impending death in a smaller proportion. Physical examination shows that the heart is of ordinary size in 50 per cent. of the patients; in a few it is very slightly enlarged; the precordial impulse is often very weak, but occasionally increased in force and frequency, and often irregular; the pulse tension, with insignificant exceptions is found low. Out of twenty such patients who complained of the heart, not one presented a cardiac murmur beyond a weak mitral systolic bruit, varying with posture or cubitus. As an exemplary case, a man of 40 will complain of his heart; he has smoked for years the strongest and blackest tobacco he could buy. His heart is not enlarged and the cardiac sounds may be described as ordinary were they not peculiarly irregular, the frequency changing every moment, and a falter occurring at short intervals. There is not a trace of murmur to be found in connection with the valves and orifices. At ages over 40, whilst palpitation is still the more common complaint, pain, including angina, is put forward more prominently, and so are faintness, actual faints, a feeling of impending death, and a sense of cardiac irregularity, each intermission being accompanied with a sudden stab through the precordia. In these subjects the heart is more frequently found to be large and feeble; the same weak systolic murmur is occasionally to be heard; the radial pulse is often irregular, and the vessel wall thick. Every cardio-vascular lesion that may happen to be found in tobacco smokers is not to be put to the credit of tobacco, nor should precordial pain, angina, faintness, and irregular pulse, in a man of 60 with a full-sized heart, be hastily regarded as evidences of grave disease without further inquiry as to the habits of the patient. The cardiac enlargement and large pulse may be nothing more than the result of a life of bodily and mental activity; the precordial distress may be the only result of tobacco. The alcoholic heart presents clinical characters as a whole very different from those of tobacco heart. The most striking and important of these are the evidences of actual pathological change in the size of the heart and the condition of the myocardium. Of 28 cases of alcoholic heart in only 2 were the hearts of ordinary size, and in both of these cases the patients were under 40 years of age. With hardly an exception the precordial impulse is weak, the sounds are small and feeble, and may be almost inaudible in 20 per cent. of cases a weak apex systolic murmur could be heard varying with posture and time of day, significant, no doubt, of leakage through a dilated mitral opening. The alcoholic heart is irregular and accelerated in about half the cases. The pulse tension is usually low; in one-third of the instances the radial artery

was sclerosed; in one-fifth of them there was slight albuminuria; the legs may be edematous. The complaints with which the patient comes to us are commonly palpitation of the heart, faintness or actual faints and precordial pain, but it is very interesting to observe that angina pectoris is rare in the alcoholic as compared with the tobacco heart in the ratio of 4 to 15 per cent. Instances of disorder and disease of the heart and arteries met in gouty subjects at or over 40 years of age. Out of 29 cases, 12 had suffered from ordinary articular gout, the other 17 had irregular gout. In no instance was there albumuria. In 23 of the 29 the heart proved to be enlarged either on one or on both sides. In less than half the number the cardiac action was feeble; in a small number the impulse was entirely imperceptible; the heart and pulse rate was ordinary; the rhythm was but seldom irregular. In 12 out of the 29 cases of gouty heart a systolic murmur was to be heard over the aortic area, the manubrium, and the right carotid, significant of disease either of the aortic arch or of the aortic valves. In 7 cases a more or less well developed systolic murmur was found in the mitral area, significant either of valvular atheroma and sclerosis or of leakage from valvular dilatation. When no murmur exists the cardiac sounds are commonly somewhat feeble and the second sound may be of ringing quality. The radial pulse is more often tense in the subjects of irregular than of regular gout, the great majority presented, distinct thickening of the arterial walls. Besides a distressing feeling of irregularity, fluttering or intermittency and dyspnea on exertion, men who are the subjects of gouty heart complain most frequently of precordial pain; women more often of palpitation and faintness or actual faints. In quite $\frac{1}{4}$ of all cases of gouty heart the pain is anginal, and such angina may be of the most pronounced type. Closely related to goutiness is a clinical type of disturbed metabolism characterized by corpulence and glycosuria. Of patients so affected who complained of cardiac symptoms, $\frac{3}{4}$ had a systolic aortic murmur, none of them a regurgitant aortic murmur, and nearly $\frac{1}{2}$ of them an ill developed mitral systolic murmur. In 11 cases of acute strain of the heart the heart in all but one was large, with feeble precordial impulse; the sounds were small and feeble, the aortic diastolic sound was often ringing; in but one case was there a murmur. With few exceptions the rhythm and the rate of the heart were ordinary. In half the cases the radial artery was sclerosed; in the majority the tension was not increased. Persons who strain their heart after middle life chiefly complain of precordial oppression, a sense of palpitation and irregular action of the heart, and pain, which may amount to angina. Of these 11 individuals, 7 were gouty. In the case of a person who has strained his heart in youth or early manhood and has never been quite well since, the heart is always found to be enlarged, in about $\frac{1}{2}$ of the cases it is irregular. It may be weak and beating at the ordinary rate, but in other instances it is increased both in force and frequency. In quite exceptional cases, endocardial murmurs are heard. High tension and sclerosis of the radial artery were respectively found in about $\frac{1}{2}$ of the cases. The patients complained most commonly of a distressing sense of irregular palpitation of the heart, and very commonly of precordial pain, but rarely of angina. Syphilis appears to account for a very considerable proportion of the more serious cases of heart disease that we meet with in older subjects, of course excluding chronic valvular disease originating remotely in endocarditis Syphilis as a cause of cardiovascular lesion is very often associated with other morbid influences, particularly strain and alcohol. In case of cardiovascular disorders and disease from nervous strain, the arterial tension is usually high; the radial artery is thick, sometimes markedly so; the heart enlarges; and in about $\frac{1}{2}$ of the cases a systolic murmur is to be heard either in the aortic or in the mitral area. [J. M. S.]

LANCET. March 23d, 1901.

1. The Milroy Lectures on Public Health and Housing. Lecture III. JOHN F. J. SYKES.
2. Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. Lecture II. J. MITCHELL BRUCE. (See British Medical Journal, March 23, 1901.)
3. Blackwater Fever. J. W. W. STEPHENS.

4. Three Cases of Diffuse Septic Peritonitis Resulting From Appendicitis; Operation; Recovery. W. G. RICHARDSON.
5. Resection of the Superior Cervical Ganglion of the Sympathetic for Glaucoma and its Results. H. WORK DODD.
6. The Elimination of Arsenic Through the Hair and its Relation to Arsenical Poisoning. EDMUND KNECHT and W. F. DEARDEN.
7. A Short Account of a Fatal Case of Laryngeal Diphtheria Complicating Measles. GEORGE J. MA-GUIRE.
8. History of Renal Surgery. DAVID NEWMAN.

1.—In a brief summary of the housing question, Sykes states that in order to establish healthy housing for the people, our ideas must be cleared regarding two related but distinct factors. The first is a pressure of population in urban districts, whereby dwellings are compressed within the smallest limit. The remedy for this will be found by improving transportation between urban and suburban centers and by building additional houses in the suburbs. The second factor is the dilapidation of dwelling houses and the deterioration of the health of the inmates, whereby unsanitary areas are created. The remedy for this will be found in the reconstruction of the worst areas, the adaptation of the best streets and healthy flat-form of construction, and the institution of sanitary laws having the dwelling as the basic unit. [F. J. K.]

3.—Stevens discusses blackwater fever, emphasizing the methods of diagnosis and the causation of this disease. After examining the blood in a number of cases, he concludes that his own observations have shown him that malarial parasites are not necessarily found in the peripheral circulations in blackwater fever, but this does not prove that the case in question is not of malarial origin. The presence of pigmented large mononuclear leukocytes, are of importance from a diagnostic standpoint. The author believes that when the large mononuclear forms are above 20 degrees, there is abundant proof of malarial infection. The author therefore attaches great importance for diagnostic purpose, by the presence of pigmented leukocytes, and the leukocytic change. The following conclusions are drawn: That blackwater fever is essentially of malarial origin; the exacting factor, or the determining cause of this disease is quinine; blackwater fever may be prevented by protecting the individual from malaria; the important points in the prophylaxis are attention to clothing and the use of the mosquito net. [F. J. K.]

4.—Richardson reports three (3) cases of fulminating appendicitis, which he has operated upon with success. In each case there was a premonitory stage lasting for a few hours, during which the patient felt unwell and uneasy in the abdomen, followed by a sudden development of acute symptoms which somewhat subsided after several hours of severe pain. This subsidence was followed in 24 hours from the initial attack by violent and sudden increase of all symptoms, and a few hours later pus was found over the entire abdominal cavity with a perforated and non-adherent appendix. Robinson's rule in the first treatment is to apply hot fomentations to the abdomen, to administer morphia only in urgent cases and then to operate, unless there is an improvement in all the symptoms. He lays great stress on the fact that not only the pain should be less, but that the rigidity, anxious expression, etc., should also improve. He uses gauze as drainage, preferring it to a tube. The gauze is withdrawn on the fifth day, when it is accomplished with little pain. [J. H. G.]

5.—H. W. Dodd believes that in chronic glaucoma of central origin removal of the cervical ganglion apparently does not interrupt the connection of the eye. Either the connection is not established in this manner, or some other means of communication are established soon after the operation. The author's first case appeared in the *Lancet* of October 14, 1900, page 71. His second case, reported in the present paper, is that of an unmarried woman aged 44, who had chronic glaucoma in both eyes. Iridectomy had given no relief and the tension still remained plus 2 the visual field markedly and irregularly contracted, distinct signs of chronic glaucoma in the fundus and considerable pain and reduction of

vision. The ganglia were removed at different times. The operation performed was that described by Dr. Jonnesco as the "premastoid" one. The tension of the eye became immediately lower after the resection of the left ganglion and the pain relieved on that side. Similarly good results were obtained on the other side. Vision and visual fields improved. [M. R. D.]

6.—Dearden discusses the elimination of arsenic through the hair, and its relation to arsenical poisoning. The reason for the non-employment of this method for diagnosis is most likely explained on account of the difficulty of estimating the arsenic in the hair by the ordinary methods. The method employed by the author was Sanger's modification of the Marsh test: Samples of hair were taken from six males; two of these were from cases of arsenical poisoning; another was from a patient who had taken arsenic over an extended period (one-ninth of a grain daily), and three specimens were taken from healthy individuals. In one case of arsenical beer poisoning the arsenic was found in the hair to an extent of .3 in 10,000. In the individual who had been taking arsenic medicinally, the drug was found in the proportion of .3 in 10,000. Arsenic was detected in quantities too minute to be estimated in one gram (of hair substance) in the healthy individuals. From a medico-legal point of view the detection of arsenic in the hair may prove to be of immense value, for hair is one of the last parts of the body that undergoes decomposition. [F. J. K.]

7.—Maguire reports a case of measles complicated by laryngeal diphtheria which terminated fatally. The infant was 18 months of age and developed a typical exanthem, accompanied by characteristic symptoms of rubeola; a history of diphtheria infection could not be ascertained. As the disease progressed and it seemed to be pursuing an ordinary course, suddenly symptoms of dyspnea set in; the difficulty of breathing increased, the child was cyanosed and appeared to be in terrible distress. The possibility of membranous construction was considered, but after a most careful examination of the larynx, not a particle of membrane could be found. Tracheotomy was performed, giving the child some relief, but finally death occurred from collapse. The autopsy revealed a thick, tough membrane occurring the larynx and producing almost complete obstruction. It was proven by a bacteriologic examination that this infection was due to the diphtheria bacillus. [F. J. K.]

8.—Newman, in continuing the History of Renal Surgery, discusses nephrotomy and nephrectomy, giving the progress of each operation. [J. H. G.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

April 6, 1901.

1. Chloralose. JAMES TYSON.
2. Postoperative Nervous Phenomena or Artificial Menopause. JOSEPH PRICE.
3. Syphilis as a Non-Venereal Disease. With a Plea for the Legal Control of Syphilis. L. DUNCAN BULKLEY.
4. Recent Clinical Observations on Tinea Versicolor. CHARLES WARRENNE ALLEN.
5. Experiments with an Epidemic of Rabies in Buffalo. ERNEST WENDE.
6. Pure-Food Legislation vs. Poor Food-Legislation. MURRAY GALT MOTTER.
7. A New Leg-Splint for Transverse Fracture of the Tibia. EDWARD A. TRACY.
8. Some Observations in Renal Surgery. W. H. ALLPORT.
9. The Relation of Indicanuria and Oxaluria to Gastro-intestinal Fermentation. J. A. WESENER.
10. Some Additional Observations on the Effects of Injury to Peripheral Nerves. D. S. FAIRCHILD.
11. An Operation for Cystocele. GEORGE H. NOBLE.
12. Individual Prophylaxis. W. A. EVANS.
13. Statement made before the Committee on Public Health in New York Assembly at the Public Hearing on Assembly Bill 759, Regulating and Legalizing the Practice of Osteopathy, etc.

1.—Tyson gives the following conclusion regarding the use of chloralose: It is a prompt and safe hypnotic, its action being more prompt than any drug except morphine; it is more prompt and efficient in smaller doses than chloral. The author believes that further studies should be made upon this drug. Five grains is the maximum dose, which may be repeated in an hour; smaller doses should always be tried. [F. J. K.]

2.—Price considers the subject of the artificial menopause or post operative nervous phenomenon from the standpoint of the general practitioner. He remarks that unfortunately but a few of these patients are kept under treatment sufficiently long for permanent results after the operation. As a rule they are systematically treated only for a period of three or four weeks, and are then hurriedly returned home where everything is unfavorable for a favorable convalescence. The practice of early rising and early discharge after an operation favors post-operative sequelae and a tedious convalescence. The rest-cure would do very much for this class of patients. Under such a course of treatment the general improvement is marked; the patients eat and sleep well, are bright and cheerful, all their uncomfortable symptoms vanish, and they recover flesh and color rapidly. Systematic rubbing and massage should be added. [W. A. N. D.]

3.—Bulkley discusses the subject of syphilis as a non-venereal disease, and argues that so long as syphilis is regarded exclusively as a venereal disease it will be extremely difficult to control its spread. He urges that syphilis should be classified amongst the contagious diseases. He reviews the subject of the world wide distribution of this disease, and considers in detail the methods by which the disease is communicated to the innocent. Reference is made to three groups: (1) Marital syphilis; (2) Hereditary syphilis, and (3) Extragenital syphilis. He finally makes a plea for legal control of syphilis, stating that the most important point in the prevention of its spread will be found by considering it contagious and instituting measures to prevent dissemination similar to those used in checking other contagious diseases. [F. J. K.]

4.—Allen discusses the recent clinical observations on tinea versicolor. The author states that the disease, while rare in young individuals, has been observed below the age of ten by competent investigators. The writer cannot verify the statements of other observers, that tinea versicolor frequently occurs in individuals who suffer from phthisis or any other severe diseases. Patches of tinea versicolor, as he pointed out a year ago, frequently occur in the public region in both men and women; these patches may be regarded as a source of renewed infection in some instances. Recurrent infection in some instances may be ascribed to the fungus being present in the hair follicle. He believes the iodine test is valuable in distinguishing the pigmented areas of tinea versicolor from chloasmas, macular syphilides, exanthemata, erythemas, etc. However, the diagnosis is often difficult without the microscope. A report is given of a case of pityriasis nigra. In referring to the treatment of tinea versicolor, the author has found soap of itself capable of ridding the surface of fungus. He has used the following ointment with good results: 50 parts of an ointment made with calcium bisulphate in a saturated solution; 20 parts of lanolin and 30 parts of lard. [F. J. K.]

5.—Wende relates his experience with an epidemic of rabies, in Buffalo. The first case was observed in November, 1898, in the Kenmore section of the city; following this case, there were a number of isolated instances at varying intervals. From April 1st., 1899, until April 1st., 1900, there were 230 persons bitten by dogs; 37 persons were bitten by rabid animals, and 4 deaths occurred from hydrophobia. From the beginning of the epidemic until April, 1901, 4,429 dogs were disposed of. The most important and prominent clinical characteristics of the disease in the animals were the following: there was a changed behavior and an altered disposition of the animals;

they were irritable and restless; they showed a desire to swallow foreign bodies, such as stone, glass, wood etc. The animals showed a tendency to stray away from their homes. The most constant symptoms, especially from a diagnostic standpoint, was an alteration in the voice due to paralysis of the vocal cords. Another characteristic symptom was a tendency to snap and bite at imaginary objects, and there was also peculiar and furious aggression towards anything before them; the dogs did not shirk or retire from impending blows; they did not seem to show evidence of impending danger. The author states that a symptom heretofore undescribed was the appearance of the pouching out of the neck, due to spasm of the muscles of deglutition. The author makes a plea for municipal restriction of rabies. [F. J. K.]

6.—Mottet states that in order to solve the problem of legislation pertaining to pure food, a greater interest should be shown on the part of the medical profession. More careful researches and investigations should be made upon the physiology of digestion, absorption and assimilation; and that the profession should adopt certain definite and more reliable standards, which would embody fundamental principles. Finally in order to put into effect and carry out these principles, governmental legislation becomes necessary. [F. J. K.]

7.—Tracy recommends for transverse fracture of the tibia a splint of wood-plastic material molded to the leg after being moistened with water. This splint is applied next to the skin. Tracy holds that this method of treatment gives entire satisfaction, allowing of frequent inspection of the leg and of massage. [J. H. G.]

8.—Allports first calls attention to the anomalous positions of the abdominal viscera and to the changes brought about in the relations of the abdominal viscera by pathological conditions. Brief histories are recorded of 14 cases of Renoe Disease in which mistakes of diagnosis were made. Among these the kidney was taken for the spleen and the spleen for the kidney; the liver was found behind the colon in searching for a kidney, and the kidney lying against the anterior abdominal wall in front of the colon; the gall bladder was found in the loin and again in the iliac fossa and perinephritic abscess was mistaken for calculus and appendicitis, and finally an empyema was found to resemble renal cancer. Instances are recalled where renal calculus was treated for Bright's disease and other instances where the kidney was opened for stone and none found. After discussing these cases Allport makes the following deductions:

(1) The surgeon should not attach too great weight to the opinions and subjective symptoms of the patient unless these are borne out by the physical signs. (2) On the other hand, due consideration should be given to the statements of intelligent patients especially in cases where the objective symptoms are so abundant as to be confusing. Careless history taking is shown to be a source oftentimes of wrong diagnosis. In 2 cases of the 14 shown a history of traumatism was not elicited prior to operation and the neglect resulted in a diagnostic error. (3) In the presence of pathological conditions it is a mistake to place too great reliance on normal relations of the viscera. (4) It is an error to make a diagnosis on the presence of a condition which is recognized to be pathognomonic without carefully going into the history of the case and the other symptoms which it presents. Stress is here laid upon the great necessity of using every available source of information. Although a Skiagraph may fail to reveal a calculus under certain circumstances, it is a mistake to perform nephrotomy without making use of the X-Rays. The importance of a record of temperature and pulse is urged as a diagnostic means in all cases of suspected kidney disease. (5) Among the operative errors is mentioned the improper care of the ureter after nephrectomy. This organ should be ligated with catgut and brought separately into the wound after cauterization or, which is better, it may be inverted and stitched. Kidney stumps should not be

ligated with silk. Too deep incisions in the kidney substance are dangerous and jeopardize the subsequent integrity of the pelvis and ureter. Drainage should always be employed at least for a few days after nephrotomy. A kidney riddled with sinuses should always be removed.

These conclusions are well based on the illustrative cases submitted by the author. [J. H. G.]

9.—Wesener discusses the relation of indicanuria and oxaluria to gastro-intestinal fermentation. The author states that the main object of his article is to determine whether or not there is a relationship between excreted indican and oxalic acid, and what bearing these substances have upon gastro-intestinal fermentation. He reaches the following conclusions: (1) in normal urine traces of oxalates are present. (2) when oxalate crystals are found in the urine they usually suggest gastro-intestinal fermentation; however, it must be borne in mind that food which is rich in oxalates must be excluded. (3) When oxalate crystals are found in abundance they do not indicate a high acid percentage, for the reason that there may also be found oxalates of lime in solution. (4) Often indicanuria is associated with oxalate crystals, but this is not invariably the case. (5) Hyperacidity, whether due to hydrochloric acids or acids of fermentation, is an aid to putrefaction. (6) In certain gastro-intestinal derangements, whether due to excess of hydrochloric acids or fatty acids, indican and oxalic acid are increased. (7) The symptoms of oxalic acid diathesis are due to products which are formed in the process of fermentation, and the oxaluria and indicanuria are diagnostic adjuncts in the determination of putrefaction. The author finally makes a plea for more careful and extensive investigation in the study of oxaluria and indicanuria. [F. J. K.]

10.—Fairchild completes the history of a case of neuritis of the median nerve resulting from cicatricial pressure from a wound of the thumb. This case was reported when five operations had been performed, beginning with excision of the cicatrix and ending with amputation of the thumb. Each operation was followed by a temporary cessation of pain but within a few weeks the symptom returned with all its former severity. The pain was so great as to cause the patient to beg to have the arm amputated. It was finally determined to remove the scar in the stump, to liberate the median nerve in its bed, and to surround it with sterilized gold foil. This was done with the most satisfactory result, the patient returning to his work as a bridge carpenter, at which he has continued for the past 18 months. At first exposure to cold or prolonged use of the hand would bring back the pain temporarily, but these returns of pain have gradually and entirely disappeared. [J. H. G.]

11.—Noble describes an operation for cystocele which consists in making a diamond shape denudation of the anterior vaginal wall down to the muscular layer and in bringing this denuded surface together by a number of layers of buried sutures, the principal one being of fine silver wire. The use of this material has never given any bad results in his hands and he prefers it to silk or kangaroo tendon. Catgut is not to be used in this operation except for the superficial suture. The method of introducing the various sutures is explained by a number of illustrations. [J. H. G.]

12.—Individual prophylaxis is discussed by Evans. He confines his remarks to the prophylaxis of bacterial disease. As predisposing causes to bacterial diseases, he mentions mental depression, over-exertion, uncleanness and exposure to cold. He considers in detail the limitations of these predisposing influences, and finally urges that in order to establish personal prophylaxis the resting capacity of the organism should be increased. [F. J. K.]

NEW YORK MEDICAL JOURNAL.

[APRIL 6, 1901]

1. The Active Principles of Digitalis Leaves. JOSEPH W. ENGLAND
2. The Comparative Pathology of the Jews. (Concluded). MAURICE FISHBERG.

3. The Pathology of Intrauterine Death. NEIL MacPHRATTER.
4. Rectal Feeding in Throat Diseases. A. C. BARDES.
5. The Medical Aspect of Christian Science. M. M. POLK.

1.—The chemistry of digitalis leaves receives the attention of Joseph W. England, Ph. G. He mentions the fact that various so-called active principles which have been isolated from time to time have been found to be varying mixtures, such, for instance, as the French and German digitalin. According to Schmiedeberg's investigations, digitalin consists for the most part of digitaline, with small proportion of digitin, digitonin and Schmiedeberg's digitalin. It occurs as yellowish white amorphous powder that is soluble in water and in alcohol, but practically insoluble in chloroform and ether. Schmiedeberg decided that the active principles of digitalis leaves were a digitalin digitoxin, digitonin and digitaline. He discovered digitoxin, obtaining it from the leaves. England gives a critical survey of the various investigations upon the subject of the active principles of digitalis. Digitalis seeds are largely used in Germany for the preparation of digitalis principles, hence we do not know very much about the glucosides of digitalis leaves, the main work so far having been done upon preparation of the seed. Discussing the relative value of various principles of digitalis, England concludes, as to digitoxin, that its difficulty of absorption, the length of time necessary to yield cardiac and renal effects, its slowness of elimination and the relative rapidity of absorption of digitalis tinctures, that digitoxin cannot be the most important principle of digitalis leaves. The severe pain follows the hypodermic injection of digitoxin and the injected tissues continue sensitive for a long time. The slowness of the physiological effects indicate a great difficulty of absorption and assimilation. The cumulative action of digitalis has been explained by the fact that the proximate principles of the drug were not excreted by the drug as fast as absorbed, and that they therefore accumulated in the body. But England explains this culminative action to the slow absorption and elimination of digitoxin. [T. L. C.]

2.—Maurice Fishberg concludes his article upon the comparative pathology of the Jews with the following summary: The death-rates of the Jews at all ages are relatively and absolutely lower than those of the people among whom they live. 2. The marriage-rates and birth-rates of the Jews are smaller than those of the Christian. The Jews increase more rapidly in number than those of the non-Jews because they lose by death relatively fewer children and bring more to maturity. 3. The Jews die less often than their neighbors from many of the infectious fevers, particularly epidemic cholera, smallpox and tuberculosis. 4. Syphilis and alcoholism, and also diseases due in a great measure to their poisons, are comparatively rare among the Jews. 5. Most observers have recorded that almost 25 per cent. of all the cases of diabetes occur in Jews. 6. All the functional neuroses, particularly neurasthenia and hysteria occur more frequently among the Jews than others, while all the organic nervous diseases, such as tabes, general paralysis, etc., are less frequent, commensurate with the infrequency of syphilis and alcoholism among them. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is met with among Jews between two and five times more often than among Christians. 7. Blindness, color-blindness, trachoma and glaucoma, and also varicose veins, particularly hemorrhoids and hernia, are very frequent among the Jews. 8. All the peculiarities in the comparative pathology of the Jews are not due to any ethnic "bio-static" or racial characteristics of a purely anatomical or physiological nature in relation to non-Jews. They have their origin in the past history of the Jews in their habits of life and in the fact that syphilis and alcoholism have but rarely been seen among them. 9. Where the Jew is commingling with his Christian neighbors and adopts their customs and habits of life sooner or later loses its racial characteristics and its comparative pathology presents no special peculiarities. [T. L. C.]

4.—A. C. Bardes calls attention to the value of rectal feeding in throat diseases. He cites three cases in which it was employed to advantage. One of diphtheria, one of tuberculosis and one of hay-fever and asthma. He sums up the advantages of rectal feeding as follows: The

throat being at rest, is not irritated, struggling in children is obviated, the progress of the disease is shortened, there is no danger of food entering the larynx, the physician is able to give such food and stimulation as he wishes to give, and the food is not bolted as it is when swallowing is painful. [T. L. C.]

5.—Nothing.

MEDICAL RECORD.

April 6, 1901.

1. The Relation of the Public to the Medical Profession. D. B. ST. JOHN ROOSA.
2. The Importance of Aseptic Vaccination, with Remarks on Vaccination in General. WILHELM KARL KUBIN.
3. The Field for Ethyl Chloride Narcosis. MARTIN W. WARE.
1. On the Diagnosis and Prognosis of Diabetes Mellitus. HENRY S. STARR.
- 2.—Wilhelm Karl Kubin discusses the importance of aseptic vaccination, with remarks on vaccination in general. The causes of the various untoward results incidental to vaccination may be enumerated as follows: 1. Impure virus; 2. Abnormal or paradoxical course of the cowpox itself; 3. Improper performance of the act of vaccination; 4. Neglect on the part of the vaccinator to exercise supervision and control the patient until the time of complete healing; 5. Coincident diseases such as scarlatina and measles. He adds a number of cases of untoward complications following vaccination. He concludes by giving his technique for the operation, and recommends that a compulsory national law for vaccination and revaccination should be adopted similar to that of Germany. [T. L. C.]
- 3.—Martin W. Ware studies the field for ethyl chloride narcosis. Physiologically ethyl chloride seems to act on the sympathetic nerves judging from the accelerated pulse, flushing, and the transient dilation of the pupil. Next, it seems to act on the spinal cord and lastly on the brain, but in all of these in rapid sequence. Chemically, being derived from the second series of hydrocarbons it is in the direct line of relative safety of alcohol and ether, derivatives of this group, but since the drug contains one molecule of chlorine and since an anesthetic is dangerous in the proportion to the chlorine it contains, herein lurks a possible danger in ethyl chloride. The writer advocates its use pre-eminently in minor surgery because it is as safe statistically as any of the others; it induces a very rapid narcosis and equally as quick and awakening and is void of any after effects. It is cheaper than nitrous oxide and does away with any especial apparatus. [T. L. C.]
- 4.—Henry S. Starr presents a paper upon the diagnosis and prognosis of diabetes mellitus. Of great prognostic importance are the following features: Age, power of assimilation of carbohydrates; early recognition of the affection; the presence of intercurrent and complicating diseases; condition in life; state of the urine; and the power of absorption of other food stuffs than carbohydrates. He arranges his cases in one of three types from a prognostic standpoint. First, the mild type, to which belong those cases in which the glucose disappears, only after the complete exclusion of carbohydrates, and the severe type in which may be classed those cases in which the glycosuria persists despite the complete exclusion of carbohydrates and even of proteins. [T. C. C.]

MEDICAL NEWS.

April 6, 1901. (Vol. LXXVIII, No. 14)

1. Advertising in the Profession. FRANK LYDSTON.
2. Resection of the Cervical Sympathetic. HOWARD J. WILLIAMS.
3. The Question of Drainage in Appendicitis. A. M. POND.
4. New Methods in Charity, with Better Results and at Less Cost. WILLIAM P. SPRATLING.
- 2.—Williams, in his article on resection of the cervical sympathetic, says that it is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease; and should be tried in absolute glaucoma with pain, in preference to enuclea-

tion. In unilateral trouble the ganglion of the corresponding side should be excised. While the operation may not be curative in every case of glaucoma, the results thus far have been sufficiently satisfactory to make it a desirable procedure in this serious disease. [T. M. T.]

3.—Pond states the inefficiency of attempts at drainage in operations for appendicitis, and says the mere presence of the drain is productive of much harm; it unquestionably produces a hyperemia and congestion of the peritoneum in closest proximity, thereby lessening the absorption by disturbing its normal currents; it also produces adhesions about the drain, which in turn lessens the area of the peritoneum exposed to the infection, thereby limiting its important function of absorption. It is known that the peritoneum is capable of disposing of large quantities of pus under favorable conditions, and chief among these conditions is the equal distribution over the peritoneal area; in order to do this it becomes necessary to use some agent which will put pus and pus-forming elements in solution, and in choosing this agent some very important points to be considered are: 1. Sterility. One species of bacteria is often inert and latent until another species is introduced, thus combining the efforts of both, and a heretofore latent sepsis becomes a rapidly active infection. 2. Power of holding in a homogeneous solution the pus as well as the blood and blood-clots incident to the operation, in order to permit of equal distribution over the peritoneal cavity. The presence of blood-clots in a septic cavity cannot be over-estimated; no richer culture medium is known for bacteria, and these must be protected from invasion. 3. Stimulation of absorption. It is most desirable to remove all septic material as soon as possible, and this is made possible by the power of absorption of the peritoneum, which enormous, namely, from 3 to 8 per cent. of the body weight in one hour. Hot saline solution is very effective and fulfills all the requirements; it can be made sterile into the peritoneal cavity; it possesses the power of putting pus and pus-forming elements, such as blood and blood-clots into solution, thus removing the danger of fresh invasion of infection, and being hot—temperature 105 degrees to 108 degrees F., is a most active stimulant to the peritoneum and its use is unattended by unpleasant sequelae. Increased hepatic activity is another step in the right direction. Such activity produces a detergent influence in all cases of general sepsis, as well as in localized infectious processes, besides removing from the entire physical economy various substances which in themselves would aid, if not produce, septic conditions; this function is certainly worthy of careful study, as it will increase the sources of the surgeon in combating infection, since through the portal circulation we can increase the general resistance against bacteria. Posture does much in these cases; elevation of the foot of the bed a few inches tends to gravitate the fluids towards the diaphragmatic lymph-spaces afford an avenue of rapid absorption of sepsis held in solution. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 1.

1. Diseases of the Myocardium. HENRY JACKSON.
3. The Conditions of the Myocardium as Affecting Cardiac Murmurs. H. D. ARNOLD.
4. A Further Note on the Treatment of Epidermoid Cancer. FRANCIS H. WILLIAMS.

1.—Disease of the myocardium does not receive in our text books the important consideration that it deserves, this branch of heart disease being summarily dispatched, while many chapters are written on the accurate differential diagnosis of the various valvular lesions, and this, too, when we know that the diagnosis is not seldom proved to be wrong by the pathologist. Even in the consideration of a case of valvular disease the important points in the treatment and management of the individual case are not. What is the lesion? but, what effect has that lesion produced upon the heart itself? Is hypertrophy or dilation the leading factor in causing enlargement of the heart? Is the action regular, and what is the character of the pulse wave? Heart disease does not necessarily mean valvular disease and murmurs evidently pathognomonic of regurgitation do not prove the existence of organic disease of the valve curtains. Pathologically, diseases of the

myocardium may be classified under the following heads:

(1) Disturbance of the circulation; (2) inflammatory processes; (3) degeneration; (4) tumors; and (5) hypertrophy and dilation. The causes of enlargement of the heart may lie within the heart itself, or outside of the heart. The causes outside the heart may be: (1) pericardial adhesions, especially alcohol; (5) overwork, the so-called soldier's heart, (6) a few cases in which the etiology is obscure; and (7) by far the most important, arteriosclerosis, arteriocalillary fibrosis. In 100 autopsies in cases of cardiac disease, Jackson found a record of 32 cases dependent upon arteriosclerosis, and in only 4 was the weight of the heart under 400 grams. The heart was enlarged in 16 cases. In 6 cases the area of heart dullness was described as normal. In many of the cases the action was weak and the heart markedly irregular and intermittent. The pulse was usually weak, rapid, intermittent and irregular. Murmurs were detected in 10 of the cases, and in 7 of these the murmur was that of mitral regurgitation, but in none was a pathological condition explanatory of the cause of the murmur found, postmortem. In one case there was a systolic murmur in the aortic area. In two cases, a double murmur was heard at the aortic area, and postmortem, the aortic valves were demonstrated to be relatively insufficient. As murmurs indicative of imperfect closure of the valves were heard in 1-3 of the cases of arteriosclerosis, it is evident that the presence of such murmurs cannot be offered as evidence of structural lesions of the valves. In 16 of the cases, a trace of albumin was found in the urine, with casts. In 14 cases there was structural disease of the kidney [J.M.S.]

2.—It has been demonstrated experimentally that when fluid, confined in chambers or tubes, passes through an opening into a wider space beyond, the particles of the fluid are thrown into vibration beyond the opening; and, if the force of the current is sufficiently strong, these vibrations attain an intensity that enables them to be transmitted to the ear, where they become audible as sound. To this sound we give the name murmur. A narrowing of any valvular orifice presents this condition for the blood in its onward progress. A leakage through any of the valves furnishes the condition in a reverse direction. In the aortic area a widening of the aorta beyond the orifice furnishes the necessary condition, even if the aortic valve is normal. Arnold believes that the dilation of the aorta accompanying arteriosclerotic changes, rather than the roughening of the lining of the valve and the bloodvessel, accounts for the frequency of the aortic systolic murmur beyond middle life, a murmur which is so seldom explained at the autopsy by a true stenosis of the aortic valve. Regurgitant murmurs may be caused at any of the valve orifices without disease of the valve itself, provided the orifice is sufficiently dilated to prevent the proper opposition of the valve curtains. Variations in the intensity of a given murmur from time to time may give us information of the greatest value in estimating the condition of the heart. They are to a certain extent a measure of changes in the strength of the cardiac muscle. If with rest and treatment, a weak dilated heart develops a murmur that was not audible before, or if a faint murmur becomes louder, it is a favorable sign, for it means stronger heart action and implies the beginning of compensatory hypertrophy. The diminution or disappearance of a murmur may, on the one hand, mean improvement through the removal of the condition causing the murmur, but it may, on the other hand, mean a weakening of the cardiac power. Even organic murmurs sometimes disappear. If there is good reason to decide that a given murmur indicates an organic valve lesion, do not give too favorable a prognosis simply because the murmur disappears, and do not conclude that the diagnosis was necessarily wrong. Mitral murmurs are much more liable to variation and disappearance than are aortic murmurs. Of all cardiac murmurs, the presystolic murmur of mitral stenosis is the most variable. Yet once definitely heard, it indicates more surely than any other murmur an incurable lesion. A weakened action of the cardiac muscle which failed to narrow the mitral orifice sufficiently, or a weakened action of the papillary muscles failing to hold the valve curtain firmly, may be a sufficient cause for mitral regurgitation. Mitral regurgitation, in debilitated or in dilated hearts may be entirely curable if the cause is curable, though the question depends also on the myocardium and its capabilities. A toxic state of the

blood, fever, and general prostration. Many of the systolic apex murmurs heard in rheumatism are due to the muscular weakness and relaxation from a toxic state of the blood, fever, and general prostration and not to endocarditis. Systolic apex in rheumatism are not necessarily due to endocarditis. They do mean mitral regurgitation, but not necessarily a diseased valve. The so-called functional murmurs on the left of the heart are really due to mitral regurgitation, showing various areas of distribution according to the means by which the vibrations travel from the left auricle to the surface. Whatever their cause, the important thing to understand is the state of the myocardium. [J. M. S.]

3.—Williams prints 3 photographs of a patient who was treated for epidermoid carcinoma of the lip by X-rays. The exposure to the rays lasted 5 minutes and was given nearly every day for some weeks. Experience has suggested that so long a period of treatment is unnecessary. At the close of the treatment of this patient the induration had disappeared; the lip where the growth had been was without a scar and perfectly smooth and soft; and, except a little increase in width on the affected side, there was nothing abnormal in its appearance. Later, this increase in width diminished so that the cosmetic result was perfectly satisfactory. [J. M. S.]

AMERICAN MEDICINE.

April 6, 1901.

1. Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. WILLIAM OSLER.
2. The Mortality of Operation for Obstructive Jaundice. JOHN B. DEEVER.
3. Phelps' Operation for Clubfoot with a Report of 1,650 Operations. A. M. PHELPS.
4. An Obscure Case of Hysteria with Associated right Mydriasis and Amblyopia and Left Myosis. H. A. HARE.
5. Carcinoma of Pylorus, Secondary to Round Ulcer; Perforation; Resection of Pylorus; Recovery. FRANK BILLINGS.
6. Puerperal Sepsis; its Prevention and Methods of Treatment. E. E. MONTGOMERY.
7. On the Anatomy of the Renal Vessels and Pelvis of the Kidney in Relation to Digital Exploration of that Organ in the Operation of Nephrotomy. WILLIAM KEILLER.
8. A Rare Form of Extrauterine Pregnancy. BRUCE W. GOLDSBOROUGH and THOMAS S. CULLEN.
9. The Early Diagnosis of Insanity. CARLOS F. MACDONALD.
10. Dust as a Factor in Diseases of the Upper Respiratory Passages. W. SCHEPPEGRELL.

No. 1.—Will be abstracted when concluded.

- 2.— " " " " "
- 3.— " " " " "
- 4.— " " " " "

5.—Frank Billings, of Chicago, reports a case of Carcinoma of the pylorus which was secondary to round ulcer. Perforation occurred, the operation of resection of the pylorus was performed and recovery followed. The writer believes that Zeuker is probably correct in his statement that most cases of cancer of the stomach originate from an ulcer base. The patient was a shoe laster of 28 years and married. A paternal uncle died of "tumor" of the abdomen; otherwise the family history was negative. For three years he suffered with attacks of indigestion characterized by epigastric fullness, sense of weight, bloating of the abdomen eructations of gas and constipation. The attacks became more frequent and epigastric pain experienced after a full meal. Gradually the typical symptoms of gastric carcinoma appeared. A diagnosis of pyloric stenosis from gastric ulcer was made. The operation was performed by Dr. Bevan. A tumor-like mass occupied the pylorus, and a perforation had occurred in the anterior aspect of the pylorus. A mass of about three inches long was removed. The duodenal and gastric stumps were closed and then a gastrerenterostomy was performed with a Murphy's button. A microscopic examination of the growth revealed histologically a typical scirrhous carcinoma. An immediate improvement followed the opera-

tion and this continued for some seven months, when the patient began to fail. Nodules can now be felt in the liver and there is every evidence of carcinoma of other abdominal organs. It is of interest to note in this case that the age of the patient is only 28 years, as well as the presence of much HCL in the stomach contents two hours after a small amount of milk was taken. The perforation of the stomach with an opening the size of an ordinary lead pencil caused but little discomfort, and only slight constitutional disturbance for eight hours. [T. C. L.]

6.—E. E. Montgomery treats of puerperal sepsis, its prevention and methods of treatment. Among the important preventive measures cleanliness stands first. If previous infectious disease of the vagina is suspected the part should be surgically clean and a pad wet with sublimate solution should be kept over the vulva. The importance of sterilization of the hands is emphasized. Digital examination during the course of labor must be done most cautiously, and the labor should be conducted in such a manner as to secure the least possible injury to the parts. Instrumental interference is permissible when it is evident that the patient is not able to complete the work unaided. Labor should be terminated by the entire removal of placenta and secondines. Contraction of the uterus must be secured to avoid the retention of clots. The vagina and vulva should be carefully examined for injuries and lacerations, which should be immediately repaired with chromicized cat-gut suture. Occasionally it may be necessary to insert sutures in the cervix to control bleeding. It is essential to impress on the nurse the importance of the most rigid antisepsis. The treatment of sepsis may be summarized as follows: 1. Prevention by the exercise of the most careful asepsis and antisepsis. 2. The accurate examination of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis. 3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications. 4. The employment of serum injection when streptococcic infection can be recognized or justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision in drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved it should be removed. The recognition of a pus collection demands its evacuation or the extirpation of the organ in which it is situated. 6. The continuance of symptoms of sepsis when local manifestations are not recognized will require incision to determine the presence of secondary sources of infection. [T. L. C.]

7.—William Keiller discusses the anatomy of the renal vessels and pelvis of the kidney in relation to digital exploration of that organ in the operation of nephrotomy. The writer has been astonished that the surgeon who boldly punctures the organ with the needle in the hope of striking a stone, or makes an incision in the convex border and explores the whole pelvis of the kidney that only venous hemorrhage is encountered. Keiller presents an accurate account of the blood-vessel supply of the kidney and from his anatomical study suggests the following technique for the operation of nephrotomy: The kidney is carefully steadied in the dorsal wound and the entire surface of the organ palpated. Then the pelvis may be examined by introducing a finger along the pelvis into the renal sinus, remembering that a large artery lies in the way. If the stone is not found there is to be remembered that the more expanded infundibula are on the upper and lower ends of the organ. These ends and finally the center may be explored with a needle. Should a stone be found, an incision along the convex border would be the safer route to it, unless it is very near the surface when an incision radiating toward the hilum may be preferable. Failing to find a stone by puncture, a vertical incision one inch long and three-quarters of an inch deep should be made made into the convex border of the kidney, the finger introduced and gently pushed on. It will then lie in the connective tissue of the renal sinus and may be dorsal or ventral to the pelvis. The middle, lower and upper infundibula also should be examined in the order named, avoiding as much as possible splitting the ends of the organ, as at either end there is a good deal of interlacing of large vessels. The free venous hemorrhage will follow the withdrawal of the exploring finger, but this

may be readily controlled by pressure of the supporting fingers and subsequently by deeply buried cat-gut sutures through the parenchyma. As considerable damage will be done at least to one infundibulum the lumbar wound should be packed as urine may leak out, and an enormous amount of hemorrhage may be concealed should the wound be closed. [T. L. C.]

8.—B. W. Goldborough and T. C. Cullen report a case of **extrauterine pregnancy of rare form**. The patient was seen on February 28, 1901. She had missed her period in April 1900 and had since then presented the usual signs of pregnancy. In August while lifting some boxes something suddenly gave way in her left side. This occasioned severe pain and she was obliged to remain in bed until November 1st. About the middle of September there was a bloody uterine discharge and accompanying it was considerable pain and nausea. Subsequently she had several discharges which may have been menstrual periods. She was able to be out of bed during the month of November but had to return in December. On examining the patient under anesthesia the abdomen was seen to be very prominent. There was, however, no bulging in the flanks. The umbilicus was converted into a tumor, fully 5 cm. long by 3 cm. broad. The skin over this appeared to be much thinned out at one point which had given way. From this abraded area an offensive chocolate-colored fluid was escaping. Around the umbilicus the tissue is markedly indurated and pits on pressure. Vaginal examination reveals the cervix to be intact, but it is impossible to outline the uterus. An incision was made just below the sternum and continued almost down to the pubes. The abdominal cavity proper was not exposed. Filling the cavity was a large quantity of chocolate-colored fluid. A fetus between six and seven months and a large placenta was found. The placenta was attached low down in the pelvis, was exceedingly friable, but came away without producing any hemorrhage. The walls of the sac were about 4mm. in thickness and exceedingly friable. It is probable that the uterus ruptured and that the fetus with its membranes intact escaped into the abdominal cavity. The fetal membranes were attached to the abdominal wall and to the rounding structure. The large sack was thoroughly washed out with salt solution and loosely packed with iodoform gauze, which was removed on the seventh day, and a light gauze drain was inserted. The upper half of the incision was closed, the lower half left open to insure thorough drainage. On histological examination the placenta was found to be completely necrotic, which accounts for the ease with which it was peeled off and also for the absence of hemorrhage during its removal. [T. L. C.]

9.—C. F. MacDonald presents a paper upon the **early diagnosis of Insanity**, with a discussion of some of the questions which the diagnosis and treatment of the condition inspires. He points out that the significant diagnostic factor to be sought for in the early stage of the disease is evidence of the change in the mental characteristics of the individual, especially if he is descended from insane or neurotic stock. Prominent among the premonitory symptoms of insanity are disturbances of the bodily functions, morbid emotional manifestations and alterations in the mental characteristics of the individual. Especially to be observed are **pavor nocturnus**, insomnia, headache, tinnitus, vertigo, clammy extremities, and other vasomotor disturbances, anorexia, indigestion, constipation, etc.

These are by no means to be regarded as pathognomonic, nor singly, perhaps, even diagnostic, of mental disease. If the tendency is to mental exaltation, or mania, the emotional changes usually take the form of unnatural buoyancy, loquacity, the patient frequently appearing to be unnaturally bright. On the other hand, if the tendency is to depression or melancholia, there are gloomy forebodings, morbid introspections, suspicions, etc. Marked alterations of character are seldom wanting in this stage of the disease. In the diagnosis of insanity it is important to take into account certain negative symptoms, as reticence, obstinacy, sullenness or stupidity, any of which may be significant, especially if such a condition is not natural to the individual. Note should also be taken of the facial expression, the expression of the eyes, the hand-writing, condition of the reflexes, etc., any of which may in themselves be indicative of certain forms of mental diseases. The pulse and temperature should also be observed, as

persons laboring under delirium of fever meningitis, etc. have occasionally been committed to institutions for the insane through inattention to these points. [T. L. C.]

10.—Will be abstracted when concluded.

DEUTSCHE MEDICINISCHE WOCHENSCHRIFT.

February 21, 1901.

1. Treatment of Gangrenous Hernia. W. PETERSON.
2. Discovery of the Swine Erysipelas Bacilli in the Stools of an Icteric Child. R. LUBWSKI.
3. Casuistic Communication to the Knowledge of Acute Corrosive Sublimite Poisoning. K. KRAUSE.
4. Treatment of Torticollis. JOACHIMSTHAL.
5. On the Relation of the Cerebellum to Multiple Sclerosis. ADLER.

1.—Will be abstracted when completed.

2.—The nature of the brief report is practically fully indicated by the title. It was impossible to state what relation the bacilli had to the disease. They were found but once, but at that time they were much more numerous than all other forms of bacteria, and this fact, together with their disappearance as the disease grew better, and the fact that the intestine is the usual portal of entry in animals, make it seem probable that they had an etiological relation to the disease. Whether there is any general importance in the observation is uncertain. A similar case was investigated for the same bacilli, but they were not found. The case, however, is evidence that these bacilli may grow in enormous numbers in the human intestine. And since the bacillus is known by recent work to be able to cause infection in man, it must be considered highly probable that the organism is by no means one that is without importance in human pathology. [D. L. E.]

3.—The remarkable point in the case reported was that the patient took 2 grm. of corrosive sublimate in solution and yet recovered in spite of the appearance of very grave symptoms. V. Jaksch puts the fatal dose at 0.2 grm. The probable reasons for the happy issue were the almost immediate onset of vomiting, and the energetic gastric lavage undertaken in the treatment of the case. The case is, however, an illustration of the fact that one should not state an absolutely unfavorable prognosis even when a very large dose has been taken. The patient showed very severe symptoms, consisting of severe stomatitis with secondary purulent parotitis, violent gastritis, with bloody vomit, a severe degree of enteritis and colitis with bloody and mucous stools, severe nephritis, and general prostration. All these symptoms gradually disappeared, and the patient regained what appeared to be entire health. The drug was taken on the 22nd of October, and the patient was discharged well on the 16th of December. An interesting observation was the fact that there was a marked skin eruption which appeared first on the 3rd of November, and was of a bright red punctiform character, appearing at first on the hands, arms and chest, and spreading from these points over the surface. It covered the face as well as the trunk. There was no desquamation. The eruption resembled greatly the cholera exanthem, and since cholera in the Hamburg epidemic was treated with large doses of calomel, Krause is inclined to suspect that at least a portion of the so-called cholera eruptions observed in this epidemic were due to mercury rather than to the cholera itself. Krause also notes that the patient had been treated a year before for incipient tuberculosis which had apparently entirely healed in spite of the extreme reduction of his general health immediately after the poisoning. There was no tendency on the part of the tuberculosis to light up the advance. [D. L. E.]

4.—Nothing.

5.—Adler refers to the fact that Ferrier noted that removal of the cerebellum caused movements of the typical disseminated sclerosis type on volitional exertion, and that in cases of atrophy of the cerebellum in man ataxic movements are observed, and that these are sometimes much like intention tremor. Nystagmus and scanning speech have also been noted in cases of atrophy of the cerebellum, hence most important symptoms of multiple sclerosis are seen when there is loss of the cerebellar function. Also the gait in multiple sclerosis not infrequently reminds one of the typical cerebellar gait. He

believes that intention tremor, scanning speech, and nystagmus in multiple sclerosis are all explainable through loss of cerebellar control of volitional movements.

[D. L. E.]

March 7th, 1901,

1. Further Investigations Concerning the Value of Arloing and Courmont's Serum Reaction for Tuberculosis; and in especial its Value in Tuberculosis of Cattle. A. BECK and LYDIA RABINOWITSCH.
2. A Remarkable Auscultatory Phenomenon in a Suckling, the Origin of Which Could Not be Explained. K. GREGOR.
3. The Radical Operation for Hernia in Children. H. MASS.
4. A Thread Scoliosognost Kurt Tautz.
5. A New and Certain Method for the Demonstration of Diacetic Acid in the Urine. S. LIPLIAWSKY.
6. Treatment of Gangrenous Hernia. W. PETERSEN.
7. Treatment of Pathological Fixations of the Uterus. STEFFECK.

1.—The authors first state that in a recent criticism (abstracted from the *Deutsche Medizin. Wochenblatt*), Arloing and Courmont made statements concerning the work of Beck and Rabinowitsch which were unfair because they were based upon a false reading of their tables; they state that if their tables are re-examined, it will be found that they are not subject to the criticism made. They then refer to the work of a number of other authors on the serum reaction for tuberculosis, all of them expressing themselves unfavorably toward the test. Finally they report a series of investigations of healthy and tuberculous cattle with other affections than tuberculosis. The diagnoses were confirmed by autopsy. The tables which they present seem to show that the reaction was not more frequent in tuberculous animals than in the non-tuberculous, and was in no way a test of the presence of tuberculosis. They hold by their previous conclusion that the reaction is by no means specific for tuberculosis, and consider that it is of no value in diagnosis. They state that their tests were carried out according to the method advised by Arloing and Courmont, and that the cultures they used were obtained from Arloing and Courmont, and that they always used cultures which were only from 12 to 14 days old. [D. L. E.]

2. The phenomenon which aroused Gregor's attention consisted in the observation of a loud systolic murmur of about the same intensity as that heard with acute endocarditis of the mitral valve, the murmur being heard clearly only over the lateral portions of the right half of the thorax; the second pulmonary sound was not accentuated, and over the pulmonary region one heard a distinct first sound, at the base and at the apex pure first and second sounds. The post-mortem examination showed caseous bronchopneumonia in the left lower lobe, and a general miliary tuberculosis of the lungs and other organs. The heart was small, but there was no other acquired or congenital abnormality of the heart or vessels. The explanation of the murmur was not apparent. It was not a pericardial murmur and there was no evidence of a functional insufficiency. A similar observation by Marfan in a child with splenic anemia is referred to as the only instance resembling this one so far on record. [D. L. E.]

3.—The author reports 33 cases operated on in the course of five years. One per cent. of these were in children. He employed the method recommended by Karowski, which consisted of a simple resection of the sac without any plastic closure. The result in all cases was favorable. After observations extending over years, no recurrences were observed. [M. R. D.]

4.—A description of a simply constructed apparatus for the diagnosis of beginning scoliosis. [M. R. D.]

5.—The test is carried out by making a 1 per cent. solution of paramidoacetophenon, adding 2 c. c. of concentrated HCl to increase the solubility; second, a solution of 1 per cent. potassium nitrite; 6 c. c. of the first and 3 c. c. of the second solution are mixed with an equal quantity of urine, a drop of ammonia is added and the mixture is shaken energetically, when a red color appears. One takes from 10 drops to 2 c. c. of this mixture, adds 15 to 20 c. c. of concentrated HCl, 3 c. c. of chloroform, and

2 to 4 drops of ferric chloride solution. The test tube is corked, and is gently inverted repeatedly, and if diacetic acid is present even in very small amounts the chloroform takes a characteristic violet color after a half minute to a minute, while if diacetic acid is absent the color is yellowish or slightly reddish. The color as noted persists, even in the light, for weeks. About 400 pathological urines were investigated, and they reacted only when diacetic acid was present; this test is extremely delicate, showing as little as one part of diacetic acid in 40,000. Drugs, such as the salicylates, and others which interfere with the ordinary diacetic acid test, had no influence upon the test. [D. L. E.]

6.—W. Petersen recommends local anesthesia in these cases and advocates an extensive resection of the diseased portion of the bowel. He recommends Schleich's infiltration method. According to the author the danger of shock and collapse after the operation is obviated as well as a risk of inhalation pneumonia. For the purpose of anastomosis he employs the Murphy button. He emphasizes thorough emptying of the intestines before suturing. [M. R. D.]

7.—Will be abstracted when completed.

March 7, 1901. [XIV Jahrg. No. 10.]

1. Infiltrated Carcinoma of the Bladder. ENGLISCH.
2. Personal Experiments upon the Influence of Food on the Secretion of Acetone. SCHUMAN-LECLERCQ.
3. The Occurrence of Tubercle Bacilli in Vienna Butter and Margarin. MARKL.

1.—While very rare, primary infiltrated cancer can occur in the bladder wall; the diffuse form is especially rare. Englisch quotes three such cases. The infiltrating tumor takes the place of the bladder wall, which becomes thickened. To the palpating hand the bladder feels regular and strikingly hard. It is difficult to localize, by bimanual palpation, or by rectum. Very diffuse infiltration will give the balloon-like signs of an over distended bladder, distinct upon pressure. The introduction of a catheter will not, however, diminish this. The first symptom is frequency of urination. Pain appears early, upon micturition, and may persist afterward. It may also radiate in all directions. The urine is normal, though cystitis may develop later. The cachexia appears late. Its course is slow, with death finally from an affection of the kidneys. The diagnosis is made by the absence of hypertrophy of the prostate, stricture of the urethra, or stone in the bladder. The differential diagnosis from cancer of the prostate is difficult. The treatment will be extirpation of the tumor as soon as it has been diagnosed. If that be impossible, suprapubic cystotomy will alleviate the pain. Englisch gives a description of his case, with the autopsy. He reports a similar case, in which autopsy was not permitted. [M. O.]

2.—Schuman-Leclercq gives tables showing his own experience for 100 days, under many changes of diet. The urine was examined daily, for acetone, by the Messinger-Huppert method; for diacetic acid by Gerhardt's chloride of iron method; for nitrogen by the Kjeldahl method; for total acidity by Lieblein's method; for phosphoric acid by the Neubauer-Malfatti method; and for the ethereal sulphates by Salkowski's method. These experiments show no relation between the amount of nitrogen and acetone in the urine. But albumen or fatty diet caused an increase in the secretion of the acetone. Last year, he used the Schnitzler respiration apparatus to measure the acetone in the breath. This he added to that found in the urine to make the total acetone excreted. After a description of the experiments, with the diets used, he concludes that the interchange of fats in the body is probably the essential cause, if not the only one of the secretion of acetone, whether from the destruction of the body-fat or the fat ingested, from hunger, fatty diet, pure meat diet, etc., and that the carbohydrates, by their great influence upon the assimilation of fat, prevent the production of acetone by using up the fat. [M. O.]

3.—The presence of virulent tubercle bacilli in ordinary butter and margarin has been proved during the last five years. Inoculations and inunctions of butter have produced both true and pseudo-tuberculosis in animals. Markl used the Obermueller method, inoculating centrifugated butter. Out of 45 cases inoculated, not one died with true tuber-

culosis, and only one with pseudo-tuberculosis. Only ten animals died with peritonitis. None of those injected with margarin died with peritonitis. Markl describes the pathogenic micro-organism in his pseudo-tubercular case. It is a relatively acid bacillus, taking Gram's stain. He considers it a cause of pseudo-tuberculosis, beside Petri and Hermann-Morgenroth bacilli. [M. O.]

VRATCH.

February 10. (Vol. 22, No. 6.)

1. On the Question of Disease of the Cerebellum. P. I. SHATILOW.
2. On the Affection of the Upper Respiratory Passages in Rheumatism. E. B. BLUMENAU.
3. On the Physiology and Pathology of the Ventricular Septum. Syphilis of the Septum. M. IA. BREITMAN.
4. Secretion of Watery Fluid from the Nose (Hydrorrhea nasalis). A. PH. EKKERT.

1.—Will be abstracted when completed

2.—Blumenau inclines to the opinion that in a considerable number of cases acute articular rheumatism may be preceded by a sore throat. Assuming the disease to be infectious, it is reasonable to suppose that the infection may gain entrance by way of the tonsils. In three out of twenty cases of acute articular rheumatism the author could trace a connection between the rheumatism and the angina preceeding it. In one case the rheumatic affection made its appearance four days and in the other one and one-half to two weeks after the sore throat. Three other cases are reported in which the rheumatism was preceded by an acute pharyngitis. The author reports also two cases of rheumatism affecting the crico-arytenoid articulation. In one the disease was primary and limited to that articulation; in the other it was secondary to typhoid fever which was preceded by grippe. An extensive bibliography is given. [A. R.]

3.—Breitman asks the pertinent question; How would the heart act if the septum were removed? Such an experiment has never been and could not be performed, but nature does perform it in cases of syphilitic affections of the ventricular septum. In these only the latter is affected, the ventricular septum. In these only the latter is affected, the rest of the heart remaining intact. If the septum is crippled by gummatous or ulcerative changes no symptoms make their appearance during life, but the person may be carried off by sudden paralysis of the heart. The altered septum prevents the regularity of the contraction of the ventricles, the right being principally affected. However, when the syphilitic changes involve the cardiac ganglia the heart muscle becomes affected, and a train of symptoms denoting cardiac insufficiency may take place during life. A number of observations of various authors are cited by the author who claims the distinction of being the first to call attention to the subject from the physiologic standpoint. [A. R.]

4.—Ekkert reports an interesting case of a woman, single, 39 years old, of a good family history, suffering from a constant flow of a clear watery fluid from the nose. The patient is of a strong physique, well nourished, but somewhat hysterical and neurasthenic. Since childhood she suffered from a catarrhal condition of the nose. At present, she presents evidences of chronic follicular pharyngitis and catarrhal changes in the lungs accompanied by cough and expectoration, mucous and at times purulent in character. Repeated examinations of the sputum failed to reveal the presence of tubercle bacilli. At times she suffers from chills and elevations of temperature, especially in the morning; but while the latter are ameliorated by proper treatment and change of climate, the secretion of the nose is but slightly modified. It goes on all the time, amounting to about 120c.c. in the 24 hours. At night or when the patient is at perfect rest with the head thrown back the flow is diminished considerably, but the least exertion will bring it on almost in a stream. During the past year she gained considerably in weight and improved generally, the nasal affection, however, remaining about the same, despite local treatment and even hypnotic suggestion. Repeated and thorough examinations of the nasal cavity by specialists failed to reveal the cause of the affection. The author cites a number of more or

less similar cases recorded in the medical literature and comes to the conclusion that this affection is similar to hay fever and is probably of a nervous origin. [A. R.]

February 17, 1901 (Vol. XXII., No. 7.)

1. The Surgical Treatment of Ascites in Cirrhosis of the Liver. N. M. BENISOVITCH.
2. Medical Aid to the Workingmen of Some Factories in the Government of Vladimir during the years of 1895 to 1898. M. S. KAMNEV.
3. On the Question of Diseases of the Cerebellum. P. I. SHATILOW.

1.—Benisovitch discusses the mechanism of the compensatory circulation in hepatic cirrhosis and mentions the operation of Talma as indicated in those cases in which the collateral circulation is not sufficiently established to relieve the rapidly increasing ascites. The cases operated on by Talma himself proved fatal. After that the operation was performed by different men in eleven cases, and in seven the results were satisfactory. The author reports two cases in which he resorted to Talma's operation. In one, the patient, twenty-two years old, suffered from cirrhosis of the liver, probably brought about by chronic alcoholism. He gained admission into the City Hospital, where he was tapped twice without any relief from the ascites. Laparotomy was then performed with the same results. He finally came to the author, who made a diagnosis of tuberculosis of the peritoneum and performed laparotomy under Schleich's anesthesia. The peritoneum was found free from disease. The patient improved after the operation, owing to the evacuation of the fluid, but soon after the ascites returned, together with the usual symptoms. The diagnosis having been changed to hepatic cirrhosis and medication affording no relief, Talma's operation was performed. This was followed by a marked improvement in the general condition of the patient. Two months later ascites again developed, six liters of fluid having been removed by tapping. After that the patient felt much stronger and gained in weight. In the second case, the patient, a man fifty-six years old, with a history of chronic alcoholism, was far advanced in the disease when Talma's operation was performed. He felt much better after it for about two weeks, when he commenced to decline rapidly and died within forty-eight hours. A rapid and marked accumulation of fluid took place before his death. After a review of the literature and the experimental data bearing on the subject, the author comes to the conclusion that in Talma's operation we possess a simple and harmless method of treating ascites in hepatic cirrhosis. [A. R.]

3.—Shallow points out the difficulty of diagnosing affections of the cerebellum during life. Our imperfect knowledge of the physiology and pathology of that part of the central nervous system is in a large measure responsible for this difficulty. The various symptoms observed in the cases recorded in literature may be present in other affections, while the most characteristic ones are indicative only of an affection of the brain. On the other hand, no symptoms whatever may make their appearance, this being due to a compensatory physiologic activity of the healthy portion of the cerebellum, if only a part of it is diseased, or the cerebrum, if the entire organ is affected. This fact had been verified by experiments on animals. In the case reported by the author, a boy, 15 years old, presented severe gastro-intestinal disturbance, characterized principally by headache, vomiting, colic and obstinate constipation. The boy was employed in a confectionery shop and indulged freely in sweets which were usually painted red. The symptoms, together with the history of the case, led to a diagnosis of lead-poisoning, and the improvement, for a time, following the use of iodide of potash and hot baths seemed to corroborate the diagnosis. The physical signs, namely, optic neuritis, slow and tense pulse and the drawing in of the abdomen still more completed the picture of chronic plumbism. About two months after admission to the hospital he began to feel worse. The headache increased in intensity, the vomiting was frequent and not accompanied by nausea, he became listless and indifferent, was frequently found laying on his right side with the legs flexed, the knees drawn tightly against the abdomen and

the head thrown well backward. One morning he was found in his usual position, intensely cyanotic and without the least signs of respiration. The heart-sounds, however, could still be perceived. Artificial respiration soon removed the cyanosis and improved the heart's action, but respiration could not be restored. Seven-and-one-half hours of artificial respiration, together with electricity and diffusible stimuli, proved futile, and the heart finally stopped. During the short time the patient showed erection of the penis, the priapism disappearing with the cessation of the heart's action. The autopsy showed the ventricles dilated and filled with clear, transparent serous fluid. On the left cerebellar hemisphere an area of the size of a pigeon's egg was found to be filled with serous fluid. The walls of this cyst were smooth. On the posterior border of the upper surface of this hemisphere a round fleshy growth of the size of a walnut was found, which on subsequent histologic examination proved to be a glioma. A severe enterocolitis was also demonstrated. A chemical examination of the painted cakes showed the absence of lead. In analyzing the most prominent symptoms, the author calls particular attention to the position of the patient. The paralysis of respiration he ascribes to the pressure of the medulla exerted by the accumulation of fluid. The priapism is explained by the action of the carbon dioxide on the genito-spinal center, since recent investigations have relegated to the past the idea that the cerebellum is the seat of the sexual center. [A. R.]

REVUE DE MEDECINE.

March 10, 1901. (21 me. Annee, No. 3.)

1. Hysterie Anesthesia; its Psychic Mechanism. BERNHEIM.
2. Reeducation of the Movements of the Heart by Methodic Exercises. F. LAGRANGE.
3. A Case of Colothypus, Typhoid Fever with the Lesions in the Large Intestines. PH. BOURDILLON.
4. On the Association of Typhoid Fever and Dysentery. P. REMLINGER.
5. The State of the Blood. Hemoleukocytic Formula, in Zona. SAMRAZES and MATHIAS.

1.—Bernheim, after a study of two cases of hysterical anesthesia reaches the following conclusion: (1) Hysterical anesthesia is purely psychic; its characters are those of anesthesia produced by suggestion. (2) It is much more frequent than authors have admitted. It is often developed or is completed artificially by unconscious medical suggestion or imitation. (3) It is always amenable to psychotherapy; but the latter is often difficult on account of the autosuggestive resistance of the subject. (4) It may have an organic origin, peripheral or encephalic vasomotor constriction or paralysis, but the anesthesia being preserved by autosuggestion, the vascular trouble disappears. (5) Organic hemianesthesia of cerebral origin by lesion in the neighborhood of the sensory decussation may survive the lesion and be preserved by autosuggestion. (6) Sensory impressions in psychic anesthesia are collected and impress the consciousness. But the mind, stimulated by the idea of anesthesia, inhibits and effaces the sensation as well as the collection, by forgetting it. [J. M. S.]

2.—Lagrange continues his paper on re-education of the movements of the heart by methodic exercises. The elasticity and contractility of the veins are two factors that act powerfully in the concert of the forces that assure the regularity of the flow of blood. Among the agents of venous constriction certain forms of vibratory passive movement occupy the first place. When the feet of a patient are placed in a mechanical vibrator the patient first experiences a sensation of cold at the same time that the size of his extremities seems to be reduced. Following this, phenomena of vasoconstriction with the inverse subjective sensations succeed. At the end of a minute or two an impression of warmth makes itself felt and the foot retakes its normal size. The contractility of the veins is also brought into activity by passive movements of alternate flexion and extension, raising and lowering, and abduction and adduction. The displacement of the fluid blood is also a factor of importance in the variations of vascular pressure. Violent displacements of the arterial blood and the too sudden passage of this blood into the venous system, however, are the principal causes of grave accidents that affect the heart or the lungs in the

course of certain exercises that are carried to the last degree of energy. The lung by thoracic aspiration is an important factor in the education of the movements of the heart in cases of tachycardiac arrhythmia. [J. M. S.]

3.—Bourdillon reports the case of a woman aged 60 years who died at the end of 34 days after admission to the hospital of a disease which had presented all the symptoms of typhoid fever, and which was said from the beginning to have a grave prognosis on account of the advanced age of the patient and the profound asthenia into which she had fallen. The diagnosis of typhoid fever was undoubted, both from the clinical signs and by the presence of a positive serum reaction. At the autopsy, however, the small intestine was found to be intact throughout its entire length and the large intestine only presented anatomic evidences of the disease. It has been established in a certain manner that the disease was due to a typhoid infection and that it had evolved in the patient without attacking the small intestine. The lesions in the large intestines were those of an ulcerous and necrotic colitis. From the clinical point of view the predominant symptom was an intense diarrhoea which accounted for the asthenic form of the disease and its gravity. [J. M. S.]

4.—Remlinger reports 7 cases in which typhoid fever and dysentery were associated. In 3 of the cases one disease followed the other. In one case dysentery appeared in the course of typhoid fever. In 2 cases the dysentery followed typhoid fever of medium intensity, in one of which there had been a relapse which was quite serious before the development of the second infection. In the seventh case the 2 infections existed simultaneously. [J. M. S.]

5.—Sabrazes and Mathis have studied the condition of the blood in zona. They find there are no marked changes in the number of red corpuscles or in the percentage of hemoglobin; nor do the red blood corpuscles present any recognizable alteration. The white corpuscles are above the normal on the first day of the eruption. This hyperleukocytosis increases until about the third day, then it decreases gradually up to the fifth day. The increase in the number of white cells is due principally to the polymorphonuclear neutrophiles and the eosinophiles. If the contents of the vesicles become purulent the number of leukocytes diminishes, returning to normal or slightly below normal. The loss being made up by the same varieties of cells that constituted the increase. The period of desiccation and desquamation is marked by a second hyperleukocytosis. Sometimes with the eosinophiles in greatest proportion. At the end of about 2 weeks the blood resumes its normal character. In the clear vesicles on the first day of the eruption the fluid was found to contain 79 per cent. of polymorphonuclear neutrophiles, 19 per cent. lymphocytes, 1 per cent. of large mononuclears, while the eosinophiles were very few in number or were completely wanting. During the following days the percentage of polymorphonuclear neutrophiles increases to 96 per cent.; the microorganisms being in pure culture. On the sixth day the contents of the vesicles presented disintegrating polymorphonuclear neutrophilic cells associated with eosinophiles undergoing disintegration. Neutrophilic myelocytes were found once in very small number, 0.2 per cent. in the blood, but they have not been found in the vesicles. [J. M. S.]

Dionin in the Treatment of Nervous Excitement.—Majewsky (*Pratch*, Vol. XXII, No. 6) presented before the Society of Neuropathologists and Psychiatrists at the University of Kasan the results obtained by him with dionin. He employed it in the insane, especially maniacs, in the stage of excitement. Although nineteen cases are reported. The conditions in which this drug was administered were mental excitement accompanied by congestion of the cerebral blood-vessels; also in sexual excitement. It appeared that subcutaneous injections of 0.04-0.05 grms of dionin constricted the blood-vessels and thus relieved the congestion. In some cases the sexual excitement was allayed and the erections diminished. The author considers it a valuable remedy in acute masturbation accompanying transient mental disturbances. The internal use of the drug is not followed by the same powerful effects. [A. R.]

Original Articles.

LIGATION OF THE CAROTID ARTERY AS AN OPERATION PRELIMINARY TO RESECTION OF THE SUPERIOR MAXILLA.

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Translated, with Permission of the Author, by Max R. Dinkelspiel

It cannot be denied, even by surgeons adept at operative procedures, that the modern technique employed in resection of the superior maxilla is somewhat unsatisfactory, both on account of the marked accompanying hemorrhages, as well as the great danger from blood aspiration. Excepting the proved inexpedient method of operating with the head lowered, two methods have been employed for obviating the blood aspiration. Either the trachea, after a previously performed tracheotomy, is protected by gauze or a tampon-canula, or, the patient is only partially anesthetized and thus placed in such a reactionary condition that he can spontaneously throw out the blood, that is flowing into the larynx. The first method—the performance of a prophylactic tracheotomy and larynx-tamponade—is less frequently employed, because it is considered a too dangerous procedure for a preliminary operation, and also because it impedes the ejection of disintegrating masses of secretion and mucus. Thus the second method—performing the operation during partial anesthesia—has been introduced as the sanctioned procedure. This manner of operation, if it is to be followed by favorable results, requires a more extensive operative technique than almost any other operation, and above all, rapid, accurate manipulation, which can only be acquired with extensive clinical material; furthermore, a thoroughly versed corps of assistants is essential—all these being requisites that are not at the command of every surgeon. But even in the hands of accomplished operators, the prognosis, on account of the danger from aspiration during and after the operation, has remained a grave one. During the operation, it is the regurgitating non-aseptic blood coming in contact with mucous membrane surfaces that threatens to involve the bronchi and lungs. The fortunately but brief period of time, during which, in spite of the combined efforts of surgeon and patient, the respiratory passages can hardly be kept free from blood, can rarely be evaded. Martens (1) estimated the mortality of 74 total resections of the superior maxilla, performed in the clinic at Goettingen, at 23 or 31 per cent. In 16 cases the cause of death was disease of the respiratory tract. In the clinic of Greifswald 4 out of 18 cases of total resection (22 per cent.) resulted fatally in consequence of the operation. Bryant's (2) statistics of 230 unilateral resections of the superior maxilla show a mortality of 14 per cent. A remarkably small mortality rate, in resection of the superior maxilla, is reported from the clinic of Zurich, where out of 34 total resections but one death, referable to the operation, occurred. Referring to other statistics on this subject, of which I here report a few of the most recent ones, we see that the exceptionally favorable data just mentioned do not correctly express the universally

accepted grave prognosis of the operation. Koenig (3) in the latest addition of his text book still estimates the average mortality of complete resection of the superior maxilla at 30 per cent. The marked hemorrhage occurring during this operation and its dangerous sequels have recently actuated many surgeons to undertake, as a preventative operation, the permanent or temporary ligation of the afferent vessels, the ligation in the latter case being one in continuity. The first report concerning the ligation of the common carotid as a preliminary operation in operative procedures on the head, is reported from the clinic of Prof. C. Reyher in St. Petersburg, where in all cases a double ligation of the artery was performed and the vessel cut between. In order to prevent the apprehended cerebral manifestations which were liable to occur in this operation, pressure was made for eight days, every hour, from 10 to 15 minutes at a time, upon the vessel to be ligated, and after the operation strict attention was paid to the fact that the patient remained in the horizontal posture. Among 27 ligations of the carotid Reyher had but one death. Weljaminev (4), in 1882, in addition to these cases, reports 20 more ligations of the carotid, performed under antiseptic precautions, all of which resulted favorably; these figures—one death among 47 ligations—with the modern treatment of wounds, classifies this operation among the less dangerous ones. In 1882 v. Lesser (5) also performed a ligation of the common carotid, preliminary to a resection of the superior maxilla. First he temporarily ligated the vessel; then, when after some time, there were no manifestations of cerebral disturbance, tight silk ligatures were placed around the carotid. From the clinical history I believe for a reason which I will give later on, that a still movable lymph gland, diseased by metasasis, was situated on the common sheath of the vessel. In the American literature on this subject, Bryant (2) published a report embodying a recommendation for the preliminary ligation of the external carotid artery, and on the other hand condemning the ligation of the common carotid artery unless necessitated under exceptional circumstances. Markedly different, however, from this ligation in continuity, which has remained in vogue, is the preliminary ligation of the carotid artery in resections of the superior maxilla, as first attempted by Senger (6) in 1895, and which has been warmly recommended since that time. The latter ligation consists of a temporary constriction of the exposed carotid, a sort of Esmarch's constriction, which, instead of involving a whole extremity, in this case only effects a temporary compression of a single vessel. Senger (6) has shown by experiments upon animals that with the employment of a small amount of precaution a ligature can be directly applied to the common carotid artery (of dogs and rabbits) from one to three hours without any danger. In the resections of the superior maxilla performed on man Senger (6) has only constricted the external carotid. He states, "the hemorrhage was very slight, only venous, and not to be compared to the hemorrhages occurring without constriction." Recovery followed without reaction and without any manifestations of disease, either of the brain or the carotid. Even before the publication of Senger's case, Schoenborn had some experience at the clinic of Koenigsberg

with the temporary ligation of the larger vessels, and particularly with the carotid. On account of gangrene of the anterior flap which occurred after a hip joint amputation, for which the common iliac artery had been permanently ligated, Schoenborn was induced to have recourse there after to the temporary ligation of the iliac. He has also a few times temporarily ligated the common carotid artery without any bad results to the patient. At the International Congress in Rome, Schoenborn demonstrated an artery compressor, consisting of two parallel steel rods, movable in the direction of their long axes, and which were beak-shaped, thus permitting the temporary constrictions to be accomplished with the least possible damage to the vessel.* Riese (7) reports two other cases of resections of the superior maxilla with preliminary temporary ligation of the common carotid, performed by Schoenborn at the clinic of the University of Wurzburg. In both cases the patients, in consequence of hemorrhages from the malignant tumors had been sinking rapidly, and were in such advanced stages of the disease, that in both operations the cranial cavity was opened, and, in one patient, even in two places. The result of the temporary ligation, resp. compression, was here also a favorable one, the arterial hemorrhage being very slight. This proposition of a preliminary operation seems recently to have been accorded increased recognition. Kocher (8), in his operative teaching, highly recommends the preliminary ligation of the external carotid artery in resection of the superior maxilla, and believes that it makes the operation more cleanly and simpler. I will consider the cases of Konig, Jr. (9), and those of Gallaudet (10) in another place. The opinion of operators concerning the favorable influence of this preliminary operation upon hemorrhage seems to be so unanimous, that I would have considered a reference to my three following cases of preliminary ligation of the carotid as entirely superfluous, had not Pilz (11), in 1868, in his work on the ligation of the common carotid, asserted, that the permanent ligation of the common carotid, asserted that the permanent ligation of the common carotid in operations on tumors had been entirely useless in 13 out of 17 cases. In my three cases, I, as well as the assistants, were absolutely astounded at the slight bleeding. A retrospection of the above quoted observation, where in no case the effects of the preliminary operation were withheld, decidedly refutes Pilz's objection. It is more justifiable to consider whether the danger of the preliminary operation is not of such a degree that it outweighs its usefulness, and whether a thrombus-formation at the point of ligation, and interruption of the blood supply do not seriously endanger the brain. Let us consider the dangers incident to the ligation of the common carotid and first those produced by a permanent ligation. Formerly a ligature-thrombus, a coagulation of blood up to the next lateral twig, was considered as the regular consequence of blood vessel ligations. Baumgarten has shown that in thoroughly healthy persons, in the absence of suppuration, no thrombus results after the ligation, provided the tying of the ligatures is carefully conducted. Although it is to be admitted that at the present

time under aseptic precautions the prognosis of ligation of the carotid has markedly improved, the fact nevertheless remains, that in spite of the excellent collateral circulation with which the brain is provided by means of the vertebral arteries and the Circle of Willis, in many cases paralysis and softening of the brain may arise after the interruption of the blood supply, be it due to a progressive thrombosis (which, however, under an antiseptically performed ligation as a rule does not take place) or to an embolic occlusion. If, for the previously mentioned reasons, we do not take Pilz's extensive statistics into account, whose material, comprising 314 ligations of the carotid, after all mostly dates from the pre-antiseptic period, and if we only take into consideration the figures of Zimmermann (12), whose cases rather date from the time of antiseptic surgery, we are still surprised by figures showing among a mortality of 31 per cent., 26 per cent. characterized by cerebral symptoms, and in 6 per cent. softening of the brain. Riese (7), who continued Pilz's statistics up to 1885, found cerebral involvement 17 times in 73 operations,—25 per cent. More favorable is Albert's (13) criticism, in which he states, that ligation of the common carotid is tolerably well endured by an entirely healthy person. Among the ligations performed for neuralgias, he finds the mortality 3 per cent. Certainly we will not consider the first-mentioned figures as an expression of the most modern prognosis of this ligation, if conducted under aseptic procedures, for it is known that even the common carotid has been ligated on both sides simultaneously, without any disturbances following. But these figures are, nevertheless, plain enough, even if viewed from an optimistic point of view, to dissuade one from an operation, which, simply as an auxiliary procedure, is perhaps followed by a greater mortality than the principal operation itself. The temporary constriction of the common carotid should not be confounded or judged with the permanent ligation of that vessel. As far as injury to the brain is concerned, it is not immaterial whether the blood supply is cut off only for the short time during the operation, or permanently. When the blood stream is cut off for only a brief period, the danger of a direct atrophic softening of the brain is certainly precluded. The difficulty that confronts us in critically selecting a method, is the question, as to whether the temporary constriction predisposes to a formation of thrombi to a more or less degree than the permanent ligation. Konig, Jr., (9) cut the carotid between two ligatures, because he believed that temporary ligation easily causes thrombosis after the opening of the ligatures. On the other hand, it appears from a theoretical point of view, that we can hardly ignore the fact, that a brief ligation performed with the greatest possible protection to the vessel walls, by means of broad rubber bands, or broad pads placed underneath, predisposes considerably less to the formation of thrombi. The vessel wall, especially the intima, is certainly more injured when tightly ligated by a silk thread than by a broad body remaining on it for only a short time, be it a compressor supplied with rubber, or simply a rubber band. The damage which a silk ligature may cause to the wall of an artery is found pictured in a most instructive man-

* An illustration of this compressor can be found in the Deutsche Medicinische Wochenschrift 1896, pp. 68.

ner in the work of Eberth and Schimmelbusch (14) on "Thrombosis." Here the femoral artery of a strong healthy hunting dog was dissected out and tightly ligated in one place by a silk thread. The ligature was removed in a quarter of an hour, and immediately thereon the artery was again filled as in the normal. After the circulation had continued through the vessel for three-quarters of an hour longer, the ligated portion of the vessel was excised and placed in chrom-osmic acid. In the longitudinal sections it was seen that the intima was entirely lacerated, the media crushed, and the contiguous sheath of the adventitia somewhat loosened. A thrombus extending from, the muscular portions separated from adventitia, which in places were heaped together, into the middle of the lumen of the vessel. In Senger's (6) experiments upon animals no changes worth mentioning took place in the arteries after the carotid had been ligated from one to three hours by means of a rubber ligature and broad pads; those animals not killed immediately, subsequently recovered and remained permanently healthy. The results of two experiments by Eberth and Schimmelbusch (14)* and which imitated the process of temporary constriction, coincide with the views of Senger (6). Eberth and Schimmelbusch clamped the jugular veins of two hunting dogs, in several places with a pair of forceps, so that about one-half of the vessel wall was squeezed between the grooves of the forceps. After a few minutes the blood was allowed to again flow through the vessels for ten minutes, before they were excised. The clamped areas were plainly seen as white spots which showed the thin stripes that had been made by the grooves in the forceps. In both cases microscopical examination of hundreds of serial sections showed neither a change in the vessel, nor a thrombus. Even if in these experiments the duration of the compression does not give data of practical value, the impressions of the grooves nevertheless showed a vigorous crushing of the vessel wall. Even in temporary ligations of arteries with silk thread, Zahn, in spite of the injury produced to the vessel wall, could find no thrombus formation at the point of laceration. Eberth and Schimmelbusch (14) also observed thrombus formation after ligations with threads. Where the ligatures were allowed to remain for a longer period of time, they only found a simple plate-thrombus, which quickly healed, and in a few cases in addition to the conglutination of blood-plates, also fibrin; but a permanent interruption of the circulation in consequence of these ligations was not found in any case. These experiments upon animals, in spite of the favorable observations of Zahn, seem rather to induce us to ignore the silk ligature, and to choose as ligature material broad rubber bands or possibly grooved clamps. In this way the greater injury to the intima, as well as a deposition of blood-plates, can probably be avoided. A simple, uncomplicated retardation of the blood stream—even when it gives rise to a deposition of leucocytes or blood-plates on the vessel wall—according to the experiments of Eberth and Schimmelbusch (14), does not cause a thrombus, provided no other complications, such as injuries to the vessel wall, are present. In addition

to the experiments upon animals alluded to, the result of two post-mortem examinations that were performed upon the two last mentioned cases of Schoenborn, who were operated upon while in a very poor condition, and who died shortly after the resection of the superior maxilla, seem to invite preference for this method of ligation. In the first case, the artery was ligated by means of a rubber band over a small rubber block. In Riese's serial sections of the carotid, the latter was seen to be everywhere patulous, the coats of the artery entirely normal, the endothelium being preserved and nowhere injured. And yet in this case it is surprising, that, in spite of no damage to the vessel wall, there should have been entirely a flat mural thrombus at the upper portion of the area embraced by the ligature, consisting principally of fine fibrin threads and occupying about 1-5 of the circumference of the inner wall. In the second case, the carotid was also patulous at the point of ligation; no microscopical examination was made. In two experiments upon animals performed by Riese (7), after compression of the iliac artery for one hour, obstructive thrombi were found six days thereafter; this, however, is not considered conclusive even by that experimenter himself, as the wound did not heal in an aseptic manner. He also believes that these experiments cannot be considered as conclusive evidence against the application of the temporary ligature in man. It appears to me, irrespective of the fact that asepsis is more easily carried out in man than in animals, that the human carotid is more prone to the formation of thrombi and obstructions than the carotid in animals, not only on account of its thicker and more resisting walls, but also on account of its larger lumen. From all these observations, it seems that a temporary broad compression of the common carotid predisposes less to a formation of thrombi than the permanent ligature, and already for this reason the latter is to be preferred. Moreover, temporary interruption of the blood stream is to be preferred, because it obviates direct danger of softening of the brain. Although the danger of thrombus-formation in carefully conducted temporary constrictions of the carotid is a remote one, if we consider the small amount of observations on man that have been favorable throughout, we are still not yet justified to consider this auxiliary operation as being entirely without danger to the brain. The most ideal solution of the problem would be, if we could entirely ignore the question of ligating the common carotid, and would accomplish our purposes by a ligation of the external carotid alone. This ligation might then also be a permanent one, for the temporary interruption of the blood stream in this case would be an aimless procedure. Under aseptic procedure a thrombus extending from the external carotid to the common carotid could hardly be expected. Among the 130 cases of ligation of the external carotid, compiled by Lipps (15) there occurred only two cases in 1882 (Dubrueil and Pozzi), in which a thrombosis extended into the internal carotid, and in which afterwards a diagnosis of embolism in the brain was justifiable. In Dubrueil's patient, aged 65, a hemiplegia occurred, but only on the 24th day after the ligation. The patient died three days thereafter, but an autopsy was not performed. Among 130 operations

*Thrombosis 1888, p. 101

of the external carotid no deleterious results, directly traceable to the ligation, have occurred, with the exception of these two cases, which can still be considered as belonging to the beginning of the antiseptic era; neither were there any premonitory symptoms indicative of an overfilling of the cranium with the blood supplied by the internal carotid, which alone took up the blood from the common carotid. Gallaudet (10), who observed a right-sided paralysis with maniacal conditions following soon after the ligation of the external carotid and in which, as the paralysis decreased, melancholia occurred, believed that on account of the mania the case was one of central narcosis-paralysis. Does the ligation of the external carotid alone suffice to render the whole field of operation in resections of the superior maxilla bloodless? This is a question which has been raised as early as 1840 by Pirogoff. In 1874 Madelung (16) wrote about the variance that existed among surgeons concerning the value of ligating the external carotid and its relation to the ligation of the common carotid. Lipps (15), in a perusal of the literature on this subject, found that in 1893 this old question of Pirogoff had not yet been unanimously answered. Well-known surgeons had ligated the common carotid, and equally well-known ones had censured this procedure, because ligation of the external carotid had sufficed. According to Friedlander (17) ligation of the common carotid is performed in more than one-half of the cases on account of disease in the region of the external carotid. These contradictory opinions concerning ligation of the common and external carotids, and especially as preliminary operations to the resection of the superior maxilla, have up to the present time not yet been cleared up. It appears from an anatomical point of view that in resection of the superior maxilla the incisions are made principally in the region of the internal maxilla artery, which, as is well known, arises from the external carotid. It would appear that, irrespective of the anastomosis, only those branches of the internal carotid in the orbit should then be taken into consideration. I would like to make a short contribution to this question by the report of the three appended cases, in which it will be seen that my experiments were systematically conducted. In the first case, I temporarily ligated the common carotid. In the second case, separately, first the external carotid and then later also the internal carotid, and in the third case, only the external carotid. In the first case, where I had to deal with a young patient, there was a pronounced sarcoma of the whole right superior maxilla, together with the hard palate, as well as a portion of the left superior maxilla. I feared that during the resection I would also be obliged to operate into the area of the internal carotid, and therefore preliminarily ligated the common carotid with rubber tubing. The result was most satisfactory, the hemorrhage being less than that which ordinarily takes place in these resections. There was not the slightest indication of cerebral involvement. There was no recurrence, and the patient to-day is still in the best of health. The second case presented singular features. In this case I wanted to avoid ligating the common carotid, and placed loose ligatures around the external and internal carotid. The rubber ligature around

the internal carotid was applied only in a prophylactic sense, so that in case an insufficient effect was produced by ligating the external carotid, the internal carotid could subsequently also be constricted. As a matter of fact, the effect produced by only ligating the external carotid is a very moderate one—I believe that I saw no greater hemorrhage even in some resections of the superior maxilla performed without ligating the carotid,—but as soon as I likewise tightened the ligature around the internal carotid, the hemorrhage became perceptibly less. It appeared to me that the hemorrhage in the region of the pterygoid process was the one that was principally influenced by this second ligature. It is difficult to explain this observation, as the internal carotid belongs to those blood vessels which rarely are subject to anomalies. Possibly an abnormality in the ascending pharyngeal artery was present. This artery not rarely arises directly from the bifurcation of the common carotid, it may substitute the ascending palatine artery, or the latter frequently arises from the ascending pharyngeal, which, according to many authors, is the normal condition. In my case the pharyngeal and the internal carotid arteries must, according to this, have been ligated together, which is hardly conceivable, as the pharyngeal would have been seen when the sheath was dissected away. It is more probable that one of those rare anomalies was present where the internal carotid gives off supernumerary branches. Quain found this anomaly 9 times in 144 cases. In my third case, by the ligation of the external carotid alone, an entirely satisfactory result was produced.

CASE 1.—G. J., male, aged 35, was admitted August 25, 1897 for sarcoma, involving the whole of the right maxilla and a portion of the left. His father died from carcinoma of the stomach; family history otherwise negative. In childhood the patient had an attack of pleurisy. Ten years ago he acquired syphilis in America and was cured by inunction. Five years ago the patient had enteric fever, but after that was healthy. Six months before admission he noticed a swelling in the angle between the right eye and the nose, which grew very slowly. Four weeks before admission the left cheek became swollen and the hard palate became loosened. The patient had suffered much from toothache during this half year and several teeth were abstracted because the attending physician thought it was a case of abscess of the gums. But as there were no manifestations of suppuration, it was concluded that it was a case of malignant tumor and the patient was referred to a hospital.

Status praesens. Rather large, well built, but emaciated man. Examination of the internal organs showed nothing of note. The right cheek bulged outward. This bulging began at the right nasolabial fold, and crossed the median line about 2 cm. above it, extending to the lid, and laterally to the ear. The right eye was not as much opened as the left. Both eyeballs appeared prominent, though the right one hardly any more than the left. The movements of the eye ball were unimpeded. Breathing through the right nares impossible. Skin on the right cheek more taut than that on the left, but not reddened or infiltrated. There was no disturbance of sensibility. A sweetish but fetid breath was exhaled from the mouth and there was so much secretion of saliva that the patient frequently was obliged to expectorate. The mucosa of the mouth and pharynx was discolored a peculiar bluish red, and in places covered with stringy hyaline mucus. The palate was more reddened than the throat. The tongue was red and covered with a grayish white coating. The remaining teeth were defective. The mucosa of the right upper alveolar process seemed to be hyperplastic and the process itself thickened to twice the size of the left. This thickening extended in front over the median line to the left canine. The overgrown mucosa bled on the slightest touch, as did also that on the right side of the hard palate. The

right upper canine and one incisor were still in place, but could be pulled out by the fingers. Pressure in the region of the right canine caused foul-smelling pus to exude from the alveolus, but only the fold of the mucosa between the cheek and the upper jaw was sensitive to touch. A freely movable lymph gland, the size of a cherry pit, could be felt on the right side under the angle of the jaw.

Operation September 7th. Total resection of the right and partial resection of the left maxilla. Morphine hypodermically and ether anesthesia. The operation was conducted as follows:

Part 1. Extirpation of the submaxillary lymph by means of a 5 cm. incision over the edge of the right mandible; the gland proved to be the seat of carcinomatous degeneration.

Part 2. Temporary ligation of the right common carotid artery as follows: A T shaped incision was made from the opening over the mandible along the anterior border of the sterno-cleido-mastoid muscle as far as the upper portion of the cricoid cartilage, and then continued to the sheath of the carotid. A thin rubber tube was then passed under the carotid by means of an aneurism needle, and tied. No change occurred either in the color of the face or in the radial pulse.

Part 3.—Resection of the right superior maxilla. Langenbeck arch-shaped incision down to the bone, and the tissues freed from the latter. The relatively few bleeding vessels were tied with catgut. The flaps were held back upon the forehead and the eye ball protected by a spatula. After elevating the periosteum a curved needle carrying a Gigli-Hertel wire saw was passed through the orbital fissure into the malar fossa and another one around the jugular process. After quickly sawing through the bone the frontal process of the maxilla was cut through, from the anterior nasal aperture, and finally the hard plate also sawed through with the Hertel saw. The maxilla was now twisted out with bone forceps. The hemorrhage was moderate and chiefly venous. The main vessels were ligated and the rest of the hemorrhage checked with iodoform gauze tampons. The carotid was then released, but little hemorrhage followed.

Part 4. Partial resection of the left superior maxilla. A portion of the alveolar process was chiseled away, beginning from the point corresponding to the first premolar tooth and extending directly upward into the hard palate. A Hertel saw was introduced into the upper portion of the chisel wound, and by sawing upward and inward, the anterior portion of the alveolar process and of the hard palate were sawed away. This caused the antrum of Highmore to be laid open at its greatest diameter. The hemorrhage was now rather severe. Some of the vessels were tied and the remaining hemorrhage checked with gauze tampons, the gauze on both sides being conducted outward through the nares and fastened together in front of the nasal septum.

Part 5. Reunion of the separated soft palate by four silk stitches. This was done because the soft palate appeared to be only edematous, and not the seat of sarcomatous infiltration. The mucosa of the cheek was repaired by silk stitches and the flap restored. The submaxillary incision and that made for the ligation of the carotid were closed without drainage. There was not much alteration in the pulse after the operation and the closure of the lid on the right side was not interfered with. During the operation considerable bloody mucus was ejected by the patient. In the evening there was so little pain that the patient did not want any morphine injected. Evening temperature, 36.9 degrees C; pulse 118.

September 8th. Patient partook freely of food. His condition was very satisfactory, the evening temperature being 37.8 degrees C; and the pulse 124.

September 11th. Dressings changed. No secretion. Some stitches removed.

September 13th. A slight rise of temperature had been observed since the previous day, reaching 38 degrees on the morning of the 13th. Upon removing the tampon from the left antrum of Highmore and also that from the right, considerable pus exuded.

September 15th. Bandage removed from the head. External wounds beautifully united. The evening temperature still 39 degrees, but without great remission. Dullness was obtained on the left side of the thorax, posteriorly and extending downward from the 7th vertebra, as well as decreased fremitus. Upon auscultation over this region,

weakened bronchial breathing and medium sized rales were heard.

September 17th. The dullness extended to the fifth vertebra. Vocal fremitus was now almost imperceptible on the left side. A puncture was made for the purpose of diagnosis, and foul smelling pus obtained. Resection of the eighth rib was immediately performed. Upon opening the pleural cavity about 200 cc. of fetid pus was evacuated. Soft fibrinous masses filled up the cavity, and in the pus there was what was thought to be particles of food. Drainage established by tubes.

September 19th. Morning temperature 37.4 degrees C; When swallowing there was frequently aspiration, deglutition being difficult. The right iodoform gauze tampon was removed.

September 25th. The lower outer quadrant of the cornea appeared hazy; there was pericorneal injection and epiphora. A bichloride of mercury compress (1:5000) was applied to the eye.

October 1st. The corneal lustre was now restored, and the temperature normal. There was still discharge from the pleural cavity, but without fetor.

October 20th. The patient was able to close his right eye perfectly.

November 1st. The patient was permitted to get up.

November 14th. The patient was discharged. There was no recurrence. His speech was scarcely intelligible. There was no recurrence. There was epiphora, and on account of displacement of the eye ball, also diplopia. On November 25th the patient was placed in charge of a dentist, who prepared a prosthesis, which, on account of the poor condition of the teeth, had to be fastened to gold crowns attached to the three teeth which were still remaining. Support was given to the prosthesis by fitting new crowns over the crowns already present. On the prosthesis there was fastened an obturator according to Schilsky and Brugger.

CASE 2. Sch. L., female, aged 57, was admitted September 20th, 1899, for carcinoma of the right maxilla. Family history negative. Two years ago she suffered constant lancinating pains in the right maxilla from the root of a carious tooth. One year previous she noticed a tumor in the right cheek and occlusion of the right nares. The tumor was painful to touch, and was treated with warm compresses, but continued to grow until it interfered with the movement of the lower eyelid. The patient was thin and pale; musculature thin and flabby; panniculus adiposus absent. Temperature 37 C. degrees, pulse 84. Thorax small and irregular; apex beat in the 5th interspace to the left of the mammillary line, but strong broad and irregular. Upon auscultation a distinct systolic murmur of a "scratching" character was heard over all the valves. Chronic myocarditis. The right cheek protruded more than the left. Upon palpating the tumor the latter was found to begin at the lower edge of the orbit extending to the lateral border of the jugular process and downward to the nasal opening. The skin over the tumor was still intact, but thin and hardly movable. The right eye was not opened as widely as the left. Conjunctive of right eye reddened, cornea cloudy both above and below, tension decreased, and no light perception. The tumor itself was as hard as cartilage and nodulated. The hard palate protruded and in places fluctuation could be elicited. The finger could feel a hard projection of the tumor in the right posterior nares ½ cm. above the posterior edge of the soft palate.

Operation September 23rd. Morphine hypodermically and ether anesthesia. Resection of the right maxilla. Temporary ligation of external and internal carotid. An incision was made along the anterior border of the right sterno-cleido-mastoid muscle as far as the upper portion of the cricoid cartilage. The bifurcation of the carotid under the thick jugular vein was exposed. First a rubber ligature was passed around the external carotid and temporarily tightened. Another was passed along the internal carotid, but not tied. A Dieffenbach-Ferguson incision was then made from the inner angle of the right eye over the lower edge of the orbit and laterally along the upper edge of the jugular process; on the other side the incision extended along the edge of the nose to the nasal septum. The lip being divided in the median line, the flap was drawn aside. The hemorrhage was not noticeably decreased. The mucosa of the hard palate, most of which was found to be intact, was dissected back to the median line with the periosteum. While the bones were being sawed a severe

hemorrhage occurred, necessitating the tying of the ligatures around the internal carotid. This had the desired effect. The tumor was then easily sawed away and removed. The tumor was found to be necrotic in the centre and had severely attacked the bones. After securing the blood vessels the ligatures around the internal and external carotid were removed, but very little hemorrhage followed. The flaps of mucosa and periosteum of the hard palate were united with the mucosa on the side of the mouth, thus closing the cavity above. The wound cavity itself was tamponed with iodoform gauze, which was conducted through the right nares. The skin and muscle flap was restored and sewed, and the wound produced by ligating the carotid was closed with interrupted sutures. Microscopical examination of the tumor showed the latter to be a carcinoma, with hyalin degeneration of the reticulum. Convalescence was interrupted and the patient was discharged on November 12th.

CASE 3.—K. E., female, aged 59, was admitted August 22nd, 1900, for carcinoma of the right superior maxilla. Family history was negative. On January, 1900, patient suffered from an attack of influenza; since then the right nares have been occluded. At the same time she has felt an uncomfortable feeling in the right eye with epiphora. On June 15th the patient experienced severe shooting pains through her head which three days later became located in the region of the right eye. Her physician prescribed morphine with quinine and a salve, but without results. One morning a quantity of dark coagulated blood gushed from the nose and mouth, after which the patient felt better, the heavy oppressive feeling of the head being considerably relieved. The symptoms, however, returned, and the patient consulted a second physician, who removed some tumor masses in the right nares, and then employed cauterization until the patient could again breathe through the nares. The pain decreased under this treatment, but a fetid discharge from the right nares followed. The present tumor began in May, 1900, as a small, painful lump the size of a pea. The sight of the right eye had now become poor. The third physician whom the patient consulted referred her to the hospital. The patient was a medium sized woman with somewhat flabby muscles and a fair amount of panniculus adiposus. There was exophthalmos on the right side, and a swelling the size of a hazel nut extending from the inner angle of the right eye into the nose and cheek. The skin over this tumor was injected but could be lifted at the upper portion of the tumor, while below, it had become adherent. The right nares were full of red ulcerated masses, and did not admit a sound; there was a continual discharge of fetid yellow pus. The nasal septum showed some ulceration and was somewhat deviated to the left. The hard and soft palates on the right are red and protruding. The right protruding eyeball was still freely movable and not sensitive to touch; neither was there any increased tension. Sclera normal. Lower eyelid somewhat edematous and slightly reddened. Right ear appears normal.

No swollen lymph glands could be found.

Morphine hypodermically and ether anesthesia.

Operation August 28, 1900. Resection of the right superior maxilla. Ligation of the right external carotid, and extirpation of the right jugular lymphatic gland. A 5 cm. incision was made over the anterior border of the sternocleidomastoid muscle. The muscle was pulled aside, the bulb of the jugular vein was pushed outward, and a hard bubo excised from this region. A Weber incision was then made along the lower edge of the orbit down the side of the nose to the nasal septum and then the upper lip divided. The tissues from this flap were then dissected free from the bone and drawn back. The jugular process was sawn through with a Gigli-Hertel saw, and the frontal process of the maxilla divided by bone forceps. As the mucosa of the hard palate was also diseased it was separated from the soft palate and the entire hard palate sawn through in the median line. The maxilla was then easily removed. There was exceedingly little hemorrhage. After the vessels were tied pus was seen to flow from the frontal and ethmoidal sinuses, and as both cavities showed granulation tissue, they were scraped with a sharp curet. As the lower surface of the eyeball also proved to be involved, it was removed with the diseased eyelid. Some suspicious places on the nasal septum were also cut away. Three strips of iodoform gauze were placed in the wound cavities; one in the frontal sinus, the second in the ethmoidal sinus and a third as a general

tampon. After extirpating the palpebral conjunctiva the surface under the upper lid was freshened, the flaps replaced, and the upper eyelid sewed to the flap. An attempt to sew the mucosa of the cheek to that of the hard palate, on the left side, was only partially successful, as the mucosa tore very easily. The wound in the neck was also tamponed with iodoform gauze and closed. Pathological examination of the tumor showed it to be a carcinoma. Convalescence was uninterrupted and the patient was discharged as cured on October 9th, 1900.

These three cases, however, cannot clear up, by the establishment of a precedent, the old controversy, concerning the feasibility of preliminary ligating the common and external carotids. On the contrary, these cases show that in one case ligating the external carotid will alone suffice, and that in certain cases it is necessary to ligate the common carotid. The latter may have to be performed on account of various abnormalities of the external carotid. The external carotid may be entirely absent, and its various branches come off individually from the common carotid, the latter then continuing as such, or all the branches of the external carotid may arise in a fascicular manner from a common point in the course of the common carotid. In this case the temporal and internal maxillary arteries may arise from a common branch, which in turn again comes off from the internal carotid artery. I desire to call attention to what appears to me to be a decisive fact in favor of the previously recommended exposure of the carotid. The great danger of recurrence, in resections of the upper jaw, is emphasized by many authors. It is reported that 33 out of 47 patients of König (3), that had withstood the operation, died from recurrences. Of 6 operated cases of the clinic in Greifswald that could be pursued, 5 died from recurrences. 23 out of 34 cases of total resections for carcinoma and sarcoma reported from the clinic in Zurich died from recurrences. On the other hand, it has been claimed how remarkably rare it was in this disease to find enlarged lymph glands in the submaxillary region. The explanation of this is obvious, as metastasis occurs through the lymph channels along the internal maxillary and external carotid arteries to the bifurcation of the common carotid; and it is here that the first lymphatic involvement is noticed. Among the few cases of resection performed with a ligation of the carotid, I call attention only to those of Lesser (5), and Schoenborn, as well as my third case, in which entirely accidentally and only upon exposing the carotid, the first lymphatic enlargements were observed. If in this patient a prophylactic ligation of the carotid had not been instituted, the metastasis would have remained undiscovered, and the resection would have been useless from the very beginning. In the operation on mammary carcinoma, modern surgery strictly requires the exposure of the axillary space, even if no enlarged lymphatic glands can be felt externally, so that a propagation of the disease can be prevented early. The execution of this measure is responsible for the modern favorable prognosis in extirpation of mammary carcinoma. Have we not the same conditions and duties to perform in carcinoma of the upper jaw? Certainly, the majority of recurrences begin in the area of operation itself, and not in the cervical glands, but this should not be a cause for the surgeon to overlook and underestimate the metastasis. Either one should oper--

ate with the intention and hope of removing everything that is diseased, or considering the futility of a radical extirpation performed otherwise, had better not operate at all. Local recurrences can only be successfully combatted by early diagnosis and extirpation of the primary focus, in which case, if metastasis has not yet taken place, my indication for exposing the bifurcation may not be applicable. If I am to briefly summarize the observations obtained from my resections of the superior maxilla and from a study of the literature on this subject, they will comprise the following:

1. By the application of a preliminary ligature, the hemorrhage, as well as the danger from blood aspiration, are markedly diminished.

2. This ligation is highly recommendable in all anemic individuals, and in those whose vitality has been lowered from cachexia and hemorrhages, provided they do not suffer from diseases of the blood vessels, particularly arteriosclerosis. Exposing the bifurcation of the carotid in advanced cases is in itself indicated for the purpose of extirpating the lymphatic glands, which in this region, are generally the first attacked by metastasis.

3. In by far the most cases, ligation of the external carotid alone will suffice; the latter should be a permanent ligation. Conducted antiseptically, the procedure is without danger. The ligature can be applied by enlarging above, the incision, which has been made for exposing the bifurcation.

4. In exceptional cases it becomes imperative to ligate the common carotid, which, if done temporarily, seems to be less dangerous than a permanent ligation.

I fear that without further comment I will be misunderstood, that is, will be accused of taking a too optimistic view of the prophylactic ligation of the carotid, I therefore still feel that I will have to call attention to the fact that the limitations of this operation are even greater in actual practice than at first appears. The majority of resections are for carcinoma, and in individuals of advanced age, in whom marked arteriosclerosis may contra indicate a preliminary ligation of larger vessels.

In conclusion, one other question concerning prosthesis. To-day, whereby the astonishing development of prosthetic technique, defects in the palate can be artificially replaced in a most ideal manner, surgery still seems to strive with remarkable endurance to replace by plastic operations the defects in the palate either by bone or by muscle-flaps, and which, after all, can seldom be satisfactorily accomplished. Of course, the natural substitute will always be accorded the superiority over the artificial one, provided it can be accomplished at the time of the operation. But the inferiority of our plastic operations for this purpose, makes it difficult to meet this requirement. Considering the lightness and service of an artificial substitute, it appears to methat many of the plastic results obtained in this direction are hardly any more worth the trouble expended on them. While we are in a position of unequal competition, we will only welcome it, if the dental technicians can assist, or entirely replace us, in such particularly difficult problems.

In my case of double resection of the upper jaw, the demands upon the dentist were considerable.

The superior maxillary prosthesis had to replace the whole of the hard palate on the right side and partially that on the left. In order to support the displaced eyeball and the retraction of the soft palate, the dentist had to place, in front, a Schiltsky obturator.* The result obtained from the artificial prosthesis, which has been worn for over three years without difficulty is an excellent one. The nasal cavity is entirely cut off from the mouth, the imperfect, unintelligible speech has become faultless by means of the obturator, and the annoying diplopia caused by the downward displacement of the eyeball, has disappeared under the employment of the supporting process, on the prosthesis.

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THOUGHTS ON THE TREATMENT OF DIABETES MELLITUS, BEING PART OF A CLINICAL LECTURE DELIVERED AT THE PHILADELPHIA HOSPITAL MARCH 13, 1901.

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As is well known, diabetes mellitus is a condition in which the carbo-hydrate food is more or less unused for the production of body heat or energy, more, where all or nearly all of the carbohydrate reappears in the urine as glucose, less where part is normally oxidized. In the early stages the carbohydrates are probably alone concerned. In more advanced degrees even the glucose formed out of proteid foods is only partially consumed, while in the extremest cases even the fixed albumins are seized upon for conversion into glucose, which is still unoxidized and passed away with the urine. It would seem that there is no inability on the part

*A description and illustration of this prosthesis can be found in "Schweizerischen Vierteljahrsschrift fuer Zahnheilkunde" Vol. 10, 1900 No. 1. Stappan, zur Prothesen therapie nach Oberkieferresektionen.

of the economy to produce glucose even out of the proteid food, or, if necessary, from the fixed albumins as well; but the disability lies in the power to use up the sugar in the blood, and in this consists diabetes mellitus. Is it, therefore, surprising that the more serious forms of diabetes are attended by emaciation and loss of strength?

It is usual to look upon this state of affairs as the result either of excessive glucose formation or of deficient oxidation, the former being commonly assigned greater prominence. It has appeared to me that in this respect—the prominence assigned glucose formation—there has been a certain amount of error. What I mean can perhaps be best shown as follows:—A man has been in the habit of ingesting a certain amount of carbohydrate food daily. His urine is free of glucose, and he is without other symptoms of diabetes mellitus. A little later, while consuming the same food containing the same quantity of carbohydrate, he acquires glycosuria and other symptoms of diabetes. Thus without increasing the ingested carbohydrate the glucosuria appears. The natural inference would be not that glucose is produced in greater quantity, but that its metabolism is in some way diminished.

This brings me to the thought I had wished to emphasize—should not our search for curative treatment be directed more than it has been in the past to measures that aid this oxidation? What are the conditions on which the dietetic treatment is based? Carbohydrate food is withdrawn wholly or in part, the latter only when a part can still be oxidized in the ordinary way, the idea being that the increased amount of proteid food taken under these circumstances will make up for the carbohydrate withdrawn. Any tendency to actual cure thus brought about must be because a greater or less arrest of the glycogenic and glyco-destructive offices of the economy may lead to restoration of function. And this may happen in the mildest cases, but in the mildest cases only, because it is these only in which proteid foods and the fixed albumins are untouched.

It appears to me, therefore, that while availing ourselves of the dietetic treatment for its important palliative effect, we should also seek remedies which will increase the oxidation of the glucose thrown into the blood from the liver; for by such oxidation only can glucose be converted into energy and heat. Otherwise it must pass through the economy unappropriated and useless.

Now as to the remedies which stimulate oxidation. Arsenic has long been regarded as a remedy in diabetes mellitus, and with reason, but the difficulty in the way of explaining its good effects has always deterred many from using it. We know now that it increases the number of red blood discs and the quantity of haemoglobin in them, and thus facilitates oxidation, operating in the way the above reasoning suggests. I have had some experience in the use of arsenic, and I think I have learned the method by which to make it most effectual, and that is by the administration of small doses long and uninterruptedly continued, instead of large doses sufficient to produce its toxic effect. It is true of arsenic as of all remedies, that

it is useful chiefly in mild cases. The dose must not exceed three drops three times a day for Fowler's solution, and one-thirtieth grain as often of arsenious acid.

Are there other remedies which have a similar effect? Iron is one of these, and although I am unable to point to any direct result in the use of iron, even in mild cases of diabetes, comparable to that of arsenic, I have never until recently prescribed it with this end in view, and I shall hereafter use it more frequently with this in mind. Certainly, from it, too, effect can only be expected after long continued use. A drawback to the administration of iron may, in certain cases, be its constipating effect, since constipation is always an unfavorable symptom in diabetes, the cases attended with it being serious cases. This also may, however, be obviated by small doses. Peroxide of hydrogen is a remedy which might be expected to be useful for the same purpose, but it is probably decomposed in the stomach and intestines, and does not reach the blood in a shape capable of exerting any oxidizing effect in the blood.

Massage probably operates in the same way, and also exercise. It is commonly conceded that glucose is oxidized in the muscles, and therefore muscular activity must increase such oxidation, and massage probably does the same. Over twenty years ago, Dr. William Richardson, of London, published a *brochure* on the treatment of diabetes in the preface to which he said: "Ten years ago the author of this little book was attacked with diabetes which presented symptoms of a very formidable character." He first treated himself by the ordinary dietetic and medical measures without any effect, and goes on to say: "He has not only cured himself, but also many others who have faithfully and patiently carried out the system he advocates." I do not think Dr. Richardson's book attracted enough attention, and many who saw it have forgotten it. His method includes bathing of the body daily with warm water, using plenty of soap and exposing the body as much as possible to the sun, a soda bath twice a week, and flannel clothing; also walking exercise, in spite of the lassitude and weakness which make this mode of treatment particularly irksome. He further says: "The bath and walking exercise are of peculiar importance in the treatment, so much so, that if either is neglected, but little good will result." I notice, too, that he took the tincture of perchloride of iron and chlorate of potash, the latter also an oxidizing agent. He says that after three months he was free from sugar, and has been so ever since. As is not unreasonable under the circumstances, Dr. Richardson may somewhat exaggerate the value of this treatment, because it was so successful in his own case. On the other hand, it must be admitted that it rests on a thoroughly rational basis.

It is reasonable to suppose, too, that such metabolism is under the control of the nervous system, and while diabetes is not a disease of the nervous system, we have an abundance of conclusive evidence to show a very close association, to wit: an influence of certain nervous lesions in producing the symptoms of diabetes and the occasional marked benefit from iodides in certain forms of syphilitic diabetes together with the rarer instances in which

the bromides have been found useful. Nervous diabetes may be due to the loss of nervous regulation of glucose metabolism. May not the effect of codeine and other derivatives of opium, as well as the less settled effect of the petroleum products, antipyrin, antifebrin, etc., for which the French school still claims efficiency, be due to the influence upon the metabolism of glucose in the distal capillaries of the economy?

At first thought it may appear that pancreatic diabetes, a well-recognized form, lends no support to such a view, or to put it differently, forces to the conclusion that this form of diabetes, at least, is due to increased glucose production. But this is not a necessary conclusion. While it has been settled that pancreas products and pancreatic juice are of no service in the treatment of diabetes, and presumably, therefore, that the absence of this secretion has nothing to do with the presence of this disease, analogy justifies, at least, a possibility that there may be some other internal secretion separated by the pancreas during life and passed into the blood, the presence of which is necessary to the proper metabolism of glucose.

These are crude thoughts thrown out at this time, with the hope that they may suggest others which will lead us ultimately to more definite and satisfactory results in the treatment of this incurable and only partially controllable disease. While the dietic treatment of diabetes will remain for some time longer our chief resource, I feel confident that we must look elsewhere for the complete curative treatment.

THE MEDICAL RELATIONS OF THE PREVAILING FORMS OF FOOD ADULTERATION.

By HENRY LEFFMANN, M. D.

of Philadelphia

The practice of adulteration is as old as the practice of barter and trade, that is as old as human activity, but the scientific study of it is, as with other phases of scientific investigations, largely a development of most recent times. Within the last quarter century or so, methods of adulteration have been developed by scientific investigation. The large manufacturing corporations have been able to secure assistance from chemistry, and hence we have industrial enterprises, such as the manufacture of oleomargarin and glucose that have no other function than that of adulteration, for neither of these is proper substitute for any of the food articles in which or for which they are used.

The volume or extent of food adulterations has been a favorite topic with the newspapers. They have, of course, treated it more or less sensationally, generally more, and have usually mistaken the scientific questions involved, and confused the scientific nomenclature so that essays have almost always a serio-comic character that renders them of no practical value. As a rule the responsibility for such contributions rests on some anonymous reporter or sub-editor or some professional man who seeks to secure advertising through the means of a sensational interview. It is rare that a chemist or physician of reputable standing will allow him-

self to be the means of promulgating error or misrepresentation.

It is, therefore, an unpleasant surprise to note the appearance recently in a newspaper of wide circulation and good standing, of a sensational article purporting to be based upon information derived from a prominent expert on food-analysis. The article is a sort of edited interview, that is, the expert has furnished a lot of detailed information and the newspaper reporter has paragraphed it and sprinkled it with quotation marks and other signs so as to make the text more readable to the average person. There are so many points about this article that deserve unfavorable criticism that I am unwilling to let the worst of them pass unchallenged, and hence present some discussion of the general question as well as of special points.

We are told first that scores of millions of dollars' worth of adulterated food-products are now sold annually, and that the question has been so serious that Congress has become alarmed and has taken the matter in hand. The great extent of adulterations may be admitted, but it is doubtful if any considerable number of members of Congress have concerned themselves about the danger to the public. One form of serious fraud, namely, the sale of butter substitutes, has been going on with the knowledge of every member of Congress for years and but little relief has been even promised. The adulteration of wheat-flour by corn would probably not have been dealt with by Congress if the revenue necessities of the Cuban War had not rendered the selection of the new objects of taxation necessary.

We are next told that a distinction must be drawn between harmless and harmful adulterants, which statement may be passed without dispute, although it is not at first clear what inference is to be given to the distinction, but this is indicated by the next sentence, in which it is said that "Glucose is not at all unwholesome," because it is prepared from Indian corn. Who knows that glucose is not unwholesome? This is a claim that has been passing for years from book to book and pamphlet to pamphlet, and when we attempt to discover the foundation for it we get little satisfaction. It is true, that a good many years ago, some experts connected with the National Academy of Sciences were on a commission, and after giving some little attention to the subject, passed a "resolution" that glucose is not unwholesome, but it is now well known that these gentlemen were not aware of the composition of commercial glucose, owing to the defective method of analysis, and that their inferences were hasty. The general view is that commercial glucose is merely a pre-digested starch, but in fact it is quite different in its nature. It contains bodies that are not found among the products of starch digestion. Ordinary glucose, by which is meant the syrupy forms (the kind that is almost always used for adulteration), contains about 15 per cent. of unfermentable material, which is as yet but little understood even chemically, much less physiologically. In the face of these facts, how can any one assert that glucose is a proper substitute for starch or sugar?

England has had lately an interesting object-lesson in this field. As is now well known, many cases of arsenical poisoning from the use of beer made from arsenical glucose and invert-sugar oc-

curred in a particular district. These cases may be traced to the indifference of the authorities in this very question of food-substitute. It is known to all who understand these subjects that the substitution of glucose and invert-sugar for malt is merely dictated by questions of profit. The indifference of government in this respect (exhibited as much in the United States as in England) is due to the influence of the rich and powerful corporations, i. e., the political and financial "pull." Hence the use of substitutes goes on without notice to the public or without interruption. The introduction of a poisonous malt into beer and ale would have been impossible except under such a concatenation of circumstances as could scarcely occur unnoticed. We must therefore believe that if the English Government had insisted that nothing but malt and hops should enter into the composition of beer and ale and had required brewers under heavy penalties to make returns of material used by them, the cases of disease and death over which the people in certain parts of England are now mourning would not have occurred. This consideration is, of course, independent of the question of the effects of drinking malt liquors. That portion of the public who desire to drink such liquors is entitled to them made in the proper form, and there is no more justification for government conniving at a substitution or adulteration in the field than there was for ancient monarchs debasing coinage.

Another phase of adulteration that has found many apologists in high places is the manufacture of butter substitutes. It has been loudly proclaimed that the process for making oleomargarin was one of the greatest advances in food-chemistry in the nineteenth century, and that the manufacture inures especially to the benefit of the poor man. The truth is that oleomargarin is about as much benefit to the poor man as wild cat bank notes and counterfeit money. In the first place, it is not butter; it does not have the same chemical composition as butter, and no one has knowledge enough of the matter to say that it can fully take the place of butter. Secondly, the poor man never gets the benefit of its economic features. Careful inquiry will show that it reaches the consumer at practically butter prices. It is true that many persons buy oleomargarin knowingly, but they are restaurant and boarding-house keepers, and no reduction in price of meals is made on account of the cheapness of the article furnished. In the ordinary sales of oleomargarin at grocery stores the buyer asks and expects butter, but gets the substitute at a price nearly if not quite that which he would pay for the genuine substance.

Another phase of the food adulteration question is that relating to baking powders. It is true that an English judge has decided that this is not a food, but this technical legal opinion may be here disregarded. Within the last ten years an active war has been going on between the manufacturers of cream of tartar powders on the one hand and the manufacturers of the alum-powders on the other, and many experts have given their opinions. It is impossible to say at present which side has the worst of the argument. No satisfactory evidence has been brought forward to show why alum

should be more injurious than cream of tartar. The probability is that both forms are objectionable. The leavening of dough should be accomplished if needed by the injection of pure carbon dioxid into the mass without the employment of yeast or any chemical.

One result of the agitation concerning food adulterations has been the adoption of stringent laws regarding articles that are of secondary importance and the adulteration of which is not serious. For example, cider-vinegar has been made the subject of stringent enactments in many states. The adulteration consists principally in the use of dilute acetic acid colored with caramel, this substitute article being closely similar to cider-vinegar and capable of fulfilling many of the purposes of the latter. The legislation, although masquerading under the guise of interest in the public health, has been really impelled by a desire to protect the farmer, that is to enable him to secure a better price for his product.

The legislation in regard to butter-colors has its surprising features. Practically all commercial butter is colored. Preparations of annatto and turmeric were at one time much used, but now coal-tar colors are much more largely employed. Attempts have been made to show that these colors are injurious, but the doses given were so large as to be of no value as guides to the effect in small quantities. To administer to a person in one dose a quantity of color that would be sufficient to color all the butter eaten by the person in six months is about as scientific as to attempt to determine the effect of the use of coffee, vinegar or pepper by administering at one dose all the active principle of either of the agents that would be taken in a long time. The theory that if a gram of a substance in one dose makes a person very sick, one milligram will make him one-thousandth that sick, is at variance with all our experience in therapeutics. That this is about what was done by some of the investigators in the field.

It is worth noting that the farmer-influence in many States has secured laws forbidding the coloring of oleomargarin, while no restriction has been placed on coloring butter.

RUPTURED TRAUMATIC ANEURISM OF THE FEMORAL ARTERY DUE TO GUNSHOT WOUND; WITH REPORT OF A CASE *

By WALLACE NEFF, A. M., M. D.

of Washington, D. C.

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A traumatic aneurism is the result of a blow, gunshot, or any form of injury to the walls of an artery sufficient to produce dilatation, or a complete rupture of its coats. The injury may be so slight as to rupture only the inner coats, producing a fusiform, or sacculated aneurism. There may be a partial or complete division of the continuity of the

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vessel causing a false aneurism. There may also be a rupture producing the burst variety.

It is always a serious condition, the gravity depending upon the size of the artery, the locality, and the general condition of the patient. The most typical false aneurisms are found in the extremities, especially in the femoral, as wounds of the artery are frequent.

The Diagnosis.—The diagnosis is not difficult owing to the exposed position of the vessel. The chief symptoms are a tumor, a bruit, and pain neuralgic in character, associated with the history of an injury. The diagnosis is sometimes obscured by an abscess, the wound having been inflicted by exposure to air. A femoral aneurism has been mistaken and opened for a psoas abscess. This seems inexcusable, as when any doubt exists, a positive diagnosis can be made by using an aspirating needle.

Treatment.—Many of the forms of treatment which are applicable to other aneurisms, and for which good results are claimed, are contra indicated in traumatic aneurism of the femoral. Diet drugs, acupuncture, galvano-puncture, needling (McEwan's method), compression, digital pressure, introduction of foreign bodies into the aneurismal sac, as fine steel or silver wire, catgut or silk. Sub-cutaneous injections of a solution of gelatine and salt solution, are methods best employed in inoperable aneurisms. Compression, either mechanical or digital, is difficult to carry out, is seldom successful, and often dangerous. The best treatment is ligation. It is applicable in a greater number of cases than any other method, and offers a better prospect of success. The dangers to be guarded against are hemorrhage, gangrene and sepsis. Several different methods have been employed: 1st, Distal ligature; 2d, Proximal ligature; 3rd, Double ligature. The operations of Wardrop and Brasdor, illustrate the distal method; those of Hunter and Anel, the proximal, and that of Autyllus, the double. The latter was introduced during the 4th century, and consisted in ligating above and below the injured portion. The aneurism is then opened and the sac emptied. This operation was practised for several hundred years until the 18th century, when it sank into obscurity, but has recently been revived, and many of the most distinguished surgeons of the present day are its earnest advocates. Excision of the sac is recommended, the arguments in favor of it being, that harmful pressure of the sac upon the adjacent structures is removed, the change of recurrence of the aneurism is lessened, and the probability of gangrene is diminished. Proximal ligation, however, is considered by a great many of the very highest authorities to be the best operation for aneurism of the femoral.

The Statistics.—The "Medical and Surgical History of the War of the Rebellion" (Surgical Vol. II, Part III, by Otis and Huntington, Surgeons U. S. A., p. 8), states that there were 58,702 cases of shot wounds of the soft parts of the lower limbs. As nearly as can be approximated, 26,000 were in the thigh, about 21,000 in the leg, and about 10,000 in the foot. Of this number, only 156 instances of injury of the large blood vessels of the lower ex-

tremity, or 2.6 per cent. per thousand, were reported. In a summary of 127 cases of ligation of the femoral, for hemorrhage unattended by fractures, there were 91 deaths, a mortality rate of 71.7 per cent. (p. 47). There were 74 cases of traumatic aneurism of different arteries, with 23 recoveries, and 51 deaths, a mortality of 68.9 per cent. 42 of the 74 cases were treated by ligation, of which number 13 recovered and 29 died. In 32 cases there was no ligation, with 10 recoveries and 22 deaths. Of the 74 cases only 20 were of the femoral, with 5 recoveries and 15 deaths. In 16 of the 20 ligation was employed, with 5 recoveries and 11 deaths. In 4 cases there was no ligation, and all died (p. 808). It will thus be seen that there were only 5 cases of traumatic aneurism of the femoral during the Civil War, in which the patient's life was saved. In the "Medico-Surgical Aspects of the Spanish-American War" (p. 130), Senn reports two cases of traumatic aneurism on the "Relief", one an aneurismal varix (case 23), the other aneurism of the femoral (case 24). Neither was operated on, apparently. One is now on the retired list (case 23). The subsequent history of the other is unknown. In the "Report of the Surgeon General for 1900" (p. 298), two cases are recorded during the year 1899 of ligation of the femoral for flesh wounds, the patient recovering in one case, a Mauser wound, and dying in the other, a Remington wound. In the same report (p. 327) a case is reported of traumatic aneurism of the femoral due to a Mauser wound, received at Tarlac, P. I., Dec. 21st, 1899. The external iliac was ligated (Jan. 3rd, 1900), and four days later the leg was amputated at the hip-joint. Patient recovered. The reports of the Anglo-Boer war are incomplete as yet. So far I have only been able to find a record of one case reported by Deputy Inspector General H. T. Cox, R. N., in the Lancet, London, 1900 (11 p. 1074), an aneurismal varix of the femoral artery and vein, caused by a Mauser bullet. This man was wounded at Graspan, S. A., Nov. 25th, 1899. The femoral artery was tied at the Royal Naval Hospital, Plymouth, Eng., April 10th, 1900. Discharged to duty June 1st, 1900, with full use of limb.

REPORT OF CASE.

The following case occurred in my service at the U. S. General Hospital at Ft. McPherson, Ga., during the Spanish-American war: William H. Buckley, private, Battery A, 6th Artillery. Sent from Ft. Clinch, Florida. I first saw him Aug. 30th, 1898, and found a pulsating tumor on the left femoral in Hunter's Canal, about the size of a duck's egg, with a well-defined bruit. He gave a history of having been shot through both thighs with a 38-cal. bullet, on the 18th of July. The bones were uninjured. He had aestivo-autumnal malaria, which, in addition to the fatigue of the journey, suggested the propriety of a few days' rest and treatment before operating. When I saw him the following morning (Aug. 31st, 1898), the aneurism had burst, there was great edema and extensive extravasation, and the pulsation in the two tibials was hardly perceptible, a condition rendering an immediate operation imperative. I was assisted by Major Fry, U. S. V., and Capt. Flagg, U. S. A. The Anesthetist was Acting Asst. Surgeon Rupert Nor-

ton. There were present Major Blair D. Taylor, Capt. Parviana and Lieut. Schriner, U. S. A., and a number of Acting Assistant Surgeons. An Eschmarch tourniquet was applied, a four or five-inch incision was made, and a proximal ligation made. Several handfuls of blood clots were removed. Before operating, I thought I would tie above and below, and dissect out the sac. The rupture was so complete that the walls of the aneurism came away with the clotted blood. I decided not to prolong the operation by applying a distal ligation, but to depend upon the proximal ligation. The wound was thoroughly cleansed and closed, the limb was enveloped in cotton, and slightly elevated, hot water bottles applied, and continuous heat kept up, a special day and night nurse being detailed for that purpose. Primary union occurred. Collateral circulation was eventually established, and he made a good recovery. His general health improved rapidly, he gained in weight, and his malaria disappeared under appropriate treatment. He went home on a furlough six or seven weeks later. When I last saw him the circulation was excellent, there was no atrophy of the muscles, no impairment of function and nothing but the tell-tale cicatrix to suggest what had occurred. In a letter received from him a few days ago, dated Troy, N. Y., March 1st, 1901, he says: "My leg is in fine shape, and never gave me any trouble to amount to anything. It feels strong and does not bother me. I have never rubbed, or done anything for it since I came home. I am a brick-layer, and work about every day, and am out in all kinds of weather, so I think the leg is all right, with all thanks to you." After a careful search of the reports and records, I was surprised to find that this was the only case of successful ligation of the femoral for traumatic aneurism due to gunshot during the Spanish-American war, or, so far as I have been able to ascertain, in the Philippines, or China, up to the present writing, and it is also one of the very few on record in any war. In looking up the literature on the subject, it appears that while traumatic aneurism of the femoral due to gunshot is not uncommon, ligations are usually followed by gangrene, and subsequent amputations, and that it rarely happens that the limb is saved, particularly when the aneurism is of the ruptured variety. The conclusion seems justifiable, therefore, that while the very heavy mortality during the Civil War was due in a measure to a lack of modern aseptic and antiseptic methods, the chief difficulty was the non-establishment of collateral circulation, and even now with a technique well nigh perfect, the same danger exists.

1730 Connecticut Ave.

MULTIPLE TUMORS OF THE SCIATIC NERVE.

JOHN B. ROBERTS, M. D.

As tumors of the sciatic nerve are comparatively rare the following case is placed on record.

A man, aged 39 years, came under my care on January 22nd, 1901, with the statement that 14 years ago he had first noticed three small tumors about the size of peas on the outside of the left leg near the knee. After an attempt had been made to remove these with a caustic plas-

ter, an incision was made, about six years ago, and three small tumors which were called fatty tumors, were excised. The man said that for the last 14 years he had suffered with pain in the left popliteal region.

About five years ago he observed that there was a lump to be felt deep in the left popliteal space. This tumor has been increasing in size and is painful on pressure. It is for this condition that he applies for treatment. The pain runs up and down the leg from the seat of the tumor, which is a spindle shape mass, apparently about an inch and a half in length. The tumor lies directly in the middle line and is plainly felt when the knee is flexed, so as to relax the tissues of the ham. The pain is continuous and worse at intervals. It sometimes keeps him from walking and he has been unable to work for about six years. He says that there is weakness in the left leg and numbness of the foot. He complains of sweating of the left foot. It is always warmer than the other, and its stocking is frequently saturated with perspiration.

I requested the Resident Physician of the Methodist Hospital, Dr. Charles P. Stahr, who had immediate care of the patient for me, to refer the case for examination to Dr. James Hendrie Lloyd, but unfortunately, Dr. Lloyd was not able to see the patient before the day fixed for operation. There was no question in regard to the diagnosis, which was tumor of the internal popliteal nerve. I regret, however, that a careful study of the nervous phenomena was not made.

On January 28th I made an incision over the tumor and found it to be situated within the internal popliteal nerve, the fibers of which were spread over it. The cut revealed many tumors involving the sciatic nerve and its internal and external popliteal branches. The incision had to be continued upwards to the lower border of the gluteal mass of muscles. The whole length of the sciatic nerve from the sacro-sciatic foramen was studded with tumors, varying in size from an eighth of an inch in diameter to about an inch and a half in diameter. The external popliteal and internal popliteal nerves were also involved. I removed in all about thirty-six of these growths. They were evidently developed from the connective tissue in the nerve trunk, and the nerve fibers were separated by them and spread over their surfaces. The tumors appeared to be fibrous in character, but many of them were wholly or in part of a gelatinous consistence, as though the fibroid tissue had undergone a myxomatous change. The fifteen inch incision, which extended from the buttock to the lower extremity of the popliteal space, was closed with twenty-six catgut sutures and an aseptic dressing applied. The patient had practically no pain after the operation. The wound healed by first intention. No marked numbness of the foot remained, and when discharged from treatment he had good motion in all the toes.

The microscopic examination showed the tumors to be fibromas.

No accurate examination of the areas of anesthesia, and no determination of the electrical reactions of the muscles were made. Some of the nerve fibers were undoubtedly injured in excision of these tumors, though as far as possible, the capsule was split and the nerve fibers separated in a longitudinal direction.

An interesting report of tumors of the sciatic nerve will be found in the 20th Century Practice of Medicine, Volume 11, p. 333. This article, written by Dr. James Hendrie Lloyd, showed me that the condition was rarer than I had previously supposed. It is very much regretted that circumstances prevented me having the benefit of Dr. Lloyd's examination of the case before operation was undertaken. The careful study of the neurological features of the patient would have been valuable, though it would not in any way have influenced the character of the operation.

VENOUS ANGIOMA OF THE FLEXOR MUSCLES OF THE FINGERS.

JOHN B. ROBERTS, M. D.

A man of 24 years was operated upon at the Polyclinic Hospital on February 11, 1901, for a swelling about the middle of the forearm on the palmar surface, which had

recently become the seat of pain. He said that he had injured the arm when he was 12 years of age and that the swelling had been there since that time. According to his statement the growth had slowly enlarged, but had not interfered with work, and had given him no pain until recently. On grasping the forearm and having the patient move his fingers there was a vibratory sensation perceived by the hand of the examiner similar to that observed in tenosynovitis. The elasticity of the swelling resembled that of a tense thecal cyst. The tumor was situated in the middle of the palmar surface of the forearm and was about three inches long and an inch and a half wide. A longitudinal incision through the skin, made under anesthesia, revealed a venous angioma involving the superficial and deep flexors of the fingers. The entire thickness of these muscles was involved, as was shown by carrying the finger beneath the muscles. The venous channels were developed in the muscular masses and were separated by abundant fibrous tissue. The fibrous tissue was so great in amount that rolling the belly of the muscles between the fingers gave the sensation of hard particles within their structure. Examination before operation made me think that the condition was possibly a thecal cyst containing rice-like bodies. This was evidently due to the skin and superficial fascia slipping over the rough surface of the tumor. The rough surface was due to the irregularities produced by the hard fibrous tissue and venous channels which made up the tumor. It was evident that the muscular tissue was riddled with fibrous partitions and venous channels.

The motion of the fingers was perfect. Careful examination of the mass showed that the tumor could not be removed without excising the entire thickness of the muscles for a space of about three inches. As this would have done an irreparable injury to the functions of the hand, the removal of the tumor was abandoned. One or two incisions were made in the mass to see whether it was possible to enucleate it, and a small portion was removed for microscopical examination. Bleeding was very free, but after the application of sutures and a pad the arm was kept elevated and no further hemorrhage occurred. It was believed that the pain from which the patient had recently suffered would be relieved by the incision through the deep fascia which was necessary to expose the tumor.

The wound healed promptly; and the man when seen recently, had good use of his fingers, though they were a little restricted by the fear of pain and the local induration at the seat of the operation done sixteen days ago.

The pathological examination made by Dr. Guthrie McConnell, showed many bundles of voluntary muscle fibres cut transversely. Between these fibres in many places was a large amount of connective tissue.

In one portion of the specimen the muscle, having completely atrophied, had been replaced by fibrous tissue. In this same part were many large blood passages filled with blood.

Many of the muscle fibers were much smaller than normal and their nuclei were no longer visible.

In the regions of the blood vessels were numerous crystals, deep brown in color, apparently derived from the blood.

There was no trace anywhere of malignancy.

DIABETES MELLITUS AS A CELLULAR FAULT.

THOMAS C. ELY, A. M. M. D., *
of Philadelphia

Diabetes mellitus, the excretion of sugary urine, though known to the Greeks and Romans, though observed by the Arabs and the inhabitants of Ancient India, remains to-day, as then, of obscure etiology, of indefinite pathology, although of plain and definite symptoms.

The symptoms are of well known nutritional type, resulting from the daily loss by the genito-urinary route of ounces or pounds of grape sugar which, instead of nourishing or affording energy, escapes in the urine. This waste sugar must either be imperfectly prepared for cellular use and cells cannot, therefore, accept it; or the cell pro-

toplasm itself is faulty, is weak or diseased, and cannot accept a properly prepared article.

The fault must be in the sugar preparation or in the sugar distribution in cell metabolism. In certain instances both may be true. In the former case,—in imperfect elaboration of sugar,—whether due to alimentary imperfections, to impaired functions of the liver, or pancreas and its ferment, or to vasomotor disturbance, the process is more simple and the pathology is more definite and well understood.

It is with the latter only,—Cellular Diabetes,—that this paper is concerned, the fault being neither in the internal excretions or external secretions of the alimentary tract, the liver or the pancreas, nor in the nervous system, and hence must rest in the protoplasm of the cell.

It is therefore suggested that even when the entire sugar mechanism is otherwise perfect, sugar may appear in quantity in the urine on account of its non-acceptance by body cells, due to a fault of their protoplasm. If such may be the case, the etiology of many cases of diabetes is made plainer and the stigma of our lack of knowledge of the pathology of diabetes in all cases becomes more endurable, because the whole problem of cellular metabolism is still beyond definite comprehension.

There seem to be five general reasons for considering diabetes as a fault of cellular protoplasm:

1. A Biologic Reason;
2. An Hereditary Reason;
3. A Reason by Exclusion;
4. Associate Diseases;
5. A Therapeutic Reason.

I. A BIOLOGIC REASON.

Through the aid of biology we are just becoming familiar with cell life; we, however, know little, as yet, of its inherent power. We know that cells form fresh cells, form organs, form tissues—in fact, form the entire organism; the individual parts of the organism have been discovered and also the finer components of these parts, the organs and tissues; it remains for future pathologists and physiologists to study the still finer and elementary constituents, the living cells, so far as they are discoverable. We may prophesy a rich store of cellular knowledge in the future. Investigation will deal less with organs,—particularly in what we term general and nutritional diseases,—and more with cell life and cell activity.

It is to a perversion of these cellular activities, particularly in general nutritional diseases, that we may with profit look for an explanation.

With reference to sugar nutriment, what is true of all other substances is equally true of sugar: that after preparation by the cells of digestion it is assimilable only by a still more delicate and more elaborate change,—a change effected by the tissue cell,—which change we call metabolism.

It is to a perversion of this intricate cellular change in tissues that we may ascribe some forms of diabetes. Almost all cells may be nourished by a form of sugar, and sugar foods are supposed to furnish fuel or maintain animal heat and also to supply energy or force manifested through muscular action, and, therefore sugar may especially supply tissue cells; but what cells are particularly involved is a problem that must be solved by the physiologist. However, no matter which cells are involved, *this fact* must be true of all cells nourished by sugar, that any marked and extensive cellular fault in the *taking up* of the sugar product must illustrate sugar supply over and above cellular demand, and must in time further derange cell-mechanism and leave sugar in the lymph, in the tissues, in the blood and in the urine, as we find it in diabetes. An equally decisive cellular fault in the *throwing off* or elimination of sugar waste would likewise further clog cellular activity and soon leave sugar in the lymph, tissues, blood and urine. Of course a double fault, one of both taking up and throwing off sugar waste, must speedily bring on diabetes.

Whether the fault of cell metabolism be hereditary weakness, lack of oxygen which so hasten disintegration, or lack

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of exercise or other ordinary hygienic cause, the result is no less certain. The fault may very probably be a faulty cell ferment.

Physiology cannot explain metabolism,—those intimate chemical changes in cells upon which nutrition and functions depend, or the cellular power of continually using up and renewing nutritional material. Neither can physiology explain metabolic equilibrium, which is defined as the equality between absorption and assimilation of food and the excretion of effete or end products. Modern physiology does not clearly understand either part of the process—anabolism, *constructive* or synthetic metabolism, or katabolism, *destructive* metabolism. In the metabolism of nitrogen food and of water, as well as in that of sugar, the same must be true and may help to explain some cases of albuminuria and even polyuria; but in this paper we are concerned only with the problem of sugar assimilation, and the more closely we study biology, animal and vegetable, the more plausible becomes the view that diabetes is often due to a fault of cell protoplasm.

From primitive cells without a governing nervous mechanism to the highest type under such control, cells have the power of appropriating certain food material and neglecting all else. This is a well recognized biological law and suggests the conclusion that cells deranged in their power of imbibing sugar by reason of an inherited cellular fault, by weakening or clogging with waste and end products, as in gout, rheumatism, alcoholism and obesity, cannot take up their quota of sugar even if the sugar be properly prepared; and such residual sugar, after filling the natural sugar storehouses of the body, saturates lymph and blood and appears in the urine, in the disease we call diabetes.

II. AN HEREDITARY REASON.

There is an hereditary reason for a cellular protoplasmic fault. According to Continental observers (Tyson) one-fourth, and other authorities (Thompson's Diabetes, p. 633) one-third, of the reported cases of diabetes are hereditary, which suggests a cellular hereditary fault. If we regard heredity as hinging upon the fact that every living cell indicates a mother cell, its matrix, we readily see how a protoplasmic fault in the original cell in acceptance of sugar and disposal of waste is transmitted, and, in the absence of a definite pathology in the organs, diabetes, we may with reason look to the cell for a predisposition present in the earliest cells and transmitted, although not yet recognized. If we regard heredity as the result of the biological law that "each cell or aggregation of bioplasms of which the living body is composed has been developed from a preceding cell and inherits the properties or forces of the parent cell from which it originated," it helps explain hereditary diabetes. We are familiar with the fact that although some cells are sterile and some require special preparation before they can produce a new brood, yet certain cells especially proliferate and *all cells* have their origin in a matrix,—a mother cell,—just as the whole organism originates from a single egg-shell. Each tissue cell of maternal character may be likened to an ovum, and "each tissue bears, as a rule, the stamp of its matrix. It is built on the maternal plan," and if this maternal plan represents a protoplasmic cellular fault as regards the metabolism of sugar, we surely get such in the entire organism,—hereditary diabetes. Although the pathology cannot be found in the organs, we may confidently expect to find it in the cells.

When so large a percentage of diabetes cases are hereditary, if the disease were due to an organ we should expect some successive regularity of hereditary lesion in said organ or organs, but none such occurs. If, on the other hand, the disease be due to a general cellular weakness, our disappointment in not yet finding gross pathological lesions will only be an incentive to more vigorous work in this direction: for the process must be as general as nutrition itself, as incommutable as the number of cells themselves. Though well assured of the fact of sugar metabolism, the physiologic explanation of it is not known, and much less the pathology.

III. A REASON BY EXCLUSION.

There is an argument by exclusion for cellular diabetes. Cells require so much sugar in an assimilable form, and it is the function of certain organs to perform the work of preparation. It is likewise the function of nerve-centers to control, by proper conducting paths, the process of proper

preparation and assimilation. Granted that the work is all properly done, so far as we know, with perfect organs and normal nervous system, and yet we have diabetes; we may fairly by a reason of exclusion look to the purpose of nutrition—to the cells themselves—and conclude the fault may be in the cell protoplasm.

The fact that the disease is differently classified among kidney diseases (no doubt from the urinary phenomena), liver diseases, pancreatic diseases, disorders of the digestive system, or alimentation; disorders of the sympathetic system; and that in diabetes all of these organs may be functionally and physiologically perfect, forces us to look elsewhere for an explanation, and, very naturally, we search in a most likely quarter, the very end of all food, viz: cell life, where, as yet, we cannot expect to find a pathology, for we have no definite cell physiology as a working basis. Saundby affirms that diabetes is steadily and rapidly increasing in all the great cities of Europe. It is called a civilization disease; and when we consider that the people of modern civilization most abuse the digestive functions and cerebro-spinal axis we see why many cases are explained by disease of the alimentary tract or accessory glands, or disease or injury of the nervous system.

We are familiar with alimentary diabetes, with diabetes due to a disturbance of the glycogenic functions of the liver, with pancreatic diabetes, due to interference with its ferment from cancer or from cirrhotic or fatty changes; with nervous diabetes, from disease or injury to the sympathetic or trophic system; and we find a pathology for the same and they are easy to understand, as all these functions are necessary to prepare a proper sugar article for cellular use, and in such cases a healthy cell cannot accept improperly prepared sugar and we may, and often must, find excess of sugar in the blood and urine—the so-called diabetes. When we consider the modest demand made by the cell for fuel and energy, and how lavish its supply; when we consider the large amount of sugar and starch and other foods consumed by the human race, as compared with sugar needs (the supply always exceeds the demand; when we consider how civilized people cook and prepare all these forms of sugar to coax and force them past the intestinal barriers unchallenged or with mild protests, to finally reach the cell doors in enormous and unnecessary amounts; there seems a good reason for damage to cellular mechanism and for a cellular sugar fault among the civilized. The active life of the savage might use up as energy what was not needed for fuel, and the raw food of the savage if taken in excess would early produce Nature's evidences of Nature's protest in intestinal symptoms before appearance of the urinary symptoms of more civilized people.

IV. A REASON OF ASSOCIATE DISEASES.

In diabetes, concomitant, intercurrent and associate diseases point to metabolic disturbances as the basic cause. Its frequent occurrence when metabolism is weakest,—after febrile attacks and after or during acute diseases,—is equally significant. Its frequent association with diseases of well-known cellular weakness—with gout, rheumatism and obesity—is still stronger evidence of faulty metabolism. The close relationship of diabetes with uric acid accumulation points to the cell. According to Coignard Camillon and other French observers, excess of uric acid is often a forerunner of diabetes. In about one-third of diabetes cases there is a history of alcoholism, which strongly suggests cell disintegration.

Ord reports a series of diabetic cases in which gout occurred in one-third and rheumatoid arthritis in others. After the age of fifty gout and glycosuria and diabetes in the presence of obesity may interchange without emaciation or particular debility or seriousness, as if, though with cellular weakness, sufficient cell power yet remained to perform sugar and proteid work, but only indifferently.

That the esquimo can live solely upon fat; the South Sea Islander upon sugar foods the hunter and trapper upon meat, and civilized man upon a conglomerate mixture of all these in varied forms, gives us great respect for all organs which have to do with food-preparations and food-alimentation, and the highest appreciation of those body-cells which have the most delicate and most important work to perform,—that of assimilation.

V. A THERAPEUTIC REASON.

It is worthy of mention that the only drugs which benefit diabetes, arsenic and codein, may be called cellular

/drugs, as they have no particular action upon the liver or pancreas, upon cancer or fatty changes, but have a definite and well recognized action upon general body cells. Arsenic as an alternative, reconstructs, builds up weak cells, as we may observe in general skin diseases other than those associated with diabetes. Opium conserves tissue, retards and prevents waste. Under the judicious use of these cell-drugs, if we may call them, many diabetes cases improve and some get well.

The essential therapeutics, however, is the diet or withdrawal, partially or wholly as the case demands, of the sugar supply, allowing the cells concerned in the assimilation of sugar to recuperate.

This dietetic treatment, so valuable in diabetes, is of little benefit in cancer, cirrhotic change, or fatty degeneration, or even weakness of the sympathetic nervous system. In regard to the derangement of the nervous system as a full explanation of diabetes, granting that it may be a sufficient cause in some instances of shock or traumatism, yet the most unmanageable and serious case of diabetes are those in which there is no explanatory history or demonstrable lesion. However, by derangement of the sympathetic control of the vasomotor system we can explain almost every disease.

Generally speaking, the nervous system controls metabolism, but, aside from nervous control, there is inherent cell power in gradation from the lowest form of cells with no nervous control, to the highest with most delicate and intricate governing mechanism.

Just as in the lowest forms of life cells depend entirely upon inherent cell-power, so in the highest forms in which such inherent cell-power remains it is reasonable to assume additional sympathetic control.

Again, if we argue that organic diseases—for example, of liver and pancreas—are causes, we shall still have to explain the fact that in older people, where such organic changes as cancer and cirrhosis most frequently occur, diabetes, instead of being more deadly, is more amenable to treatment; which quite forces us to look elsewhere than the vital organs.

Again, the fact that diabetes is most fatal in the young may be explained by this cellular theory as the survival of the fittest in cell life. Very weak cells fail utterly in early life. Older cells adapt themselves, become more resitant, and perhaps relegate their work to other cells, just as the sound hemisphere (?) of the cerebrum will imperfectly take up the duties of its injured fellow.

It is interesting to note that the plasma is usually loaded with fat molecules which can be seen in fine particles. If this fat appeared in the urine as it does in the serum we might call the disease diabetes, mellitus lipogenicus. The general presence of this fat is best explained by a theory of metabolism. The fact that examination of the feces and urine shows a striking defect in assimilation of albuminoids and fats is likewise best explained by a cellular fault.

Some practical value of such a theoretical discussion must be its best excuse, and how little can be accomplished by drugs is herein foreshadowed. In uric acid cases moderate doses of Salicylates may assist arsenic and codeia. The most successful treatment is a rest cure or partial rest cure for cell life, withdrawing sugar. The rest must be complete, by a total withdrawal of sugar, if by this means a patient tends to recovery; or a partial rest cure may be indicated when weak cells are found to thrive better on some most assimilable forms of carbohydrates.

Even though some sugar persist in the urine and the patient nevertheless improves in weight, strength and general health, it were better to be content with this result rather than remove both sugar and patient by heroic drug measures or by starvation, to which a too rigid diet sometimes leads.

In conclusion, when we consider the therapeutic reason for the argument of cellular fault, and especially the effect of diet, a reason of associate diseases, the reason by exclusion and that of heredity, we seem to have an explanation of the etiology of this obscure disease worthy of consideration.

And, finally, the strongest of all reasons, the biologic law that applies to cells,—the most primitive as well as the most highly developed,—viz: there is an intrinsic power of imbibing and digesting the necessary and refusing all else.

CENTRALBLATT FUER INNERE MEDIZIN.

January 19, 1901.

On the use of Colloids in the Nourishment of Infants.

K. GREGOR.

Gregor reports a series of nitrogen metabolism experiments which he has carried out in animals and in children, in which he determined that gelatin solutions are absorbed, and that the gelatin is used in the organism, and is apparently able to substitute for albumin, fat or carbohydrate in the nourishment. He, however, ends his statement that the use of gelatin had evidently, from a clinical standpoint, an unfavorable effect which consisted chiefly in a tendency to produce inflammatory changes in the intestinal tract. In what way these changes are produced could not be definitely determined. Disease of other organs was not discovered. The use of gelatin in small amounts, however, tended to cause diarrhoea. There have been, he states, no previous records of any satisfactory investigations concerning the use of colloidal substances in the nourishment of infants, either in simple solution or when used in dilute solution, and while his results have been unfavorable from a clinical standpoint, he believes that they have been of value in demonstrating the actual standing of these substances. He directs attention to the fact that fruit gelatins, extract of grapes, and extracts of veal and of calves' bones, are frequently recommended by writers for use in older children, who are emaciated or have poor appetites. Since these substances contain a large amount of colloids, he considers that they should be investigated in a more definite manner than has heretofore been done before their use is recommended. [D. L. E.]

CENTRALBLATT FUER INNERE MEDIZIN.

January 26, 1901.

A Contribution to the Study of Disturbances of the Lung Circulation.

J. ESSER.

Esser considers that the width of the vessels in the lung are to a considerable extent controlled by the respiratory movements by means of the elastic fibres which run from the vessel walls to the walls of the alveoli. He discusses disturbances of the respiration in their secondary relation to disturbances of pulmonary circulation under the following headings: First, a disturbance of the excursion of the lungs through pleural adhesions, persistent exudates, or deformities of the thorax. Second, a decrease in the elasticity of the lungs through widespread indurative processes, or emphysema, with ultimate disappearance of the elastic tissue. Third, rigidity of the pulmonary vessels through sclerosis of the vessel walls. These factors are likely to be combined. The first heading includes conditions which have relatively little to do with the point which he wishes to make in this paper: the elastic traction between the alveoli and the smaller vessels is of much less importance under such circumstances than the disturbances of suction action through the interference with proper respiration. As to the second heading, he considers that the elastic traction may play an important role in these conditions in disturbing the lung circulation, and in sclerosis of the vessels of the lungs there is of course more or less complete interference with dilatation of the vessels by means of the traction of the elastic tissue. He is inclined to attribute much of the circulatory disturbances in emphysema to this interference with the traction of the elastic tissue, and the consequent relative increase of the tension in the lungs, which increase ultimately overtakes the right heart. [D. L. E.]

A New physical Sign in Cases of Dilatation of the Stomach.—W. D. Sherwin, *Am. Med. Assoc. J.*, 1900, French, Vol. 22, No. 5.) found that in dilatation of the stomach a dull sound, similar to the one obtained in pleurisy with effusion, may be elicited by percussing the left subcapular region on a level with the lower border of the left lung, in the region of the ninth, tenth and eleventh ribs. The area of dullness is 4 to 5 cm. wide, and is separated from the vertebral column by a small triangular space of much clearer resonance. When the patient bends forward, the dull sound becomes clearer, and on further stooping, it becomes tympanic. After thorough exercise the dullness disappears similarly. The explanation offered is that the dilated and distended stomach raises the diaphragm and presses the lower part of the left lung against the back, rendering it airless. [A. R.]

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The New Therapeutic Monthly.—This new Journal, which will enter a most important field of medical journalism, will appear in a few weeks, as we have already announced. We wish to make the additional announcement to our friends that the *Therapeutic Monthly* will be sent to all paid-up subscribers of the *Philadelphia Medical Journal* who make a request for it. Professor James Tyson will have editorial charge, and will have as his associates Dr. T. L. Coley and Dr. T. Mellor Tyson. No efforts will be spared to make the new Journal a thorough representative of therapeutical work and literature, and we believe that the opportunity here mentioned will be appreciated by all our subscribers.

A Voyage in a Disease-Ridden Ship.—Nothing can better show the need of rational ideas on the subject of the infectious diseases than the experience last summer of the steamer *Chile* off the west coast of South America. Her log reads like a page out of the *Inferno*, and all because of the barbarity and ignorance that prevail in respect to the contagious diseases. This steamer left Panama in July, bound south, and when two days out developed yellow fever. From this moment she was a doomed ship, an ocean outcast, a pariah of the deep. From port to port she sailed, begging in vain for succor and Christian charity, but was refused everything because she had a few cases of yellow fever on board. From port after port she was turned adrift; at one place she was even driven out of the harbor by a gunboat. This sort of thing went on until the west coast of South America had been pretty well skirted and the *Chile's* coal bunkers were exhausted. Then, of course, the helpless steamer could proceed by her own power no farther. Gunboats could not drive her away, and it is a wonder that they did not stand off and sink her. The ports that had refused to give her medicines had also refused to give her coal, but the last port had to give her coal in order to get rid of her. So she was towed five miles out to sea, and coal sent to her in an old barge. The *Chile*, with her sick crew, had to unload the coal as best she could, and then sink

the barge. No medicines, disinfectants, or supplies were granted at any port—only maledictions and orders to get out! There was no doctor on board; only an impostor, who claimed to be one. All this time (about six weeks) yellow fever was holding high carnival; men were dying, and a lot of passengers were terrorized, and their lives put in peril. This sounds like some tale of an Ancient Mariner, or like a proceeding in the Middle Ages. It was all because there was no quarantine port on the west coast of South America, and because of the disgraceful panic that assails some communities at the mere mention of the name of yellow fever. How absurd this would all seem if the disease were yet proven to be only propagated by the bite of the mosquito!

The report on International Quarantine, adopted by the Pan-American Medical Congress, in the city of Mexico, 1896, provides, according to the *Public Health Reports*, that each government should maintain quarantine stations at its domestic ports.

Smallpox in the United States.—According to the *Public Health Reports* there has been more smallpox in the United States during this past Fall and Winter than during the corresponding period one year ago. The total number of cases reported up to March 29th was 11,964, as against 7,279 for approximately the same date last year. What we wish to call attention to especially is the astonishingly low death rate. As we pointed out last year in these columns, smallpox has been prevailing in widely separated parts of the United States, but almost everywhere it has presented itself in an exceedingly mild type. Thus there were but 157 deaths among the 11,964 cases—little more than 1 per cent. Some of the results are still more striking when the figures are analyzed. Thus, in Wisconsin 560 cases were reported with only four deaths. In Virginia there were 257 cases without a death; in Tennessee, 308 cases with four deaths, and in Oklahoma Territory 690 cases without a recorded death. In Minnesota there were not less than 1985 cases reported, and yet out of all these cases there were recorded but three deaths. In Colorado there were 1190

cases without a death. In Louisiana the disease appears this year, as last, to have prevailed in a more malignant type than elsewhere, for out of 157 cases there were 37 deaths. This is about 23 per cent. This mortality rate for the whole United States would have given about 2760 deaths instead of the 157 deaths reported. This serves to show, as graphically as figures can, how mild a type of smallpox has been prevailing in the country at large. In the large Eastern States, New York and Pennsylvania, there has been but little smallpox this winter; in the former 416 cases; in the latter only 102. Pennsylvania had but 3 deaths against New York's 67.

We do not know just how accurate all these returns may be, for they are published in the *Health Reports* without comment; but we cannot refrain from commending them to the thoughtful consideration of all persons interested in preventive medicine. These figures certainly lend support to the claim that smallpox has been brought under some sort of control by vaccination. They clearly indicate that from being what it once was (the scourge of the race), smallpox has become, in a large measure, a comparatively harmless disease.

Compulsory Vaccination.—In further proof of the efficacy of vaccination is the experience just reported from Chicago. The right of a school teacher to exclude from a public school a scholar who had not been vaccinated was under discussion in that city, and an appeal to the records of the Municipal Health Department was made in order to prove that vaccination is a true prophylactic. The results were striking. From November, 1900, until April, 1901, the period of the recent epidemic in that city, 171 cases of smallpox had been reported, of which 140 cases were in persons who had never been vaccinated. Of the remaining 31 cases, 29 were in adults who had only imperfect scars, if any at all. Hence, of the 171 cases, only 2 presented marks of successful vaccination. One of these patients was 40 years old, and had not been vaccinated since childhood; the other, 35 years old, had been vaccinated successfully when a child, and unsuccessfully three years ago. One of the Chicago newspapers, which has been investigating the subject, says that the disappearance of smallpox from the public schools of that city has been coincident with the enforcement of the Compulsory Vaccination law. This act went into effect in 1867, and from that date until 1881 there were only 17 cases of smallpox and varioloid in the public schools. The *Public Ledger*, of this city, does a public service in commenting on these facts editorially, and we are obliged to it for the figures quoted. These statements are sufficient answers

to the critics who oppose, and the madmen who resist, vaccination. The Supreme Court in this State sustains the right of a school teacher to exclude an unvaccinated scholar from the public schools.

A Martyr to Duty.—The assassination of Dr. Ralph Erskine Johnston by an insane Italian patient in the State Hospital for the Insane, at Danville, Pa., was another instance of the sacrifice of a valuable life on the altar of professional duty. Such a man deserves public recognition for his worth and martyrdom, and we publish elsewhere a detailed sketch of his useful career. Even in these days of military ardor and showy pride over deeds done on the field of battle, this truly heroic death will not lose in lustre and force of example by comparison with the fall of any of the bravest men in the campaigns of Cuba, China or the Philippines. The saddest reflection of all, after our first outrush of sympathy to the stricken wife and sorrowing friends, is that such frightful catastrophes may still continue to happen, as they have too often happened in the past, in the arduous and responsible lives of the unselfish men who are devoting themselves to the care of the insane. Let this mournful event remind us all, in our fraternal sympathy, that the men who are working in the asylums for the amelioration of the insane, are often among the best and most self-sacrificing in the ranks of our profession.

Notes by Kitasato on Plague in Japan.—Dr. M. J. Rosenau, of the U. S. Marine Hospital Service, has translated the report by Kitasato and his associates on the epidemic of plague at Kobe and Osaka, Japan. This report was also translated for the *Philadelphia Medical Journal* by Dr. M. Ostheimer, and published as a special article in our number for January 19th, 1901. A crusade was carried on against rats at both places, the government paying 2 1-2 cents a head for them, dead or alive. About 20,000 were paid for at Kobe and 15,000 at Osaka. These were by no means all the animals that were destroyed. Only about one-tenth of the rodents killed at Osaka were infected, and about one-fifth at Kobe. The relation of rats to the spread of the disease is not apparent, for the territory in which pest rats were found was much more extensive than that in which plague occurred in the human population. This seems to indicate that rats do not spread plague very actively among the people, but are simply themselves victims of it. They seem to take the disease before the human subjects. In Japan, it seems, the rat is looked upon as a sort of guardian angel of the household, and its destruction is, therefore, not easy.

The report does not contain much that is new. Carbuncles occurred as primary lesions, and not always secondary, as the Germans have contended. Buboës of the cervical and submaxillary glands were comparatively common, and the authors believe that these were secondary to infection through the tonsils. In fact, they attach much importance to this mode of infection, and regard the tonsils as important foci from which to make cultures. The most fatal form of the disease was the pneumonic, and it was also the most dangerously contagious. Instances are given of deaths in a few hours. One reads with some astonishment that a woman nurse, after having nursed a malignant case of pneumonic plague, when she might have been supposed to be infected, was given Haffkine's prophylactic. She promptly developed the pneumonic form of the disease and died. This practice, we had supposed, was always strongly contraindicated. Kitasato claims that the diagnosis of plague can only be made with certainty by bacteriological tests. Shiga prepared a prophylactic of his own, made somewhat after the method he used for obtaining a prophylactic against the Japanese dysentery. The technique is described in full in the report, but not much is said about the successful use of this agent. We are much impressed on reading the report with the scientific method and thoroughness of the Japanese physicians, except as to the use of Haffkine's prophylactic.

Removal of the Superior Cervical Sympathetic Ganglion for Glaucoma.—In 1898 Jonnesco, of Buda Pesth (*La Presse Medicale*, June 6, 1898), suggested and practised the removal of the superior cervical sympathetic ganglion for the relief of glaucoma, the object being, of course, to permit the third nerve to contract the pupil and to relieve the intra-ocular tension by the paralysis of the sympathetic fiber that pass through this ganglion. He operated upon 7 cases with asserted good results. The wave of eagerness to remove portions of the nervous system that has recently swept over the medical world and has had such disastrous results upon the integrity of the Gasserian ganglion, naturally aided the results described by Jonnesco to secure followers; and Dodd, in England (*Lancet*, October 19, 1900), and Coover, in America (*Phila. Med. Jour.*, March 16, 1901), have reported cases. The former obtained transient improvement, that is, contraction of the pupil, soft, normal tension and cessation of the pains; but there was prompt relapse to the original condition. The latter did not succeed even so well, tension remaining plus 1, and the vision relapsing on the 12th day. In view of these results by reliable men, it would seem that Coover's opinion is thoroughly justified, that it is an operation of

last resource, and even then offers very little hope of permanent relief. It is universally admitted, however, that it is easy and safe, and it is, therefore, perhaps, to be tried. Dodd does not approve of the bilateral operation at one sitting.

Temporary Ligation of the Common Carotid as a Preliminary to Resection of the Superior Maxilla.—The last issue of the *Philadelphia Medical Journal* contained a most interesting and scientific discussion by Professor Carl Schlatter, of Zurich, on the advantages and dangers of both temporary and permanent ligation of the common carotid artery as a preliminary procedure to the removal of the upper jaw. The question of the advisability of first ligating the external or the common carotid has long been one for discussion and disagreement among surgeons. This able paper would certainly tend to put aside many objections that have been raised against the temporary ligation of the common carotid. Although in many instances the ligation of the external carotid is sufficient to prevent hemorrhage during the operation, yet there are cases, such as one reported by Professor Schlatter, where this ligation does not prevent the hemorrhage. The cerebral complications which have so frequently followed the permanent ligation of the common carotid do not arise when a temporary elastic ligature has been properly applied to this vessel, for under such circumstances there is no formation of a clot, and consequently no danger from emboli. The blood control during the operation of removal of the superior maxilla is always a question which concerns the surgeon, and Professor Schlatter shows that the mortality from the operation is much higher and the chances of recurrence of the malignant growth much greater where no means are employed to prevent hemorrhage before beginning the excision. Another advantage which is urged for the exposure of the carotid is the important fact that in carcinoma of the upper jaw the glands about the bifurcation of the carotid are the first to become involved in the malignant process, and are always diseased before they can be felt by the hand of the surgeon. Therefore, the incision necessary for the ligation also permits of the removal of these glands. The literature of this operation has been carefully studied and the conclusions arrived at by the author must appeal to every surgeon.

The Effect of Alcohol on Immunity.—In this age of rapid scientific advancement, when old cherished beliefs are shattered by newly discovered facts, our therapeutics are also subjected to a thorough revision. It appears that just now alcohol is bearing the brunt of a searching investigation. So long

as the question of the use or abuse of alcohol remained a purely sociological problem, the physician could have but little to do with it from a scientific standpoint. Even if in sympathy with the anti-liquor movement, he still used alcohol as a medicine, firmly believing that it was the remedy par excellence in acute infectious diseases. This well-established belief, expressed *ex cathedra* by our textbook writers and eminent therapists, has received a crushing blow at the hands of Doyen, Abbot, Verlaguss, Ranelletti, and a number of other scientists, who have investigated the effects of alcohol experimentally. The unanimous verdict is far from being in favor of this "health-restorer." Recently, Dr. S. I. Goldberg instituted the following experiments in the Bacteriological Laboratory of Prof. Tshistovitch (Russia). He divided a number of pigeons into three groups. Those of the first group received an injection of a non-fatal dose of a culture of the plague bacillus, and with it, or during several days subsequently, medium and large doses of alcohol introduced by means of a sound. The pigeons of the second group received small doses of alcohol for a considerable time prior to inoculation. Finally, those of the third group received a fatal dose of the culture, and for several days afterwards small doses of alcohol twice daily. The conclusions reached were as follows: (1) pigeons, which are but slightly susceptible to the plague, had their susceptibility greatly increased by small doses (2-3c. c. of 40% alcohol), which were sufficient to produce intoxication. (2) Chronic alcoholism lowered the natural resistance of the pigeons to the plague. (3) Small repeated doses of alcohol did not save the birds after a fatal dose of the plague-culture.

These and other experiments of a similar nature, recorded in recent medical literature, seem to indicate that alcohol, even in small doses, exerts a deleterious effect on the cells proper, and while possessing high caloric value, as proven by the experiments of Atwater, it is, nevertheless, a cell-poison. It, therefore, seems that its continued use in acute infectious diseases should tend to produce precisely the effects against which it is directed. The results of mere laboratory experiments on the lower animals must, however, be received with some caution. Experimenters frequently arrive at opposite conclusions, especially on the subject of alcohol, and clinical experience is not lightly to be set aside at the behest of every experimenter in the laboratories.

Specific Biological Reactions.—The discovery that the injection of blood of one species into animals of another species produces substances which

are destructive to the blood of the species from which the injected blood was derived, has opened the way to investigations which are of almost unlimited extent and variety. A number of these reports have recently been abstracted in this journal, most of them referring especially to the reactions in blood. Among the most interesting was that of Uhlenhuth, who stated that the result of the injection of blood from one species was to produce some substance, which, when added to a solution of blood from the original species, even when that blood had been dried for a long time, caused a definitely recognizable reaction, even in extremely dilute solutions. He claims that the reaction is absolutely specific, and can be used for distinguishing human blood stains for medico-legal purposes. His results have been confirmed, though the absolute specificity of the reaction has been denied. There have also been numerous other reports showing most interesting results. The most suggestive of these was the demonstration that the injection of ciliated epithelium produces a substance which dissolves the same variety of epithelium, but has no action upon other cells. This must have shown at once to many readers the possibility of producing in this way an actual specific cancer serum, though, unhappily, this possibility seems as yet a very distant one, and one hedged about by many and great difficulties, in spite of the work recently referred to editorially. In addition to these reports, Delezenne has recently stated that he has produced anti-hepatic and anti-nervous serums, these serums having destructive effects upon the liver and nervous system respectively, and being produced by injecting emulsions of these organs into creatures of a different species. The most striking fact recorded by Delezenne was his observation that if these toxic serums were administered in frequent but very small doses, they had directly the contrary effect, the animal being soon made almost absolutely resistant to the effect of large doses. This approaches very closely to the production of serums specifically anti-toxic to those substances which act directly upon various organs, and suggests most astonishing possibilities. The most recent use of this method is described by Mertens (*Deutsch Med. Woch.*, March 14, 1901), who states that he has shown in a manner that is almost absolutely conclusive that the albumin in the urine in nephritis is directly derived from the blood, thus almost definitely settling a question which has given rise to much discussion. His statement is based upon the fact that he injected rabbits with human blood serum, and afterwards found that the rabbits' serum caused a marked reaction with human urine containing albumin, but did not react with

human urine free from albumin or with the urine of normal rabbits or of rabbits which showed marked albuminuria. Further, the injection into rabbits of human urine containing albumin was followed by the production in the rabbit's blood serum of a substance which gave exactly the same reaction as that produced by the injection of human blood serum. This is almost absolute proof that the albumin in the urine and the albumin in the blood serum are exactly the same biologically, and probably chemically. A most interesting observation was the fact that the serum of a new born rabbit, whose mother had been treated with albuminous human urine, reacted in the same way as the serum of the mother. Mertens considers that his results demonstrate that the serum of transudates will react in the same way as the blood serum, and that transudates may be used for injection instead of blood serum. He also believes that it will be possible to use albuminous urine instead of blood serum; since albuminous urine is so much more readily obtained than human blood serum, this will greatly widen the opportunities for this method of research. The constantly increasing number of reports similar to this one must convince those who are abreast of the literature that the possibilities in this line are so great that most important discoveries may be expected within a very brief period. We seem to be on the verge of a new era, both in the experimental study of abstract biological questions and in therapeutic advances, which are directly connected with these biological studies, and which will be of most grateful portent to those sufferers who have heretofore been beyond anything better than palliation.

Three Medical Worthies.—In the *Popular Science Monthly* for April, Professor William A. Locy pays a graceful tribute to a triumvirate of medical investigators, whose names abide in medical tradition, but whose work is too likely to be forgotten. As Professor Locy well reminds us, we are too apt to think that all the really good work, especially in biology, has been done in very recent times, with modern methods and modern insight. A glance at the work of Malpighi, Swammerdam, and Leeuwenhoek, is a good corrective for some of this modern self-laudation. These three men, not personally associated, were contemporaries and represented that revival of science which characterized the 17th Century. The watch-word of that century was *observation*. Knowledge was to be gained by direct appeal to Nature herself, and the books and formula which had dominated the dark ages were discarded. In this one vital respect this was an age of pure scientific method, and quite equalled our own in the zeal and consistency with which men sought to wrest

from Nature herself the secrets of morphology and even of life. The pioneers had been Vesalius, Galileo, Harvey and Descartes, and our three medical worthies were of only one generation later.

Malpighi was an Italian, born near Bologna in 1628. In his discoveries, and in the position he occupies in the history of natural science, he deserves the title of an original and profound observer. He studied not so much the gross, but the finer anatomy of animals, and pursued his studies also in the vegetable kingdom. He was one of the founders of modern histology, and did extraordinarily fine work, considering his instruments. His drawings of the anatomy of the silk worm are models of accuracy. Insect anatomy was an unknown field, and here Malpighi demonstrated for the first time the dorsal vessel, the tracheal system, the stomach and the reproductive organs. His work in embryology was remarkable, and his drawings look as though they came out of some modern laboratory. He also observed the blood corpuscles, and his name is identified with the anatomy of the kidney and spleen.

Swammerdam was a native of Holland, and his portrait by Rembrandt is preserved. He was an indefatigable worker and an expert draughtsman. He also, like Malpighi, did some exquisitely fine work in entomology, and helped to establish biology and morphology on an enduring basis. His drawings were even better than Malpighi's, and were veritable works of art. No one can look at the reproductions of some of them and not be impressed with the excellence and variety of such a gift in a scientist. Swammerdam opposed the theory of spontaneous generation, which in his day was actively debated. He was a believer, however, in the "preformation" theory, which was that an animal was fully formed in the ovum—an idea which has its nearest modern analogue in the theory of pangenesis.

Leeuwenhoek was an ardent microscopist, and owned no less than 247 complete microscopes—though what he wanted with so many does not appear. In addition, he had 172 lenses. Many were mounted in silver and a few in gold—such was the vanity of science in those days. His microscopes, however, were made without tubes; the lenses were merely held in place on pieces of metal, with screws to adjust the object and secure focus. Leeuwenhoek's great merit was to have demonstrated the capillary circulation. He sought it in the comb of a cock, the ear of a white rabbit, and the wing of a bat. But finally his search was rewarded by finding what he sought in the tail of a tad-pole. His description is replete with the enthusiasm of the simple-minded naturalist. Leeuwenhoek also made observations on the blood corpuscles, although he

had been anticipated by Malpighi; but these two were among the first hematologists.

Even a brief study of the lives and work of these famous scientists is of great profit, for it gives to us, of the present day, a more adequate conception of the universality of science and of the great attainments of some of the old and well-nigh forgotten worthies of medicine.

The Relations of the Purely Scientific Studies to the Physician's Work.—In a paper published in the *Boston Medical and Surgical Journal*, April 4, 1901, H. D. Arnold makes the following statement: "The average practitioner is apt to rest satisfied, if, by discovering a murmur, he is able to point out the site of the lesion and can give an anatomical name to the disease. Fortunately, for both patient and physician, the heart generally has wonderful recuperative powers, if given half a chance. Rest, with or without medication—and sometimes in spite of bad medication—furnishes the opportunity, and we take credit to ourselves for an improvement which was due to nature, and neither to our thorough understanding of the condition, nor to an intelligent application of remedies." This statement in relation to heart disease may, with certain modifications, be applied to diseases of other organs, and should, we think, be forcibly and frequently brought to the attention of the medical student. Many a student is prone to think, as he sits on the benches during his first and second years of medical study, that the details of chemistry, anatomy, physiology, and pathology, which he is expected to master, have really little to do with the work of his profession, and in this opinion he is often confirmed by the attitude of his acquaintances, who have completed the prescribed four years of study and have begun practice. So when the student reaches his third year and begins the study of the practice of medicine, he is prone to give scant attention to the pathology and the differential diagnosis of the diseases as presented by his instructors; but so soon as a prescription is put on the blackboard, he copies it with an energy that might better be expended in mastering the natural history of the disease in question. The savages beat upon drums, hoping by the din to scare away the evil spirit of the disease and thus renew the vitality and usefulness of the afflicted one. The civilized races go to a physician, expecting to receive a drug or a series of drugs that will kill the same evil spirit of disease and render them immune, while they hold fast to their habits of unhygiene and of exposure. Drugs have not this magic charm, and those practitioners who have misapplied their energies during their college days, as well as the students who are now learning of the mysteries and the frailties of the human body,

should bear constantly in mind that the normal and pathological anatomy and physiology which they are expected to understand will go farther toward fitting them to teach their patients the true secret of health than the mere knowledge that such and such a prescription is good for this or that disease. So, too, the mere ability to recognize and locate a cardiac murmur or a bronchial rale, to find tube casts, or to discover albumin or sugar in the urine, will avail little unless the fundamental principles of the cause, course and lesions of the disease producing these symptoms be thoroughly understood.

The Census of India.—According to the *British Medical Journal*, the census of India was taken very quickly and accurately, for the preliminary figures were published fourteen days after the date for counting the population. There are some details in this census that are of interest to medical readers. The total population of India is hardly as great as is generally supposed. It is shown by this census to be 294,266,000, a gain of 6,949,000, or 2.42 per cent. since 1891. The increase revealed by the census of 1891 was 11.2 per cent.; therefore, there appears to have been some check on the growth of population in the great Hindoo peninsula for the past ten years. What this check consists of is, perhaps, not difficult to determine. India has been swept with famine and pestilence. Even allowing for greater accuracy in counting the population (a factor which always rather tends to lessen than to increase the figures), the fact remains that this census is a mournful object lesson for mankind in general.

The territory directly under British rule shows an increase of 4.44 per cent. The facts all told are capable of but one interpretation. The native States have not, as a rule, met the emergencies caused by the plague, cholera and the famine, with the same intelligence as has been shown by the British Government in the territory directly under its control. The figures, however, vary for the several native States, and in some instances the population has increased; but the deduction just stated is probably in the main correct. Natural causes also explain the figures; thus those parts of India which are well watered—whether British or native—and which, therefore, escaped the famine of 1897 and 1900, show an advance. The traces of the famine and its twin progeny (pestilence and impaired fecundity), are very evident in these returns. Even in famine-stricken areas the loss of life was less under British rule than under native government. This is a satisfactory proof of the efficiency of good government. Much remains to be worked out by a study of these figures, and this will be done by Mr. H. H. Risley, the Census Commissioner, whose

studies will doubtless bring out in full the relation of famine and pestilence to the arrest of population in this teeming region of the world.

Reviews.

Infant Feeding in Health and Disease. By Louis Fischer, M. D. Octavo 359. F. A. Davis Company

The volume opens with brief remarks on the anatomy of the infantile stomach. There is then a satisfactory short account of the chemistry of the digestive secretions. We find an unnecessarily full description of various forms of bacteria actions present in the gastrointestinal tract, marked details which only a specialist in bacteriology needs or would understand. The chemical and physical properties of bovine and human milk are treated of extensively, as is the whole subject of artificial feeding. There are given some useful analyses of various commercial foods, and a serviceable chapter on infant stools. Finally we find a dietary containing many good formulae at times of value. We have read Dr. Fischer's little book with much interest and considerable care. We are sorry that we found in it an unusually slovenly and often ungrammatical use of the English language. One wonders what had happened to the publisher's reader. Note, for instance the following remarkable sentences: "The investigation of Leo and von Puteren show that the gastric contents are propelled within from one and a half to two hours. With food that is more difficult to digest the stomach is emptied much slower and less complete." "Another nipple I have used, but it is much harder to clean, and, unless all precautions for sterilization are noted, this nipple should not be used; yet, in the hands of the intelligent, or where we have a trained nurse, it can be safely recommended. It is called, etc." A much more serious and vital fault is the author's evident searching for evidence in support of certain pet views, with his ignoring of what could, and should, be said upon the other side. That which the experience of many physicians has proven useful is considered utterly without sufficient reason given, and that which is unusual and not generally accepted is in terse manner praised, and its truth sometimes simply assumed. This makes the book an unsafe guide. Yet the little volume in this respect shows a conscientious study of recent and older scientific work done in the domain of infant feeding, and contains a large number of references and quotations, which will be serviceable to those desiring to make milk a study for themselves. To those we can heartily recommend it. [C. G.]

A Laboratory Guide in Elementary Bacteriology. By William Dodge Frost, Instructor in Bacteriology, University of Michigan. Illustrated. 1900. Published by the Author, Madison, Wis. 200 pages, 8x10 $\frac{3}{4}$ inches.

This laboratory guide opens with a list of texts and reference books, list of apparatus and a few concise laboratory rules. Following this the work is divided into two parts, Part I dealing with general bacteriology and Part II with medical bacteriology, the two parts embracing 10 chapters numbered continuously through both.

Directions for the preparation of containers, media, stains and directions for drawing and special stains are given in Chapter I. Chapter II deals with the physiology of the bacteria, with methods for determining reaction, influence of physical agents, color production, etc. Chapter III, taxonomy and subsequent chapters are largely given to the study of special organisms.

In the first 50 pages and occasionally elsewhere, alternate pages are left blank for notes. The tables given for the study of bacteria strike the reviewer as being of very great value as indicating to the student the steps to be worked out and the data to be recorded.

Chapter VIII dealing with animal inoculation and staining of bacteria in tissue could be elaborated to advantage. There is less than one page to the detection of pathogenic bacteria in water and milk supplies (Chapter X). It might have lessened the confusion in the student's mind had

synonyms for all organisms been given as has been done in the case of pneumococcus.

The paper is good and the typography and tabulation are fully acceptable. The copy sent out for review has evidently been very poorly seasoned and cannot be kept flat. As the book is intended for the laboratory the reviewer would suggest to the author, who is also the publisher, that it be bound in one of the forms of rubber cloth now used for manuals of dissection.

The book will undoubtedly be an acceptable guide for use of the student and even for the investigator as a convenient blank for recording results. [W. M. L. C.]

A Text-Book of the Medical Treatment of Diseases and Symptoms, By Nestor Tirard, M. D., Lond., F.R.C.P. Professor of the Principles and Practice of Medicine, King's College, London, etc. Adopted to the United States Pharmacopoeia by E. Quin Thornton, M. D., Demonstrator of Therapeutics, Pharmacy and Materia Medica, Jefferson Medical College, Philadelphia. 8vo, pp. 630. Philadelphia and New York: Lea Brothers Co.

This book is intended to bridge the gap between the instruction in therapeutics as given in text-books on the practice of medicine, and such treatment of the patient as is needed at the bedside. The author very properly says that a student may know many diseases and symptoms for which a particular drug such as digitalis or belladonna, may be employed, and yet scarcely be prepared with the various drugs serviceable in the course of treatment of any individual disease or treatment of almost all the local and constitutional diseases and of permanent symptoms such as vomiting, gastralgia, constipation and night sweats. The advice given is helpful, and even those having considerable experience in the treatment of diseases will find valuable suggestions in many places. [H. B. A.]

The Morphology of the Blood in Diphtheria, Scarlet Fever and Scarlatinoform Erythema. Pitkianen (*Peterburgskaia Dissertatsia*, 1900), found that in mild cases of diphtheria a moderate hyperleukocytosis is present in the first stages of the disease, gradually disappearing as improvement sets in. Polymorphonuclear leukocytes are in some cases increased, while in others remain normal; as improvement progresses, their number gradually diminishes. Eosinophiles are absent in the first stages of the disease, but make their appearance as the disease advances toward a favorable issue. Similar conditions are observed in cases of diphtheria of moderate severity. In severe cases of hyperleukocytosis is marked from the beginning and persists during the entire progress of the disease. The polymorphonuclear leukocytes are increased at first, diminish gradually and are again increased if the disease terminates fatally. Eosinophiles are invariably absent in fatal cases. The presence of the eosinophiles or their increase in diphtheria is a favorable prognostic sign; their absence for three or four days, on the other hand, points to a fatal determination. The morphology of the blood in non-diphtheritic sore throat is similar to that of mild cases of diphtheria. A marked increase of the latter is found in scarlatinoform erythema. [A. R.]

Tannalbin, Tannigen and Tannoform in Intestinal Diseases of Children. Preis (*Trudi Obshestva Russkich Vratchei v Moskvie*, 1900), tried the above remedies in 148 cases of various intestinal disturbances of children, the doses employed being 0.03-0.06 grms. for a child one month old, 0.1 for one 2 months old, and 0.2 for a 3-months-old child. The results obtained were as follows: Tannalbin proved successful in intestinal indigestion, acute and chronic catarrh of the small intestines and in tubercular diarrheas. Tannigen failed to produce any beneficial effect in every case it was used. Tannoform was successful in only a few cases, namely, in acute and chronic intestinal catarrh, cholera infantum and tubercular diarrheas, but even in these cases the effects were inconstant, and only children not younger than 2-3 months were benefited. [A. R.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Wills' Hospital Ophthalmic Society.—Meeting held in Philadelphia, 25th March, 1901. Dr. P. N. K. Schwenk in the chair. **Primary Sarcoma of the Iris.**—Dr. Conrad Berens presented a most interesting case illustrating the secondary stage of primary sarcoma of the iris. The patient, a young man, who was free from any symptoms and obtainable history of syphilis or tuberculosis, first noticed the affection some three years previously. Imbedded in a partially degenerate and comparatively uninfamed iristissue were five irregular tumor-masses, over and through which some fine vessel ramification could be plainly seen. The plane of the iris was pushed forward. The pupillary area which was slightly distorted, contained some meshes of glistening lymph. The crystalline lens occupied its normal position. No view of the fundus could be obtained. Intraocular tension was increased to plus two. No view of the fundus could be obtained. Intraocular tension was increased to plus two. There was not any ciliary tenderness. Based upon these findings and the fact that the therapeutic tests for syphilis and tuberculosis had been unsuccessfully applied, Dr. Berens felt certain of the diagnosis, and believed that it would be proven after enucleation. Dr. Frank Fisher tended to the opinion that there might be an iridocyclitic element in the case. Dr. William W. McClure agreed in the diagnosis, giving a number of differential points between the one almost certain and the other possible processes. Dr. Charles A. Oliver, while fully agreeing in the etiology of the condition was disposed to place the main bulk of the growth in the ciliary body. **Embolicism of the Central Retinal Artery.**—Dr. Frank Fisher exhibited a series of water-color sketches of several stages of a case of embolicism of the central artery (full details of the case to be published in full later). The patient, a young subject with a mitral murmur, gave the usual history of sudden blindness. Besides the characteristic eyeground of the affection, all of the main retinal blood currents, both arterial and venous, were found to be interruptedly flowing in their proper directions; the curious fact being that the venous currents were travelling with twice the rapidity of the arterial. Dr. McClure stated that he had had the opportunity to see two cases in their very earliest stages. One of the early changes he had found, consists in a lead-tinted area bounded upon its superior and inferior borders by two fine vascular twigs that are not ordinarily observable, giving the area of infiltration a caudate form. The second of his cases which but partially closed the arteries, showed broken blood currents in the two principal veins running in the direction of that which is pursued by the ordinary contained blood. Dr. Schwenk had seen six clinical cases of central retinal artery embolicism, one of which occurring in Dr. Harlan's service at the Hospital and which showed the vascular beadings, he had made careful drawings of, these being published in the Transactions of the American Ophthalmological Society. His experience had been that vision seldom if ever returns in the pronounced types of the disorder. Dr. Charles A. Oliver was greatly interested in the double rapidity of the venous current seen in Dr. Fisher's case, and spoke of the difference between trophic and functional disturbance found in these cases, drawing attention to the two forms of vascular circulation in the human retina. He made mention of the possibilities of endarteritis, vessel-spasm and thrombus in such cases, and did not deem a differential clinical diagnosis in such cases as entirely certain in every instance as the several conditions might be coexistent. Dr. Walter L. Pyle called attention to several cases in ophthalmic literature, in which although there was complete embolicism of the central artery, a small sector in the field of vision was preserved; ophthalmoscopic examination showing a cilio-retinal artery, supplying the corresponding retinal area. Dr. Fisher did not believe that there was any collateral retinal circulation. He considered the most remarkable feature in his case to be the visibility of both the arterial and the venous circulations in the retina at the same time. He deemed prognosis as to vision doubtful when an embolicism is situated within the retina as it is not likely to undergo absorption in such a position. **Successful Extraction of Manganese Steel from the Cry-**

talline Lens.—Dr. Schwenk showed a forty-five year old man from whom he had successfully removed a piece of manganese steel from the left lens. The points of interest in his case consisted in the facts that the form of steel which was imbedded in the lens substance was but feebly attracted by the magnet and that much of the lens matter which had appeared transparent at the time of the removal of the foreign body afterwards became opaque and greatly swollen. Dr. McClure gave the details of a case of steel in the lens in which, before making the corneal section with a von Graefe knife, he created a path or track through the lens fibres with a Hay's needle for the escape of the foreign body. After this was done, it was but necessary to bring a magnet tip to within two inches of the external wound, the foreign body fairly leaping out of the eye though its open pathway. The lens mass was then expressed without any trouble. Recovery was uneventful, a corrected vision of two-thirds of normal being later obtained. Dr. Oliver stated that not sufficient attention had been paid to the relative traction qualities of the different forms of steel, all being classed alike. He believed that extremely hard and brittle manganese or nickel steel are so dense and contain so much nonmagnetic material that the electric current cannot permeate the mass sufficiently to attract enough of the ferric elements to produce expulsion of the foreign body unless the magnetic force be very greatly in excess of that which is obtained by the ordinary forms of clinical magnet. He also called attention to the fact that on account of the very great brittleness of manganese steel, workmen should be taught to be extremely careful in the handling of such material as it is particularly liable to fracture. In all his cases where permissible, he removed as much of the clear lens material as possible, this being readily accomplished by means of a grooved spud. Dr. Berens made it a rule to evacuate all of the clear lens matters that he could with safety to the organ. **Removal of Congenital Cataract.**—Dr. Oliver exhibited a nine year old Hungarian boy from whom he had successfully removed two congenitally opaque lenses by free dissection, obtaining a corrected vision of normal in each eye. The case was of interest as showing the good effects of diametrically opposed forms of treatment in the two eyes, necessitated by an attack of secondary glaucoma from stoppage of lymph flow caused by a blocking of the pupillary area. He did not consider such a complication of any great moment in the young otherwise healthy eye as it rapidly subsided under appropriate treatment without any damage to the organ. Dr. Schwenk presented a case of congenital cataract in a white male of thirty years of age, the interesting point being that three brothers were similarly affected, while three sisters had normal eyes. Ten days previous, a free dissection of the right lens was done by the Senior Resident Surgeon of the Hospital. The lens rapidly swelled and several opaque pieces of matter fell into the anterior chamber. One week later, although intraocular tension was normal and the eye was quiet, much of the remaining lens material was extruded by means of a grooved spud. At present the eye is practically well. **The Immediate Results of Mules' Operation.**—Dr. Oliver showed the immediate results of a Mules' operation in a case of panophthalmitis. The patient was a twenty-three year old sailor who had lost his eye about a year previously from gonorrheal infection. As a large area of the sclerotic coat at the upper outer corneal limbus was softened and infiltrated, he took advantage of excising this part while converting the circular corneal area into a lozenge of sufficient size to admit the placing of the glass ball into the scleral cavity. In less than five days' time without any reaction, the conjunctival sac was clean and the eyeball was freely mobile. In accordance with a suggestion from the Senior House Surgeon of the Hospital he had most successfully employed pressure bandages instead of the usual feed compresses. He expected, as is his rule, to discharge the case from the wards of the Hospital as cured in a few days' time. He will order a properly adapted artificial eye for the patient as soon as the socket becomes fixed in size. He had learned from experience that throughout the entire procedure it is always best to avoid touching the borders of tissue intended for coaptation by any fixing instruments, and always to remove the ocular contents with a number of moistened cotton swabs twisted upon the end of clean applicators. He has broadened the

field of the usefulness of the procedure to cases in which he had previously had no expectation of good results, employing the plan with immediate cessation of all inflammatory signs in cases of panophthalmitis and even localized tenonitis in which even isolated areas of softening in the anterior portion of the sclera had become evident.

A Medical Club Chartered.—Judge Ralston approved the charter of the Ptolemy Society, a corporation formed for social intercourse and to disseminate medical science. The officers are: President, Stilman Henry Conner; vice-president, Bert Edward Goodman; secretary, Atlee David Mitchell; treasurer, Frank Cornelius Leytze, and Board of Governors, Drs. Hiram R. Loux, Hobart A. Hare, Justus Sinexon, Dudley D. Smith and Edwin Russell Kennedy.

Epipoplexy.—Dr. James T. Jelks, of Hot Springs, Arkansas, informs us by letter that his recent interesting paper on this subject which appeared in the *Medical Record* (March 23rd), was read before the Texas Medical Society, and consequently before the appearance of Dr. John B. Roberts' paper on the same subject in the *Philadelphia Medical Journal* for January 26th. This accounts, of course, for Dr. Jelks' not having made reference to Dr. Roberts' paper.

Appointment.—Governor Stone has appointed Professor L. Webster Fox a member of the Board of Managers of the Orthopaedic Hospital and Infirmary for Nervous Diseases, of Philadelphia.

Jewish Maternity Home.—The number of patients received at the Jewish Maternity Home in March was 10; cared for during the month, 14; applications, 15; births, 8; operations, 9; discharged, 9; remaining, 5. In the clinic 25 new patients, 21 old patients and 12 eye patients were treated. In the Nursery for Motherless Infants there were 6 admissions, added to 7 remaining from February made 13 cared for; discharged, 8; in the nursery March 31, 5.

Dr. Henry S. Clemens.—Dr. Henry S. Clemens, of Allentown, Pa., died April 8th, aged 63 years. He was graduated from the University of Pennsylvania in 1861, and for the last thirty years practiced his profession in Allentown.

Berks County Medical Society.—At the April meeting of this society Dr. Jno. Bertollette presented the history of a case of elephantiasis that came under his care. The patient being a woman of 51 years of age, no children, both parents living to old age. The foot measured 15 inches in diameter, the leg 12 inches. Dr. Bertollette states that the itching of the parts was so intense at times as to necessitate the use of brushes to allay the itching. Dr. J. C. DaCosta, of Philadelphia, spoke of the pathological changes found in the case. Dr. Bertollette exhibited the filaria under the microscope. Dr. Weidman and Dr. Frankhauser spoke of a case that was in the Reading Hospital some ten years ago, Dr. Weidman amputating the leg at the lower third of the thigh, the patient is still living, with no recurrence of the disease. The specimen is in the Pathological Museum of the Reading Hospital.

Vital Statistics of Philadelphia for the week ending April 13, 1901:

Total morality 469

Cases. Deaths.

Inflammation of bladder 1, brain 20, bronchi 3, kidneys 24, larynx 1, lungs 68, peritoneum 9, pleura 2, stomach and bowels, 11	139
Inanition 10, marasmus 18, debility 5,....	33
Tuberculosis of the lungs	44
Apoplexy 13, paralysis 7	20
Heart-disease of 39, fatty degeneration 1, neuralgia of 4	44
Uremia 11, diabetes 2, Bright's disease 12, Carcinoma of liver 1, stomach 6, tongue 1, uterus 1	25
Convulsions 14, puerperal 1	9
Diphtheria	15
Brain-congestion of 2, disease of 2, dropsy of 2, hemorrhage of 1, softening of 1, sarcoma of 2	59 6
Typhoid fever	10
Old age	37 5
Cyanosis	23 5

Scarlet fever 77
 Influenza 4, alcoholism 1, asthma 3, anemia 2, atheroma 1, burns 4, blood poisoning 1, casualties 7, congestion of lungs 4, cellulitis of arm 1, cirrhosis of liver 8, births 1, croup, membranous 1, disease of spine 3, drowned 1, dropsy 1, dysentery 3, erysipelas 1, fever, puerperal 1, goitre 1, gangrene, senile 1, hernia 2, indigestion 1, jaundice 1, obstruction of bowels 1, edema of lungs 2, rheumatism 3, shock, surgical 1, septicemia 3, suffocation 1, suicide 8, teething 2, unknown 2, whooping cough 6, diarrhea 2.

A MARTYR TO SCIENCE.

Dr. Ralph Erskine Johnston.—Dr. Johnston was born January 1st, 1867, and was killed by an insane patient in the Danville Asylum on April 3rd, 1901. His name shows his Scotch ancestry, he being descended from Sir Archibald Johnston, of Scotland, who was martyred for adhering to the "League and Covenant." His father, both grandfathers and remoter ancestors were all Presbyterian elders, and he himself was an adherent of that church. He was bright and precocious, besides having a practical turn of mind, which enabled him to take up many lines of thought or action. Even as a boy, he showed a capacity and a delight for "doing things," as making toys, building machinery, painting, drawing or taking up a mechanical pursuit like photography, or a line of investigation, like his family genealogy. He attended the district school at the home of his father, near New Wilmington, Pa. There he entered Westminster College, New Wilmington, graduating in 1889, at 22. He then spent some time as an attendant at the Dixmont Hospital for the Insane, where he had been previously employed. Here he acquired a taste for work among the insane, which never left him, and which led ultimately to his death. From Dixmont he went to Cleveland, spending a year at the Medical College. He graduated from the College of Physicians and Surgeons at Baltimore in 1894. He had a short term of service at the city hospital, Cumberland, Md., which he resigned to take the



DR. RALPH E. JOHNSTON.

position of Assistant Physician at the State Hospital for the Insane, Danville, Pa., September 1st, 1894. To a considerable extent Dr. Johnson was "self-made," earning the money for his education as he went along. He was practical and excelled in practical pursuits; was a good amateur photographer, and prepared slides for his stereopticon lectures at the hospital; was fond of electrical engineering; was an enthusiastic botanist; and was musically inclined. Though his life and character were many sided, he was always at his post of duty, and died there. A careless physician would have left the trifling ailment of the patient pass, but Dr. Johnston felt it to be his duty to attend him, and was murdered by the man he was

attempting to benefit. Though his life was short, he has not lived and died in vain. His death may save the lives of others by making them more careful in dealing with the insane. His life may be an inspiration to all, for he was fearless, yet kind; serious in business, yet gracious in social intercourse. In all the private relations of life he was tender and true, as a son, a brother and husband. His relatives cherish his memory in the most grateful remembrance, while the hospital and acquaintances of Danville feel his death as a personal bereavement and most deplorable murder. Dr. Johnston was married to Miss Augusta Sweisfort, daughter of Col. Jonathan Sweisfort, of Danville, Pa., January 8th, 1901. The insane man responsible for Dr. Johnston's death, an Italian shoemaker, has been a resident of the institution for three years, and was a case of mania with delusions of persecution, quarrelsome, denunciatory and threatening, very excitable and quickly angered. Because of these characteristics he had been frequently searched, the last instance being the day previous to the assault, all clothing being removed. On the day in question the patient complained of illness and was put to bed, he, however, requesting that the physician should not disturb him. During the usual evening round Dr. Johnston entered his room accompanied by a nurse, despite the protest of the patient, sat upon the edge of the bed and endeavored to take his pulse. To overcome the patient's hesitance the nurse was directed to hold his hand, but before this could be secured he had dealt the doctor a blow with some sharp-pointed instrument on the left lower jaw near its angle. In attempting to subdue the patient Dr. Johnston received three additional wounds in quick succession, one in the right shoulder, one in the left hypochondriac region, both superficial, and a fatal stab wound about one and one-half inches below the clavicular notch, penetrating the sternum, pericardium and arch of the aorta about one and one-half inches from its origin, the puncture being about one-fourth inch long. The hemorrhage into the pericardium caused death in about twenty minutes. The weapon with which the deed was done seems to have been the small blade of a pocket knife found secreted in the crack of a ward settee outside the patient's room. In justification of the act the patient stated they were trying to kill him.

NEW YORK.

New York Academy of Medicine—Section on Orthopedic Surgery.—Meeting of March 15, 1901. George G. Elliott, M. D., Chairman. Dr. Homer Gibney presented a boy aet. 11 years, who had infantile spinal paralysis. There was equino-varus of the left foot with slight cavus. According to previous history, astraglectomy had been performed 5 years previously without beneficial results. November last Dr. Gibney exposed the tarsal bones, curetted the cartilages, sutured the wound and applied a plaster of Paris bandage. The result was that the foot was shown at a right angle with slight motion. **Acute Hip Disease.**—A second patient, a girl 6 years of age was shown by Dr. Gibney. She was suffering from acute hip disease when first seen in October, 1899. A brace was applied and the child put to bed. Her hip became worse; the hip was stretched and a plaster of Paris spica was applied. An abscess developed and was opened January, 1900. Improvement followed the incision but owing to a profuse discharge, fever and loss of flesh the hip was excised April, 1900. The child improved rapidly after the operation; a small sinus remained. **Paraplegia Complicating Spinal Caries.**—Dr. Gibney presented a third patient, a girl 9 years of age. She was admitted to hospital December, 1900, with the history that her disease followed an attack of diphtheria five years previously. A plaster of Paris jacket was worn for six weeks at onset of disease and then for eighteen months she wore a Taylor brace with head attachment. In 1897 she had an attack of paraplegia which lasted six months. One year ago she had a second attack which persisted at time of admission into the hospital. There was at that time paraplegia, incontinence of urine, increased reflexes with marked ankle clonus. December last the child was put to bed wearing a plaster of Paris jacket with head extension. The jacket was re-applied January, 1901, with head extension and plaster straps over the shoulders. A third jacket was applied February 21. Improvement was gradual and child was shown with fairly good voluntary use of legs. **Coxa Vara.**—Dr. W. R. Townsend presented a

boy 15 years old who came to the hospital for R. & C. one month ago, with the history that without any apparent cause one year previous he began to have difficulty in walking and was easily fatigued. The difficulty in locomotion had steadily increased. The limbs were equal in length and the X-ray revealed a very marked case of coxa vara. There was limitation of motion and the great trochanters were one inch above Velaton's line. Limitation of motion, especially in flexion and extension was very great. There was not over 15 degrees of motion on the right side and none on the left. Standing the knees could not be separated more than three inches. The patient sat with difficulty. A radiograph was shown. He asked if any member of the Section had seen a case of coxa vara with so much limitation of motion. **Spondylose Rhizomelique.**—Dr. Townsend presented a man 35 years old who five years ago began to have stiffness of the back and difficulty in walking. He had had two attacks of muscular rheumatism. He had had no pain excepting in the upper part of the back and when sitting. These symptoms increased until the present time; he was obliged to use crutches. The thighs were flexed on the pelvis about 20 degrees; extension and flexion were much restricted. He regarded the lesion of the hip joints and the spinal stiffness as typical of spondylose rhizomelique. He suggested a plaster of Paris jacket as of some service. Dr. Townsend showed two radiographs, one showing union of a fracture of the neck of the femur after use of a long traction hip splint (patient shown before Section January 11, 1901); the other radiograph was of a case of double dislocation of the hip joint which had been treated by the bloodless reduction eight weeks before. The picture was taken through the plaster of Paris splint.

Congenital Club Foot.—Dr. Judson presented a boy 5 years old first seen when there was marked and resistant typical double deformity which had been reduced by the painless continuous leverage of a simple brace applied with adhesive plaster and often removed for manipulation of the feet; later a walking brace had been used; all the apparatus used was of a common kind with a single invisible upright. The braces were made of tractable metal allowing change from the deformity to the normal and later to overcorrection. The feet followed these changes through force of adhesive plaster and later by body weight. At the age of fifteen months the deformity had disappeared. Treatment was resumed after seven months interval, the outer border of the feet having become slightly callous; walking braces were applied and worn for 22 months, finally laid aside January 15, 1900. On presentation the child walked and ran with normal ability and without defect in his gait. The only remaining defects were slightly shortened Achilles tendons but this was slight as he could even walk on his heels.

In this affection the following were to be considered as favorable elements.

- 1st. The certainty of rapid growth.
- 2nd. The plastic or formative condition of the parts.
- 3rd. The absence of body weight for 18 months.
- 4th. The certain affect of continuous leverage.
- 5th. The weight of the body applied on the right side of the plane between varus and valgus in virute of which the child could stamp his foot straight.
- 6th. The absence of necessity for haste.
- 7th. Use of tractable metal. An unfavorable point was the postponement of treatment till the child was two years old.

Funnel Chest.—Dr. Judson presented a man 71 years old having a deformity which although rare, has been described by a number of observers. It was a curious malformation, entailing no great disability, of uncertain origin and calling for no treatment. From an angular projection at the junction of the manubrium and the gladiolus there was a continuous depression till the deepest place was reached at the lower end of the xiphoid appendix. The cartilages of the lower ribs were prominent as usual on each side and the front of the chest, although somewhat flat, was normal except for this funnel like depression which began on each side at the nipple line and was cup-shaped at the bottom with a depth of $1\frac{1}{2}$ in., unchanged by expiration (31 in.) or inspiration (34 in.). The man said he had always been so and had never known of another person similarly affected in his family. He had eighteen brothers and sisters. He had been fond of athletic sports in

his youth, was a shoe-maker by occupation and had enlisted in the military service in 1862. There was no history or sign of rickets or spinal disease. He had been free from notable diseases of the chest or otherwise, although years ago he had been told that he had serious chronic disease. Dr. H. S. Stokes said it was difficult and frequently impossible to make a correct physical diagnosis when chest deformity existed. He cited a case of Pott's disease where the patient had been told four years ago that he had pulmonary tuberculosis and a bad prognosis had been made. He had frequently examined the sputum of the patient with negative results; all segs of lung involvement disappeared. He cited two cases of lateral spinal curvature which had lately come under his notice, where errors of diagnosis had been made. In one the diagnosis of tubercular consolidation was made. In one the diagnosis of tubercular consolidation was made which turned out to have been only a slight bronchitis. Dr. Myers presented a case of polio-myelitis in a boy 13 years old; the disease dated from early infancy; the case was exhibited to show the muscular changes—the right quadriceps was completely paralyzed and the right ligament patella was one inch long; the left quadriceps was fairly strong and the lig. patella $2\frac{1}{4}$ inches long. Osteotomy had been performed on the right side for a recurring genu valgum which had been caused by the greater power of the ext. hamstring muscle. The muscle was split and one-half transplanted and given to the internal hamstring and the knock knee did not recur. He called attention to the marked rotary lateral curvature of the whole dorsal spine with convexity to the left the stronger side, while concavity was toward the side of paralysis of the lower extremity and erector spinal muscles. In club foot due to polio-myelitis, the shortening always occurred in the stronger or least paralyzed muscles; by analogy the erector spinae muscles on this boy's left side, those least paralyzed should be contracted and they were. This drew the entire thorax strongly to the left and downwards. To maintain his equilibrium the boy had thrown his head and shoulders to the right by voluntary effort inducing the form of curvature present. **Congenital Dislocation of Hip with Fracture of Shaft of Femur.**—Dr. Elliott presented a five months old baby sent to him three weeks previously for diagnosis. He found dislocation of left hip and suspected fracture both of which were confirmed by X-ray picture. According to the history, birth of the child had been very difficult—the breech had presented and great difficulty had been experienced and instruments used. No difficulty was anticipated in reducing the dislocation; the fracture of the femur, however, complicated the matter. He said he proposed to attempt reduction under an anaesthetic and if any great difficulty presented itself, wait till later and do it by the Lorenz non-cutting method. **Congenital Dislocation of the Patella.** Dr. Elliott showed a patient a young man 20 years old with dislocation of the right patella. His relatives had told him that it was first noticed two days after his birth; he wore apparatus at various times but nothing since 1838. The patella slipped into place on extension but on flexion slid over the external condyle of the femur even if force was applied to hold it; there was two inches of atrophy of the right thigh; a slight degree of knock knee existed. All that the patient complained of was a sense of weakness and uncertainty of the leg. The patient wanted to know if the condition could be remedied without leaving him with a stiff knee. He preferred his present condition of slight disability to a stiff leg. **A Case of Spondylolisthesis.** Dr. Taylor presented a man 19 years old whose occupation was loading and unloading furniture. Last December he sought treatment for weakness of his back and occasional pains in the lumbar region at night, after hard work. About three years ago he slipped on the ice and fell heavily on the buttocks. He worked the following day. He experienced no inconvenience for sometime but within a few weeks he noticed a decided projection, lower part of spine, which he still has. He thinks it is less now than formerly. Examination revealed a marked projection of the fifth lumbar spine and a deep depression above it. At the bottom of this depression could be felt the fourth lumbar vertebral spine one-half inch in front of its normal position. The patient could bend forward and touch the floor and showed none of the characteristic attitudes of the rigidity of spondylitic. He was strong and able to work.

There were no rectal or bladder symptoms of lower extremity paralysis. Dr. A. E. Gallant showed a model of the triangular pasteboard Van Arsdale splint. He stated that this splint was used in children in fractured femur with excellent results; he had reported 33 cases himself. It was light, could be adjusted, leaving the child in a comfortable position and in young infants it was out of the way of soiling. The children were not confined to bed but could sit up and play without hindrance. He cut a model and drew a diagram illustrating the manner of preparing the splint.

Dr. William Jay Youmans.—Dr. Wm. Jay Youmans, for many years editor of *Popular Science Monthly*, to-day died at his home, in Mt. Vernon, N. Y., a suburb of this city, of typhoid fever, after an illness of ten days. When difficulties a year ago came upon the house of Appleton, and the *Science Monthly* was transferred, Dr. Youmans severed his connection with it, and retired permanently from active life. He was deeply attached to a handsome farm possessed by him among the hills near Saratoga, N. Y., where he was born, October 14, 1838, and near which he began his education in a district school. Dr. Youmans studied chemistry with his brother, Edward Livingston Youmans, at Columbia College and at Yale Scientific School. He graduated in medicine from New York University in 1865.

NEW ENGLAND.

Surgical Instruments Taxed.—Judge Colt, in the United States Circuit Court yesterday, dismissed the petition brought by the Massachusetts General Hospital for a review view of the decision of the Board of General Appraisers, holding that a case of imported surgical instruments was not entitled to exemption from duty under par. 638 of the Dingley Tariff Act. The goods are dutiable at 60 per cent. under the act. The instruments were for use in the hospital.

WESTERN STATES.

Dr. William F. McClelland Dead.—Dr. William F. McClelland, the first physician to make a study of the climatic influences of the mountain region upon pulmonary diseases, and who was widely known in America and Europe, through the performance of many difficult surgical operations, is dead at his home in Denver, Colorado, aged 80 years.

The St. Paul Meeting and Yellowstone Park.—Arrangements have been completed for an excursion of the members of the American Medical Association to Yellowstone Park. The Committee of Arrangements has finally succeeded in persuading the officials to open up the park a week earlier than usual in order to accommodate the association. A special train will be run from St. Paul to the Yellowstone Park and the railroad officials have promised to do everything in their power to make it satisfactory to all concerned. The rates will be very low, but how low can not at this time be definitely stated. Those who attended the meeting in 1882 will remember with much pleasure a similar excursion that was run at that time, and these will not need to be informed that the one now proposed will be full of enjoyment. Further announcements will be made later. The Yellowstone National Park contains more natural wonders than are to be found anywhere else in the world, and this will be a rare opportunity for our Eastern friends to see what this portion of our Great West possesses.

SOUTHERN STATES.

Tennessee State Medical Society.—At the sixty-eighth annual meeting of the Tennessee State Medical Society the following officers were elected: Deering J. Roberts, M. D. (Southern Practitioner), Nashville, president; J. B. Murfree, Jr., M. D. Murfreesboro, L. A. Yarborough, M. D., Covington, W. B. St. John, M. D., Bristol, vice-presidents; A. B. Cooke, M. D. Nashville, secretary; W. C. Bilbro, M. D., Murfreesboro, treasurer. Next place of meeting, Memphis, Tenn., on the second Tuesday in April, 1902.

Georgia Pasteur Institute.—The Board of Governors of the Pasteur Institute Laboratory met in Atlanta April 12th

to receive the first semi-annual report of the physician, Dr. Jas. N. Brawner and the pathologist, Dr. Claude C. Smith. Since December 1st, eleven cases have received the Pasteur treatment, and all dismissed as cured. Eight were bitten by rabid dogs as proved by inoculation of rabbits. The pathological department is doing good work also, and the Board was highly pleased with the first report.

To Investigate the Propagation of Yellow Fever.—The Orleans Parish (La.) Medical Society has appointed a special committee to study the mosquito as a means of propagating yellow fever.

North Carolina State Board of Medical Examiners.—The regular annual session of the North Carolina State Board of Medical Examiners will be held at Durham, N. C., beginning Thursday, May 16th, 1901.

The Orleans Parish Medical Society.—The Society passed resolutions urging the need of a City ordinance prohibiting spitting on the floors in public halls and public places of amusement. The sum of \$25.00 was donated to the \$1000 fund being raised in the United States as the contribution to the amount needed to erect a bronze statue of Prof. Ollier, in the City of Lyons, France. The members of the Society have additionally subscribed to the fund so that New Orleans will have added its full equivalent to the amount to be raised in this country.

The Inhalation of Menthol in Acute Inflammations of the Throat and Respiratory Tract.—Susdalsky (*Woenno-meditsinsky Journal*, Dec., 1900), employs inhalations of menthol in acute respiratory troubles with singular success. The cases reported by the author were all in soldiers. Recovery took place in about six days. The sooner the treatment was instituted the more rapid was the recovery. [A. R.]

Southern Idaho Medical Association.—The quarterly meeting of the Southern Idaho Medical Association was held April 4th. The next meeting will be held early in July at Shoshone. The following officers were elected: President, Dr. McCalla, Boise; vice-president, Dr. Ed. E. Maxey, Caldwell; secretary, Dr. H. A. Castle, Pocatello.

CANADA.

(From Our Special Correspondent.)

Hospital Work in Labrador was the theme of an address recently delivered in Montreal by Dr. W. T. Grenfell, who for the past eleven years has been superintendent of mission work among the fisher folk of that country. There are now three hospitals in Labrador. One is situated at Battle Harbor and another at Indian Harbor, whilst the third is in course of construction on the north French shore at St. Anthony. Besides these there is the hospital steamship, *Strathcona*, of which Dr. Grenfell is captain. This ship is provided with six beds and all necessary appliances, including the X-ray, and is constantly cruising up and down the coast. Dr. Grenfell is assisted in his work by two trained nurses, one a Canadian, and the other an Englishwoman, and men qualified in every way for the work. Last year the *Strathcona* attended to 1,020 cases, and there were sixty-two in-patients at Battle Harbor, and thirty-seven at Indian Harbor. Dr. T. D. Roddick, of Montreal, has given much assistance to Dr. Grenfell, especially this season when he came to Toronto and secured six physicians to accompany the sealing fleet last March, which was the first time in the history of the colony that these vessels had carried surgeons. Dr. Grenfell will return to Labrador in May.

Cremation in Quebec has been legalized by Act of Parliament. Some months back Sir William MacDonald, one of the leading of Montreal's philanthropic citizens, offered to erect at his own expense in the Mount Royal Cemetery, a crematory, providing the cemetery authorities would assume the cost of maintenance once the structure was raised and equipped. In order to carry out this project it was found to be necessary to have the consent of the Quebec Legislature, so a bill was introduced into that Assembly asking for powers to construct and conduct a crematory. From the very first this measure met with persistent and determined opposition, particularly from the Roman Catholic members of that body. With several

amendments the bill was finally gotten through that House by the narrow majority of one; and as Quebec province is governed by two houses of parliament, it then came before the upper house or the Legislative Council. As the bill stood then it provided that the "deceased had expressed a desire for cremation and that a certificate be produced that deceased at death was not a Roman Catholic." Before the Legislative Council the promoters of the bill objected to this amendment and stated that they did not desire to cremate Roman Catholics, but that they objected to any discrimination or exemption of any creed. In the Council, a motion to strike out the cremation clause resulted in a tie vote of eleven to eleven, and according to the rules of this body was lost, and as thus amended the bill became law, the amendment now standing: "That the deceased at the time of his death is entitled to be buried in Mount Royal Cemetery and has expressed by his will a wish that his body be cremated." On the 7th inst. Archbishop Bruchesi of Montreal issued a pastoral letter on the subject of the Delpit marriage and cremation, in which His Grace condemns the latter most strongly, stating that cremation is prohibited for all children of the church. This is the first legal recognition of the principal of cremation in the Dominion of Canada.

The Annual Report on Ontario Hospitals has just been issued. There are at present fifty or sixty of these institutions, situated in almost every town and city of any importance. That these are recognized by the people and are doing good work is evidenced in the largely increased population over that of the previous year. The hospitals at Sault Ste Marie and Parry Sound were added to the Government list for receiving annual grants. On the first of October, 1900 the number of patients remaining in the various hospitals of the province numbered 1,893, and the number of patients admitted during the year was 27,061. The number of deaths during the year was 1,451 and the number of days' stay in the hospitals was 739,816. The revenue from all sources other than the Government grant amounted to \$498,579.17; the provincial grant for the past year was \$110,000. The average cost per day per patient was 83½ cents. In addition to these institutions there are 100 charity homes, etc., in Ontario, having an aggregate population of 5,042. It costs \$234,602.53 to keep these up, of which the province contributes \$62,687.19.

Raising the Standard of Medical Matriculation at McGill will have become an accomplished fact after September 1902. At present candidates for admission into this faculty have to pass in English, mathematics and either French, German, Greek, chemistry or physics. After the date alluded to above they will all have to show that they are proficient in practical chemistry and possessing a sound, theoretical acquaintance with physics, statics and dynamics. The only optional subjects after that date will be French, German or Greek, of which one will have to be taken. Dr. Rutan, registrar of the faculty of medicine states that this will make the matriculation in the medical department of the University the most exacting of the departments. Some time ago the length of the regular sessions was increased from six to nine months for a four-year course; and more recently a combined arts and medical course was introduced. The present step will pave the way for a still further increase in the matriculation standard which will provide that all students contemplating the study of medicine at McGill will have to take a year's course in arts before being permitted to write on the medical matriculation. The change is calculated to prevent students from doing outside work while supposed to be working in the laboratories or attending lectures.

"Counter Prescribing" by Druggists in Toronto appears to be destined soon to be a thing of the past. Some little time ago a number of Toronto druggists appeared before the police magistrate charged with the offence. Convictions were registered in several cases on the charge of practicing medicine, and a fine of \$25 or thirty days in jail without hard labor given. From this judgment the druggists appealed to the County Court and had their appeal sustained and the decision of the magistrate's court reversed, but purely on a mere matter of form. Now several more are before the police magistrate who evidently holds strong views on this question. The other day when these cases were reached, the solicitor for the druggists moved that they be dismissed as the previous convictions

had not been sustained by the higher court. This the magistrate refused to do and delivered himself as follows: "A man committing an offence is nothing to making a mistake in a document.—I have a great deal of sympathy, too, with the poor people who go into drug stores for medicine, but when it is proved that a man says 'I am suffering' in such a way, and the druggist replies, 'Oh, you have indigestion,' or some other complaint, I will convict him and keep on convicting as many as are proved to have done this." "The Colonel," as the police magistrate is popularly called in Toronto, seems to have a proper idea of the fitness of things.

Society Notices.—The annual meeting of the Ontario Medical Association will be held in Toronto on the 19th and 20th of June, under the presidency of Dr. Angus McKinnon, of Guelph. Dr. Harold C. Parsons, Toronto, is the general secretary. The next annual meeting of the Canadian Medical Association will be held in Winnipeg on the 28th, 29th, 30th and 31st August. Dr. H. H. Chown of that city being the president and Dr. F. N. G. Starr, of Toronto, the general secretary.

MISCELLANY.

Photographing the Stomach.—It is stated that Drs. Lange and Melzing have succeeded in taking photographs of the mucous membrane of the stomach in the living subject. A stomach tube, sixty-six centimeters long, with a diameter of eleven millimeters is introduced, having at the lower end an electric lamp and at the upper end a camera. The stomach is first emptied and washed and then distended with air. Then fifty pictures can be taken in rapid succession in from ten to fifteen minutes. By turning the apparatus on its axis all parts of the mucous membrane can be pictured. The photographs are about the size of a cherry stone, but they can be enlarged to any extent.

A Bold Surgical Operation.—The *New York Tribune* quotes the story of a remarkable surgical operation told in a Danish medical periodical relative to the treatment of a patient who had become asphyxiated from the administration of chloroform. The operating surgeon was a certain Dr. Maag, but the method which he had employed had previously been suggested by Dr. Prus of Lemberg. A laborer, 27 years old, who had suffered from sciatica, was to be operated upon to relieve that trouble. Chloroform was given and the operation begun. The patient struggled, however, and when the process of anesthesia was carried further he stopped breathing. Several expedients were resorted to in order to restore respiration, but in vain. There was no longer any pulse. In this emergency Dr. Maag opened the chest, detached portions of the third and fourth ribs two and a half inches long, and turned them back with a flap of flesh. Through the opening thus made, he thrust his hand. The heart was firmly grasped and compressed rhythmically. After a few squeezes that organ began to beat naturally. It was necessary to employ compression again at times, and also to inflate the lungs artificially. But by these means the patient was kept alive for eleven hours and a half, and Dr. Maag is inclined to believe that the man would have recovered were it not that one of the pleura was accidentally punctured.

Yellow Fever in Jamaica.—Yellow fever has made its appearance at Port Royal, the entrance to Kingston, Ja. Two cases have been officially reported and one death has resulted. The health authorities are taking prompt measures, and with every prospect of success, to prevent the spread of the disease.

Medical Association Formed at Bangkok.—The *Hong Kong Telegraph* states that the medical men of Bangkok have formed a medical association. The aims of the association are the advancement of medical science and the protection of medical interests.

The Temple of Aesculapius.—Two years ago Dr. Rudolf Herzog, of Tuebingen, undertook excavations of the island of Cos with a view of finding the temple of Aesculapius. At a depth of eighty centimetres (thirty-two inches) he came upon a mosaic flooring which represented Orpheus charming the wild beasts. At a depth of two and a half metres (nearly eight feet), in the neighborhood of the church of St.

Anna, he found two columns, and not far from them the remains of an aqueduct and a small statue of a young man. Great importance is attached to Dr. Herzog's discovery of the supposed temple of Aesculapius. The excavations are still in progress, and it is hoped that many antiquities will be found.—*Medical Age*.

Dr. Chapot-Revost, the surgeon who operated for the separation of the Siamese twins, has gone to Vienna to study a case of Chinese twins similarly afflicted. The examination is to be made by means of Roentgen rays.

Ten Thousand Plague Victims in Six Weeks.—The United States consul at Canton, China, reports that 10,000 deaths from plague have occurred there during the past six weeks, and that there are thirteen cases of small pox on board the United States monitor Monterey. Only one death has resulted on the Monterey, and the other cases of smallpox are progressing favorably.

End of the Plague.—The sanitary report from Rio de Janeiro states the following: On February 20 there existed in the isolation hospital 3 patients, of whom 2 were discharged and 1 died on March 1. The last case of plague occurred February 17. Therefore, on March 9, the quarantine against Rio de Janeiro has been raised by the Brazilian Government and the disinfection stations and isolation hospital closed. The occurrences of plague since April 18, 1900, are as follows: Cases ascertained.—Patients received at the Paulo Candido Isolation Hospital: 1900—April, 7; May, 50; June, 136; July, 112; August, 72; September, 27; October, 29; November, 30; December 22. 1901—January, 11; February, 5. Total, 491. Cases confirmed at the residence of the patients: 1900—April, none; May, 11; June, 18; July, 30; August, 20; September, 4; October, 4; November, 6; December, 2. 1901—January, 3; February, none. Total, 98. Therefore, the total number of cases was 589. Deaths.—Patients who have died at the Paulo Candido Hospital: 1900—April, 2; May, 12; June, 55; July, 47; August, 30; September, 15; October, 15; November, 15; December, 10. 1901—January, 5; February, 4; March, 1. Total, 211. All the cases of plague confirmed at the residences of moribunds or deceased were 98, therefore the total number of deaths were 309 (52.5 per cent). Recoveries.—Patients who have removed at the Paulo Candido Hospital: 1900—April and May, none; June, 24; July 70; August, 70; September, 45; October, 23; November, 13; December, 16. 1901—January, 7; February, 12. Total, 280. Deaths.—The following is the report on patients: Nine were dead on reaching the hospital, 62 died within twenty-four hours, 34 died within forty-eight hours, and 106 died more than forty-eight hours after their arrival at the hospital.

Obituary.—Dr. S. C. Griswold, New Haven, Mo., on April 7, aged 68 years. Dr. James A. S. Carpenter, at Washington, D. C., on April 2, aged 74 years. Dr. William Fleet Luckett, at Washington, D. C., on March 30, aged 63 years. Dr. W. T. Hord, at Washington, D. C., on April 1. Dr. William N. Guernsey, at New York City, on April 9. Dr. John Ferguson, at Manchester, N. H., April, 1901. Dr. J. P. Dillard, at Martinsville, Va., on April 10th. Dr. James C. Larsh, at Washington, D. C., on April 3, aged 80 years.

Changes in the Medical Corps of the U. S. Navy, for the week ending April 6, 1901:

MAJ. CHARLES B. EWING, surgeon, now on duty at Santa Mesa Hospital, Manila, P. I., is detailed as a member of the board of medical officers appointed Jan. 16, 1900, for the purpose of studying tropical diseases as they occur in the Philippine Islands. H. Q. A., April 5.

FIRST LIEUT. CHARLES W. FARR, A. S., recently appointed, will proceed from Elmira, N. Y., to Fort Reno, for duty, to relieve Capt. Francis M. McCallum, A. S., who will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 5.

CAPT. THOMAS C. LONGINO, A. S., will accompany troops G and H. 10th Cavalry, to San Francisco. S. O. 44, April 1, D. T.

ACT. ASST. SURG. WILLIS S. HORNE will proceed to Fort McIntosh and report to accompany troops E and F, 10th Cavalry, to San Francisco. S. O. 44, April 1, D. T.

ACT. ASST. SURG. NEVIL M. GARRETT will proceed to

the detention camp, Angel Island, Cal., for duty with companies K and L, 11th Infantry. S. O. 75, April 2, D. Cal.

ACT. ASST. SURG. FREDERICK H. MOHART having arrived on the transport Lagon, and now sick at the Army General Hospital, Presidio, will proceed to his home, Washington, D. C., when able to travel, for annulment of contract. S. O. 77, April 4, D. Cal.

CAPT. GEORGE J. NEWGARDEN, A. S., upon the expiration of leave granted him Feb. 27, will proceed to Fort Mason, for duty. H. O. A., April 8.

LIEUT. COL. CALVIN DE WITT, D. S. G., is relieved from further duty as chief surgeon, department of Dakota, and will report to the surgeon general of the Army for duty. H. Q. A., April 11.

ORDERS of April 5 are so amended as to direct Capt. Francis M. McCallum, A. C., upon his relief from duty at Fort Reno, to proceed via Jefferson Barracks to San Francisco, Cal., and report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 11.

ORDERS of April 1, relating to Capt. Frederick C. Jackson, A. S., are revoked. H. Q. A., April 11.

CAPT. FREDERICK C. JACKSON is granted leave for one month on surgeon's certificate. H. Q. A., April 11.

CAPT. FREDERICK C. JACKSON, A. S., will upon the expiration of the sick leave granted him April 11, proceed to Columbus Barracks, for temporary duty. H. Q. A., April 11.

CAPT. ALBERT H. EBER, A. S., recently appointed, is granted leave for one month. H. Q. A., April 11.

CAPT. ERNEST K. JOHNSTONE, A. S., recently appointed, now in San Francisco, Cal., will report for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 11.

CAPT. GEORGE B. LAWRASON, A. S., recently appointed, will proceed to San Francisco, Cal., for transportation to Manila, P. I., where he will report for assignment to duty. H. Q. A., April 11.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine-Hospital Service for the 7 days ended April 11, 1901.

C. E. BANKS, surgeon, granted leave of absence for 6 days from April 15—April 11, 1901.

J. J. KINYOUN, surgeon, relieved from duty at San Francisco, Quarantine, and directed to proceed to Detroit, Michigan, and assume command of the service—April 6, 1901. Granted leave of absence for 15 days—April 11, 1901.

T. B. PERRY, surgeon, Department letter of March 2, 1901, granting Surgeon Perry leave of absence for 30 days, amended so that said leave shall be for 20 days—April 5, 1901.

J. B. GREENE, passed assistant surgeon, relieved from duty at Berlin, Germany, and directed to proceed to Washington, D. C.—April 5, 1901.

L. E. COFER, passed assistant surgeon, designated as Chief Quarantine Officer of the Territory of Hawaii, relieving Surgeon D. A. Carmichael—April 6, 1901.

HILL HASTINGS, assistant surgeon, to proceed to Santa Barbara, Cal., for special temporary duty—April 6, 1901.

C. H. LAVINDER, assistant surgeon, Beaureau telegram, granting Assistant Surgeon Lavinder leave of absence for 10 days, amended so that said leave shall begin April 1st instead of March 27—April 5, 1901.

S. B. GRUBBS, assistant surgeon, granted leave of absence for 7 days—April 10, 1901. Upon expiration of leave to proceed to Washington, D. C., and report at Bureau for duty—April 10, 1901.

L. L. LUMSDEN, assistant surgeon, upon departure of Surgeon J. Kinyoun, to assume temporary command of San Francisco quarantine station—April 6, 1901.

EDWARD FRANCIS, assistant surgeon, to proceed to New York, and report to medical officer in command, Immigration Depot, for duty—April 8, 1901.

G. H. ALTREE, acting assistant surgeon, granted leave of absence for 4 days from April 10—April 6, 1901.

HENRY GAHN, hospital steward and chemist, to assume temporary charge of Purveying Depot during absence of Medical Purveyor—April 8, 1901.

F. L. BROWN, hospital steward, relieved from duty at Boston, Mass., and directed to proceed to Cape Charles Quarantine station and report to medical officer in command for duty and assignment to quarters—April 10, 1901.

F. H. PECK, hospital steward, to proceed to San Francisco, Cal., for special temporary duty—April 5, 1901.

PROMOTION.

ASST. SURG. H. S. MATHEWSON promoted and appointed passed assistant surgeon to rank as such from as such from April 7—April 6, 1901.

APPOINTMENT.

J. A. MONCURE reinstated and appointed acting assistant surgeon, U. S. Marine Hospital Service, for duty at the Gulf quarantine station—March 29, 1901.

Changes in the Medical Corps of the Navy for the week ending April 13.

MEDICAL DIRECTOR W. K. SCHOFIELD, detached from duty at Philadelphia, April 27, and ordered here to wait orders.

MEDICAL DIRECTOR W. O. FARWELL, detached from Navy Yard, League Island, and to Special Duty in Philadelphia.

SURGEON C. BIDDLE, ordered to Philadelphia Navy Yard, as the relief of Medical Director W. C. Farwell.

SURGEON G. H. GRIFFITH, ordered to temporary duty in charge of the exhibit of Bureau of Medicine and Surgery at the Pan-American Exposition, Buffalo, April 27th.

ASST. SURGEON R. B. WILLIAMS, detached from Navy Yard, Pensacola, and ordered to Key West Naval Station with temporary duty to Dry Tortugas, with detachment of marines.

MEDICAL INSPECTOR J. E. WAGGENER, detached from duty at Naval Hospital, Cavite, and to Naval Hospital, Mare Island, having been condemned by Board of Medical Survey.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended April 12, 1901:

SMALLPOX—UNITED STATES.

			Cases.	Deaths
CALIFORNIA:	Los Angeles.	Mar.23-30 ..	1	
	San Francisco	Mar.16-23 ..	1	
	San Francisco	Mar.23-30 ..	7	
DISTRICT OF COLUMBIA:				
	Washington	Mar.30-Apr.6	2	
FLORIDA:	Jacksonville	Mar.30-Apr.6	19	
ILLINOIS:	Chicago	Mar.30-Apr.6	9	
INDIANA:	Evansville	Mar.23-30 ..	1	
	Terre Haute	Mar.18-26 ..	1	
IOWA:	Cinton	Mar.30-Apr.6	1	
	Ottumwa	Mar.16-23 ..	1	
KANSAS:	Wichita	Mar.30-Apr.6	17	
KENTUCKY:	Lexington	Mar.30-Apr.6	8	
LOUISIANA:	New Orleans	Mar.30-Apr.6	8	2
	Shrewsport	Mar.23-Apr.6	4	
MICHIGAN:	Detroit	Mar.30-Apr.6	3	
	West Bay City	Mar.30-Apr.6	2	
MINNESOTA:	Minneapolis	Mar.30-Apr.6	20	
NEBRASKA:	Nebraska City	Mar.2-23 ...	7	
	South Omaha	Apr.1-6	6	
NEW HAMPSHIRE	Manchester	Mar.30-Apr.6	6	
NEW YORK:	Newark	Mar.30-Apr.6	2	
NEW JERSEY:	New York	Mar.30-Apr.6	42	6
OHIO:	Cincinnati	Mar.29-Apr.6	3	
	Cleveland	Mar.30-Apr.6	3	2
PENNSYLVANIA:	McKeesport	Mar.30-Apr.6	1	
	Philadelphia	Mar.30-Apr.6	1	
	Pittsburg	Mar.30-Apr.6	3	
	Steelton	Mar.30-Apr.6	1	
RHODE ISLAND	Riverpoint	Mar.10-Apr.6	5	
SOUTH CAROLINA:				
		Apr.2	A few cases.	
TENNESSEE:	Memphis	Mar.30-Apr.6	22	1
	Nashville	Mar.30-Apr.6	14	
TEXAS:	San Antonio	Mar.30-Apr.6	28	
VIRGINIA:	Richmond	Mar.30-Apr.6	71	4
WASHINGTON:	Olympia	Apr.18	2	
WISCONSIN:	Green Bay	Mar.31-Apr.7	2	

SMALLPOX—FOREIGN AND INSULAR.

ARGENTINA:	Buenos Ayres.	Feb.1-26	...	37	21
AUSTRIA:	Pague	Mar.8-23	...	7	
BELGIUM:	Antwerp	Mar.8-16	...	3	1
CHINA:	Hongkong	Feb.23-Mar.2	...	9	7
EGYPT:	Cairo	Mar.4-11	...		1
FRANCE:	Paris	Mar.16-23	...		6
	St. Etienne	Mar.1-15	...	1	
GREAT BRITAIN:	England,				
"	Bradford	Mar.8-23	...	3	
	Liverpool	Mar.16-23	...	2	
"	Southampton	Mar.16-23	...	1	
	Scotland				
	Glasgow	Mar.22-29	...	11	
INDIA:	Bombay	Mar.15-12	...	10	
"	Calcutta	Mar.2-9	...	85	
"	Karachi	Mar.3-10	...	12	4
"	Madras	Mar.2-8	...		11
MEXICO:	Progrese	Mar.22-29	...	8	
NETHERLANDS:	Rotterdam	Mar.23-30	...	2	
RUSSIA:	Moscow	Mar.8-16	...	4	3
"	Odessa	Mar.16-23	...	13	3
"	Warsaw	Mar.8-16	...	9	
SPAIN:	Malaga	Mar.1-15	...	2	
SWITZERLAND:	Geneva	Mar.2-9	...	1	
PHILIPPINES:	Manila	Feb.16-23	...		1
PORTO RICO:	Ponce,	From beginning to epidemic to			
		Mar., 15,132 cases			

YELLOW FEVER.

COSTA RICA:	Port Limon	Apr.6	1 case
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CHOLERA.

CHINA:	Hongkong	Feb.23-Mar.2	6
INDIA:	Bombay	Mar.5-12	4
"	Calcutta	Mar.2-9	26

STRAITS SETTLEMENTS:	Singapore	Feb.2-23	1
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PLAGUE—FOREIGN AND INSULAR.

CHINA:	Hongkong	Feb.23-Mar.2	7	6
INDIA:	Bombay	Mar.5-12	1,196	
"	Calcutta	Mar.2-9	.....	537	
PHILIPPINES:	Manila	Feb.16-23	...	7	6

Plague in the United States as reported to the Surgeon General, United States Marine-Hospital Service, from January 1, 1901, to April 12, 1901.

PLAGUE.

			Cases.		Deaths	
CALIFORNIA:	San	Francisco	Jan.6	1	1
"	"	"	Jan.15	2	2
"	"	"	Feb.5	1	1
"	"	"	Feb.6	1	1
"	"	"	Feb.7	1	1
"	"	"	Feb.10	1	1
"	"	"	Feb.11	1	1
"	"	"	Feb.12	1	1
"	"	"	Mar.2	1	1
"	"	"	Apr.4	1	1
"	"	"	Apr.1	1	1

GREAT BRITAIN.

London's Contribution.—The Court of Common Council of the City of London have agreed to contribute the sum of 100 guineas out of the city's cash towards the purposes of the forthcoming Congress on Tuberculosis, to be held in London.

Gallantry and Devotion of an Army Surgeon.—The King has conferred the Victoria Cross on Lieutenant H. E. M. Douglas, of the Royal Army Medical Corps, for special gallantry and devotion during the action at Magersfontein on December 11th, 1899. Under a very severe fire, says the *Gazette*, Lieutenant Douglas advanced in the open and attended Captain Gordon, of the Gordon Highlanders, who was wounded, and also attended to Major Robinson and other wounded men under a fearful fire.

University of South Wales.—Mr. Alfred Thomas, M. P., has been elected President of the University College of South Wales in succession to Lord Tredegar, who has held the office during the last five years, and who is debarred by statute from re-election.

Memorial Hospital at Cairo to Queen Victoria.—Lord

Cromer, the British diplomatic agent in Egypt, and John G. Long, United States Consul-General in Cairo, jointly presided on March 8th at an Anglo-American meeting to consider a memorial to Queen Victoria. Both delivered addresses advocating the founding of an Anglo-American hospital, which suggestion was approved by the meeting. Sir Ernest Cassel subscribed £1,000 to the memorial fund, and the subscriptions altogether reached a total of £10,000.

CONTINENTAL EUROPE.

Physicians of the Royal Family of Spain.—Dr. Vincente Llorente, one of the leading physicians in Madrid, has been appointed to fill the vacancy of Physician to the Royal Family of Spain caused by the death of Dr. Olavide.

Dr. Samuel Pozi.—Dr. Samuel Pozi has been appointed Professor of Clinical Gynecology in the University of Paris. He is a member of the French Senate, and was one of the most eminent foreigners on whom an honorary fellowship was conferred by the Royal College of Surgeons at its centenary celebration.

St. Bartholomew's Hospital.—The vacancy for the post of ophthalmic surgeon to St. Bartholomew's Hospital caused by the death of Mr. Bowater John Vernon has been filled by the election of Mr. Holmes Spicer. Mr. W. H. Jessup becomes senior ophthalmic surgeon in place of Mr. Vernon, with the appointment of lecturer in ophthalmic medicine and surgery.

Smallpox Diminishing.—The smallpox epidemic at Glasgow continues to diminish, the number of new cases occurring daily being very much less and the officials take a more hopeful view of the situation. On March 15 there were 405 cases in hospital, while on March 22 there were only 380 cases. The improvement is attributed to revaccination, which has been urged upon the people, and it is asserted that no case has occurred among those who have been successfully revaccinated. No further cases have been reported in Edinburgh, so the total for that town remains at 5 cases and 1 death. There was 1 case of smallpox under treatment in the London fever hospital for the week ended March 16.

Strike of Physicians at Leipsic.—At Leipsic one hundred and fifty-five municipal physicians have gone on strike for higher pay and more considerate treatment.

Assistant Physicians in the St. Petersburg Hospital Placed on a Salary.—The city council appointed 15 assistant physicians to the various city hospitals on an aggregate salary of 10,800 roubles (about 5,400 dollars). The salaries of the chiefs were also increased.

An Emergency Medical Society.—In Kieff a medical society is being formed with the object of attending to emergency cases.

Death of Professor Joseph Von Fodor.—With the death of Professor Von Pettenkofer still fresh in our minds, we regret that we have to announce the death of Prof. Josef Von Fodor. He was born at Lakosca, Hungary, on July 16, 1843. He studied medicine at Buda-Pesth, Munich and Vienna and graduated as Doctor of Medicine from the University of Buda-Pesth in 1865. In 1866 he was appointed Assistant to the Chair of State Medicine at Buda-Pesth. In 1870 he went to Munich and studied under Pettenkofer and Liebig. His first publication was a monograph on Sanitary Administration in England, which appeared in 1873 and was crowned by the Hungarian Academy of Science. His greatest work is his *Hygienischen Untersuchungen über Luft, Boden und Wasser*, (Hygienic Researches on Air, Soil and Water), in two volumes, which was published in 1881 and 1882. Among his other writings are addresses and papers—most of which were published in the *Vierteljahrsschrift für öffentliche Gesundheitspflege* and the *Archiv für Hygiene*—on soil and soil gases (1875), healthy dwellings (1878), the condition of longevity (1885), the bactericidal action of the blood and immunisation (1890), immunisation by alkalisation (1891), water supply, drainage, typhoid fever, and drinking water, etc. Professor von Fodor was also the author of a textbook of hygiene for schools which appeared in 1887; a second edition was published in 1892. The *British Medical Journal* publishes the personal reminiscences of one of his dearest friends, concerning him.

The Latest Literature.

BRITISH MEDICAL JOURNAL.

March 30th, 1901.

1. An Address on Some Clinical Aspects of Chronic Bright's Disease. ALFRED G. BARRS.
2. A Case of Congenital Hepatic Cirrhosis with Obliterative Cholangitis. (Congenital Obliteration of the Bile Ducts). H. D. ROLLESTON AND LOUIS B. HAYNE.
3. A Case of Congenital Hepatic Cirrhosis with Obliterative Cholangitis. (Congenital Obliteration of the Bile Ducts). H. D. ROLLESTON AND LOUIS B. HAYNE.
4. On the Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate. R. T. WILLIAMSON.
5. An Easy Operation for Congenital Ptosis. FREELAND FERGUS.
6. Note on the Peculiar Nystagmus of Spasmus Nutans in Infants. JOHN THOMSON.
7. Case of Tetanus Neonatorum Successfully Treated with Antitetanus Serum. JOHN McCRAW.
8. A Note on the Knee-Jerk in Chorea. W. GORDON.
9. Notes of a Case of Congenital Hypertrophy with Stenosis of the Pylorus. ANES BLACKADDER.

1.—Barrs is of the opinion that there is no practical utility from a therapeutic or prognostic point of view in distinguishing between a large white and a small red kidney, even if it could be done with any certainty. The one point in this connection that requires determination is whether the condition is chronic or acute. For, upon its not being the former and being the latter depend such chances as the patient has of recovery. The author has rarely seen a case of **chronic Bright's disease** in which there is a history, first, of acute nephritis, then of an interval more or less prolonged in which the symptoms fall into abeyance, and then of a chronic persistent condition lasting for years, it may be, and ending in death. He has believed and taught for a long time that acute nephritis has much the same definite march, though usually over a much longer period of time, as acute pneumonia, and ending in complete recovery or death in due course. We much more frequently see acute nephritis associated with longstanding latent renal disease than we see chronic nephritis directly traced to an acute attack. The etiology of the disease according to the author's views is not satisfactorily explained by the prevailing theories. Lead as a cause of chronic nephritis he can understand; but he is of the opinion that alcohol has little to do with its causation. He is in doubt whether the causative relation of gout to chronic renal disease is so frequent as is commonly believed. He inclines to the idea of a bacterial origin of the chronic inflammatory destructions of the kidney. A diagnosis of chronic Bright's disease in the absence of albuminuria cannot safely be made. The idea of chronic Bright's disease without albuminuria is based largely, if not entirely, upon post-mortem room experience. Those who have done much post-mortem room work know how common it is to find kidneys that do not conform in every particular to normal standards. The author does not say that the kidney condition is not answerable for the patient's death, but he insists that such a condition is not Bright's disease in the strict and clinical sense of the term; and that it cannot be recognized during life. Clinically, the quantitative estimation of albumin is of no importance whatever, nor is the estimation of urea of any great value. Urines of persistently low specific gravity without albuminuria are said to indicate chronic Bright's disease, yet this is not, in the opinion of the writer, not a reliable indication. No urine need be searched for the tube casts which does not contain albumin. There is great uncertainty in the association of renal with circulatory disease. Arteriosclerosis, altogether independent of renal disease, is a far more common cause of cardiac hypertrophy than Bright's disease; and vascular disease of this nature is probably a cause as well as a result of renal disease. Chronic renal disease has such a common association with cerebral hemorrhage as has been supposed. Speaking of diet in chronic nephritis the author advances the opinion that to live for weeks and weeks on a purely milk diet is not, in many cases, necessary, and in some cases it is distinctly harmful, and there is no clear evidence that it meets the scientific indication. His

rule is that if the bowels are acting freely, the patient may live on such ordinary mixed diet, including meat, as he has an appetite for and can digest. Patients who are confined to bed and suffering from uremic vomiting or diarrhea and are, therefore, getting toward the end of the disease cannot, of course, have any appetite, and the difficulty is to contrive food of any kind for them. Of the many drugs which are in use in the treatment of Bright's disease, some are of great value. But the systematic use of purgatives is not approved of because he has no great faith in the so-called vicarious actions of organs. Diuretics such as digitalis are frequently of the greatest use and almost as frequently fail. Diaphoretic drugs—and of these pilocarpin is the only really active one—are sometimes unpleasant, not to say dangerous in their effects; and the hot bath and hot air bath do all that can be done, and are strictly under our control. Vasodilators have very little, if any, diuretic action in chronic Bright's disease, but in dyspnea, headache, and vomiting frequently give great relief. The nervous and respiratory disturbances of the more severe degree of renal toxemia, which usually portend a not far distant death may be treated by bleeding, purging, and sweating. Morphine can be given with perfect safety sometimes. [J. M. S.]

2.—After a study of gonorrhea, Ward advances the following tests to account for the occurrence of **general infection**. The gonococcus in its process of growth in the human body produces an irritating toxin. This toxin is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system, where its presence causes systemic degeneration of varying degrees of severity. **Gonorrhea** is thus a general toxicemic affection; but the microorganisms that form the toxin are generally localized on or around a mucous tract. The microorganisms may extend to the organs communicating with the infected tract, or it may penetrate into the tissues, either by direct extension, as in the invasion of the peritoneum through the uterus and oviducts, or by a process of growth through the mucous membrane affected. Thence the infection may invade the cellular tissues, the lymphatics and glands, and the vascular system. This invasion is rendered possible by the action of the absorbed toxin upon the leukocytes, which is of a paralyzing nature, and prevents the encapsulation of the microorganisms by these cells. Having reached the circulation the gonococci may invade the heart and endocardium, or may be carried to the peripheral capillaries. In these they become stranded and grow, producing more toxin, which sets up local inflammations. The microorganisms invade the joints, and are found in the synovial sacs, and also in the pleura and pericardium. They are probably present in the analogous inflammations of the tendons and periosteum. The invasion of the organism is favored by all too energetic measures directed to the local infection, since they depress the local powers of resistance, and by abrading or lacerating the mucous surface, may directly open the door to the invasion. General treatment must vary according to the general conditions, and will differ when these are referred to toxemia alone, or to toxemia complicated by metastasis. Local treatment is always required, and should always be free from instrumental, mechanical, or chemical violence. [J. M. S.]

3.—Rolleston and Hayne report the case of a male child, aged 6 months, who had been jaundiced since birth. A fortnight before death the jaundice became more marked. The liver was found to extend to the anterior superior spine of the ilium. The spleen was also enlarged and projected 3 finger breadths below the costal arch. There was no ascites. The urine was bile-stained, and the motions clay-colored. Just before death the temperature rose to 102°, and an attack of hemoptysis occurred. At autopsy it was found that the liver was nearly twice the normal weight, yellow in color, and manifestly cirrhotic. The common bile duct was small, and at its lower end it was transformed into a slender fibrous cord. The gall bladder was small, thickened, collapsed, and buried in adhesions; the cystic duct was represented by a thin fibrous cord. There were enlarged glands in the portal system, suggesting the condition found in hypertrophic biliary cirrhosis. Microscopic examination of the liver showed that fibrosis was everywhere present. The case is one of congenital hepatic cirrhosis with obliterative cholangitis. The following hypothesis appears to be a reasonable explanation of the pathology of so-called **congenital obliteration of the**

bile ducts: In the first instance, poisons pass by the blood from the placenta to the fetus by the umbilical vein some of this blood at once passes through the liver and, in virtue of the toxic effect of the contained body or bodies, induces ordinary portal or multibular cirrhosis of the liver; the remainder of the blood in the umbilical vein passes directly into the general circulation of the fetus by the ductus venosus, and subsequently, by means of the hepatic artery, will convey poison to the liver. By this means the toxic body which may be analogous to toluyendiamine is excreted into the small intrahepatic bile ducts, setting up cholangitis and monolobblar cirrhosis. In this way a mixed cirrhosis, portal and biliary, is induced. The cholangitis descends to the larger ducts, and gives rise to an obliterative appendicitis. The difference between this condition of congenital cirrhosis with obliterative cholangitis and other forms of cirrhosis in post-natal life consists in the further change in the large bile ducts and gall bladder. An attempt to explain this additional lesion may be made as follows: The bile ducts are extremely small at birth, and any inflammatory change will, from the small size of the lumen, produce stenosis much more readily than later in life. [J. M. S.]

4.—Williamson reports a case in which sodium salicylate had a definite influence in greatly diminishing the sugar excretion in diabetes. Other conditions, being kept the same, when the drug was given in large doses, the sugar excretion greatly diminished; when the drug was discontinued the sugar excretion at once increased rapidly; and when the drug was again given the sugar excretion greatly diminished. A report of 19 other cases of diabetes or persistent glycosuria in which sodium salicylate was used is also published. It is not advisable to give sodium salicylate if serious complications are present, or if the patient appears to be losing ground rapidly, because the drug has a bad reputation with many practitioners, and a fatal termination during the salicylate treatment is liable to be attributed to the drug. The author does not regard sodium salicylate as a specific for diabetes. It does not usually produce any marked diminution of the sugar excretion in the severe forms of the disease; also it has little influence in some of the mild cases.

But in certain cases of diabetes or persistent glycosuria it has a decided action in very markedly diminishing the sugar excretion. It requires to be very carefully watched, and fairly large doses are usually necessary to produce decided results. It is best to commence with 10 grs. 3 and then 4 times a day, and to increase slowly up to 15 grs. 4 or 5 times a day, watching carefully for any toxic symptoms. [J. M. S.]

5.—Freeland Fergus described an easy operation for congenital ptosis. A horizontal linear incision is made in the eyebrow so that the hairs of the eyebrow will subsequently hide the scar. After separating the skin from the underlying structures the skin is separated for a distance of about 2 inches above; below, the skin fascia and some of the muscular structure are separated from the tarsus, almost to the extreme margin of the lid. A vertical band of the tendon and fascia of the occipito-frontalis muscle two inches long and about three-quarters of an inch broad, is dissected up until the only attachment of a band is to that portion of the occipito-frontalis muscle furthest away from the original incision. The end of the band is then drawn down into the upper lid and its margin fastened by catgut sutures as near the margin of the lid as possible. The skin wound is closed and covered with a sterile dressing. [M. R. D.]

6.—John Thompson discusses the peculiar nystagmus of spasm nutans in infants. He states that the existence of a convergent form of nystagmus is not generally recognized even in large and recent works of ophthalmology, nor in books on diseases of children. He believes it to be a co-ordination-neurosis, and that it develops in the months during which the child is learning to co-ordinate the movements of the eye with those of the head. The nystagmus of spasmus nutans is often unilateral as well as verticle and rotary, and is invariably recovered from within a few months. [M. R. D.]

7.—McCaw reports the case of a child aged 13 days who was suffering from tetanus neonatorum. The treatment was begun by the subcutaneous injection of 5 c.c.m. of tetanus antitoxin, and this was followed, 2 days later, by 2½ c. cm. om antitoxin. The progress of the case was

entirely satisfactory. Bacterial examination of the discharge from a sloughing surface at the umbilicus showed plentiful growth of bacilli having the characters of the tetanus bacilli. There were also some streptococci. [J. M. S.]

8.—Gordon calls attention to a condition of the knee-jerk in chorea which, although not present in every case and is not constantly present in the same case, is peculiar to the disease. With the patient recumbent, if one raises the knee, allowing the heel to rest on the couch, making sure that all the muscles of the limbs are relaxed for the time being, and if one then tests the knee-jerk in the usual way, the foot is found to rise more or less smartly, but, instead of falling back immediately, it remains suspended for a variable time—hung up as it were—and then slowly sinks back to its initial position. The author believes that the sign has some value in the diagnosis of slight and doubtful cases. He has never once seen it. [J. M. S.]

9.—Blackadder reports the case of a boy, aged 8 weeks, who was admitted to the hospital for wasting and vomiting. The first symptom that attracted the mother's attention was extreme constipation. Usually there was no movement of the bowels for 3 days at a time. When the child was a fortnight old it began to vomit after every feeding. Occasionally there was no vomiting for 1 or 2 days; then it vomited a large quantity at once. There were no physical signs of a dilated stomach, nor was any tumor palpable. Post-mortem examination showed a sausage-shaped thickening of cartilaginous consistence in the pyloric region ¾ inches in length. No fluid could be seen to flow through the stenosed orifice. The case was one of congenital hypertrophy with stenosis of the pylorus. [J. M. S.]

LANCET.

March 30th, 1901.

1. The Hunterian Lectures on the Topographical Anatomy of the Abdominal Viscera in Man. CHRISTOPHER ADDISON. Lecture II.
2. A Lecture on Some Recent Developments in the Administration of Anesthetics. FREDERICK W. HEWITT.
3. Cases of Injury to the Epiphyseal Line. RUPERT BUCKNALL.
4. Note on the Treatment of Collapse of the Ala. NASI. W. J. WALSHAM.
5. The Treatment of Sciatica, Arthritis Deformans, and Scleroderma by Superheated Dry Air. FR. NEUMANN.
6. Note on a Case of Temporosphenoïdal Abscess following Middle-Ear Suppuration; Operation; Recovery. PERCY JAKINS.
7. "Selenium Compounds as Factors in the Recent Beer-Poisoning Epidemic." F. W. TUNNICLIFFE and OTTO ROSENHEIM.
8. The Management of Home Military Hospitals. SURG.-CAPTAIN W. PUGIN THORNTON.

1.—Addison, in continuing his lecture on the topographical anatomy of the abdominal viscera, discusses first the lateral displacements of the pylorus and next the movements of the stomach and its relation in these various positions to the other abdominal viscera. The influence of the stomach upon the shape and position of the parts behind it is then spoken of. The various positions and relations of the duodenum and small intestine are next mentioned. In beginning with the peritoneum Addison mentions prolapse of the mesentery. In these cases the mesentery is attached much lower than is normal. [J. H. G.]

2.—Hewitt thinks that the method of producing anesthesia introduced by Clover, which consists in administering first nitrous oxide and then ether, is far superior to any other method which we possess at the present time. By Clover's method of etherization there are two factors at play, first the ether, and second a certain amount of asphyxia. The latter is brought about by permitting a very small ingress of oxygen, the effect of which is to make the anaesthesia much more profound. Hewitt uses an inhaler, the tubes of which are of much larger calibre than those of the Clover apparatus, and this difference he maintains, eliminates to a great extent the stertor and cyanosis which accompanies the administration of nitrous oxide and ether. He considers deep and obstructive stertor

to be a danger signal and an indication for the need of oxygen. The dorsal position with the face looking upwards is an improper position for any form of anaesthesia; the head should be turned to one side. The patient is allowed first to breathe the nitrous oxide until partly under the effect of this gas, and then the ether reservoir is filled. Attention is then called to the successful use of gas, ether and chloroform in producing anaesthesia. Gas for the patient, ether for the anaesthetist, and chloroform for the surgeon. Nitrous oxide is pleasanter for the patient to take, ether can be given with safety and has a stimulating action on the respiration and circulation, and chloroform is of advantage because of the quiet of the patient and the comparative freedom from venous engorgement. The danger of chloroform is during the second stage of anaesthesia, that is, the stage of excitement. With the administration first of nitrous oxide and then ether, this danger stage is avoided. The disagreeable after effects from the prolonged use of ether can also be avoided by this combination. Hewitt thinks this method far superior to any other in producing anaesthesia. The change from ether to chloroform should never be made while the patient is struggling, nor should the change be made when the patient is profoundly under the influence of ether. It is better to allow the patient to recover sufficiently from the ether to cough slightly, which frees the larynx of any mucus, and then to begin the use of the chloroform. This method of anaesthesia is particularly to be recommended in operations about the mouth, throat and nose, and in such cases the Junker inhaler is used. Hewitt then describes what he calls a chloroform-prop, which serves the purpose of keeping the mouth gagged open, and having in addition a hollow tube attached to it, which allows the inhalation of the chloroform without interference with the work of the surgeon. [J. H. G.]

3.—Buchnall reports six cases of separation of the epiphyses of the humerus and radius. In the first examination of all the injuries about elbow joint in young people he strongly urges the necessity of the use of a general anaesthetic in order that the exact condition may be known. He finds that a molded gutta-percha splint is more satisfactory in these cases than a splint of wood or metal. In most of the cases an injury to the elbow joint the arm was dressed in a flexed position. Buchnall urges the importance of early passive motion in these fractures in order to prevent adhesion and limitation of motion. This is usually begun about the 10th day and increased each day, the separated portion of the bone being held firmly with the hand. If a separated epiphysis has been allowed to go without treatment and no union has taken place, it is oftentimes better to remove it. A separation of the internal condyle of the humerus will frequently produce an ulnar palsy, which is illustrated in one of the cases reported. [J. H. G.]

4.—Walsham speaks of the great difficulty in overcoming the obstruction of free inspiration due to collapse of the ala nasi. He urges the careful observance of this condition as an obstruction, and thinks that it is frequently overlooked. He has found drainage tubes, celluloid expanders, and the various rings recommended for the condition all unsatisfactory and discomforting to the patient. For the relief of this condition he has devised a plastic operation which consists in placing a flap of mucous membrane rolled upon itself into the anterior space between the ala and the septum, and fixing it here by means of a suture. This offers sufficient obstruction to prevent the collapse of the ala. [J. H. G.]

6.—Jakins reports a case of a man who had suffered from middle ear disease for two years. Five months before admission a polypus was removed. This had no effect upon the discharge, which continued as before, but on admission the patient complained of severe pain all over the right side of the head, the right mastoid was tender on pressure and there was marked giddiness and nausea; the complexion was pale, the breath offensive and the lips and teeth covered with sordes. The meatal canal was found full of offensive pus and there was distinct bulging of the superior and posterior meatal walls. On the next day the mastoid antrum was opened and found to contain granulation tissue and cholesteatoma, and a communication was found in the middle fossa, exposing the dura mater. The temporal muscle was then reflected and a portion

of bone removed by the trephine, but as no bulging was found exploration of the cerebrum was not made. After the operation the patient was greatly relieved, but in three days he complained of a great deal of pain, became very restless, which was followed by a comatose condition and a palsy of the left leg and arm. The trephine opening was again exposed, the dura mater was found to bulge, and when it was divided and a grooved director was passed into the temporo-sphenoidal lobe, a quantity of foul smelling pus escaped, the cavity was drained and the patient made a good recovery. The palsy of the arm and leg disappeared very promptly. Jakins thinks that the presence of a polyp or granulation tissue in the extreme canal indicates trouble in the antrum or attic or both, and that the removal of the growth through the external meatus is of no advantage. Within two years he has operated upon four cases of cerebral abscess caused by middle ear disease. [J. H. G.]

5.—Newman describes the treatment of arthritis deformans and sclerodema by super-heated dry air (Tallerman System). The author states that two different forms of the apparatus are used: (1) for the pelvis; and (2) for the extremities. The temperature in the apparatus is raised to 300° F. The portion of the body subjected to the heat is wrapped in a covering of woven asbestos. On account of the profuse perspiration which occurs during the course of treatment, the patient must be undressed and clad in a loose wrap. A feeling of moderate warmth is experienced in the part subjected to the heat. The intense heat never produces a sensation of discomfort. During the treatment the pulse rate increases from 10 to 20 beats per minute, and the bodily temperature rises scarcely more than ½° Celsius; albuminuria has never been produced by this treatment. The author believes that super-heated dry air will come into more general use as a therapeutic agent, and from his own experience he has never seen any ill effects either on the local seat or upon the system. He has applied this plan of treatment in a large number of cases: chiefly rheumatic neuritis, chorea, gout, chronic rheumatism, rheumatic arthritis, stiff and swollen joints, sprains and ruptures of the joints, fractures and inflamed flat foot. During the last year he has applied the treatment of 70 cases of sciatica, 35 cases of arthritis deformans; also in chronic arthritic rheumatism, badly mended fractures with interruption of the circulation, severe sprains of the pelvis and spine, painful cicatrices and contraction after gunshot wounds, in three cases of sclerodema, one case of myxodema and in cases of inflamed flat-foot. In three cases of sciatica no result whatever was obtained; doubtful results were obtained in two cases of arthritis deformans. In two cases of apparently old fracture of the neck and of the femur, with severe contusions of the pelvis, there was no improvement. The treatment was not successful in a case of inflamed flat foot, and in a case of scleroderma, but all of the remaining cases showed marked improvement and some were completely cured. The author of a number of cases of sciatica and arthritis deformans, one case of scleroderma and one of myxodema. [F. J. K.]

7.—Tunncliffe and Rosenheim state that they have found selenium in an invert sugar used in brewing. They had previously found selenium in beer, and they conclude "that selenium compounds have played a definite role in the recent beer poisoning epidemic, their part being, however, subsidiary to arsenic." In some of the beer examined these observers found selenium dioxide in amounts equal to one-third or three-fourths of that of arsenic. [F. J. K.]

8.

THE NEW YORK MEDICAL JOURNAL.

April 13, 1901. Vol. LXXIII, No. 15.)

1. German Text-books Half a Century ago; History and Reminiscences. A. JACOBI.
2. A Shielded Piston Syringe for Urethral and Vesical Irrigation. RILUS EASTMAN.
3. The Correction of the Deviations of the Nasal Septum, with Special Reference to the Use of the Author's Fenestrated Comminuting Forceps. JOHN O. ROE.
4. The Pathology of Intra-uterine Death. NEIL MACPHATTER.
5. The Preponderance of Male Stammerers over Females. DAVID GREENE.

6. The Management of Gonorrhea. BOLESŁAW LAPOWSKI.

2.—Eastman advises for irrigating the most simple apparatus, and uses one consisting of a five-ounce metallic syringe with detachable blunt nozzle. A thin-spun metal shield surrounds the barrel. The shield is made movable, in order that it may be held up while the nozzle is introduced into a vessel for filling. His reasons for using so simple a syringe are: (1.) It is easily and entirely sterilizable; (2.) The solution is taken from the top of a column of liquid, as, for example, in a large graduate, the crystals that may be present in the bottom of the receptacle are not taken up; (3.) With the piston syringe the pressure exerted may be finely gauged by the resistance against the operator's thumb pressing the piston; (4.) The force of the current may be instantaneously lessened or the stream entirely cut off; (5.) The use of the instrument is attended with no inconvenience or loss of time; (6.) It is easily transportable; (7.) It is simple in construction and application. (T. M. T.)

3.—Roe briefly summarizes the special advantages that can be claimed for the superiority of the method which he describes over other methods for the correction of the various deviations of the septum: (1) The facility and ease with which, in every instance, the osseous and osseocartilaginous portion of the septum can be fractured and all resistance removed without incising or even lacerating the septum, may be noted; (2) By fracturing the anterior portion of the osseous septum and changing its direction by putting it in a straight line together with the cartilaginous portion, so that, when this osseous portion becomes reunited in its new position and firm ossification has taken place, the cartilaginous portion is firmly held in its new position. As osseous tissues does not readily bend, this must necessarily act as a firm post or support to hold the cartilage in its new position, very much in the same manner as the direction of the hang of a door is changed at its hinges; (3) Moderate deflection of the cartilaginous portion of the septum can also be fractured with the forceps and the elasticity overcome, without the necessity of incising the cartilage; (4) By this instrument, wrinkles and curves can very readily be smoothed out, no additional operative measures being required, except for the removal of spurs and ridges or the breaking up of adhesions or attachments that may have previously formed; (5) By this method, dislocations of the latter at its auxiliary attachment, can very readily be reduced and the parts put in their normal position. By this method, also, except in rare cases, the extensive incisions proposed by different operators are obviated; such as crucial or rectangular incisions with cutting forceps; the horseshoe incisions through which the deflected portion is pushed, which cannot be of special service except in limited indented deviations of the triangular cartilage, or the separation and setting over of the base of the setum into the free nostril far enough to leave both nasal passages of equal calibre which simply compensates for the bend in the septum without straightening it after all; (6) In those cases in which incision through the cartilage is required to provide for the redundancy, the superiority of the oblique incision, which promotes coaptation of the cut out surfaces, over the right-angled incision, which does not is at once apparent; (7) The superiority of the fenestrated forceps over the flat-bladed forceps or the fingers, as proposed by some operators, for breaking up the base of the fragments at their bony attachments, thus endangering brain complications, and by completely removing the elasticity of the attachments of the deflected parts, it facilitates the more ready adjustment of the septum to its normal position and diminishes the length of support to the septum is required. [T. M. T.]

MEDICAL RECORD.

April 13, 1901.

1. Remarks on Enteroptosis. MAX EINHORN.
2. Small Hospitals and Their Administration. LOUIS N. LANEHART.
3. X-Ray Photography. EUGENE R. CORSON.
4. Some Facts of Responsibility in Spirit and Drug Takers. T. D. CROTHERS.

5. An Unusual Case of Partial Recovery from Embolism of the Arteria Centralis Retinae. EDGAR S. THOMSON.

1.—Max Einhorn discusses the condition of enteroptosis, which he believes may exist without giving rise to any symptoms whatever; but, on the other hand, that enteroptosis may be accompanied by all kinds of gastric and intestinal actions. The corset seems to be an important factor in the causation of these anomalies, but it certainly is not the only cause. Enteroptosis may be found in very young women, who have never worn a corset, and also in men. A weakened condition of the abdominal walls appears to be a primary and most important factor in its causation. Enteroptosis is accompanied in most instances by a movable kidney, and the latter can also be taken as an index for the occurrence of the former. McPhedran is authority for the statement that enteroptosis is not more frequent in women than in men, but in Einhorn's last 45 cases, 26 were in females and 19 in males. Looking over a large number of cases, Einhorn has found in 1912 patients suffering from visceral ptoses, 1080 males and 832 females. Most of the cases of enteroptosis, of which there were 240 in a series, were accompanied by a movable kidney, namely, 212; 18 in men and 194 in women. Enteroptosis may exist without giving rise to symptoms, but the patient often complains of a faint feeling or a certain weakness after rising. There is frequently considerable fatigue after slight exertion, especially after walking. In women, pronounced backache is often present. Flatulence, constipation and frequent micturition are commonly present, and these conditions do not yield readily to treatment. Cases of enteroptosis lasting a long period frequently lead to pronounced anemia in consequence of subnutrition. The latter gives rise to a host of manifestations (neurasthenia). Patients with enteroptosis are usually thin and slender, and often appear younger than they really are. The abdominal walls are generally flaccid, and palpitation is usually easily executed. The abnormal position of the stomach can easily be demonstrated by the following procedures: 1, the splashing sound; 2, inflation of the stomach with gas, and 3, gasto-diaphany. Strong pulsation of the abdominal aorta is frequently encountered, and is probably due to the partial uncovering of this organ by the slipping down of the stomach. The transverse colon, the cecum and part of the ascending colon, as well as the sigmoid flexure, can often be distinctly palpated. The transverse colon is frequently found in these cases as a ribbon-like body running horizontally above the navel. The diagnosis is easy. Einhorn calls attention to Glenard's "belt-test" as a valuable auxiliary in diagnosis. The physician stands behind the patient and encircles the lower part of the abdomen with both his hands; at the same time supporting and partly lifting the patient. If this procedure gives relief it favors the presence of enteroptosis. The prognosis is good when appropriate treatment is instituted. The principal treatment consists in the application of a well-fitting supporter, and in supplying with ample nutrition and well-regulated exercise. Excellent illustrations of several devices accompany the article. Electricity is especially adapted when administered intragastrically to cases in which there are manifold disturbances of the stomach. Iron and arsenic are frequently indicated, and the digestive disturbances managed according to the general rule. Too many laxatives, however, should not be given. [T. L. C.]

3.—Eugene R. Corson presents a practical paper, the results of his own wide experience in X-Ray photography. At first he uses a coil giving a thin 10-inch spark, but now employs one giving a very fat and multiplied spark of 10 inches. This change has produced a startling difference in his photographic results. The difference is due to the amount of current going through the tube. The time of exposure and the time necessary for developing are both shortened, and he secures a negative which brings out the parts more clearly and with more detail. For diagnostic purposes the fluorescent screen of potassium platino-cya-

nide is a most valuable addition to the X-Ray outfit, especially when a very thick part is to be examined. The salt gives a bluish light and acts with greater rapidity on the photographic plate. The time of exposure is greatly shortened, about one-fourth the time being necessary. With a screen made by Erneck's, of Berlin, the author could secure a good negative of the hip in 1 1-2 to 2 minutes. [T. L. C.]

4. T. D. Crothers contributes some facts upon the responsibility in spirit and drug takers. The writer wishes to make it prominent, not that there is legal irresponsibility in these cases, but that the present legal standard is wrong and contrary to all the teachings of science. The superstition that insists on full measure of accountability in all cases in which spirits are used, and assumes that the use of alcohol is the voluntary act of the brain, both conscious and capable of control, is a sad reflection on the intelligence of the present age. The interpretation of the law that boundary lines of responsibility and irresponsibility can be marked out in a case of inebriety, is a delusion. To-day a large percentage of all medico-legal cases is associated is decided from theories formulated centuries ago. The real responsibility and accountability is very different from the conception of them formed in courts of justice. Modern facts of science show clearly the influence of heredity, of injuries, of strains, of drains, of failures, of diet, of surroundings, of culture, of ignorance, and all the vast range of influences and forces which enter into the acts and character of every person. [T. L. C.]

5. Edgar S. Thomson reports an unusual case of partial recovery from embolism of the arteria centralis retinae, occurring in a man 59 years old. The descending artery was almost obliterated and the ascending one much reduced in size. Under correction fair vision remained. A restoration of the entire upper half of the field was obtained down to within 10 degrees of the macula. There was no light perception either at the macula or in the lower half of the field. No further loss of vision occurred, the patient dying one year after the embolism from heart disease. The relation of cilioretinal vessels to the retinal circulation is discussed. [M. R. D.]

MEDICAL NEWS.

March 30, 1901. (Vol. LXXVIII., No. 13.)

1. The Immediate and Remote Results in One Hundred Conservative Operations on the Ovaries and Tubes: with Brief reports of Four Cases. W. L. BURRAGE.
2. Tropocaine Hydrochlorate.—A Substitute for Cocaine Hydrochlorate in Spinal Anesthesia. WILLY MEYER.
3. A Study of Cases Presenting Symptoms of Asthenopia and Anomalies of the Ocular Muscles in which Ablation of the Middle Turbinal Was Effective Treatment. HEBER NELSON HOOPLE.
4. Acute Traumatic Malignancy. WILLIAM B. COLEY.
5. The Akouphone and Its Limitations. J. A. KENEFICK.

1.—Burrage, in his article on The immediate and remote results of operations on the ovaries and tubes, gives in his immediate results the following: Three patients died out of 156 operations. In the early operations there was marked enlargement of a resected ovary in the weeks immediately following operation; the enlargement disappeared in the course of time. Some of the patients had a good deal of pain. These last conditions—enlargement and pain—were markedly less in his recent cases, and he thinks were due to free puncturing of cysts without especially careful measures to produce hemostasis, and that the enlargements were caused by pain as well as by trauma. Pelvic inflammatory exudate about ovaries and tubes has been noted in a few cases following resection of a closed tube, these being generally in old gonorrheal cases. His rule in performing all multiple operations is to do nothing more than can be done in two hours. Under the remote results, the preservation of ovaries and tubal tissue is considered. In the few instances this has been done the symptoms of the artificially induced menopause have

seemed to be lessened. The possibility of pregnancy occurring in the Fallopian tubes or in the abdominal cavity where the uterus has been removed and ovary and tubes are left is to be considered. (T. M. T.)

4.—Will be abstracted when concluded.

5.—Kenefick describes the akouphone as a telephone whose electric force is supplied by a compact storage battery of six volts. The transmitter is fitted with one or a series of dome or funnel-shaped resonators for the purpose of gathering in and concentrating sound waves from all sources in its immediate neighborhood. This receiver is so conducted that all sounds conducted to it are reproduced or retransmitted with such force and intensity and penetration which is magnified still more on account of the closure of the external auditory meatus by the instrument which is held so that it completely covers it. The storage battery is concealed about the person. The intensity of the receiver action is adjusted either by manipulating the adjustment of the diaphragm or by means of a sliding switch on the handle. Persons seeking mechanical aid generally come under the following heading: (1) Those whose membrane and ossicles are intact, but functionally embarrassed by sclerosis or injury while the nerve is yet free. In these cases we find flaccidity of the tympanic membrane and hyperesthesia of the acoustic nerve. The tensor tympani has no function and fails to protect the hyperesthetic nerve terminals in the labyrinth against these new sound waves, therefore resorting to any mechanical aid under these circumstances would not be advised. (2) In these cases whose conducting apparatus is embarrassed by the absence of the ossicles or the greater part of the tympanic membrane, the nerve remaining free, it would seem theoretically favorable for the akouphone on account of the protection afforded the nerve terminals by the intervening bone. (3) Those in whom there has been disease involving, but not wholly destroying the labyrinthine nerve terminal—deaf mutes. In these cases we find the greatest field for the practical use of the apparatus in teaching these unfortunates articulate speech. (4) Those whose deafness is caused by destruction of the nerve function somewhere in its central course do not receive any aid from the akouphone. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 11th, 1901.

1. A Review of the Literature of the Therapeutic Use of the X-Rays. HARVEY P. TOWLE.
2. Pathology of the New-Born as Illustrated in the Practice of the Writer. FREDERICK W. TAYLOR.
3. Oblique Subtrochanteric Osteotomy, for the Lengthening of the Femur, and Correction of the Deformity of Flexion Resulting from Hip Joint Disease. E. G. ABBOTT.

1. After a review of the literature of the therapeutic use of the X-rays, Towle concludes: (1) That the real nature of the X-rays is not yet determined definitely, nor whether the therapeutic result of their use is due to the action of the rays themselves or of something of electrical origin accompanying them; (2) that the treatment is not without danger, unless the greatest care is used; (3) that the effects of the X-rays run a slow course; (4) that whatever may be the exact origin of the effects produced, a definite reaction is induced in the skin by the use of the X-rays; (5) that the changes induced in the skin are similar histologically to those seen in ordinary inflammation; (6) that the X-rays are not proved to have any bactericidal power; (7) that their therapeutic effect is probably due to the inflammation excited; (8) that hair can be removed by their use, and that lupus and several other diseases can be healed over; (9) that in a few reported cases we may fairly assume that a permanent cure has been effected, but that in a majority of the reported cases too little time has elapsed to rule out the possibility of a return of the disease; (10) that the effect of exposure to the X-rays is so extraordinarily slow in disappearing that months should elapse before an absolute cure is assumed; (11) that while the permanency of the cure effected may perhaps be doubtful as yet, it is certainly desirable to experiment further. [J. M. S.]

2.—Out of 654 cases of labor, 64, or nearly 10% of the children were abnormal either at birth or during the first few days of life. Of the 23 stillborn infants, 9 were delivered by forceps. In 8 of these cases the forceps were applied high. The number of children born alive but dying within a few days of birth was 22, 3 of which were delivered by forceps, applied high in two cases and low in one. On one case the child cried normally immediately after birth, but within 2 or 3 minutes the breathing became obstructed. This was followed by a discharge of perhaps 2 drachms of yellow, frothy mucus from the nose while the head was dependent. Respiration then returned and was clear for a time. An attempt to feed the child was followed by an attack of dyspnea and discharge of liquid through the nose. A bougie passed through the nose met an obstruction 5 inches from the nostril. The child lived less than 2 days. At autopsy, a short distance below the level of the cricoid cartilage the trachea and esophagus were firmly joined by connective tissue. The upper part of the esophagus was a blind pouch. The lower part of the esophagus communicated at its upper end with the trachea by an opening about a line in diameter. Above this opening, on the posterior wall of the trachea, there was a shallow groove. In a case of meningocele, the temperature rose to 107° F. on the second day, and death occurred on the third. The tumor contained cerebrospinal fluid and brain tissue. The cerebral hemispheres were small, and the corpus callosum absent. In 10 cases, there was delay in respiration. In 6 of these cases the children were delivered by forceps; in the other 2, delivery was by podalic version. Frederick W. Taylor also records one case of hare lip and cleft palate, one of vascular nevus, 3 of ophthalmia, and 2 of melena. One child was born with a depression in the left frontal bone, which, within 4 weeks, had returned nearly to its normal contour. Another child had left facial paralysis, which had so diminished by the eleventh day as to be hardly perceptible. Forceps had been applied in the case when the head was well in the pelvis, with occiput R. A. [J. M. S.]

3.—E. G. Abbott reports the details of a method of performing oblique subtrochanteric osteotomy for lengthening the femur and describes an illustrative case. [J. M. S.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

April 13, 1901.

1. Reflections Upon the Recent Status of Clinical Medicine. ALOYSIUS O. J. KELLY.
2. The Present Status of Spinal Surgery. SAMUEL LLOYD.
3. Joint Tuberculosis. DeFOREST WILLARD.
4. Permanent Catheterization. J. RILUS EASTMAN.
5. Suggestions for the Reconstruction of Syphilitic Noses. JOHN B. ROBERTS.
6. The Medical Treatment of Peptic Ulcer. FREDERICK C. SHATTUCK.
7. Lavage of the Stomach as a Therapeutic Agent in the Treatment of Habitual Constipation. C. D. SPIVAK.
8. What Drug Standardization Means for the Physician. A. R. L. DOHME.
9. A Visit to "Jesus Hilfe," or the Leprous Hospital at Jerusalem. JACOB E. SCHADLE.
10. Conjugal Tuberculosis. A Study of Case to Case Infection. H. M. BANNISTER.
11. Keloid Following Traumatism. W. M. COLE.
12. Immunity Against Zymotic Diseases. WILLIAM J. CLASS.
13. Yellow Fever and its Transmission. CHARLES FINLAY.
14. Some Technical Supplements in Complicated Enucleations. M. F. WEYMANN.

2.—Sam. Lloyd thinks that certain cases of Pott's disease with paraplegia may be benefited by a laminectomy. Where there has been complete degeneration of the cord, of course, no operation could be of benefit, nor is it applicable when there are tubercular lesions elsewhere in the body or where there is general and advanced sepsis. The cases most benefited by the operation are those in which the disease is distinctly in the posterior portion of the

spine. The operation should only be done where other methods have been tried and have failed. Lloyd has performed 15 operations since '92. None of the patients have died from the operation, and 2 have been successful. Operations in the cervical region are much less satisfactory than those in the dorsal and lumbar. A collection of 154 cases has been made, and Lloyd's conclusions are drawn from a study of these cases. Two deaths have followed hemorrhage from the vertebral artery in operations on the cervical vertebrae. He concludes that the operation is seldom successful and seldom indicated, but that undoubtedly certain cases call for the operation and are benefited by it. [J. H. G.]

3.—DeForest Willard urges upon the general practitioner the great necessity of the early recognition of tubercular lesions of the joints, maintaining that many cases which go on to suppuration and ankylosis might be aborted if a diagnosis were made early and treatment promptly instituted. He calls attention to the great mistake of supposing that joint pains in children are due to rheumatism. Another prevalent error is that only the children of tubercular parents are liable to develop tuberculous lesions of the joints. In making a diagnosis in the early stages, the most significant symptom, and the one which should make the physician suspicious and cause him to put the part absolutely at rest, is muscular rigidity. Pain and tenderness may be entirely absent in these cases in the beginning, and therefore are not at all necessary to a proper diagnosis. The local symptoms of inflammation are also absent in the early stages of this condition. [J. H. G.]

4.—J. Rilus Eastman has in a number of cases used prolonged permanent catheterization without developing any of the evil effects which are supposed to follow this form of treatment. He has found it particularly useful in cases of resection of the urethra, where an anastomosis is made. The best results are obtained from the use of a large catheter, which is only allowed to pass a short distance into the bladder. Occasionally there is some secretion around the catheter from the mucous membrane, but with occasional irrigation, with a solution of permanganate of potash, this promptly disappears. In a number of cases of perineal section, he has been able to keep the catheter in the bladder until the wound is entirely healed. [J. H. G.]

5.—John B. Roberts thinks that many cases of syphilitic deformity of the nose are advised to have nothing done, when in fact a plastic operation would largely do away with the disfigurement. He urges that the patient should be made to understand that one operation, or even two, may not result in complete success, but that it is sometimes necessary to do a number of operations, and that the time required will be from six months to a year. Roberts thinks that most surgeons will operate for deformities involving the soft parts of the nose, but that when the bony bridge is affected, oftentimes operation is not undertaken. [J. H. G.]

6.—Shattuck discusses the medical treatment of peptic ulcer. From a standpoint of diagnosis, he recognizes three varieties of gastric ulcer: (1) The latent forms without symptoms until the appearance of hemorrhage or perforation. (2) Those characterized by dyspeptic symptoms. (3) Those with symptoms which are diagnostic. He recommends absolute rest for two weeks, during which time rectal feeding should be enforced rigidly. In some instances the period of rest is continued longer than two weeks, while in a few the time is shortened. Stomach unrest and vomiting has been provoked in a few cases by the rectal injection. The sense of hunger subsides as soon as the stomach ceases to work, and if hunger persists, small doses of morphia are recommended. The nutrient enemata are given every six hours and a cleansing enema daily. Small quantities of water are allowed by the mouth, and in some cases water is introduced into the rectum, or under the skin, to quench the thirst. At the present time, judging from the statistics, the author recommends prolonged rest of the stomach. [F. J. K.]

7.—Spivak, in an article on lavage of the stomach as a

therapeutic agent in the treatment of habitual constipation, comes to the following conclusions: (1) In some individuals suffering from habitual constipation, spontaneous bowel movements follow the first lavage of the stomach. (2) Recovery occurs in the majority of patients if lavage be continued for a period of two or three weeks. (3) The use of cold water, or hot and cold water alternately, gives promise of the best results. (4) One hour before breakfast is the most favorable time for lavage. [F. J. K.]

8.—Dohme emphasizes the value of drug standardization to the physician. By uniformity in the strength of the drug, the element of doubt is removed from the physician's mind, the pharmacist avoids embarrassment, and the patient is sure of getting what is prescribed, therefore being advantageous to all parties concerned. [F. J. K.]

9.—Will be treated editorially. [F. J. K.]

10.—Bannister discussed the danger of contracting tuberculosis; whether the liability to contract the disease depends so much upon direct infection or upon constitutional and hereditary predisposition. Short histories of a number of cases are given, and the author suggests the following conclusion: that a much greater personal risk exists when the parent is phthisical, than from having a husband or wife who is tuberculosis. [F. J. K.]

11.—W. M. Cole discusses the pathology of keloid and calls attention to the fact that the disease is not confined to the skin alone, but is also sometimes met with in the mucous membrane. For instance, on the conjunctiva and on the tongue. He reports a number of cases where he has had very satisfactory results from complete excision of the growth with careful coaptation of the skin wound. Where the skin edges cannot be brought together skin grafting will often result in success. [J. H. G.]

12.—Class in an article on immunity against zymotic diseases believes that in districts where certain zymotic diseases are endemic, there is a wide distribution of the germs of the disease in question, and that the microorganisms are present in an attenuated form. When the germs become virulent they are apt to produce an epidemic. The infection by attenuated germs renders an individual immune or insusceptible against a given zymotic disease. [F. J. K.]

13.—Will be treated editorially. [F. J. K.]

AMERICAN MEDICINE.

April 13, 1901.

1. The Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. WILLIAM OSLER.
2. Gastrojejunostomy in Gastrectasis. A. H. CORDIER.
3. The Morality of Operation for Obstructive Jaundice. JOHN B. DEEVER.
4. Phelps' Operation for Clubfoot with a Report of 1659 Cases. A. M. PHELPS.
5. An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. H. A. HARE.
6. Indications and Limitations of the Vaginal Operation in Pelvic Diseases in Women. J. RIDDLE GOFFE.
7. Deep Breathing as a Curative and Preventative Measure. JOHN H. PRYOR.
8. "The Most Useful Citizen;" A Study in Human Dynamics. F. W. LANGDON.
9. Dust as a Factor in Diseases of the Upper Respiratory Passages. W. SCHEPPEGRELL.

1.—William Osler presents a paper on the medical aspects of carcinoma of the breast, with a note on spontaneous disappearance of secondary growths. Osler mentions that a large majority of patients with this condition suffer from internal metastases after operation. In one case which he saw with Dr. Agnew eighteen years had elapsed since the discovery of the breast tumor. On the other hand these growths may appear with extraordinary rapidity. The cases may be arranged into those with cerebrospinal thoracic and abdominal manifestations. The tendency of secondary carcinoma to involve the bones, especially those of the spine, makes the complication of this group very frequent. Secondary cancer of the bones of the

skull is very infrequent, as is secondary cancer of the brain. Osler reports one case with symptoms of brain tumor occurring 18 years after the appearance of scirrhus carcinoma of the breast. Dr. Agnew had seen the case in its incipency but had advised against operation, and the growth had gradually become shrunken. The spinal manifestations are perhaps the most important of all the groups. The main characteristics of this involvement are pains of great intensity, usually about the sides and down the legs, or if the secondary masses are situated higher, they may be in the arms. Alterations of sensation are common. The crisis of pain are frequently unbearable. Osler records 7 cases with this complication which are the most notable which he has observed within the past 8 years. The clinical notes are included in the article. The thoracic manifestations from the proximity to the original disease are extremely common. There are three groups of such cases; the pleural, glandular and pulmonary. Of the pleural variety, Osler reports two cases. In general there are pains in the chest, sometimes with signs of an acute pleurisy; there is a gradual effusion and the case may be first seen with all signs of a large exudate. The effusion may be the result of acancerous pleurisy, or it may come from pressure of enlarged mediastinal glands on the azygos and other veins. There are many cases of hydrothorax referred to in the literature. By far the most distressing features of breast cancer are seen in the cases in which the bronchial and mediastinal glands are involved and in which the patient dies from gradual suffocation. Osler reports one case of this variety recently seen and recalls the death of two patients within a few years from this condition. Secondary scirrhus of the lungs is not very common, except the presence of scattered nodules seen postmortem. Encephaloid is more frequent. The abdominal manifestations may be divided into two groups, the peritoneal and hepatic. These secondary growths may invade the omentum and peritoneum, with nodular masses in the mesenteric glands with, or without ascites. In a case which Osler details the masses appeared to be in the omentum and peritoneum. Cancer of the liver secondary to cancer of the breast is very common. Osler gives short histories of 2 illustrated cases. In conclusion Osler discusses the spontaneous disappearance of secondary growths, illustrating the fact that no condition, however desperate, is quite hopeless. In two of the cases of Dr. Osler's theories spontaneous disappearance of the secondary growths took place. The spontaneous involution seen occasionally in the primary growths of the breast affords an explanation of the disappearance of the symptoms in some cases with secondary metastases. The treatment is most unsatisfactory. Morphine alone gives relief. [T. L. C.]

2.—A. H. Cordier discusses the operation of gastrojejunostomy in gastrectasis. Two illustrative cases are presented. Cordier states that cancer of the pylorus even though removed returns quickly and always kills. Pylorotomy is attended by a high mortality and is not justified in advanced carcinoma of the pylorus. The operation as advised by Wolfier and Von Hacker that of gastrojejunostomy best meets the indications. It is not necessary to twist the bowel in making the anastomosis to prevent bile from entering the stomach. The anastomotic opening in the stomach should be at the most dependent point of the dilated organ. The operation is attended with a low mortality. Tables are appended. The author believes that in all cases in which marked dilation of the stomach exists, accompanied by emaciation, pain and an invalid state, this operation should be performed. The patient gains rapidly in weight, and if the disease is non-malignant, good health is restored. [T. L. C.]

3.—John B. Deever presents a paper upon the mortality of operations for obstructive jaundice. A careful study of the causes of the mortality of this condition leads us to the consideration of the best methods of combating the disease. The most common of all causes is obstruction from gall stone. Parasites are so rare that they may be passed with the mention, although the indication is distinctly surgical when they do occur. The most common cause of death is hemorrhage caused by changes in the blood. The next most common is exhaustion, or what we believe to be cholemia. The third most common is shock, which is the result of hemorrhage. Deever believes that early operation offers the best safeguard to the destructive possibilities of obstructive jaundice due to cholelithiasis. Strictures, or obliteration of the duct, tumors, closing the

orifice of the duct, or growing into its interior, pressure from without by tumors of contiguous organs or by enlarged glands, in fissure of the liver, present unmistakable surgical indications. Marked jaundice, especially of long duration, offers serious obstacles to operative interference. Yet in some cases the risk must be assumed. Deaver classes these cases as the "fulminating type" of the disease. A differential diagnosis is often difficult to establish, but Deaver points out that general peritonitis which is a usual accompaniment of fulminating appendicitis is unusual in disease of the biliary apparatus. In either case operation should be synchronous with the establishment of a diagnosis. Operation is advisable even if this cannot be absolutely determined. Deaver includes the report of 5 cases in this paper. [T. L. C.]

4.—A. M. Phelps reports 1650 operations for club-foot by his method. In 1878 he performed his first operation of open incision, upon a relapsed club-foot. Since that date he has operated upon 1650 cases. In his first series of 538 cases he performed 17 osteotomies. In the last 1100 he has never resorted to osteotomy, but has amputated 4 times. Over 100 of his cases occurred in adults varying in age from 20 to 60 years. The operation of cuneiform resection by Davy, of London, and that of resection of the astragalus by Lund marked another period in operative treatment. There is no mortality in Phelps' operation. Any foot at any age can be straightened, and the results from the operation are equal to that from any bone operation, or mechanical treatment. The method by which Phelps proposes to govern the management of club foot requiring operative work is given. The paper is profusely illustrated. Phelps' observations have led him to the following conclusions, among others given: All feet at any age after the fourth month, with shortened skin and ligaments, should be operated upon by open incision. Prolonged medical treatment is unjustified. Club-foot shoes of every name and nature have been discarded, and manipulation by the hand is advised. A case cannot be said to be cured, and free from the dangers of relapse, until the heel strikes the ground first in walking. A cure is effected when new facets are formed on the tarsal bones. [T. L. C.]

5.—H. A. Hare reports an obscure case of hysteria with associated right mydriasis and amblyopia and left myosis. The patient was a woman of 33 years who suffered from scarlet fever at 15 years, from which she did not recover for two months. She went out into the snow with the eruption still upon the body. During that time she had much pain on the right side and lower axillary region and in the lumbar region. These attacks have occurred at irregular intervals ever since, usually about 2 weeks apart. After these paroxysms small white stones about the size of a grain of buckwheat have been found in the stools. On one occasion a stone the size of a cherry was found. For five days preceding this discovery the patient was unable to move arms, legs or body, and her vision and hearing were imperfect although she was not in great pain. Eleven years ago while writing she found her sight deficient and discovered that one eye was entirely blind. For the past 4 years the left pupil has been tightly contracted but the vision was good. The right pupil was widely dilated. After the period of 5 years referred to she was comparatively well for 2 years when she fell violently, injuring the waist region. Following the fall there was a discharge of pus and blood from the rectum. Operation was performed but no pus or stone was found. Dr. de Schweinitz diagnosed the case as one of hysteric amblyopia. When the patient was fitted with proper glasses, vision markedly improved, and under proper treatment, including massage and Swedish movements, the symptoms almost entirely disappeared. [T. L. C.]

WIENER KLINISCHE WOCHENSCHRIFT.

March 14, 1901. (XIV Jahrg., No. II.)

1. The Primitive Organs of Sight. T. BEER.
2. Ligation of the Jugular Vein in Thrombosis of the Lateral Sinus. F. ALT.
3. Sutures in the Heart. H. ZULEHNER.

1.—Will be abstracted when completed.

2.—After a detailed review of the literature of his subject, Alt reports two cases of thrombosis of the lateral sinus following chronic suppurative otitis media. In both cases Alt laid open the sinus, removing the clots. In one case,

the jugular vein was ligated. Infection of the thrombus contained in the ligated vein followed; it was opened, cleaned out, and again ligated. Both cases recovered eventually. From the literature quoted, it seems that those cases, in which it is not considered necessary to ligate the jugular vein, have a slightly better prognosis than those in which ligation must be done. [M. O.]

3.—Zulehner reports the case of a man of 35, who was stabbed in the chest and abdomen. The upper wound penetrated the heart. This was opened and an attempt made to suture the wound, (only half a cm. long,) in the wall of the left ventricle. The fine sutures tore out at once, and the patient bled to death on the operating table. The heart showed marked fatty degeneration, was hypertrophied, and its walls were very brittle. All the viscera were anemic. The abdominal wound had supplicated, producing peritonitis. Out of 10 cases so far known in literature, only three recovered. Zulehner quotes the first of the three, a man of 22, who had been stabbed. I wound over 1 cm. long in the right ventricle was sutured with catgut. Zulehner's experience shows how hard a task it is to attempt to suture the heart muscle. [M. O.]

JOURNAL DE CHIRURGIE.

February-March, 1901. (Ire. Annee, No. 2.)

1. Suppurative Arthritis of the Knee. LAUWERS.
2. Intestinal Resection for a Diffuse Neoplasm of the Pelvis. KEIFFER.
3. A Rare Case of Teratology. LORTHIOIR.
4. Spontaneous Rupture of an Umbilical Hernia. DANDOIS.
5. A Case of Pneumococcic Peritonitis. VANDERLINDEN.

1.—Lauwers reports two cases of purulent arthritis of the knee, in adults, due to staphylococci. One followed purulent conjunctivitis, the other was puerperal. The first case recovered with simple drainage and fixation. In the second case, the femur was so diseased that Lauwers amputated at the lower third of the thigh. She recovered quickly. [M. O.]

2.—Keiffer reports an intestinal tumor occurring in a woman of 30. Two years ago, the tumor filled the entire pelvis. The urine was normal, as was menstruation. He performed an exploratory laparotomy, and found a diffuse tumor, covering the bladder, uterus, adnexa, small intestine, and descending colon. While trying to find the origin of the tumor, part broke off in the hand of the operator. This showed the large intestine passing through it. As the rectal end of the broken sigmoid flexure could not be found, Keiffer made an artificial hypogastric anus. During the two years since the operation, the patient has been in good condition, the abdominal viscera have become free and are now palpable, and the tumor has been absorbed, following functional disuse of the lower end of the large intestine. Exploration of the rectum shows that this has closed. The part of the tumor removed shows fatty and subperitoneal connective tissue in great quantity, compressing the intestinal walls, about which it had grown. [M. O.]

3.—Lorthioir exhibits the photograph of a man of 18, with a third leg, short and misshapen, formed by two rudimentary legs, having a long foot with ten toes. He had a penis on each side of the median raphe, with a distinct, separate scrotum, each containing one testicle. Urine and spermatic fluid passed from each penis simultaneously. It is not known how long this Portuguese specimen of congenital malformation lived. [M. O.]

4.—Dandois reports a case of umbilical hernia in a woman 58 years of age, which had existed 15 years. The hernia ruptured suddenly, and Dandois, four hours later, performed a successful operation for its radical cure. [M. O.]

5.—Vanderlinden reports a case of peritonitis, occurring in a woman aged 29 years. She had borne five children, the last one but a few months before. Peritonitis came on suddenly, two weeks before, with vomiting, diarrhea, and metrorrhagia. Laparotomy was performed, the pus cleaned from the peritoneum, and drainage instituted. The pus contained typical pneumococci. Double bronchopneumonia, and death followed. The autopsy showed an intestinal perforation, which probably was the cause of death. A full review of the literature of pneumococcic peritonitis follows. [M. O.]

Original Articles.

THE LOCALIZATION OF BRAIN TUMORS ESPECIALLY
WITH REFERENCE TO THE PARIETAL AND
PREFRONTAL REGIONS.*

By CHARLES K. MILLS, M. D.

Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania; Neurologist to the Philadelphia Hospital.

During a little more than a year past I have examined and given opinion as to the site of lesion in five cases of brain tumor, and in a sixth case which proved to be one of softening and degeneration, but in which the diagnosis of tumor was considered probable. Two of these cases occurred in my own practice, in one case I was called in consultation by Drs. S. Weir Mitchell and J. K. Mitchell, in two others by Dr. W. W. Keen, and in the last by Dr. W. Sinkler. All of these cases were operated upon by Dr. Keen, and one by Dr. W. J. Taylor. The operation in each case revealed the lesion in the location previously indicated. In four of the cases of unequivocal brain tumor the growth was removed in whole or in part; in one it could not be removed owing to the condition of the patient; and in the sixth case a portion of the diseased tissue was removed. I shall confine my remarks to a brief presentation of the cases, and to a few salient points regarding localization. Four of the five cases, as nearly as could be determined, began in the parietal region and were largely confined to it; a fifth was prefrontal in origin and location, and a sixth was mainly in the motor zone.

CASE I.—*Tumor of the Superior parietal Convolution (Parietal Convolution of Wilder); Localizing Symptoms—Impairment of Cutaneous Sensibility, Loss of Muscular Sense, Astereognosis, Ataxia, Paresis and Ultimately Paralysis; Operation, Recovery.* **The patient was a man 57 years old who had suffered from nervous symptoms for a number of years. The data which led both to the general diagnosis and to the localization of the growth were summarized in the paper read before the American Neurological Association as follows: About five months previous to the operation the patient began to show some ataxia in the right arm and later in the right leg, and when investigation of his condition was first made by the writer all forms of cutaneous sensibility were impaired, muscular sense was lost, and astereognosis was a marked symptom. As the case progressed paresis and eventually paralysis of the arm and leg supervened, this when complete of course masking the ataxia. The patient developed a disorder of speech chiefly showing itself as a verbal amnesia and fatigue on reading. At one examination the patient showed a temporary partial right hemianopsia. Reversals of the color fields and contractions of the fields for form similar to those supposed to be typical of hysteria were present at several of the examinations. The reflexes on the ataxic and paralyzed side were somewhat exaggerated, ankle clonus being present. The patient was emotional and markedly hysterical. The general symptoms of brain tumor were not prominent, but the most important of them were absent.

It will be seen from this summary that the localization of the lesion in the parietal region was decided upon chiefly by a study of the sensory symptoms present. Almost all the sensory ele-

ments which go to make up the stereognostic sense were more or less impaired in the comparatively early history of the localizing phenomena of the case. True motor paralysis was at this stage absent, although it not only ensued, but became a prominent and masking feature of the case as time progressed, and as the tumor encroached more and more upon the motor region. The paresis was at first undoubtedly a pressure manifestation; later the Rolandic subcortex, and, to some extent, even the cortex, became implicated in the morbid growth.

I shall not dwell further on this case, which has already been fully reported, except to recall that the operation by Dr. W. W. Keen, which was in the highest degree successful, was conducted with the view of uncovering the superior parietal convolution as the central point of the procedure; and also to say that now, after the lapse of fourteen months, the patient remains in good general health, in about the same condition as he was at the time when the last report on his case was made, except that he has still further improved as regards the use of his upper extremity. No signs of the return of the growth have been observed.

Case II.—*Tumor of the Superior Parietal and Middle Portions of the Central Convolutions; Localizing Symptoms—Impaired Cutaneous Sensibility, Loss of Muscular Sense, Astereognosis, Ataxia and Late Paralysis; Operation, Death; Autopsy Showing the Site of the Lesion as Above Indicated.*

*The patient, a man 65 years old, five weeks before the operation, noticed gradual loss of power in the right hand, with impairment and changes in sensation. The notes stated that he would drop things from his hand unconsciously; that he could not tell that he held things in his hand except by looking; and that he did not know whether or not his fingers were in his pocket. It has seemed to me not improbable that the apparent paresis spoken of may at first have been a loss of control or co-ordination. Not infrequently the awkwardness and ataxia in the use of a member which come on as the result of impairment of the cutaneous, muscular and stereognostic sense are regarded by the patient and others as a true loss of power. This was true of Case I. and Case IV. of this series. Uncertainty in the use of the right leg came on within a week or ten days. The patient said that he felt as if a cushion was under his right foot. Nearly three weeks before the operation, that is, two weeks after the onset of the active symptoms above noted, examination showed that pressure sense was absent all over the hand; that the pain and temperature sense were also absent in the right upper extremity, most markedly in the ulnar distribution in the hand and forearm, on the ulnar side of the arm, and also in a small region just in front of the shoulder joint; that muscle sense and power were diminished, although the latter was still considerable; that the Babinski reflex could be obtained in the great toe, and the right arm jerks were absent. Other reflexes were presumably normal, as they were not mentioned. Ten days before operation the man suffered with severe cephalalgia, chiefly in the left temporal region, great throbbing of the left temporal artery

on that side being visible. November eleventh six days before the operation, the patient had a severe attack of tonic spasm in the right arm, which lasted fifteen minutes. About this period ophthalmoscopic examination showed marked left optic neuritis and beginning neuritis in the right eye. No hemianopsia was present. At a spot near the coronal suture, half way to the vertex, there was tenderness to pressure. From November eleventh the patient's right arm and leg grew steadily weaker, and his headache steadily worse. The patient was first seen by Dr. Keen November 17th, who confirmed the observations of Dr. Nichols as

*Read at the meeting of the Philadelphia Neurological Society, January 28, 1901.

**This case has already been published in detail in a paper which was read before the American Neurological Association at its Washington meeting, May, 1900. *Journal of Nervous and Mental Disease*, v. 27, No. 5, May, 1900.

*This man was a patient of Dr. Charles I. Nichols, Worcester, Mass. He was operated on by Dr. W. W. Keen November 17, 1900. A few months after the operation Dr. Keen consulted me in Philadelphia, and the site of the tumor leading to me at this time a letter of Dr. Nichols in which the most important in the history and symptomatology of the case were clearly presented, etc. Keen and I agreed as to the location of the growth.

given in the preceding notes. In my consultation with Dr. Keen I suggested that the location of the tumor was probably about the same as that in case I., namely: that it was mainly in the superior parietal convolution with some invasion of the motor region, this being also in accord with the views held by Dr. Keen. An osteoplastic operation was performed November 17, 1900, and I am indebted to Dr. Keen for notes of the operation, from which I have condensed the points essential to my purposes in this paper. The opening was made 10 cm. along the middle line, 12 mm. to the left of it, and was so placed that its anterior border should uncover the upper portion of the central fissure. The two vertical incisions were each 7 cm. long. On opening the dura the brain bulged in a few minutes up to above the level of the scalp. At the anterior portion of the opening was seen the oblique central fissure. Precisely at the centre of the opening in the skull was an area of discoloration about 15 mm. in diameter, evidently the result of a subcortical growth just bursting through the cortex. A large tumor was as far as possible enucleated. Some portions not reached by the first enucleation by the finger were curetted. The patient stood the operation well. Chloroform was administered by Dr. Nichols, and Dr. Keen was assisted by Drs. Homer Gage and Fisher. At 4.30 on the afternoon of the day of the operation the patient was perfectly conscious, temperature normal, pulse 114, and neither speech nor face was in any way affected. He grasped the hand of the doctor with his right hand, which he moved as well as before the operation. At 10 P. M. on the same day about the same conditions obtained, but he had a restless night, developing much pain in the head. The next morning the temperature had risen to 101 degrees, and his right arm and leg were totally paralyzed. Late in the afternoon of November 18th his condition had not changed much for the worse, but he soon after began to fail, and died November 19th.

An autopsy was made by Dr. E. H. Baker, the city bacteriologist of Worcester, twenty hours after death. The account of the autopsy indicated that a large oval cavity was left which was filled with blood and debris. The cavity seemed to have included the superior parietal and middle portions of the central convolutions and adjoining subcortex, although the first is not mentioned. The superior parietal convolution, from Dr. Keen's description of the operation, must have been in large part removed. The growth was single, and not encapsuled. Later a microscopical examination by Dr. Baker showed it to be a gliosarcoma.

I shall not make any detailed observations on sensory phenomena in conjunction with the study of this case, simply saying that the remarks on this subject, in connection with cases I., III. and IV. are equally applicable here. The diagnosis of a lesion, in large part posteroparietal, was based chiefly on the presence of sensory phenomena.

It will be noted that six days before operation the patient had a severe attack of tonic spasm in the right arm, which lasted fifteen minutes. This symptom is of interest as probably indicative of invasion or irritation of that portion of the motor subcortex which is related to the arm centre. It was long since pointed out by Seguin and the writer that paresis, with predominance of tonic spasm, pointed to a subcortical lesion in the motor zone. Recently, in a case dying in the Nervous Wards of the Philadelphia Hospital, a tumor located in the motor subcortex and limited to this region, was found. The patient was partially hemiplegic, and had a persisting spastic condition in the upper extremity of the paralyzed side.

CASE III. Tumor of the Superior Parietal Convolution; Localizing Symptoms—Impairment of Muscular Sense, Astereognosis, Ataxia, Paresis; Operation Recovery. This patient a bright boy 8 years old, was brought to Dr. Keen for operation by Dr. Daniel Z. Dunott, of Baltimore, Maryland. I had been furnished by Dr. Keen and Dr. Dunott with notes of the history of the case before it was seen by me.*

*Dr. Dunott expects eventually to publish an account of this case in detail.

I examined the patient on January 10th and 12th, 1901. The operation was performed January 14th, 1901. About one year previous to the operation a great change in the boy's disposition was noted. In June, 1900, he began to have headaches, which returned at intervals and soon were accompanied by vomiting. In October, 1900, he had an attack of paresis in the left leg and arm, more marked in the former, the attack passing off in a few hours. Dr. Dunott regarded the case as probably one of brain tumor. The patient was seen October 8th, 1900, and also December 16th, 1900, by Dr. William Osier. At this time he showed marked paresis of the left leg, particularly in the peroneal group, and also choked discs, but no disturbance or sensation or of the stereognostic sense was determined. Dr. Osier then confirmed the earlier diagnosis of Dr. Dunott of brain tumor, and advised operation. On examination Dr. Keen was struck with the fact that both on the right and the left side from the forehead back to the auricular line, tapping produced a distinct cracked-pot sound, perceptible not only to the ear, but to the other hand placed on the vibrating bone. He referred the patient to the writer and to Dr. G. E. deSchweinitz for examination from the neurological and ophthalmological points of view.

As I made a written report of my examinations and opinion to Dr. Keen, and as this report covers with sufficient fulness my observations of the case, I shall quote it here:

"The patient was distinctly paretic in the left lower extremity, the loss of power showing itself most in the extensors and abductors of the foot (chiefly in the peroneal group of muscles). The other leg and thigh muscles largely retained their power. He could stand and walk. Besides the paresis some ataxia of the left lower extremity was present, as shown in testing him by kicking at objects. Slight paresis, chiefly distal, of the left upper extremity was also present. The deep reflexes were all exaggerated on the affected (left) side. Ankle clonus was present at one examination and absent at the other. The Babinski reflex was especially noted at the second examination. Examination for touch, pain and temperature showed no loss, or so slight that it could not be measured. Careful and repeated examinations however showed a moderate degree of astereognosis as determined by manipulations of objects by the left hand. Although he sometimes recognized objects with the left hand, he always did this more promptly with the right, and in some instances he failed entirely with the left, although succeeding at once with the right. He could not promptly locate sensations in the distal portion of the left upper extremity, and sometimes failed entirely. When the little finger was touched or held, for example, he referred the sensation to the thumb or to another finger; when the finger or palm of the hand was touched, he referred the sensation to the wrist. In exceptional cases the localization was correct, but in three-fourths of the trials it was incorrect. He could properly designate any position in which the left lower extremity was placed, and the same was nearly true for the left upper extremity, but sometimes he did not seem to be quite sure of the posture in the latter case. Comparisons were constantly made with the right half of the body in arriving at these determinations. The left upper extremity showed some ataxia as well as paresis in testing by having the patient bring his fingers together, touching the nose, etc. Facial paresis and speech disorder were absent. Paradocontractility in the affected limbs was preserved. The patient could concentrate his attention readily, was prompt in his apperceptions, was keenly alive to all that was going on, showing unusual intelligence as regarded his examination, but he showed irritability and emotionality such as might be expected in a boy suffering from brain tumor or localized meningitis. A cracked-pot sound was elicited by percussing the skull on both sides of the median line in the frontoparietal regions. As reported by Dr. George E. deSchweinitz, at whose examination I was present, hemianopsia and all disorders of the ocular muscles, external and internal, were absent. Double optic neuritis was present. I have not thought it necessary to repeat the facts obtained by inquiry, all of which were contained in the history submitted to me before making the examination. The case is probably one of brain tumor, although the possibility of localized convexitv tubercular meningitis is worthy of consideration, and in either case operation in the same region is indicated. The lesion is probably

parietal, gradually encroaching upon the motor region. Hydrocephalus may be present."

An osteoplastic operation was performed by Dr. Keen, January 14, 1901. It is not necessary to give details of the operation; it will be sufficient here to record that, strange to say, a tumor, which proved to be a sarcoma, was found, with practically the same location and extensions as in the two preceding cases. The growth was removed by Dr. Keen, the patient recovered from the operation, and is almost in his normal health at the time of this report (March, 1901).

In this case, as in the two preceding, so far as could be determined by measurements and operative procedure, and in the second case by autopsy, the growth had begun in the subcortex of the superior parietal convolution. In each of these cases the tumor had advanced both toward the surface of the brain, and forward toward or into the Rolandic region. In the three cases my conviction as to the situation of the tumors was reached chiefly by a consideration of the disorders of sensation and co-ordination, which were present in all. In two of the cases cutaneous sensibility was more or less impaired, greatly in the first two and less markedly, but still certainly, in the last, at least at the time of my examinations. The previous examiners had not noted any astereognosis or impairment of sensation. In a cerebral case, when examination shows impairment or loss of cutaneous and muscular sensibility with astereognosis, I believe that we can with certainty look for the lesion, or that portion of it which causes these symptoms, in that part of the brain which lies between the post-central and occipital convolutions, and especially in the superior parietal convolution. These cases afford further confirmation of the views long defended by me in the face of much opposition, namely, that the sensory and motor areas of the cerebrum are, for practical purposes, distinct. Paresis and paralysis of a decided character were late symptoms.

In the third case, even at the time of my examination, impairment of sensibility, astereognosis and ataxia, were not of as marked a character as might be expected from a lesion of the dimensions of the tumor removed by Dr. Keen. It will be recollected that this tumor was of the right cerebral hemisphere, and one point to which I desire to call special attention in this contribution, is the probability that the recognition of various forms of sensation and the stereognostic sense may not be as highly developed in the right hemisphere as in the left, although their centres of representation are present in both hemispheres in the same locations. Just as the left half of the brain is the leading half for such highly evolved and differentiated faculties as speech, writing, right-handedness, word hearing and word seeing, so it is probable that the stereognostic sense and the elements which enter into it have their higher evolution in the left hemisphere. If this be the case, a lesion of the right hemisphere might not give symptoms referable to these senses of so decided a character as lesions of the left hemisphere.

In case III. it was a question before operation whether a tumor originating in the prefrontal lobe was growing backward and was thus invading the

motor region, or whether originating in the superior parietal convolution it was advancing forward into the motor region. As indicated in the report made by me to Dr. Keen, my view favored a parietal lesion advancing forward, this diagnosis being first, as just stated, based on the presence of sensory disorders and ataxia. The mental symptoms which undoubtedly were and had been present, were not in my judgment, such as belong to destructive lesions of the prefrontal regions. It was stated, and was undoubtedly true, that the boy's disposition had changed. It appeared to me, however, that the mental symptoms from which he was suffering were chiefly those of irritation and exhaustion, such as might have been expected from a tumor of considerable size, situated in almost any portion of the brain. On studying him carefully, I could not discover any real mental degradation, the boy being even a day or two before the operation unusually intelligent, concentrative and keen in his mental processes. Psychological symptoms of a definite character are usually present in lesions and especially destructive lesions of the region anterior to the motor zone. "Investigators have found more or less mental degradation to be the result of ablation or partial ablation of these (prefrontal) lobes, the animals losing the faculty of close attention and intelligent observation; and undoubtedly impairment and disturbance of a peculiar character occur both in the lower animals and in man from lesions of this portion of the brain. The higher and more complicated mental processes—those which involve such faculties as attention, judgment, and comparison—are always affected. Inhibition is impaired. Destruction of these lobes causes disintegration of the personality and incapacity to form serially groups of images or representations, more or less psychological dissolution occurring according to the extent of the lesion. Hesitation, uncertainty, fear, lack of force, weakness of the highest faculties, and motor, disquietude, due to loss of control, may be present."*

The mental change in the case under discussion showed itself rather in the irritability, emotionality and lack of continuous effort which come from a painful and nagging intracranial lesion than in the signs of psychological dissolution, as above described.

These remarks regarding the psychological symptoms of prefrontal lesions apply also to the fifth case in this paper, that seen by me with Doctor Mitchell. The views expressed regarding the cerebral representation of cutaneous and muscular sensibility and the stereognostic sense have further exemplification in the next case, which has in addition some interesting features as to visual and auditory localization.

*CASE IV.—Necrotic and Degenerated Area, Main Focus of Lesion Probably about the Junction of the Inferior Parietal Subparietal and First Convolutions; Localizing Symptoms: Astereognosis, Distortion in Pain and Temperature Senses, Word Deafness, Word Blindness, Akinetic Aphasia, Left and Right Hemiparesis and Late Hemiparesis; Operation: Recovery from Operation but Symptoms remaining about the Same.** The patient, forty-three years old, held an important teaching position and was a man of unusual intelligence and scientific attainments. The first symptoms of which we have any note was an attack in the early spring

*Mills, C. K. *The Nervous System and Its Diseases*. Philadelphia, 1898.

of 1898. When walking on the street one day he suddenly became dizzy, required support, and was left numb in the arm and leg of the right side. This numbness disappeared before he got back to his house. The numbness recurred at regular intervals after this time, lasting usually only for a moment, or for a few moments at most. He had no other symptoms of importance until he began to have headaches in February, 1900. The headaches were not continuous, but occurred at intervals and were not always severe. The attacks of numbness became more and more frequent. For a year or two before the onset of his attacks, in addition to unusual labor, he had been subject to a variety of worries. In addition to the symptoms above enumerated he was much of the time in a neurasthenic and depressed state.

My first note as to his condition were made June 2, 1900. At this time, if any true paresis was present in the extremities of the right side, it was so slight that it could scarcely be made out; but he presented in the right half of the body disorders of sensation, stereognosis, and co-ordination of a decided character, but differing somewhat in the upper and lower extremities. The pain and temperature sense were diminished in the face and upper extremity. Tactile sense was either present or so slightly diminished that in the man's condition the change could not be recognized. In the lower extremity the pain sense was distinctly diminished, but the temperature sense was not affected. Astereognosis as tested in the hand was present, but of slight, or at least moderate degree. He could make out objects by manipulation, but had some difficulty in doing this, and the difference in facility between the two hands was very noticeable. A study of the movements of the upper extremity showed some inco-ordination, and in dressing himself he had difficulty in fine movements such as those required in buttoning and unbuttoning the small buttons of his shirt, so that, although right-handed, he invariably resorted to his left hand in these procedures. Both the deep and superficial reflexes were at this time nearly normal, the only change being a slight exaggeration of the knee jerk. The Babinski reaction was not present.

A study of the man's speech mechanism was difficult in spite of the fact that he was highly intelligent and evidently very anxious to give all information possible. He was partially word deaf, word blind and letter blind, although the responses which were obtained in testing him were sometimes somewhat contradictory. He would recognize some words, usually those with which he was very familiar. Even when he recognized letters, he would generally call them all by the name of one letter. He was not object blind, but had marked verbal amnesia, in almost every case failing to name familiar objects, the use and meaning of which he evidently understood, a fact which he sometimes indicated by periphrase and at other times by pantomime; thus, he could not name a key, but said, "put it in," and indicated its use; he made the movements of putting off and on the lid of a box when a box was shown him, etc. When examined he sometimes became excited, confused and emotional, and occasionally made use of brief, but very strong words to express his disgust with himself.

Dr. de Schweinitz reported to me the results of his former examinations, which showed a high myopic astigmatism, and its usual intraocular and extraocular accompaniments; he also reported that the patient now had a distinct lateral homonymous hemianopsia, the diagrams of the fields accompanying his report. No positive optic neuritis was present at this time, and indeed at no subsequent period, although the conditions present were such as to indicate the possibility of a beginning nerve inflammation. The congestion of the optic discs present at previous examinations, which could probably be attributed to the disorder of refraction, was more marked on the left than on the right side. The iritic reflexes were unimpaired, and although the patient gave a history of temporary double

vision, he had no paretic ocular muscle. The examination showed that the hemianopsia was due to a lesion back of the primary optic centres, it not being accompanied by the changes in reflexes which occur when the lesion is in or anterior to these centres.

The patient grew worse as regards his visual, auditory and aphasic defects. The knee jerks became more exaggerated and the Babinski reflex appeared on the right side. The conditions as to sensation and co-ordination were emphasized. An illustration of his effort to write made June 16, 1900, is given below:

Only Sometimes you know this—Oh, it hurts like old Harry—every day better and better. Doesn't give me much—sick, is it—oh, no, not that—I forget what I want to say.

About June 23, 1900, he showed decided paresis of the right half of the body, and operation was decided upon. Dr. Keen performed the operation June 25, 1900. In consultation with Dr. William G. Spiller and Dr. J. W. McConnell, who had charge of the patient during my temporary absence from Philadelphia I had indicated as the proper place for operation the parietooccipitotemporal junction, the position on the lateral aspect of the brain where the three lobes come together. My idea was that the skull opening should cover the posterior extremities of the two parietal and the first temporal convolutions, and should extend backward far enough to include the anterior portion of the lateral aspect of the occipital lobe. The so-called angular gyre would of course be included in the opening. In this way it would include the centres for word hearing, word vision, and in part those for muscular and cutaneous sensibility. The position of the opening was therefore more posterior and inferior than in the three previous cases. The reasons for this are evident. In the first three cases disorders of cutaneous or muscular sensibility, or both, with late paresis or paralysis were present, but no word deafness, word blindness, nor hemianopsia. Paresis came on late in this case as in the others, but marked visual, auditory and amnesic disorders coexisted with the sensory, stereognostic and inco-ordinate phenomena comparatively early. Operation was performed by Dr. Keen June 25, 1900.*

The skull was opened with the centre of the flap about an inch or an inch and a half above the external auditory meatus, and as soon as the brain was exposed a very abnormal condition was detected. In the area in which it had been expected to find the focus of disease the brain was of a peculiar color as Dr. W. J. Taylor, who assisted at the operation, expressed it, it had the appearance of baked custard. It resembled baked custard both in color and consistence. It looked like pus, but was solid. The opening, which was originally comparatively small, was extended until it was from before backward about three to four inches. A large part of the brain was thus exposed, but even this was insufficient to uncover the whole altered area. The diseased portion seemed to be somewhat pyramidal in shape, with the base of the pyramid toward the occipital pole. The blood vessels supplying the area were thrombotic. It was impossible to remove all the diseased tissue, and Dr. Keen decided that it would be unwise to make the opening larger, even though the whole diseased area had not been exposed. He removed possibly an inch or an inch and a half of the diseased tissue in what seemed to be the first temporal convolution, but the convolutions could not be accurately determined. The tissue removed was semi-solid, and when a part of it was placed in a napkin and the two sides of the napkin laid against one another and then removed, the slight pressure so produced made the pathological tissue closely resemble pus. Microscopical examination failed to show any evidence of pus or tumor. The vessels were greatly diseased, some of them were completely closed; an intense round cell infiltration was found around the small blood vessels; a considerable amount of altered blood pigment was also seen, this indicating the existence of old hemorrhages. Dr. Spiller was inclined to believe that the condition was one of thrombosis; that the early symptoms were dependent on imperfect nutrition of the parietal lobe; that the symptoms which developed acutely about three months before the operation were due to thrombosis of the branch of the Sylvian artery supplying the first temporal convolution and

*This case has not hitherto been published, and I shall withhold its complete history and publication until after developments render certain the nature and extent of the lesion, or the opportunity to determine these points is lost. The patient first consulted me about May or June, 1900. In the month of April previous he had consulted Dr. S. Weir Mitchell, and had also at that time, at Dr. Mitchell's request, been examined by Dr. George E. de Schweinitz. Dr. de Schweinitz made other examinations for me previous to the operation, and I am indebted both to Drs. Mitchell and de Schweinitz for valuable notes.

*The account of the operation and of the condition of the brain presented by the brain when exposed, and of the microscopical findings, has been prepared from a report furnished to me by Dr. Wm. G. Spiller.

parietal lobe; and that the weakness of the right arm, which also came on suddenly, was the result either of thrombosis of the branch supplying the arm centre, or of hemorrhage occurring within the softened brain tissue, thereby producing pressure on the arm fibres within the internal capsule.

It should be noted here that numerous examinations made both before and after the operation showed the presence of a distinct amount of albumen and, at times, hyaline casts in the urine. The amount of the albumen varied somewhat, but in nearly every instance it was present, at least in the examinations made before the operation. The bearing of these facts was recognized when the operation was determined upon, but it was thought that on the whole the chances were in favor of a neoplasm, although other diseased conditions of vessels and brain tissue might also be present. Thrombosis, or obliterative endarteritis, such as not infrequently accompanies chronic disease of the kidneys and cardiac degeneration, may be the chief lesion, but it is certainly unusual to find one area of the brain after another becoming necrotic and degenerating in the fashion that it would seem occurred here, if a tumor was not present.

For the purposes of this paper, it is not necessary to go in detail into the history of this case subsequent to the operation. Right-sided paralysis was at first almost total, as was also aphasia and the auditory, visual, sensory and other defects studied before the operation. Some necrosis of bone with discharge of pus and debris occurred at times for several weeks after the operation, but later the wound got into good condition. The hemiplegia present after the operation has improved to such an extent that on two occasions the patient has come to my office in the city from his residence, a distance of eleven miles. He has made some, but not marked, improvement in his aphasic symptoms, other conditions remaining much the same as before the operation. It is not improbable that the pathological processes present for months before the operation are still going on, and the case has not a hopeful outlook. The case is briefly recorded here simply with the view of teaching its lessons with regard to focal diagnosis.

A fifth case was within a few months seen by me in consultation with Dr. S. Weir Mitchell and Dr. J. K. Mitchell. I examined the patient once the day before operation. Dr. J. K. Mitchell will publish a full report of this case. The general symptoms clearly pointed to brain tumor, which was diagnosed by the Doctors Mitchell, who suggested operation. My views as to the location of the tumor, and the facts on which these were founded, were as follows:

"The history and general symptoms indicate clearly that the case is one of brain tumor, the occurrence of one or more convulsions and the recent development of optic neuritis clinching this diagnosis. The psychical symptoms, under which head his lack of the power of attention, and a certain perverseness with a tendency to delusion are prominent, point to the perfrontal region. His long semicomatose or semisomnolent attack may also have its partial explanation in a lesion well forward in the brain. The paresis of the right upper extremity and of the face, which is slight and of late development, is probably a pressure symptom. His aphasia and agraphia are probably partly pressure and partly invasion symptoms. The agraphia is certainly the most interesting clinical feature. In general terms it belongs under the head of motor agraphia, and a study of his writing gives some support to the view of those who have said that the so-called motor graphic centre might perhaps be better called an orthographic centre.

He tends to repeat letters, syllables and words in writing, misspelling both common and proper names, evidently at times recognizing his errors and attempting by erasures and rewriting to correct them. On the negative side he is not word deaf, word blind nor letter blind; his speech aphasia is not of the form of a jargon aphasia; hemianopsia is not present, and he has no disturbance of common sensibility or of the muscular sense.

I would localize the growth in the left perfrontal region, the probabilities being that it is subcortical in origin, and that it is extending backwards, so as to gradually involve the second and third frontal convolutions. If this is correct trephining should be with the view of exposing the left half of the brain from the central fissure as far forward as the surgeon could safely expose with one osteoplastic operation."

The operation by Dr. Keen revealed the growth in the location indicated, although it did not prove to be subcortical in origin. Several facts are notable, (1) the absence of sensory symptoms, astereognosis and ataxia; (2) the absence of paresis or paralysis until late; (3) the presence of a peculiar form of agraphia or orthographia; and (4) the presence of psychical symptoms indicating more or less mental degradation or psychical dissolution.

Owing to excessive hemorrhage, it was not possible to conclude the operation by removing the growth. The patient died a few hours after the operation.

A few weeks since (February 25, 1901) I had the privilege of seeing a tumor removed in a sixth case from the motor region of the right hemisphere by Dr. William J. Taylor. The patient had been under the charge of Dr. Wharton Sinkler and Dr. T. C. Potter, and was seen by me in consultation with these physicians prior to the operation. My views as to general diagnosis and location were confirmatory of those held by Drs. Sinkler and Potter, namely, that the lesion was a tumor and was largely, if not entirely, confined to the motor zone. The patient had no objective sensory symptoms, although she at times complained of a numb feeling in the left side of the face, left arm and left leg, which were paretic, the loss of power being marked in the lower extremity. She had several convulsive seizures chiefly affecting the limbs of the partially paralyzed half of the body. All the deep reflexes on the left side were increased, persistent ankle clonus being present. The Babinski phenomenon was elicited on the left side. Head ache was not conspicuous, but vomiting occurred, and double optic neuritis was present. A full account of this case will be published by Dr. Sinkler, who has kindly permitted me to make this brief reference to it in order to compare the localizing phenomena with those presented by the other cases included in this paper. The most notable point is that objective symptoms referable to the areas of muscular and cutaneous sensibility and the special senses were absent, excepting of course the optic neuritis which has no localizing value.

The following are some conclusions to be drawn from a study of the foregoing cases:

The diagnosis of the existence of a brain tumor can sometimes be made even in the absence of most of the general symptoms, such as optic neuritis, headache, vertigo, and vomiting, chiefly by the close study of localizing and invasion symptoms.

Emotional states, even hysterical stigma, are sometimes present in cases of brain tumor, and must not be given too much weight in differential diagnosis.

Tumors of the posteroparietal region, and especially of the superior parietal lobule (parietal of Wilder), give as their most important localizing symptoms disorders of cutaneous and muscular sensibility, and especially astereognosis; other symptoms often present in such cases are the result of compression or invasion of adjoining regions.

Tumors and other lesions implicating the angular gyre and the regions adjoining (the subparietal, first temporal and mediooccipital convolutions), give as their main localizing symptoms word deafness and word blindness, with the usually accompanying speech disturbances, lateral homonymous hemianopsias and disorders of cutaneous and muscular sensibility, including astereognosis. Although it is possible that these disorders of sensibility in the case cited may have been dependent upon invasion of the superior parietal lobule.

Just as the centres for hearing, vision and speech are more highly differentiated in the left hemisphere, so it is probable that the stereognostic sense is more highly evolved in this hemisphere.

A tumor strictly confined to the motor regions does not give objective sensory phenomena of a persisting character; the localizing symptoms of a growth so situated are motor, chiefly paralysis and monospasm, with also exaggerated deep and superficial reflexes.

In tumors of the motor subcortex tonic spasticity is usually a marked symptom. Paresis or paralysis, and exaggerated reflexes, with monospasm or unilateral convulsions, may also be present.

Tumors of the prefrontal region, by which is meant the region entirely cephalad of the motor zone, chiefly give psychical symptoms of an especial character; when the tumor is situated on the left side, motor agraphia (or orthographia) and motor aphasia are usually present because of the compression or invasion of the posterior portion of the second frontal and of the third frontal convolutions; paralysis and other motor symptoms are often present late because of encroachments upon the motor region.

NON-SURGICAL TREATMENT OF FIBROID TUMORS OF THE UTERUS.*

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The question often arises—What may be done for uterine fibroids where operation for their removal is not feasible or is refused, and in what class of cases will non-surgical treatment be attended by results that would justify its adoption? These are problems that not infrequently confront the general practitioner, and he is expected to decide the question in the interest of his patient, without much to guide him. He should therefore be correctly informed upon these issues.

Unfortunately the truth has been over shadowed by the strenuous efforts to establish firmly, the feasibility and comparative safety of radical measures in these conditions, and non-surgical treatment has been made to appear incompetent. Likewise the indiscriminate application of electricity to fibroid conditions, both where it was appropriate and where it was not, led to failures that have operated seriously against it. There is much to be said in favor of both methods, and there are cases where the indication for each is sharply defined. This then is the point at issue—When is

surgical intervention positively indicated and when may non-surgical methods be adopted with any promise of success?

Pedunculated fibroids both subperitoneal and submucous never yield to non-surgical measures, and they should be removed when discovered. The same may be said of interstitial growths that have attained sufficient size to cause the uterus to rise in the abdomen above the umbilicus. Fibrocystic tumors are another class that demand removal since conservative methods are of no avail.

It is true that much may be done to relieve the pain of large interstitial growths when their removal is not practicable. The relief thus obtained may be only temporary, yet it adds greatly to the comfort of the patient, and should be advised when extirpation is out of the question.

The class of tumors where non-surgical treatment may be expected to accomplish satisfactory results and is therefore advisable, are both fibrous and myomatous growths of the interstitial variety, that have not attained sufficient size to cause the uterus to rise above the umbilicus. The smaller the growth the better the chance of obtaining success with this plan of treatment. Hence the question often arises, should these growths be attacked when they are first discovered, or should they be disregarded if they are not producing inconvenience. Growths of this character are often discovered when they are producing no symptoms, and unfortunately it has been the custom to disregard them.

My observations, which, have been by no means limited, have led me to decide in favor of active measures for the arrest of these growths and their possible dissipation whenever they are detected, and when they are small, even if they are causing no inconvenience.

First—Because they continue to grow (though slowly in some instances) if nothing is done, even under the most favorable conditions.

Second—Because the treatment, if properly carried out by one competent to employ it, cannot possibly be productive of any harm, but on the contrary, if it avails nothing more, brings about a condition that will facilitate extirpation of the growth should it subsequently become necessary.

It is urged therefore that the patient be given the benefit of non-surgical treatment in those cases of fibroid growths of the uterus where unprejudiced observers have decided that there is a reasonable promise of success.

It must be borne in mind that fibroids are not infrequently found where, either because of some constitutional defect operation for their removal would not be safe, or the patient may positively refuse to consent to the operation, yet they are producing serious inconvenience. In these cases it would be most unwise to refuse to give them the benefit of treatment that would certainly palliate the symptoms and possibly relieve them, even though such relief may not be permanent. In such cases therefore non-surgical treatment is to be regarded as a necessary alternative, and should not be withheld.

Foremost among non-surgical measures for fibroid tumors of the uterus, is electricity. Both the

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galvanic and the faradic current and even static electricity may be employed with benefit.

It is the electrolytic action of the galvanic current that is relied upon mainly to reduce the size of the growth, and cause its dissipation and when it fails to accomplish this result it is a material aid in relieving the symptoms, particularly pain produced by pressure and congestion. It also stimulates absorption of exudates, and removes many of the adhesions, this latter result being accomplished by shrinkage of the mass from contact with adjacent structures to which it has become adherent and consequent stretching and giving way of the adhesions.

Despite assertions to the contrary, electricity *per se* does not produce adhesions. Employed incompetently and without proper aseptic precautions a periuterine inflammation may be excited, resulting in adhesions, but that would not be the fault of the agent.

The method of application will depend upon the character and structure of the growth and the symptoms it is producing. When the tumor is a hard fibrous growth, the negative pole is to be employed, an uncovered metallic electrode being introduced into the uterus. This will constitute the active pole, and the electrode may be made of any material, because it is not acted upon by this pole. Copper is to be preferred because it may be readily bent to suit the curve of the canal. The ordinary uterine sound, insulated to within three or four inches of the point by slipping a piece of rubber tubing over it, makes an excellent electrode. The external or indifferent electrode, is to be placed upon the abdomen or back as is best calculated to include the main part of the growth between the two electrodes. This should consist of a pad made of several layers of thick felt thoroughly wet, and having the surface soaped to diminish resistance. It should be as large as can be conveniently applied to distribute the current and lessen the resistance.

The most satisfactory method of introducing the electrode into the uterus, is along the index finger in the vagina as a guide. But strict asepsis must be observed throughout every detail of the procedure. The hands should be sterilized by scrubbing them for five minutes with Synol soap, and the electrode must be sterilized by boiling in a 2 per cent. solution of the same for three minutes, after it has been scrubbed with a brush; or it should be passed several times through an alcohol flame, or that of the Bunsen burner. The vulva should likewise be scrubbed with Synol soap, and the vagina should be irrigated with at least two quarts of a three per cent. solution of the same, employing the distention method of irrigating. This consists in inserting the vaginal nozzle and compressing the labia, until the vagina becomes distended, then releasing the pressure and permitting the accumulated fluid to escape with a rush. This should be repeated until the reservoir is exhausted. The reservoir should be placed high, at least five feet above the table upon which the patient rests.

When zinc or other oxidizable electrodes are used, they should be scrubbed with a nailbrush on a cake of fine Sapolio soap, to clean and brighten the surface.

When there is hemorrhage or profuse or pro-

longed menstruation the positive pole is to be employed in the uterus instead of the negative and the electrode should be of platinum or zinc; preferably the latter, because the oxychloride of zinc that is liberated by the action upon the metal is more active in controlling the bleeding. After the bleeding has been permanently controlled the negative pole should be substituted for the positive.

Soft myomatous growths should have the positive pole applied to the interior of the uterus; and zinc electrolysis, secured by means of an electrode made of this metal, gives better results than simple positive electrolysis with the platinum electrode.

When these tumors are favorably situated, so as to permit the application of the current directly to the structure by puncture into it through the vagina, if judiciously employed, the result will be more prompt and more pronounced. The puncture is to be made with a steel needle, of small diameter, to a depth of 1-2 or 3-4 of an inch. But this method of application should never be attempted unless the puncture can be accomplished without the risk of wounding the bladder, rectum, uterine artery or ureter; and never without observing the strictest aseptic precautions, both at the time and subsequently, until the puncture has healed. There is no doubt that the application of the current in this manner, directly to the structure of the growth exerts a more decided action upon it than when it is applied through the uterus.

The application of the galvanic current through the vagina by means of the cotton covered ball electrode, can only exert a feeble electrolytic action upon the tumor, therefore it is of little value, except to relieving congestion.

The strength of the current to be employed will vary with the individual susceptibility. Usually the strength of the application of the negative pole to the interior of the uterus may be from 50 to 100 M. employed for ten minutes each time, and the application may be repeated every second or third day if the treatment is to be continued for a short period (one or two months). It is better to employ active treatment of this character for a period of two or three months, then discontinue it for two or three months and observe the result, repeating the applications if it is favorable.

The strength of the application of the positive pole when the zinc electrode is used should not exceed 50 or 60 M. employed for ten minutes.

The strength of the current used for puncture through the vagina should be 50 to 100 M. continued for ten minutes. The next puncture is not to be made until the previous one has healed. Then the puncture should be made in a different location.

The apparatus required for this treatment is much less expensive than is generally supposed. Sixty dollars would furnish a complete outfit for administering the galvanic current. There will be required 40 Laclanche cells, a current controller, a reliable meter, and the electrodes with conducting cords. Any dealer will explain how the cells should be set up and connected with the meter and controller in the circuit.

The faradic current is to be regarded as most effective for relief of pain and congestion. Though some reduction in the size of these growths has been reported from the use of this current, I am in-

clined to attribute this wholly to a restriction of the capillary circulation which can only be transient because it is powerless to remove the conditions that produce the increase blood supply to the tumor. The method of application is with a metal ball electrode in the vagina and a large dispersing electrode on the abdomen. The current should be as strong as can be comfortably borne without producing pain or discomfort. The application should be continued for at least 15 or 20 minutes, and should be repeated every day or every second day, as required to afford relief.

Static electricity is useful for relieving pain but cannot be expected to bring about any material change in the growth itself. Both the static spark and the static induced current may be employed with benefit. The spark is to be employed to the surface of the abdomen through the clothing, but the corsets should be removed because of the steels. The static induced current may be employed with one electrode (a metallic ball) in the vagina well up against the vault, and the other over the tumor on the abdomen. The external electrode should be a felt pad as large as can be conveniently applied so as to include as much surface as possible. Both electrodes may be applied to the external surface—one on the abdomen and the other on the back,—but the result is not so good as where one electrode is applied against the tumor in the vagina. By preference the vaginal electrode should be connected with the positive pole.

Ergot administered internally is certainly a valuable auxiliary in some instances. It acts by stimulating contraction of the muscular structure of the uterus and by compression of the blood vessels, diminishing the supply of blood to the growth. It also has a controlling influence upon bleeding from the endometrium which is sometimes an annoying symptom. In two instances at least I have known its influence combined with that of galvanic applications to the interior of the uterus to cause a breaking down of the intervening wall with sloughing of a large interstitial fibroid which was subsequently delivered successful, through the cervix, both patients making a satisfactory recovery. The combination of Liquor Sedans with Ergot acts well in painful conditions.

I have found the iodide and bromide of potassium useful sedatives in these conditions and they are certainly a material aid in some cases. They are usually administered five grains of the iodide with ten grains of the bromide in water three or four times a day.

Arsenauro (the bromide of gold and arsenic) is a most valuable internal remedy in these fibroid cases. It not only counteracts the anemia, but arrests the bleeding, effect in diminishing the menstrual flow where it is excessive is certainly very marked. In addition it affords relief by exerting a distinctly local sedative action, thus relieving pain which is so often an annoying symptom. These patients build up astonishingly under it when it is continued at the maximum dose for several months. The method of administration is to begin with six drops in water three times a day, after meals, and increase the dose one drop every day until the dose reaches sixteen drops, then continued it at this dose.

Recent observations have led me to conclude that interstitial fibroids of moderate size do sometimes disappear under the influence of electricity, aided by the internal remedies enumerated above. During the past year I have observed such tumors disappear in three cases and many others have diminished very much in size. Prior to two years ago I was led to make the statement that I had never seen a fibroid removed by electricity, except where it had caused sloughing and a discharge of the mass through the cervix. But recent observations have compelled me to change my views. Like others, in the beginning I was induced to try the benefit of electricity in all varieties of fibroids, because at that time their extirpation had not been demonstrated to be a safe procedure. Now, however, the limitations of electricity have come to be better understood and by restricting its use to those cases where it has been observed to yield results, and operating, where permissible, in those cases where it could not be expected to accomplish anything, there are now fewer failures and consequently more satisfaction in dealing with these cases.

AKROMEGALY, WITH REPORT OF TWO CASES

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Owing to its obscure etiology, the wide distribution of its lesions, and a perversion of the natural laws of growth, akromegaly has baffled while inviting curious research.

It remained for M. Pierre Marie, through his studies of two singular cases in the wards of Charcot in 1886, to first point out the way. By observing similarities there presented, he was enabled, after careful study, to associate the symptoms complex with a hypertrophy of the pituitary body. With this discovery there was awakened great interest in the anatomy and physiology of this body, so that to-day its structure, nerve and blood supply and diseased state in many conditions are now fairly well understood.

Of the cases since reported, approximating closely on to three hundred, a sufficient number have been so amplified by patho-anatomical studies as to establish certain facts more or less constant.

The pituitary body is regularly found to be diseased, and generally its anterior or glandular portion; changes in the secretion of the thyroids, hypertrophy or atrophy rarely normal, occasional persistence of the thymus gland, and changes in the sympathetic nerves and ganglia.

On the other hand, the normal function of the pituitary body is absolutely unknown. That it has been found disorganized, hypertrophied, or probably absent without the symptoms of akromegaly, is likewise proven, and thus an accidental coincidence of its disease in these cases lends only to an hypothesis.

The other ductless glands need not be further considered: (c) as Burr points out, there is not a single one in the body which has not been found to be diseased in some of these cases, and it is more than probable they are only of secondary importance in accounting for the phenomena of akromegaly.

*These cases were exhibited by invitation before the Philadelphia Neurological Society April 23, 1900.

The theory of trophic neurosis, advanced by Von Recklinghausen and Holschewnikow, would seem to deserve a more careful consideration than is usually given in a study of these cases. By this theory it is held that the nervous system is primarily at fault, and the changes observed in the pituitary body and other structures are considered to be of a secondary nature. The reported autopsies, however, so far as I have been able to trace, add little or no weight to this theory. In many there is no mention made as to the condition of the nervous system, excepting the results of pressure through an enlarged hypophysis.

(f) Arnold and Dellemagne found, on several occasions, an asymmetrical degeneration of the posterior columns of the spinal cord. Marie Marinesco and Arnold found the spinal ganglia and sympathetics hypertrophied.

Clinically we are dependent at least for an early diagnosis, upon certain trophic changes, such as paresthesias and joint pains; numbness and tingling sensations in the extremities; hyperhidrosis, pigmentation and thickening of the skin; changes in the hair, nails and joints, and further study is needed along these lines before accurate conclusions can be reached.

The purpose of this paper is to present the record of two cases developing under daily observation during a period of about six years.

CASE 1.—S. B., male, aged eighteen years. High-grade imbecile, admitted in 1892 at the age of ten to the Pennsylvania Training School, made fair progress, soon learned to read and write, and was regularly promoted in his class for four years when the limit seemed to have been reached

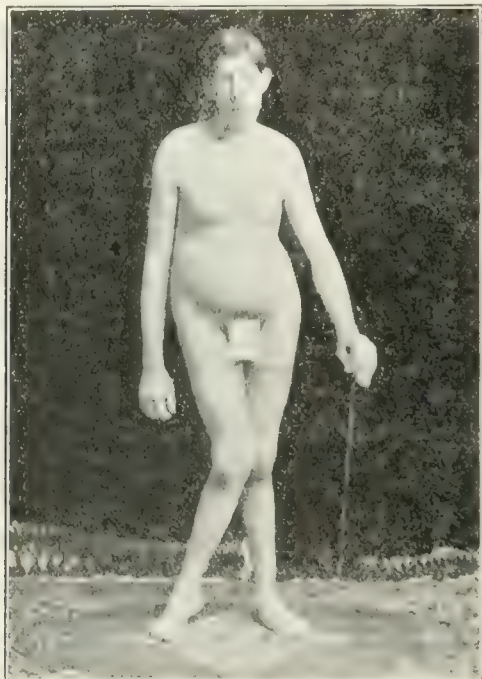


Fig. 1. A case of Akromegaly.

and, mental development ceasing, he was transferred from the schools of the industrial department, where he has ever since proven a useful aid.

Shortly after this time he suffered from aural catarrh, which was merely a relapse of former trouble dating from early childhood. Three years previous he had what was thought to be rheumatism of the right ankle, and has since

had several recurrences. It is now presumable that these attacks were premonitory symptoms of the disease. In August, 1896, bursitis of the right knee developed. Rest and treatment soon effected an apparent cure, and a month later a relapse, the result of an injury to the same knee from a fall, again yielded to treatment, but after this muscular atrophy was noted, the knee began to enlarge through bony formation around the joint, and osteo-arthritis became pronounced. With this genu valgum slowly progressed. At present the trouble is much exaggerated, but there is little or no pain in this region. On bending the knee a grating and creaking sensation can be distinctly felt, and what appear to be small, loose or "floating bodies" detected.* Roswell Park (d) reports a similar interesting case. His, however, was a cystic tumor without bony deformity, which he evacuated, and removed five fibrous masses. One year later, August, 1897, abscess of the right antrum of Highmore developed. After perforating the cavity at the root of the second bicuspid tooth, irrigating and draining, recovery rapidly ensued. Shortly following his discharge from the hospital a marked change, both mental and physical, was noticed, and within a year, at the age of fifteen, the symptoms of akromegaly became apparent. He now began to grow rapidly, and a year later, when I first saw him, he had attained nearly his present size and stature, presenting all the symptoms of the disease. Kyphosis undoubtedly existed before the development of these symptoms, and even before his admission in 1892.

Abnormal development was first noticed through the frequent changes required in the size of his shoes. The hands were also found to be correspondingly enlarged, and he became very sensitive regarding their size.

FAMILY HISTORY: Born in Philadelphia May 18th, 1882, labor normal. Father 24, mother 20 at the birth of this, their first child. The father is below the average in intelligence, and deaf; he is a driver by occupation, and is still living. The mother died at the age of 25 of malaria. The patient has one brother living, fairly strong mentally and physically. Paternal grandmother died of consumption, maternal grandfather died of cancer of stomach.

PERSONAL HISTORY: The admission blanks, August 1892, describe him as follows:

Light hair, blue eyes, sight good, hearing a little affected. He is of the usual weight and size for his age. Ordinary shaped head, mouth always open, teeth good; has long features. In walking bends forward, and in speaking stammers a little. Is nervous, active, destructive, and heedless of danger. Commenced to walk at sixteen months; has had measles, whooping-cough and scarlet fever. Otitis media developed as a sequel of the latter disease when four years old, resulting in a chronic discharge from his left ear and in impaired hearing; mental degeneration is supposed to date from this period.

A physical examination was made March 27th, 1899, with the aim of studying future changes. (See Chart No. 1 of Measurements; also Plate 1 showing features and general characteristics).

PHYSICAL EXAMINATION: Age, 16 years ten months. Weight, 95.2 Kg., approximately, 210 lbs. Height, 190.6 cm., approximately 6 ft. 3 in. Hair, color chestnut-brown; on head it is coarse and dry. In axillary and pubic regions it shows no characteristic changes. The skin is paler than normal, and is appreciably thickened all over the body; on his face it is pigmented, and over his shoulders and lateral surfaces of chest and abdomen is thrown in rugae.

The expression of his face is dull; general muscularity and fatness diminished. There is marked cervico-dorsal kyphosis, slight scoliosis and right genu valgum. In June 1900, one year later, through the suggestion of Dr. Caspar W. Miller, X-ray pictures of his extremities were made. The trunk and jaw were too thick to obtain any clearness of detail, so this part of the investigation we were forced to abandon. The result, however, shows only a uniform hypertrophy, merely an exaggeration of the normal state. On this account the illustrations will be omitted. The ears are large and cartilages thick. The nose is very large, measuring 6.6 Cm. from frontal bone to tip, and 5.2 Cm. across alae. The nares measure 1.5 X 2 Cm. The septum is thickened and deflected toward the right. A large spur

(f) Oppenheim on Diseases of the Nervous System, P. 873.

(d) International Medical Magazine, Vol. 4, No. 1.

is seen on this side springing from the lower border of septum. Both the middle and inferior turbinated bodies are deeply congested and infiltrated.

The lips are thick, teeth normal in size and number. The alveolar processes are hypertrophied, the right curved inward (half saddle-shaped). The hard palate is deepened, the soft palate and uvula thickened. The post-nasal space is thereby much contracted. The tongue is long, broad and deeply fissured, measuring at its broadest part 7 Cm. It resembles closely this organ seen in the Cretin and Mongolian type. The voice is thick and guttural. The face is oval and prognathous. Malar bones massive. Inferior maxilla thick, and chin projecting, so that the lower incisors do not articulate with the upper, but are carried out beyond them slightly. His neck is thick and short, and the right thyroid body is distinctly enlarged and firm. (a) (Hutchinson, in an analysis of 218 cases, found this body enlarged thirty per cent., and atrophied in ten per cent.) The thoracic cage bulges forward, increasing the antero-posterior diameter materially.

The abdomen is pendulous and the breasts enlarged; (usually the latter, in females especially, are described as atrophied). The sternum and clavicles are very broad and thick. This increase in size of the latter is particularly marked on their inner thirds. The ribs share equally in this bony development, and at the sternal junction are noticeably beaded. The genital organs are hypertrophied.

megalic, is never complained of, and apparently is absent.

A full report of the examination of his eyes by Dr. J. Thorington is here given: S. B., age 18 years. Examination of eyes.

INSPECTION: Eye lashes, eye-lids and palpebral fissures apparently normal. Eye-balls are not prominent. Extraocular muscles normal and ocular excursions perfect. Corneas normal. Anterior chambers normal. Pupils are round, four millimeters in diameter. Irides react very sluggishly to light, convergence and accommodation.

VISION AND NEAR POINT. This is the same in each eye, vision being normal, V/V, and near point 9 Cm.

OPHTHALMOSCOPE: Right eye. Media clear. Disc large, slightly vertically oval. Choroidal ring all around the disc. Shallow physiological cup. Arteries smaller than the normal; relative proportion between arteries and veins in health. Veins slightly tortuous. The disc is decidedly pale in color and very few capillary vessels can be recognized. The direct and the indirect methods of examination, and also the plane and the concave mirror, show the characteristic atrophic nerve. The refraction is hyperopic about half a diopter. The left eye shows the same conditions as the right, except that the temporal side of the disc is heavily pigmented.

COLOR VISION There is no color blindness. The

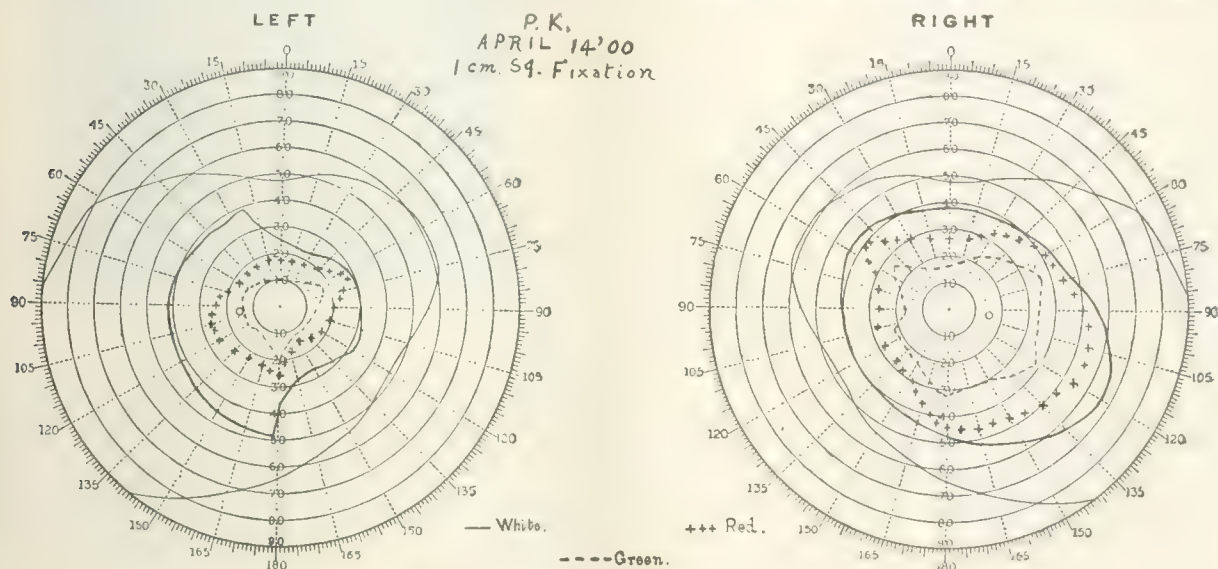


Fig. 3. Fields of vision in a case of Akromegaly.

testicles firm. Auto-erotism, generally noted as being absent, has apparently in this case not diminished. When younger he was known to masturbate and to practice sodomy. At present he tells me he experiences nocturnal emissions. On one occasion spermatozoa were found in the urine.

The relation between his height and the stretch of arms, measuring from the tip of one middle finger across his chest to the other, as might be inferred, is markedly altered. Normally the stretch is approximately 5 Cm. greater; in this case we find the difference to be 18.6 Cm. (e) The length stretch index computed from this is 1.07. Normal approximately 1.02. Imbeciles .096 to 1.068.

The hands and feet are steadily increasing in size. He now wears a No. 15½ shoe.

Sensation, tactile, thermal, weight and pressure, and location are normal.

SIGHT: Subjective symptoms are still absent, excepting at night he experiences difficulty in finding his way about.

Headache, the commonest of complaints of the akro-

patient selecting the worsteds accurately and without hesitation in each instance.

FIELDS: The form field is contracted to within ten degrees of the point of fixation. The color field is smaller than the form field. This is the same in each eye.

DIAGNOSIS: Progressive double optic atrophy.

HEARING: This is about one-third normal in his left ear, and greatly diminished on the right side. He has suffered at various times from otorrhoea in both ears.

SMELL: The sense is lost on the left side, and apparently decreased in the right. He still can recognize the common essential oils and other odoriferous substances. Taste sense is not appreciably diminished.

MOTOR DISTURBANCES: His gait is slow and deliberate, and naturally abnormal on account of the right genu valgum.

Station and sway are normal.

Cutaneous reflexes normal.

TENDON AND MUSCLE PHENOMENA: The knee jerks are diminished, almost lost in the right. There is no ankle clonus. Toe, elbow, wrist and jaw jerk normal.

SECRETORY DISORDERS: There is marked general hyperhidrosis which is particularly increased on the right half of the body. When stripped, even in a comparatively cool room, great drops of sweat are to be seen trickling down the lateral surfaces of his chest from the axillary folds.

(a) Woods Hutchinson, New York Journal, March 12 1898.

(e) One hundred imbeciles were examined, many of them types of atavism for a comparison of indices with the following results: 10 per cent 1.083 26 per cent 1.071 18 per cent 1.018, 16 per cent .98. The highest 1.068. The lowest .96.

TROPHIC DISORDERS: The skin is generally thickened, and over the shoulders, sides of chest and lateral surfaces of abdomen it is thrown in rugae. Distinct linea striata are to be seen running inward and upward from crest of ilium. The nails are broad and flat, and finger tips square. Fleshy pads, so commonly described in this disease, are well shown in palms of hands and feet. Joint pains are constant. The right fingers are numb and tingle in the early morning.

TEMPERATURE: The axillary temperatures compared daily show a constant variation of about two-fifths of a degree higher on the right side.

PULSE: 86-98. The arterial tension is increased, and the coats are appreciably thickened.

Slight varices are noted in the legs.

HEART: The heart is hypertrophied. The apex beat is forcible in the sixth interspace and just outside the nipple line. Dullness extends upward to the third rib and at transversely two centimeters beyond the nipple line, and to the right border of sternum. The first sound is prolonged and dull. The second sound at aortic cartilage is accentuated.

RESPIRATION: 22-24, character abdominal. On percussion and auscultation the chest is negative, excepting there is marked dullness over the upper sternum. (b) Erb, to whom the credit is due, first pointed out this sign in akromegaly as suggestive of an enlarged thymus gland. He, supported by Shultz and Verstraeter, believed it to be characteristic.

Appetite is moderate, at times capricious. He does not care for sweets, and on diminishing the amount of sugar and starches in diet the traces of sugar found in the urine ceased altogether. On the other hand, when given an excess, the amount did not seem to materially increase.

LIVER: The liver is increased in size. The lower border is smooth and can be felt about 5 Cm. below the costal margin.

SPLEEN: This is enlarged and tender.

KIDNEYS. The right kidney cannot be palpated. The left kidney is distinctly enlarged.

URINE: Urine examination March 10th, 1900. Average daily quantity 2400 C. c. Reaction acid. Sp. Gr. 1.025. Sugar, albumen and acetone present in traces. Urea 2.6 per cent. The phosphates, chlorides and sulphates were in their normal relation. No diacetic acid. Microscopically casts, granular and hyaline. Crystal calcium oxalate.

October 15th. Average daily quantity 6810 C. c. Reaction acid. Sp. Gr. 1.010. No sugar. Albumen .030 gm to 500 C. c. Acetone traces. No diacetic acid. Phosphates, chlorides, sulphates normal.

Microscopically—Casts hyaline; crystal calcium oxalate.

GLANDS: Not enlarged.

Blood Examination March 10th, 1900.

Red cells.	5,265,000
White cells.	8,000
Hemoglobin.	85 per cent
Eosinophile cells.	1.66 per cent.

October 13th, 1900.

Red cells.	4,760,000
White cells.	6,400
Hemoglobin.	85 per cent

Differential Count.

Polynuclear neutrophils.	63 per cent.
Small lymphocytes.	23 per cent.
Large and transitional.	9 per cent
Eosinophiles.	5 per cent.
Number of cells counted	1165

CASE NO. 2.—P. K., age 20 years. Family history unknown. When admitted to the Pennsylvania Training School at the age of fourteen years he was classed as a middle-grade imbecile, unable to read and write. He was active, noisy and disobedient. His features were good stature and general muscular development apparently normal. When placed in school it was quickly found that his mental limit had already been reached; unable to concentrate attention, with no memory power, the lessons of one day, even after constant repetition, would be forgotten the

next. For manual arts he was equally incapable, but developing some aptitude for ordinary industrial occupation, he was, after two and a half years' trial, taken from the schools and put to work in the kitchen. At this time, August, 1896, he was of the usual size and weight of a lad of sixteen, and in vigor and strength was considered rather above the ordinary imbecile.

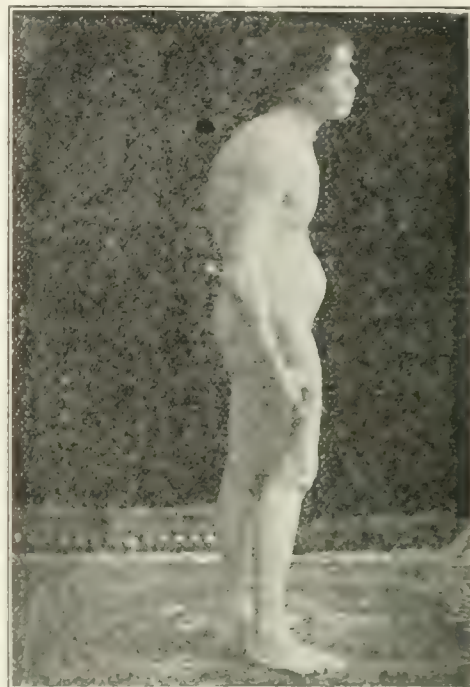


Fig. 2. A case of Akromegaly

This case represents a very early stage of the disease, and it is only of late I have been enabled to make a diagnosis. Among the imbeciles we have many abnormalities, so that one must consider what is representative of this type on the one hand, and on the other what is characteristic of a disease like akromegaly in its erethistic stage. Adolescence is reached; health and physical strength were, until the last six months, exceptionally good, and the course of the disease has not been marked by pronounced changes.

In December 1899 my attention was first drawn to his malady while he was suffering from a mild attack of influenza. He was then about six feet tall, face slightly prognathous, his hands unusually large, and he wore a No. 11 shoe. There was no kyphosis, no evidence of trophoneuroses, no apparent enlargement of the lower jaw. The urine and blood examinations were normal. Later he began to suffer occasionally from indigestion, muscular pains, principally in the thighs and legs, and headaches. Plaster casts of his hands and feet were made. In June an examination of his eyes and fields by Dr. Thorington was made and repeated seven months later for comparison. The cuts clearly illustrate the changes. (See also his report). X-ray pictures were also made about the same time, but these latter, as in Case 1, show the same uniform hypertrophy, and nothing characteristic.

Measurements of his body were likewise taken and compared later. The lower jaw is elongating, causing the teeth to protrude a trifle. The eyes and cheek bones are becoming more prominent, the lips thicker, and nose larger. The skin on the face is thick and pigmented. General hyperhidrosis is pronounced, although not nearly so much as in Case No. 1. A recent study of the urine shows advancing renal changes. Average daily quantity, 1675 C. c. Color, pale amber. Sp. Gr. 102°. Reaction acid. Albumen, acetone and indican present in traces; no diacetic acid, no sugar.

Microscopically—Hyaline casts and calcium oxalate crystals.

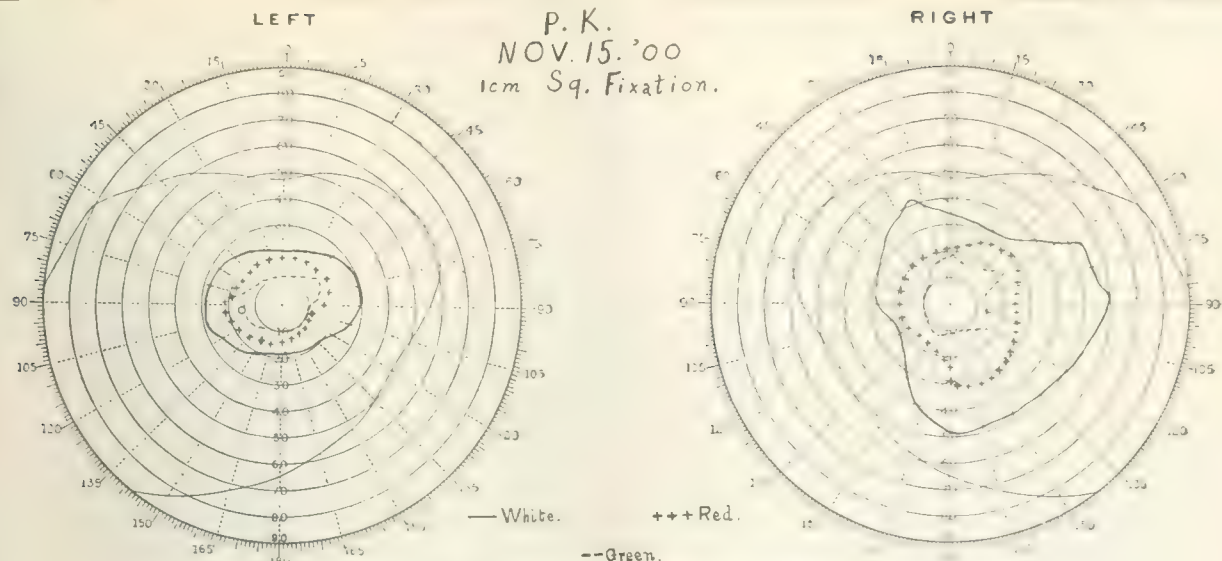


FIG. 1. Fields of vision in a case of Akromegaly.

Blood is normal. Axillary temperatures equal and normal.

Respirations 24 26, abdominal in type. Chest full and regular.

Reflexes normal.

The genital organs are hypertrophied. There is apparently no diminution in the auto-erotic phenomena.

Appetite moderate, stomach and intestinal tract presumably healthy. There is neither polyphagia or polydipsia. His general disposition is good, excepting when suffering from headache he is irritable and forgetful, as might be expected. Responding to military training, he carried himself well and was exceedingly erect; but latterly several interesting features are noticeable; he is beginning to stoop, has lost the sense of time in music, and there is progressive general weakness, and he is now easily fatigued.

His shoes have been recently changed for a size larger (No. 12), and the two casts made within an interval of seven months, of his right hand, are strikingly dissimilar.

Dr. Thorington's Report, June 1st, 1900. P. K., age 20 years. O. D. V.—V/V. O. S. V.—V/V. Pupils large, round, five millimeters in diameter. Irides react sluggishly to light, convergence and accommodation.

Ophthalmoscope shows medium sized nerves. Relative proportion between size of retinal arteries and veins is normal. The arteries are not narrowed, and veins are not enlarged. Both nerves appear normal. The refraction is hyperopic less than 1 D.

Fields show concentric contraction for form and colors; this is especially marked in the left eye.

Diagnosis: Beginning optic atrophy.

TREATMENT.

Only in Case No. 1 have I attempted more than a symptomatic form of treatment. We hope later to be able to report more fully on the value of the animal extracts.

S. B. has been taking an extract of the thyroid body for the past three months in daily doses increasing from fifteen to twenty-five grains, with so far no apparent benefit.

My thanks are due to Dr. Martin W. Br. Chief Physician of the Pennsylvania Training School, for his material assistance in working up these cases, and permission to make this report.

CHART NO. I—MEASUREMENTS.

DATE,	S. B.				P. K.	
	March 27-1899	March 26-1900	October 15-1900	May 2-1900	Sept. 17-1900	
Weight	95.3 Kg.	90.7 Kg.	100.1 Kg.	76.7 Kg.	76 Kg.	
Height	190.6 Cm.	195 Cm.	193.4 Cm.	181.2 Cm.	182.1 Cm.	
SPRING	21.5	21.5	21.5	18	18.2	
Knee	21.5	21.5	21.5	18	18.2	
Neck	118	118.4	118.6	118.5	118.5	
Sternum	118.4	118.8	118.8	118.5	118.5	
GIRTH						
Head	58.5	58.5	58.5	58.5	58.5	
Neck	38.8	38.8	38.8	38.8	38.8	
Chest, Repose	108	108	108	108	108	
Chest, Full	108	108	108	108	108	
Ninth Rib	108	108	108	108	108	
Inflated	108	108	108	108	108	
Waist	88	88	88	88	88	
Legs	138.2	138	138	138	138	
R. Thigh	51.5	51.5	51.5	51.5	51.5	
L. " "	51.5	51.5	51.5	51.5	51.5	
R. Knee	41.5	41	41	41	41	
L. " "	41.5	41	41	41	41	
R. Calf	38.5	38.5	38.5	38.5	38.5	
L. " "	38.5	38.5	38.5	38.5	38.5	
R. Ankle	24.5	24.5	24.5	24.5	24.5	
L. " "	24.5	24.5	24.5	24.5	24.5	
R. Instep	24.5	24.5	24.5	24.5	24.5	
L. " "	24.5	24.5	24.5	24.5	24.5	
R. Upper Arm	24.5	24.5	24.5	24.5	24.5	
L. " "	24.5	24.5	24.5	24.5	24.5	
R. Elbow	28.2	28.2	28.2	28.2	28.2	
L. " "	28.2	28.2	28.2	28.2	28.2	
R. Forearm	26	26	26	26	26	
L. " "	26	26	26	26	26	
R. Wrist	19.8	19.8	19.8	19.8	19.8	
L. " "	19.8	19.8	19.8	19.8	19.8	
DEPTH, Chest	21.5	21.5	21.5	21.5	21.5	
BREADTH, Head	15.2	15.2	15.2	15.2	15.2	
Neck	11.4	11.4	11.4	11.4	11.4	
Shoulders	40.6	40.6	40.6	40.6	40.6	
Waist	31.2	31.2	31.2	31.2	31.2	
Hips	38	38	38	38	38	
Nipples	21.9	21.9	21.9	21.9	21.9	
LENGTH, R. Should. Elb	39.4	39.4	39.4	39.4	39.4	
L. " "	39.4	39.4	39.4	39.4	39.4	
R. Elbow Tip	55.5	55.5	55.5	55.5	55.5	
L. Elbow Tip	55.5	55.5	55.5	55.5	55.5	
R. Foot	30	30.3	30.5	28.6	28.6	
L. Foot	31.2	31.2	31.2	28.6	28.6	
Horizontal	196.2	198	198	184.6	184.6	
Stretch of Arms	210	212	212	190	190	
Capacity of Lungs	4 L.	4.4 L.	4.4 L.	2.5 L.	1.8 L.	
Strength of Lungs	170 Gm.	130 Gm.	150 Gm.	135 Gm.	135 Gm.	
" Back	140 Kg.	140 Kg.	200 Kg.	150 Kg.	150 Kg.	
" Legs	140	150	250	250	250	
" Chest						
" U. Arm	R. L.	R. L.	R. L.	R. L.	R. L.	
" Forearm	41-35 Kg.	34-37 Kg.	37-46 Kg.	45-38 Kg.	45-38 Kg.	
HEAD MEASUREMENTS.						
Circumference	57 Cm.	57 Cm.	57 Cm.	56.5 Cm.	56.5 Cm.	
Naso-occipital arc	37.3	37.3	37.3	37.3	37.3	
Binauricular arc	37.7	37.7	37.7	37.7	37.7	
Antero-posterior diam.	19.7	19.7	19.7	19.7	19.7	
Great Transverse Diam.	15.5	15.5	15.5	15.5	15.5	
Length Breadth index	77	77	77	77	77	
Binauricular Diam.	14.3	14.3	14.3	14.3	14.3	
Facial Length	22.3	22.3	22.3	22.3	22.3	
Occipito-mental diam.	22.3	22.3	22.3	22.3	22.3	
Length Body Mandible	11	11	11	11	11	

A CLINICAL NOTE ON INFANTILE SCORBUTUS.

WM. M. MASTIN, M. D.

of Mobile, Ala.

The recent paper by Dr. Griffith on infantile scurvy in *The Philadelphia Medical Journal* (February 2, 1901) suggests the report of four cases of this disease coming under my observation within the comparatively short period of the past six months, and which, I hope, will serve to emphasize his remarks relative to the frequency of the affection.

It is a matter of surprise that notwithstanding the rather numerous publications on the subject during late years, notably among which may be mentioned the article of Northop and Crandall, appearing as early as 1894, there is a decided misconception of the malady by the general practitioner, and especially so in confusing it with rheumatism. The impression seems to prevail among the profession that scurvy in the first years of child life is a very rare affection, and, on the other hand, that rheumatism in infancy is quite common. In reality the reverse is true, if I may judge from the published records and my own personal experience, although my work is largely surgical in character, and I am assured the observations of the pediatric specialist will fully sustain this opinion. Furthermore, there is scarcely a doubt that infantile scorbutus is rapidly increasing, due obviously to the more widespread resort to artificial feeding and the almost daily addition to the already vast number of commercial infant foods.

The subjoined cases combine several features of interest. They demonstrate that errors in the diagnosis of infantile scurvy are not confined alone to rheumatic affections, but may extend to the domain of surgical disorders—tubercular bone lesions, sprains and contusions; to the nervous system—disease of the cord; and even include hereditary syphilis.

They show also that scurvy may arise during the exhibition of several of the most popular artificial or prepared foods, and, in addition, what is of much consequence, that its occurrence under the use of sterilized milk must be undoubtedly conceded.

Again, one of the cases suggests the possible intimacy, or, at least, association, of infantile scurvy with a form of pernicious anemia, which, taken in connection with the recent observations in this direction, is of some importance.

CASE 1.—J. M., a male child 13 months old, was seen by me in consultation with the family physician on June 3rd, 1900. The child had been in failing health, as evidenced by loss of flesh, disturbed digestion, anemic appearance, fretfulness, etc., for the past three months, during the last eight or nine weeks of which time pain in and swelling of the lower extremities was noticed, the pain being greatly exaggerated on movement and handling. These symptoms were at first attributed to rheumatism, and the salicylates and kindred drugs were freely used.

As the disease progressed the swelling, pain and tenderness gradually increased, especially in the right knee and ankle and along the tibia, when the diagnosis was changed to that of periostitis of probable syphilitic nature. It was at this time that I requested to see the case. Examination now showed an extremely pale, emaciated and fretful baby, bearing the impress of suffering in its pinched features, indisposed to move, and crying out with pain when touched or handled. Both lower limbs were painful on movement and pressure, particularly over the tibial epiphyses, with swelling, thickening and some redness along the tibiae.

These symptoms were much more pronounced in the right leg. There was slight tenderness on pressure about the arms and hands, but no further implication was found in the upper extremities. There was no evidence of rickets. The gums were swollen, spongy, and ulcerated along the line of the upper and lower incisors. The child had been nursed at the breast for the first month and a half of life, but at this period the mother's health became impaired and her milk failed. Condensed milk was now substituted, upon which the infant seemed to thrive, and this, together with Mellin's food and occasionally feeding with farinaceous articles of diet, was the character of nourishment the child had received. On a diet of raw cow's milk combined with a moderate proportion of Mellin's Food, with orange juice daily administered, the scorbutic symptoms rapidly subsided and were entirely relieved. The condition of anemia, however, progressed unchecked, although reconstructives were freely employed. The child succumbed several weeks later to an attack of enterocolitis.

The noticeable facts in this case are that the disease was mistaken for both rheumatism and hereditary syphilitic periostitis; that it occurred whilst on a diet of condensed milk and Mellin's food; and thirdly, and of especial interest, its connection with a form of anemia most probably of a pernicious type.

The affinity between infantile scurvy and pernicious anemia was recently suggested by Dr. J. L. Duenas, of Havana, who reported in the *Archives of Pediatrics* January, 1901, an important and suggestive case where there was an intimate and probable etiological relationship existing between the two diseases. It is greatly to be regretted that careful blood examinations were not made in the case of J. M., but the character and persistence of the anemia, notwithstanding the prompt and complete relief of the scorbutic manifestations, leave scarcely a doubt as to its nature and association, particularly in the light of Dr. Duenas' contribution.

CASE 2.—Grace Van H., a female child ten month old, was brought to me from Jackson, Ala., August 10th, 1900, for trouble existing in the left hip joint, which had been diagnosed as tubercular. The child was born at term, of healthy parents, and was vigorous at birth. For the first month it was nursed at the breast, but at this time the mother suffered from an attack of fever, with checking lactation, a diet of Mellin's food and condensed milk was prescribed. This was the only food given and apparently it furnished all the necessary nutrition until about six weeks prior to its visit to Mobile. Then it was noticed that the infant was growing thin, losing color, becoming fretful, and the appetite diminishing. These symptoms somewhat increased for about two weeks, when it was further discovered that the left hip and thigh were painful and swollen. These were the symptoms present when I saw the case, and, in addition, it was found that the thigh was partially flexed on the abdomen and the entire limb rigid and almost immovable. There was moderate swelling about the joint including the thigh down to the knee, and the least movement, or pressure over this area of surface caused decided pain. At the first glance the symptoms were certainly those suggestive of hip disease, but a closer examination, together with finding that the tenderness also existed to a moderate degree in the epiphyses of the bones of both lower extremities, with a spongy condition of the gums and the anemic appearance of the patient was convincing evidence that the trouble was not simply localized, but dyscrasic in character. The food was changed to raw cow's milk, and the juice of an orange ordered to be given daily. Under these measures improvement took place rapidly, and within a period of ten days or two weeks the child had practically recovered.

The diagnosis of infantile scurvy in the majority of instances offers relatively but few difficulties, and the present case is interesting because of the somewhat obscure symptoms which characterized the onset of the attack. With the presence of pain in and slight swelling about the joint, flexed thigh

and rigid muscles, and the general depreciation of the child's health, it can be readily understood how one might be misled. But with the appearance of tenderness about the joints and bones of both limbs, with spongy and ulcerated gums, the diagnosis was quite apparent.

CASE 3.—P. H. B., male, one year old. This child was brought from the interior of the State and seen by me on October 18, 1900. The history of the case is as follows:

It was the first child, delivered with instruments, but healthy and vigorous at birth. For the first three or four weeks it received its mother's milk, but it did not thrive and improve in weight, and the physician in attendance advised a change to sterilized milk. This was done, and for several months thereafter improvement in nutrition was marked and the food seemed to agree most admirably. When the child was about seven or eight months old it was observed to be losing flesh and becoming languid, pale and fretful, but this was attributed to the warm weather, and the diet of sterilized milk was continued. These symptoms of depreciating health continued and increased until six weeks prior to the date on which I saw it. It was then noticed also that the movements of the child were quite feeble, especially of the lower limbs, and, although it had learned to stand with the aid of a support, the legs now gave way under its weight and it soon ceased to make such attempts.

It happened just at this time that the child slipped from a table on which it was sitting, and the nurse in catching it was thought to have wrenched its back, for it cried loudly and seemed to be in pain for some hours. After this it refused to make any effort whatever at sitting or standing, and cried when handled or moved. An injury to the spine was believed to have been sustained, and the parents brought it to Mobile. Another physician was now consulted who diagnosed a serious cord lesion and advised placing the child under the care of a neurologist, but before doing so I was asked to see it. I found the infant anemic and weak, with the facies of illness, and apparently having lost entire motion of the lower extremities. It was quite thin, especially the legs, and the joints stood out prominently.

The slightest movement produced intense pain—the child almost swooning when turned about for examination—and there was decided tenderness over the hip, knee and ankle joints and along the tibial crests, but scarcely any swelling or thickening in these localities. The arms and shoulders were also somewhat sensitive and painful. The gums were distinctly ulcerated about the upper incisors. The appetite was poor. Infantile scorbutus was diagnosed, and a food of raw cow's milk combined with a small amount of Mellin's food, and a liberal quantity of fruit juice, was suggested. In addition iron internally and inunctions of cod liver oil was advised. Improvement was astonishingly rapid; within a week after the adoption of these measures the child was almost free of pain and was rolling over in bed and using its legs vigorously; and each day added to these strides towards recovery until at the expiration of a month it was allowed to return home perfectly well. The further progress of the case was uneventful.

I wish to call attention to the development of scurvy in this case during the use of sterilized milk. I know quite well that this is a disputed question, and that some observers maintain that heating or sterilization has no effect whatever upon the nutritive qualities of cow's milk. But if we admit, as the present status of our knowledge seems to demand, that the etiology of scurvy is largely dietetic, then in this instance where no other food of any character except sterilized milk was employed and where the child promptly recovered after the diet was changed to milk in the raw state, we are forced to the conclusion that the act of sterilization was the prominent or causative factor. It is indeed true that cases are recorded where scorbutic children have been cured simply by the exhibition of fruit juices without change of the former diet, and it is, of course, difficult to determine which was the

actual therapeutic agent in a case where both the use of orange juice and a change of food had been made. But that the process of heating does produce alterations in milk which lessen or seriously impair its food value, I feel convinced, and even if it cannot be proven that milk thus prepared is a positive or direct cause of scurvy, there is sufficient evidence to render the probability of such a power very strong, which should be fully recognized and a warning note sounded in the matter. This is all the more essential on account of the very extensive use of sterilized milk, not only as an infant food, but also as a diet in general illness, and especially diseases of long duration.

This case also presented obscurities in the diagnosis.

The fact that probable injury in the form of a wrench or sprain of the spine had been received, followed almost immediately by apparent total loss of movement of the lower limbs, rendered it quite probable that traumatism to the cord had been received. With the continuance of these symptoms of paralysis, strongly suggestive of a poliomyelitis, it is not surprising that the error of regarding the trouble as located in the cord was made.

CASE 4.—On February 12, 1901, in consultation with the family physician, I saw I. J. D., a female child, of healthy parents, 13 months of age, whose history and condition were as follows: This child was vigorous at birth, and for the first month was breast fed; but the mother's milk now failing, prepared or artificial food was resorted to. In the beginning this consisted of condensed milk, which at first seemed to agree, but digestive disorders soon appeared and it was changed for Mellin's food. The gastric and intestinal troubles continued, however, and Horlick's food was substituted, and on this diet the digestion improved and the intestinal irregularities were corrected. This had been the food employed for the greater part of the child's life and was being given when I was consulted. The present affections began about eight weeks before, commencing with pain, tenderness and swelling in the right ankle, then rapidly extended to the knee and hip of the same side, and within the period of a week had invaded the left hip. The pain was quite severe, and was greatly exaggerated upon the least movement or handling, necessitating carrying the infant about on a pillow. As these symptoms progressed the general health of the child became somewhat involved, there being languor, fretfulness, pallor, and moderate loss of flesh, but the nutrition was not greatly disturbed and the appetite remained good. Three weeks later the gums showed a line of ulceration along the incisors and were spongy and inclined to bleed. The initial symptoms quite naturally suggested rheumatism, and anti-rheumatic treatment was instituted, but no benefit resulting from these measures, and the local condition of swelling, thickening, etc., increasing, the physician decided that there must be a periosteal or bone lesion of some character. My examination disclosed the condition as above described, with the addition of finding enlargement of the joints named, and marked thickening, induration of a brawny type, and a rather purplish color of the tissues along the course of the tibiae.

No indications of rickets were present, and the nutrition of the child was but little impaired. The entire complexus of symptoms was clearly those of scurvy, and on a diet of raw cow's milk, with orange juice liberally given, together with syrup of iodide of iron, the symptoms yielded promptly, and the child is now rapidly recovering.

This case does not call for comment other than to note the close resemblance of the early or initial symptoms to acute articular rheumatism, and then in the later stages the simulation, in its local appearances, of osseous and periosteal disease.

Next to rheumatism it is very probable that in-

(TABLE CONTINUED.)

TABLE III.

Typhoid Fever.

17	18	117	169	160	28	23	20
26	19	117	164	162	26	23	20
11	20	117	171	160	27	22	21

TABLE IV.

Specific Infectious Diseases.*

28	17	119	163	159	27	23	20
59	18	118	167	163	28	22	20
106	19	123	176	161	28	25	21
49	20	120	169	162	30	25	21
28	21	114	169	161	29	24	21

TABLE V.

Constitutional Diseases.

31	18	119	161	151	26	24	21
22	19	120	164	163	25	24	20
32	20	118	160	161	25	23	20

TABLE VI.

Diseases of Digestive System.

1	16	158	220	167	33	28	18
18	17	117	165	162	27	23	20
59	18	120	164	162	27	24	21
77	19	145	151	160	25	23	20
42	20	116	155	161	26	23	20
17	21	112	167	161	26	23	20

TABLE VII.

Hereditary Diseases.

22	17	118	157	160	28	22	20
56	18	116	168	161	25	23	20
60	19	119	163	161	26	23	21
49	20	112	163	159	25	22	20

TABLE VIII.

Diseases of Nervous System.

18	18	120	162	164	28	25	21
59	19	115	160	160	26	24	22
12	20	113	162	162	25	22	20

TABLE IX.

Habitual Headache.

29	18	115	162	160	26	23	21
46	19	113	155	160	24	22	20
17	20	113	171	160	26	20	19
11	21	111	147	158	24	23	22

TABLE X.

Diseases of Respiratory System.

18	17	121	164	162	26	22	20
57	18	120	158	161	26	24	21
84	19	114	159	160	27	23	20
18	20	119	163	161	27	23	22
12	21	111	154	160	26	22	19

TABLE XI.

Insufficient Respiration.

36	17	118	170	163	27	22	21
95	18	116	164	162	27	23	20
119	19	116	162	161	27	22	20
52	20	116	164	160	27	23	20
32	21	112	162	160	27	23	21

TABLE XII.

Having Heart Murmurs.

21	17	125	180	164	24	23	20
61	18	117	167	162	28	23	21
62	19	117	166	162	28	24	20
23	20	122	170	168	27	24	22
18	21	112	175	162	26	23	21

TABLE XIII.

Scarlet Fever.

11	17	122	166	158	30	23	20
19	18	118	166	164	27	22	20
22	19	120	170	161	26	24	21
10	20	120	161	162	30	26	23

The weight is in pounds; the lung capacity in cubic inches; the height in centimeters and the strenght in kilograms.

OPERATIVE TREATMENT FOR PROSTATIC HYPERTROPHY.

By RAMON GUITERAS, M. D.

of New York.

In looking over the history of the last century we find constant references to prostatic hypertrophy, increasing in number and value as the years roll by until the days of Thomson, Mercier and Socin, when some definite idea began to dawn upon surgeons interested in prostatic work, and many ingenious devices were introduced.

First among these were the various palliative methods; then those of drainage; the methods causing absorption of the gland or reducing the obstruction by dilatation; methods of diminishing the size of the gland by the use of the galvanic current, by injections of various fluids into the gland, by ligating the vessels supplying it, by castration or by ligating the vas deferens; operations tending to destroy the obstructing parts; and later methods of removing the entire obstructing body.

The palliative methods I will not mention, as they are fore fitting for a paper on general treatment of prostatic disease, I will speak briefly of operations for drainage in this condition. It is resorted to in two ways, 1st. by the perineal method in which a perineal urethrotomy is performed, and a tube inserted into the bladder. This is also more of a palliative method to relieve the pain, tenesmus and frequency accompanying cystitis

and posterior urethritis, and is spoken of in an operative way on account of the urethrotomy necessary. 2nd. Drainage suprapubically by means of a cystotomy is resorted to in a similar way for the relief of symptoms, especially if there is troublesome retention, also when the obstruction is complete and catheter life is attended by distress and complications, in which latter case a permanent drainage may be established and a tube worn for the purpose of emptying the bladder. It is interesting in some of these cases which have been regarded as hopeless, to notice how much the prostatic oedema will subside after the operation so that after a certain period spontaneous urination or easier catheterization may follow.

Dilatation with steel sounds, or dilators, every four days has been recommended by many practitioners. It may be of some value at the start associated with hot rectals and massage. Bellfield says that he has been convinced by experience of the value of this neglected measure to facilitate the exit of urine. Personally while I have never been much impressed with this method, and I do not now consider it in the light of radical treatment, I have nevertheless recently tried it in a small number of cases in which there was considerable bladder irritation, accompanied by a little residual urine (where the prostates were beginning to enlarge) complete relief to the symptoms from which they were suffering. I doubt, however, in those particular cases if the prostate was large enough to have caused sufficient obstruction to warrant any of the so-called radical methods now in vogue. My method of treating them was first hot rectal-saline irrigations by the recto-genital tube every night, accompanied by massage of the prostate twice a week, and later by stretching with

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a Kohlmann dilator after each massage, the dilation being followed by urethral irrigations of a silver solution.

Galvanopuncture has been recommended by Biedert and others, but is now never used. A platinum needle attached to the negative pole of a galvanic battery, and insulated up to within $1\frac{1}{2}$ centimeters from its point is carried into the rectum, inserted to a depth of $1\frac{1}{2}$ centimeters into the prostate and the current allowed to act for 2 to 5 minutes at a strength of 10 millamperes, gradually increased to 25 millamperes. The needle is then partly withdrawn and inserted through the same puncture in another part of the gland, and the current is again allowed to work from 2 to 5 minutes. The sittings are repeated at proper intervals from 10 to 20 times. These proved to be of very little value because they are exceedingly painful to the patient, and there is danger of cauterizing the gland quite severely.

The same may be said of parenchymatous injections which have also been tried by Heine. He used a hypodermic syringe containing a solution of iodide of potassium two parts, tincture of iodine 30, to 60 of water, injecting it into the gland every 8 to 14 days. Ergot and absolute alcohol have been used. He states that there were favorable results in these cases, but they are not without danger as abscesses may follow.

Ligation of the internal iliacs was recommended by Blier as an operation which would cause atrophy of the gland. It has been performed by numerous surgeons, but the benefit derived is never sufficient to counterbalance the danger of such an extensive operation.

Castration, an operation devised by one of our most eminent surgeons with the object of causing atrophy of the prostate has now been discarded, as it was found that the results were in many cases not permanent, while the mortality was from 16 to 18 per cent., and in the cases surviving some became maniacal, some melancholic, while many others were neurasthenic or otherwise lost their mental equilibrium.

Vasectomy was then advocated, it being held that if the ducts were resected it would have the same effect in causing the diminution in size of the gland that the removing of the testes would. It was also argued in its favor that it was not dangerous. This was not the case, however, as numbers of deaths have been reported as resulting from it. It has also been discarded in this country as of little value, although it is still used by many English surgeons.

We now come down to the consideration of the two great operative procedures on prostatotomy and prostatectomy, having thrown out all other methods.

During the last quarter of the preceding century, prostatotomy was an operation in which considerable interest was taken and many procedures were advocated by men who at the time were the leaders of the profession. Robertson performed prostatotomy within the rectum, the left forefinger being introduced as a guide, the knife was inserted along it and the prostate divided into two halves.

Harrison at the International Congress at Copenhagen, in 1887, advocated perineal urethrotomy, then dividing the prostatic bar on the floor of the gland, and stretching the prostatic urethra forcibly with his fingers or a sound. He was personally very much pleased with this method, and the literature of the time caused many to advocate it.

Mercier then devised a prostatome, for cutting through the median lobe, resembling the Bottini Incisor with a sharp male blade which he forcibly drew through the impediment in the floor of the prostatic urethra cutting a furrow in it.

Gouley adopted Mercier's procedure through a perineal incision. The instrument resembled somewhat that of Mercier's and was used to cut, or punch out, segments of the overgrowth. In this manner extensive portions of the gland were at times removed.

Norton modified Gouley's instrument working on the same lines.

Maissoneuve then advocated the Secateur. This was one of the most ingenious devices ever employed in genito-urinary work, although not as practical as his other instrument, the urethrotome. The shaft of this instrument had a curved beak at the end like a sound. The cutting blade was fastened in the centre of the convexity on a pivot and

lay concealed in the curve as far as the end of the instrument. After the beak had been caught behind the vesical base of the prostate, the blade was made to move in an arc of a circle, thus cutting through the gland in the floor of the prostatic urethra, and landing in the slot of the straight part of the shaft where it was again concealed, or else was again pushed forward to its former position when the instrument was withdrawn.

Some time in 1877 Bottini invented the galvano-caustic incisor, which was very similar to Mercier's instrument, differing from it principally in that the Bottini instrument cauterized whereas Mercier's simply cut. At that time the incisor was looked upon with disfavor, and it has been so considered until recently when it was modified by Freudenberg, of Berlin. This instrument, did, however, possess certain features of advantage which can now be clearly seen. In the first place the cauterizing knife is broader than a blade which traverses the gland tissue. In the second place it is not accompanied by as much hemorrhage. Again it burns the tissues for some distance on the sides, which when thrown off as a slough produces a gutter of some considerable width. Besides the cauterization has seared the vessels of the prostate, and thus has shut off the blood supply of the gland in a measure thereby causing it to atrophy.

The Bottini operation is then the sole surviving method of prostatotomy, which is used at the present day, and is one which we must consider among the so-called radical treatments of the hypertrophied gland, the other being prostatectomy. Prostatotomy is accordingly employed with a few modifications in the same manner by all surgeons who use it, and that is by the Bottini incisor.

Prostatectomy, on the other hand, varies in the numerous methods for extirpating the gland, and also in the detail of the technique. We will consider the various methods of prostatectomy later, and we will now speak briefly of the relative merits of the Bottini operation as compared with prostatectomy in general.

The advocates of each of these methods argue strongly in its favor. Followers of one procedure are wont to condemn the other operation. Supporters of prostatectomy contend that the Bottini operation is a blind one, and that the surgeon cannot see what he is doing, while the advocates of the Bottini operation say that enucleation is exact; the Bottini operation is a blind one, but so is prostatectomy, and in both cases we have to be governed by the sense of touch. In the Bottini operation we can fairly well determine the size of the gland by rectal and urethral examination, we then insert the instrument into the bladder, turn its beak downward and pull it toward us while the forefinger of the other hand is in the rectum. We can then feel just where the beak is. Many say that it sometimes catches in a diverticulum in the bladder, and that the end is not felt at the base of the gland by the finger in the rectum. We do notice at times that the end of the instrument is further back than the top of our finger which is pressing upon the border of the base of the gland through the rectum. This I would rather account for however, by the fact that the median lobe, or the intravesical tumor as it is better called, extends back into the bladder farther than the base of the gland does into the rectum; and I am convinced that I am correct in this surmise, for the suprapubic vesical prostatectomies which I have done, I have noticed a difference in the rectal and vesical bases of the prostate by bimanual palpation, the fingers of one hand being in the bladder and those of the other in the rectum.

With the instrument in place, and noting where it is by sense of touch of the rectal finger, and noting the distance which we are cutting, or cauterizing by the dial on the handle of the instrument, we can make an almost certain and definite cut for the number of centimeters required. Let us now look at prostatectomy for an instant.

It is a bloody and dangerous operation, much more so than the Bottini, and in my opinion it is as blind, if not blinder, for besides having to do with hemorrhage in the small hole that we are working in, the size of the hand hides the enucleating finger, and we can only work by the sense of touch and feeling. The prostatic gland which is so hard and indurated on examining it by the rectum

when the patient is not under an anesthetic, often presents an entirely different feel when muscular relaxation has taken place under an anesthetic, it then being softer and much more pliable. The finger especially in the perineal operation cannot be thrust between the capsule of the prostate and the gland without considerable digging and prostrate and the gland without considerable digging and forcibly prodding between the capsule and the gland. The enucleating process is not an accurate one, for no two prostates have lobes built on the same plan, nor are the curves and sizes of these lobes defined in the same way in all cases. Therefore we are pushing with the forefinger, overcoming obstructions, while working with its end when we can with difficulty bend the joint, pulling and pushing at times, while pressing from above and not feeling, I may say positively, the same certainty of what we are doing as when we are slowly drawing the Bottini blade through the hypertrophied gland. Taking it for granted that these are both blind operations we can say that successfully performed, the Bottini, while not so dangerous, does not produce such good results, and that the enucleation, while more dangerous, produces better results, if the patient survives, but we must never endanger our patient's life for the sake of choosing an operation considered more scientific. Let us consider what the indications are that will decide us upon which operation should be performed. They are as follows:—

The age of the patient.

The size and shape of his prostate.

The condition of his kidneys and bladder.

It may be said in a general way that very old men with not very large prostates, but causing considerable urethral impediment are cases for *Bottini* operation.

Younger men with large prostates as felt through the rectum, with good kidneys and bladder, for *Enucleation*.

Age is important, as the older the patient the lower his resisting power, and the more liable he is to death from shock and asthenia, therefore, in a very old man, if the prostate is of the right variety a *Bottini* operation should be performed, and cases of men over ninety years of age have been reported as having been operated upon by this method successfully. Old age, however, is not a contra-indication to prostatectomy, as men over seventy years old often have good kidneys, non-infected urine and a prostate which clearly indicates enucleation.

What, then, is the variety of prostate depending upon its size and shape which indicates one operation or the other? We may say that the very large prostates, such as have the feel of an apple or orange on rectal examinations, are favorable for enucleation, while the smaller ones, that is to say, those in which there is not much enlargement on rectal touch, but in which there is a distinct impediment in the prostatic urethra on introducing instruments together with a considerable quantity of residual urine, are the best for the *Bottini*.

One might ask if we can tell exactly how large a prostate is, as it often may not seem to be particularly large by the rectum, whereas the middle lobe projects to a marked degree into the bladder. In answer to such a question I would say that one can never say exactly what the size of the prostate is, or what its shape or its relation to the prostatic urethra and neck of the bladder any more than one can tell the difference of the two sides of the interior of the nose by feeling of the bridge and carefully passing the fingers over the cartilage externally; but the experienced rectal touch tells us a great deal, and when added to this we have a feeling of impediment in the posterior urethra as imparted to the sound, and are able to judge of the increased length of the canal by hooking the beak behind the middle lobe, and also noting the amount of residual urine present, we can form a fair idea of the prostate that we are dealing with. Besides this the cystoscope teaches us something of the contour of the base of the gland, though it does not, perhaps, show us as much of it as the mirror does of the nose when placed behind the soft palate. (The more I see of prostatic tumors, with projections, deviations, impediments, curves, etc., the more I think of nasal obstructions in cases in which we see a nose with a most perfect contour on the outside, and yet hypertrophies, atrophies, deviations of the septum, stenosis from obstructions, polyps and every conceivable condition of the interior).

Rectal examination is most important in telling us what to do, for if the gland seems to be too large per rectum, there is a considerable amount of residual urine and an im-

pediment to instrumentation at 7 inches or more in the urethra, and the urethra is lengthened, we can say that the hypertrophy of the lateral lobes certainly is considerable, but if the gland is small by rectum and the same conditions exist, we think that the impediment is principally median. Few practitioners have sufficient experience to outline the prostate correctly. This is brought out in teaching and consulting, and I can say truthfully that of the prostatic cases brought before me for a radical operation, not one-half of them are of the nature in which it is indicated. Whenever the prostate is much enlarged, and has the characteristic fibromyomatous feel enucleation should be performed, if the patient is not too old and the kidneys are in good condition.

Regarding the condition of the bladder and kidneys, it may be said that the bladder is least important, because it makes no difference how badly inflamed it may be, treatment will do much to benefit it by means of internal urinary antiseptics, and locally by irrigations through a catheter. An involved bladder does not count so much against an operation as kidney involvement does.

We have read in Guyon's works, and those of everyone who has studied Guyon, that one of the principal troubles in prostatics is an arterio-sclerosis of the vessels of the wall of the bladder, and that the stiffness is caused by interstitial changes in the bladder wall, and the interference with the blood supply, and that this prevents the bladder from emptying itself more than the impediment does. This may be true in a measure, but we now do not attach so much importance to the bladder, as we find that it can often empty itself almost entirely after prostatic operations, even if it has been considered hopeless before then, and sometimes even when years of catheter life have been passed.

Bad kidneys, whether medically or surgically diseased, are always contra-indications to surgical interference on the prostate, as in such cases any operation in the urinary tract is liable to be followed by a renal congestion, uremia and death. If, therefore, the kidneys are damaged in either a medical or surgical way, and an operation is demanded, a *Bottini* should be the one of choice. It must not be thought, however, that this operation is wholly without danger, as there often sets in after the operation a reaction which is most alarming.

The indications, then, for the two operations may be summed up briefly as follows: For a prostatectomy, a prostate of large size as felt per rectum, the larger the better, in a patient with healthy kidneys and urine.

A *Bottini* prostatectomy may, however, be performed in almost any case in which the instrument can enter the bladder, and may be of benefit even in marked cases of hypertrophy when an enucleation is clearly indicated, while in many cases of sclerosed prostates with a middle lobe impediment an enucleation could not possibly be accomplished. Cases have come to me where I have advised an enucleation to which the patient refused to submit, and a *Bottini* was performed. Some of these cases had complete retention, others partial, but they were all improved by the operation.

I have seen other cases in which there were considerable obstruction, large amounts of residual urine and all disagreeable symptoms in which an enucleation by the perineal route would have been absolutely impossible; by the suprapubic method only a piece could with difficulty be torn away, a piece consisting of dense tissue very different from large prostatic hypertrophy. *Bottini* operation should have been performed.

The Technique of the Bottini Operation:—The patient should lie on his back on the table. He can be operated on either with local anesthesia by cocaine or eucaine, or with general anesthesia, by ether, chloroform, or nitrous oxide. Personally I prefer general anesthesia by nitrous oxide gas. On the patient's left a fountain syringe should be hung, which contains the water for cooling the instrument, and on a stool near the patient's waist the battery should be placed. A soft rubber catheter lubricated with glycerine is passed into the bladder, the urine is drawn off, and the bladder is washed out and emptied, after which, before the catheter is withdrawn, if the operation is performed under a local anesthetic, a urethral hand syringe of a 4 per cent. solution of eucaine is injected into the posterior urethra and bladder, and as the catheter is being removed a syringe should be thrown into the urethra. From this moment the work should be done quickly and accurately,

and I have observed that the more quickly the operation is performed after the injection of the anesthetics into the bladder, in cases of local anesthesia, the less painful it is to the patient.

If cystoscopy is performed, the time required for it will usually be sufficient to allow the effect of the anesthetic to pass off before the actual operation is begun, and for this reason I think it advisable either to use the cystoscope at an earlier date, or to again inject a local anesthetic after the cystoscopy. Again cystoscopy is often more painful than the operation itself. It seems to me for this reason that it is advisable to omit the cystoscopy just before the operation, as advised by some, and consider it as having been performed previously when the patient was examined. Therefore, after the eucaïn has been introduced into a clean and empty urethra and bladder, the catheter should be quickly pushed back again and six ounces of water injected into the viscus, the catheter being quickly withdrawn and the incisor introduced. If it catches in the deep urethra, the pelvis should be elevated, which will allow it to enter if the handle is depressed and a slight upward push is given to the instrument. If it still catches the patient must be anesthetized. In four cases under eucaïne anesthesia I have failed to pass the instrument. I afterwards operated in three of these under nitrous oxide gas anesthesia, and introduced the instrument without difficulty. The obstruction is generally a spasm of the vesical sphincter.

After the instrument is in the bladder, its beak is turned downward, and then drawn forward until it catches against the base of the gland. The left forefinger is then introduced into the rectum to see if the instrument is in place. If it is, it should be held there, and the connection made with the battery, when a current of 45 amperes should be turned, drawing the knife through the gland from this point and burning a furrow in it. The current should then be shut off, the instrument turned to one side at right angles, and the current again opened, and an incision should be made through one of the lateral lobes, and then in a similar way through the other.

After the operation a catheter should be kept tied in for a few days, the patient should be given some urinary antiseptic and a milk diet, and should be instructed to drink large quantities of water daily. Ten grains of urotropin given three times a day is the best urinary antiseptic.

After the Bottini operation if the posterior urethra is much distorted by the prostatic hypertrophy it is sometimes advisable to perform a perineal urethrotomy for drainage. In a number of cases after a Bottini operation there is difficulty in introducing the catheter. This comes from a straight cut having been made from the middle of the vesical base of the prostate as far as the instrument will allow, and we have interfered somewhat with the tortuous channel by this direct cut. In these cases I should advocate an immediate perineal urethrotomy with the introduction of a perineal drainage tube of large size, 34 to 36 French. In a case operated upon under local anesthesia by a colleague the patient shrank back and allowed the beak of the instrument to slip forward over the convexity of the gland, thus cutting into the membranous urethra and perineum, a perineal urethrotomy was not performed at the time, necessitating a further operation for retention, followed by death from uremia and sepsis. This case would have been saved in all probability had a perineal operation been performed at the time. I have seen other cases where I am sure that had I performed a perineal section, my patients would have had a better result than by having refrained from doing so.

Prostatectomy is certainly the operation to which we should look forward for the radical treatment of prostatic hypertrophy in the future. Attempts have been made during a number of years to remove pieces of the gland through perineal incisions going into the urethra, and also after a suprapubic cystotomy by tearing away projecting impediments by the fingers and sharp instruments as the curette, etc. Within a few years, however, much advance has been made in this most important operation, until now we have operations by the suprapubic, the perineal, and the combined methods, as well as those by extensive dissection as Zuckerkandl's, Von Dittel's, Rydzier's and others.

It may be said that McGill is the father of advanced prostatic surgery, in that he made a beginning by removing small pieces in an unscientific way through the bladder after a suprapubic cystotomy, and grad-

ually began to formulate the operation until he succeeded in performing fairly satisfactory enucleations. His method was briefly as follows: He used the rectal bag, putting from 6 to 10 ounces in it. He then injected the bladder with from 10 to 20 ounces of water, leaving the catheter in the urethra as a guide until the bladder is opened. He opened the bladder suprapubically, attached it to the abdominal wall, and cut away pedunculated middle lobes if present with curved scissors. The sessile ones he cut in the same manner, helping the process by pulling the tissue with forceps. After removing these suprapubic obstructions he cut through the mucous membrane, over the projecting portion, inserted his fingers and began the process of enucleation, and at times aided himself with the forceps. After the gland was removed the bladder was then drained for a few days. In this way he removed pieces varying in size from a bean to a cricket ball, showing in these latter cases that he had evidently performed a complete enucleation.

Bellfield next took up the intravesical method of enucleating the gland, also accomplishing good results, and advocated the additional operation of perineal urethrotomy to facilitate drainage. Fuller has since then done a large number of prostatectomies, following in the line of McGill and Bellfield. The steps of his operation are as follows: After suprapubic cystotomy he cuts down (with scissors) through the tissues of the posterior wall of the neck of the bladder covering the gland, inserts the end of the finger into this incision, and digs out, or enucleates the gland with the finger, while pressure is made upward against the perineum by an assistant. In this way the bulk of the prostate can often be shelled out in three large pieces, while at other times it must be removed piecemeal. Enucleation cannot always be performed by this means, and frequently the operator has to be content with the removal of a piece forming the principal part of the barrier. A boutonniere operation is then performed and suprapubic and perineal drainage is established.

Personally I have been in the habit of performing prostatectomy by what I call the recto-vesical method, although no part of the operation proper is performed in the rectum, the fingers simply being inserted into it to exert direct counter-pressure and guide the operating finger, which is working through the bladder. The steps of the operation are briefly as follows: Suprapubic cystotomy is performed, after which retention sutures are passed through the bladder wall on each side of the incision. Careful rectovesical palpation is then made, two fingers of the left hand being in the rectum, while the right forefinger is in the bladder, and a visual examination is made by means of an electric light inserted into the bladder. A pair of scissors is inserted into the bladder, the point of the closed blades being pressed against its floor over the prostate in the median line, until the blades are felt depressing the prostate against the two fingers of the left hand in the rectum, which are in turn pressing upon the gland in the median line from below, showing exactly whether the scissors are in the right position or not. The blades of the scissors are opened, tearing through the bladder tissue, covering the gland in a line corresponding to the space between the two fingers in the rectum. The forefinger of the right hand is then inserted into this tear through the bladder, and gradually works its way between the capsule and the gland. The two fingers in the rectum feel the one in the bladder working its way between the capsule and the gland, and they start counterpressure while the enucleation is being performed. The finger tip under the capsule first sweeps to one side and pulls out one lateral lobe, then to the other side, and enucleates the other, and finally removes the middle lobe, or it first works its way backward under the base of the middle lobe, which is enucleated with a dissecting rotary movement, and then proceeds to enucleate the two lateral lobes. The gland having been removed there is always free hemorrhage, and very hot water should be injected for two or three minutes into the bladder suprapubically. I then pass a grooved sound, preferably a lithotomy guide, through the urethra into the bladder, and having brought the patient into the lithotomy position I rapidly cut through the membranous urethra and push a large perineal drainage tube into the bladder, which I fasten to one side of the perineal incision. The finishing steps of the operation are to put two catheters into the bladder suprapubically, with a gauze drain packed down beside them into the cavity made by the removal of the

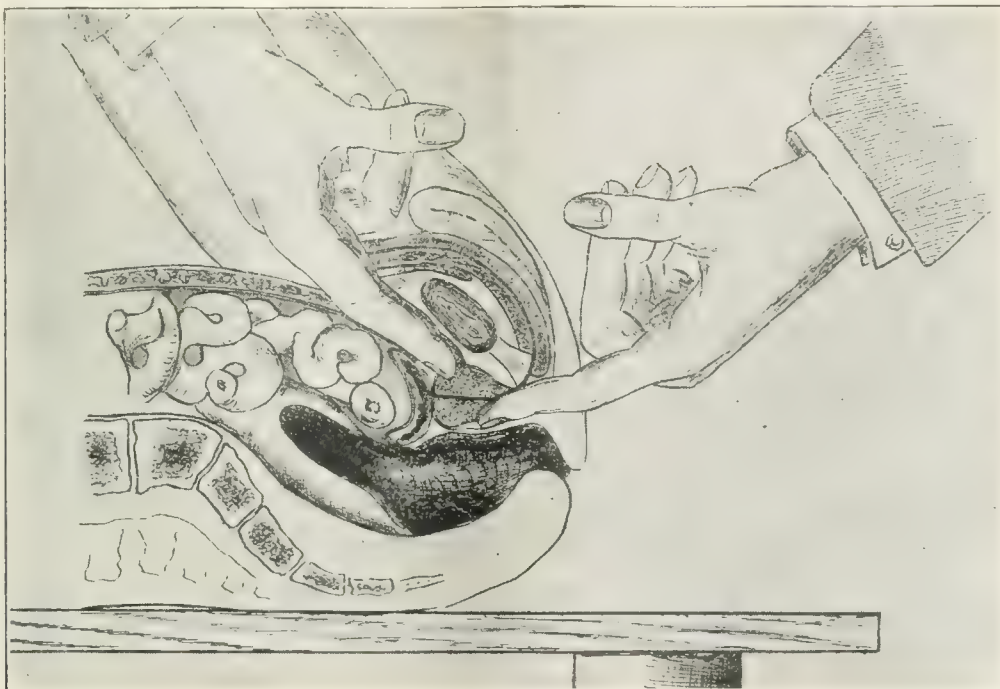
prostate, fasten them into the skin of the bladder wall, and then sew the bladder wall up to the drain. I then close the abdominal wall, including fascia, muscle and skin as far as the drain. The floor of the prostatic urethra should be cut through from above downward before the perineal tube is left permanently in place to prevent the formation of a pocket, which would retard the cure.

The suprapubic incision enables the surgeon to see and feel the tumor distinctly from the bladder, as well as by the rectum. If a large middle lobe is found, called by some intra-vesical tumor, enucleation should be performed by the suprapubic method, but if we find that the enlargement is principally in the lateral lobes, it is better, perhaps, to remove it by the perineal route.

In Nicoll's method the suprapubic incision is the same, and the bladder is then attached to the skin by four stitches. The patient is brought into the lithotomy position, a sound is passed into the bladder, and a vertical incision is made down to the prostate. The assistant then puts his finger into the bladder, and presses the prostate up into the perineal wound. A second incision is then made at the lower extremity of the first at right angles to it, forming a T, and extending up between the rectum and the prostate. Two fingers of the left hand are then passed into the bladder

begins. The entire prostate is shelled out from within its sheath by a digital dissection. The mucous membrane of the bladder and prostatic urethra is stripped up from the parts to be removed, but is not opened. The lateral lobes are at first removed, after which the middle enlargement or tumors can be pressed down into the perineal wound and enucleated in the same manner. After the removal of the prostatic growth a perineal tube is passed into the bladder and a rubber drainage tube is inserted suprapubically. The suprapubic wound is closed above and below the drainage tube. The after-treatment consists in daily washing out of the bladder by injecting the fluid through the suprapubic tube. The upper tube is removed on the fourth day, and the lower tube on the seventh day, after which sounds are passed every five days until the perineal wound is closed.

In both these methods the bladder has to be opened in order to exert counter-pressure on the gland during the enucleation by the finger in the perineal opening, and as a suprapubic cystotomy is always a dangerous operation, more especially in prostatics where the system is below par, the bladder often not dilatable and the urine septic, efforts have been made to devise some means of making counter pressure without resorting to this measure. Syms,



Prostatic Hypertrophy.

suprapubically to press the prostate into the perineal incision. The capsule of the prostate is then cut through and pushed away on either side. The prostate is then enucleated with the finger of the right hand, assisted, perhaps, by a periosteum elevator, or a Volkmann spoon, without wounding the urethra or bladder. In the after-treatment Nicoll recommends passing a Coude catheter into the bladder, tying it in while he packs the perineum with gauze. He then takes out the stitches above the pubes and lets the bladder fall back again.

Alexander follows closely after Nicoll, improving and simplifying the details of the operation somewhat. His method is as follows: A suprapubic cystotomy is performed and retraction sutures are passed through the bladder wall. The patient is then put in the lithotomy position and a grooved staff is passed into the bladder through the urethra and an external perineal urethrotomy is performed through the membranous portion of the urethra to the apex of the prostate gland and its capsule incised. The fingers of the left hand are then passed into the bladder through the suprapubic wound, by means of which the prostate is pressed down into the perineum. The forefinger of the right hand is then introduced between the gland and the fibrous sheath over the prostate and the enucleation

of New York, has endeavored to obviate this necessity by a very ingenious device consisting of a thick rubber tube with a soft balloon on the end. This can be inserted with the balloon collapsed through the perineal opening into the bladder, after which it is inflated with water. It is then gently pulled down by an assistant, thus drawing down the base of the gland and steadying it while the operator enucleates through the perineal incision, the pressure being constantly kept up on the base of the prostate by pulling down the balloon.

Working on these lines, and feeling the necessity of a more complete and uniform pressure from above than could be obtained by a balloon in the bladder I have devised a method which I consider of great practical value in steadying the prostate and exerting counter-pressure during a perineal enucleation.

The steps of the operation are as follows:—The bladder should be washed out with boric acid solution through a catheter which is allowed to remain in situ, plugged after the bladder has been well distended for the purpose of avoiding perineal folds by pushing it well up above the pubes. The abdominal wall having been cut through above the symphysis the fingers of the left hand are thrust into the prevesical space where the prostate can be felt be-

tween the fingers. The plug is now removed from the catheter, and the fluid allowed to escape, thus permitting the bladder to collapse, after which the catheter is withdrawn. A staff is now introduced through the urethra, a perineal urethrotomy performed, the membranous urethra being cut through the apex of the prostate, at which point the prostatic capsule is incised, the forefinger of the right hand is inserted between the capsule and the gland and enucleation commences, counter-pressure being brought to bear upon the gland during enucleation by the index and middle fingers of the left hand in Retzius' space. Having enucleated the prostate by this means, I may say that the control of the gland by the fingers of the hand in Retzius' space is almost as complete as if they were in the bladder. After the lobes have been enucleated through the perineal opening a large perineal tube should be passed into the bladder and drainage should be kept up for three weeks or more. It is needless to say that the bladder is not opened in this operation.

Of the different methods of performing prostatectomy, that is, of removing the gland through the bladder supra-pubically, or through the perineum, or when the intravesical growths are present the bladder method is easier; and of the combined methods it is much the quickest, simplest and safest. Removing it by the perineal method with the fingers in the bladder to exert counterpressure is an operation which is not so simple, and in my opinion more dangerous, but I think time will prove that the operation just outlined will very much lessen the danger connected with perineal enucleation.

The After-Treatment:—An enema of a pint of hot saline solution at a temperature of 120°F. to be retained should immediately be given to the patient, together with a thirtieth of a grain of strychnine, and he should be put to bed with hot bottles at his feet. The shock in these cases is often great, and should be guarded against as much as possible. As soon as he comes out of the effects of the ether a little hot water, or bouillon, should be given, and from this time on the water should be pushed ad libitum. If the patient vomits the water, give more in a few minutes, and continue to force it. It is wonderful how much water can be taken in these cases, some patients taking between one and two gallons in the first twelve hours. This has the effect of flushing the kidneys and producing free diuresis. Any water is good for the purpose, although I am in the habit of prescribing some mild diuretic spring water.

The strychnine in one-thirtieth of a grain doses should be given every four hours hypodermically, and it is well to repeat the hot saline enema every four hours, alternating in this way something can be done for the patient every hour if the enemas and strychnine are alternated with the bouillon or water by the mouth, remembering that the water should be pushed to the maximum of tolerance.

It is well both before and after the operation to give a urinary antiseptic, preferably urotropin in ten-grain doses, three times a day. A diet of milk from two to three quarts a day is advisable. The bowels should be moved with some saline water, Apenta or Hunyadi on the second day.

In closing my remarks I should like to say that I consider the operation of prostatectomy still in its infancy, in the same position as was hysterectomy some years ago, and it behooves all surgeons interested in this line of work to try in every way to improve the technique of the operation now in vogue, and further to try other methods which will make the operation simpler than any yet that have been devised.

CENTRALBLATT FUER INNERE MEDIZIN

February 2, 1901.

Protein Metabolism in the Aged.

G. KOVESI.

Kovesi directs attention to the fact that there have been only imperfect studies of metabolism in the aged, and that the statement that has been repeatedly made that metabolism in such subjects is reduced is based largely upon speculation. He reports a series of studies that he made in two subjects, 76 and 78 years old respectively, particularly determining the point to which the nutriment might be reduced with maintenance of a nitrogen balance. His general results were the discovery that the food demand in old age is decidedly reduced, and the daily demand is even lower than previous investigations have indicated.

It is about 20 calories per kilogram. The absorption of the proteids from the intestine was about normal. He was able to cause a nitrogen retention with the use of a very small amount of nitrogenous substances, because the demand for nitrogenous substances was so greatly reduced. The figures in this connection are very striking. With the use of 6.572 grams of nitrogen per day, 0.539 grams of which was excreted in the feces, he caused an average retention of 0.48 grams per day, the caloric value of the food at this time being 26 calories per kilo. Finally, he decides that there is decided reduction of the decomposition of nitrogenous substances in old age. All these disturbances are of quantitative nature. He believes that it should be recognized that senile involution occupies a special place in the question of the cachexias: carcinoma, tuberculosis, diabetes, etc., are associated with destruction of the body protein, and show qualitative changes of metabolism, while as stated, the contrary conditions are found in senile atrophy. This, he considers, indicates that the cause of involution cachexia is to be found in disturbed cell function. On the one hand there is a reduction in the demand of the cells for albumin, and on the other hand, the intracellular metabolism is of itself reduced and the general cell demand for energy is lowered. [D. L. E.]

February 9, 1901.

Concerning Fatty Change in the Heart in Mankind. G. ROSENFELD.

Rosenfeld's article is chiefly a discussion of a recent one by Lindemann in which the latter author criticises Rosenfeld's previous statement that it would be better to speak of cell degeneration with deposit of fat in the cells, than of fatty degeneration. The chief points which Lindemann put forward against this statement were that he found the iodine continuing power of the fat in cases of degeneration much higher than with the normal fat of the heart or with infiltration fat. Lindemann decided that the degeneration fat was very different from the fat of fat depots, and that it was very different from the fat of the normal heart. He therefore decides that Rosenfeld's transportation theory plays no role in the cases of actual fatty heart. Rosenfeld criticises Lindemann's methods and figures. He particularly objects to his method of extraction, and insists that his own method of extraction with chloroform is much more complete and gives much more trustworthy results. He compares results obtained by the two methods. He then presents the results which he has obtained in examining a series of hearts showing conditions varying from normal to a considerable fatty change. The amount of fat in these hearts varied from about 15 per cent. in the normal cases to as high as 24 per cent., and in some there was marked so-called fatty degeneration. He found, however, that the iodine figures varied only between 67.8 and 75.7. He thinks that these figures are a strong indication that the fat found in the hearts in these cases was simple infiltration fat that had been deposited from the fat depots in the body. Another reason for thinking this was that he compared the fat on the right side of the heart with the fat on the left in two instances in which there was much more fatty change in the right side than in the left. The fat of the heart, while there was a much higher percentage of fat in the right side of the heart. He also insists that microscopically the main tissue picture is retained, and that in the early stages there is nothing more than an apparent deposit of small portions of fat. This gradually increases, and finally the fat deposit destroys the muscle substance by pressure. He insists finally that these results give further proof of his statement that fatty changes of the heart consists of a mere deposit of fat in the heart, and not of degeneration. [D. L. E.]

Otitis Caused by *Bacillus Pyocyaneus*.—Gelman (*Medycyna*, November, 1900), reports three cases of fibrinous inflammation of the ear caused primarily by the bacillus pyocyaneus. A pure culture of the organism was obtained in every case. No concomitant diphtheria was present. [A. R.]

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The Plague Situation.—The report of the Plague Commission, appointed by the Secretary of the Treasury to investigate the situation in San Francisco, is very interesting reading, although beyond the one important and central fact that it demonstrates the existence of plague in that city, it throws no special or new light on the subject of plague in general. The energy with which the members of the Commission went to work, and the promptness with which they discovered what they were looking for, are noteworthy features. It is very evident that the disease was there and waiting for them, and the natural queries arise, How long had the plague been there; how many victims had it already claimed, and what had the local authorities in San Francisco been doing all the while? From all that we can gather from the report we should judge that the local authorities were not in command of the situation. The Commission had to undertake the investigation *de novo*. No report of previous cases apparently was given them; no evidence of scientific study before their arrival was forthcoming. It is true that the members of the Commission were well received and their work furthered by the local authorities; but these local authorities themselves seem either to have had no exact knowledge of the situation or else had, ostrich-like, closed their eyes to the real danger. To say that they had been deliberately concealing the truth is to make too serious a charge, but one cannot read this Commission's report and not feel that it is at least a strange fact that the situation depicted in it had been allowed to continue in San Francisco without recognition, while the rest of the country was being assured that there was no plague in that city.

Drs. Flexner, Novy, and Barker, who constituted the Commission, had no difficulty in finding six genuine cases of bubonic plague. The diagnosis in each case was confirmed by bacteriological tests. Guinea pigs were used for inoculation. The investigators worked under considerable disadvantage because of the prejudice of the Chinese and the filth of their surroundings, but they succeeded in demonstrating to the world the value of thorough-going, honest and scientific methods. Their report is an interest-

ing and valuable one, though its conclusions have already been known for some time.

The Protozoon of Cancer.—Dr. H. R. Gaylord, of the University of Buffalo, is not altogether fortunate in having been proclaimed in advance in the daily newspapers, as having demonstrated beyond dispute the parasitic origin of cancer. Such statements about scientific discoveries, when they filter beforehand through the newspapers, are more or less liable to be garbled, and to do both the author and his discovery some injustice by causing prejudice and prejudgment about his scientific work. We are now able to state authentically that Dr. Gaylord will publish early in May in the *American Journal of the Medical Sciences* in this city, a paper recording the results of his observations. He will give a full description of an organism, which belongs to the class of protozoa, and which he claims that he has demonstrated is the cause of cancer. In this paper he will report cases of the production of cancer in lower animals by inoculation with pure cultures of this germ. He will also present a summary of the length of life and of the gross lesions in 72 animals thus inoculated. He claims that this transfer of the disease to animals has been accomplished by inoculation with germs derived originally from human patients, and cultivated outside of the human body, and that the positive identification of the disease in these animals is scientific proof of the accuracy of his discovery. He also attempts to show the correlation of the findings of various investigators with the different phases of the living cultivated organism as he has observed it. He even calls attention to the relation of the organism of cancer to the protozoon of smallpox. This latter organism was discussed in these columns only recently. Eventually Dr. Gaylord, we are told, will give an analysis of the histological findings in the 72 inoculated animals, but this summary will not be contained in the article here referred to. It is too soon, of course, to attempt to subject Dr. Gaylord's paper to scientific criticism. We refer to it here merely as a matter of promised medical interest. It has already been heralded abroad so extensively that the scientific world will doubtless await the appearance

of the paper with interest. It is needless to say that it is entirely too early to prophesy what effect this discovery, if it be confirmed by competent observers, will have upon the therapeutics of cancer. In conclusion we may remind our readers that Dr. Gaylord claims that cancer is caused by a protozoon or animal parasite, not a bacterial or vegetable one. —

The Epidemic of Enteric Fever at New Haven.—Enteric fever and cholera are essentially water-borne diseases, and are largely conveyed to the human being by water used for drinking and cleansing purposes. It has been repeatedly and positively demonstrated that the specific germ of enteric fever, the bacillus of Eberth, is destroyed at a temperature of 100 degrees centigrade after 2 or 3 minutes. The lesson to be learned then in the prevention of the disease is to boil all water that is to be used for culinary or drinking purposes. It is a fact well established in the etiology of enteric fever that no case arises *de novo*; there must always be a previous case. If this be true, and there can scarcely be a doubt as to the correctness of this statement, then whenever a new case arises, the ordinary precautions regarding the disinfection of the excreta in a former case of enteric fever must have been neglected, facts that are taught and are familiar to the merest tyro in medicine. Epidemics of enteric fever are then due primarily to neglect by the medical men and perhaps largely also by the nurse in charge of such a fever case. It should be the duty of a physician in charge of a case of enteric fever, to see to it that his patient is not the cause of another case of the same affection. Care, and only care, can prevent the outbreak of this, at all times serious, affection. The authorities of a city cannot be held responsible if a careless medical man allows excreta of an enteric fever patient to contaminate the water supply of a large city. What can, however, be done by the "city fathers" is to instruct the citizens how to prevent the affection by boiling their drinking water, milk, etc., and not to eat uncooked vegetables and perhaps fruits. We fear that an epidemic, such as is at present raging in New Haven (where there are said to be over 500 cases of enteric fever, according to a report in the *Public Ledger*) is due to carelessness and neglect on the part of some of our medical brethren.

Suppurative Mastitis in the Newborn.—The mammary enlargement and inflammation which are not infrequently encountered in newborn children of both sexes are phenomena as yet not satisfactorily explained. Just why there should occur such glandular activity shortly after birth is not known, but that it may exist and even advance to actual suppuration, as in an instance recently reported by

Marvel (*Annals of Gyn. and Ped.*, April, 1901), is a well-recognized fact. As has been suggested, there may be some obscure relationship between the occurrence and certain metabolic changes taking place in the umbilical stump. It may be irritative in character from reflex excitation arising at this point. The theory of direct traumatism of the mammary gland is not proved and cannot be accepted. There is no substantial evidence in its support. It is true, however, that the suppurative form of the disease is traumatic in origin, and is due to the mal-directed efforts of nurses and midwives to squeeze out the offending discharge. The practical point that is suggested by the occurrence of infantile mammitis, is the necessity of careful handling of the gland, and the avoidance of any attempt at evacuation of the fluid. The absence of a thick pad of pectoral muscle renders the spontaneous rupture of the pus posteriorly into the pleural sac by no means improbable; hence emollient and absorbent applications should constitute the primary treatment with early incision, should pus develop. Above all, should vigorous manipulation of the inflamed organ be avoided in the primary stage of the disease.

A Wider Range for the Therapeutic Employment of Santonin.—Until recently santonin has been regarded as one of our most reliable anthelmintics, but its use in other conditions has not been recommended. However, attention has been called of late to the value of santonin in the treatment of epilepsy and the fulgurant pains of locomotor ataxia. The physiological action of santonin in large dose is chiefly upon the nervous system. Consciousness is disturbed, a sort of intoxication seizes the patient, accompanied by great weakness, tremors, sweating, coldness of the surface, and vomiting. There also follows a slowing of the pulse with enfeebled respiration. Mydriasis occurs with a frequent onset of convulsions. Between the convulsions there is sometimes paralysis of respiration which usually causes death. The most characteristic action of the drug is upon the vision. At first everything appears colored blue, and afterwards yellow or greenish-yellow. The blue appearance is very transitory, but the yellow vision (chromatopsia) lasts much longer. Following this, if very large doses have been taken, total blindness, sometimes lasting a week, occurs. It is said that this alteration of the vision is due to stimulation of, and later paralysis of, those fibers of the retina by which blue light is perceived. Dr. C. Negro, of Turin, observing particularly the action of santonin upon the retina reasoned that it should be capable of influencing general changes of nervous sensibility. This supposition was fully verified in a patient with tabes, to whom Dr. Negro administered santonin to combat the

painful crises. His results were most satisfactory, and since this time he has treated a number of similar cases always with favorable results.

He administers *santonin* in doses of 15 centigrammes a day, taken at intervals of three or four hours. These doses have generally been found sufficient to completely abolish the fulgurous pains. Lydston has used *santonin* in the treatment of a number of cases of epilepsy, and he believes that the action of the drug is much more favorable than the bromide-treatment. Lydston begins by administering 2 grains of *santonin* gradually increased, as tolerated, until as much as 15 grains, taken 3 or 4 times a day, is given. He has usually found this amount to be well borne. The advocacy of another remedy in addition to the host of those recommended in the conditions we have named, will no doubt be regarded by very many physicians as of doubtful value. But the results which have been attained from the employment of *santonin* seem to justify an extended trial on the part of the profession so that its precise value may be accurately determined.

The Latest on Women Doctors.—A wise man once said that you cannot indict a whole race. He might have added with equal pertinence that you cannot indict the whole female sex. We do not suppose for a moment that Dr. Victor C. Vaughan, of Ann Arbor, Mich., intended in his recent pronouncement against women doctors to indict the whole sex. He evidently had in mind only that portion of the sex that studies medicine. This small minority will doubtless bear him in mind and feel duly grateful to him. In a recent address Dr. Vaughan proclaimed that women were often successful in the class-room by reason of their mental qualities, but were not adapted to practise medicine because of a kind of lack of resourcefulness and self-reliance. It seems to us that we have somewhere heard this criticism before, but still, for the time being, we will let Dr. Vaughan have entire credit for it. The doctors in question will doubtless think that what it lacks in originality it makes up in erroneousness. The many women who are successfully practising medicine in the United States to-day are perhaps not all of the strenuous kind, and they may have self-reserve enough not to rush into print to assail Dr. Vaughan; but keen observers of the facts in some of our large cities must know that some of these women are resourceful and masterful enough to command a gratifying success. We do not believe that the mental traits of the two sexes can be quite so sharply differentiated as Dr. Victor C. Vaughan imagines they can be. Scientific training tends to eliminate some of the mere sex factors in mind—factors which after all are largely conventional and

the results of social evolution. The wide swoop of such an indiscriminating pen as Dr. Vaughan rather rashly flourishes fails to include too many minor problems in the question. We are convinced that these problems will not be settled by purely masculine criticism.

A School for Backward Children.—The Public Education Association of Philadelphia has undertaken a most praiseworthy task in conducting a public school in this city for "backward children." This term "backward" covers a variety of defects, and this fact is fortunately clearly seen by the Committee. It indicates that many of these children merely present need for *special* training by reason of some one special physical or mental defect. Thus, children who are deaf but not mentally deficient, or children who stammer or who have other speech defects, are instances of pupils who require special methods of instruction. One of the grave defects of the public school systems in this country is their hard-and-fast mechanical workmanship. The individual needs of the scholar receive too little attention. In the case of a child who is in any way handicapped by physical or mental defect, this rigid and impersonal system is fatal. Hence, as the Committee says, ungraded rooms are needed for many kinds of pupils who are "misfits" in the regular grades. As for children who are congenitally deficient in mental faculty, the real hope of helping them lies in manual training. Such children are taught wood-work, card-board work, clay-modeling, chalk-work, basket-weaving, painting, and sewing. We have just received the annual report of the Committee, from its secretary, Miss Dora Keen, and commend it for full details to all persons interested in this benevolent work.

Christian Scientists Barred.—We expressed the opinion some weeks ago in these columns that the proper way to do with the Christian Scientists was to require them to obtain a license to practise medicine after passing an examination, just as is demanded of all other candidates. No amount of criticism and denunciation will exterminate this sect. Anything that savors of persecution is to be feared, for such fanatics always thrive on persecution. They court it, and would even gladly go to jail and liken themselves to St. Paul in chains. There are plenty of such people in the world, even outside the ranks of Christian Scientists; men who pose as prophets and reformers. They are shrewd enough to know that a certain kind of popular sympathy is easily aroused for a martyr who appears to suffer for conscience's sake. When, however, they are required to meet a law that applies equally to all, they are forced to show their hand, and at the same

time are debarred from playing the role of the persecuted. The recent opinion of Judge Lumpkin, of the Superior Court of Georgia, is exactly in accord both with law and with reason. The Judge denied the application for a charter for "The Atlanta Institute of Christian Science," basing his decision on the opinion that Christian Science is a form of medical practice, and that the practice of medicine in Georgia, according to the law of the State, can only be pursued by persons who are regularly graduated from medical schools. Judge Lumpkin's decision seems to debar these people from legal recognition in the State of Georgia, and if they persist in their practices they can be treated as any other law-breakers.

The Barbers and the Surgeons.—It must be difficult for most readers in this country to realize that in England the surgeons still hobnob with the barbers, and that members of the two "professions" still regard each other as fellow-craftsmen. This odd relationship has just been illustrated by the address delivered by Sir William MacCormac on the occasion of his receiving the Honorary Freedom and Livery of the Barbers' Company in London. This fellowship had its origin in the remote past, at a time when the barbers were the only recognized surgeons, or "barber-chirurgeons" of the country. A relic of their surgical prerogatives still lingers in their practice of leeching, bleeding and cupping, even in this country, and their sign with its red stripes is said to indicate their gory occupation. In England the tendency is to adhere to tradition and to hold on to old ways and customs, and so it came about recently that the barber's guild had for its chief guest a distinguished surgeon whose career and attainments do not at all suggest anything tonsorial.

But the modern Company of Barbers, we suppose, must not be taken too seriously. It seems to be celebrated for its antiquity and for its old silver plate rather than for the art of hairdressing. We doubt whether any of its members have to make their living by cutting hair and shaving. Sir William MacCormac in his address tells us that the Guild of Barbers in London is of such ancient foundation that its earliest records cannot be traced. It dates from the Thirteenth Century. At first it had even a religious character, as the barbers used to assist the monks to perform operations. This must have been in still earlier days, for the edict of Tours, in 1163, forbade the priests to shed blood. In 1462 a charter was obtained, and in 1540 the surgeons (an insignificant body) became merged in the Barber's Company. From this time, for two hundred years, the surgical practice and teaching of England were in the hands of this

Guild. Its members were surgeons to the King and they were content to bear the humble title of "barber-chirurgeon." In fact, they rejoiced, as their descendants appear to rejoice to-day, in what to outsiders seems to have been a somewhat plebeian origin. The surgeons were not formally separated from the barbers until 1745, when they formed the Company of Surgeons, and this company became eventually, in 1800, the College of Surgeons. In France things were much the same, and the celebrated Ambrose Paré, who was surgeon to five successive kings of France, was a mere barber surgeon. The practice of surgery was held in low esteem as compared with the practice of physic, and, as Sir William MacCormac says, it did not advance much from that time until the evolution of antiseptic surgery toward the end of the Nineteenth Century.

A Medical View of the Chinese Boxers.—It was hardly to be supposed that the opportunity of writing about the psychology of the Chinese Boxers would be allowed to pass. This age in which we live is the psychological age. Everything from a pastime to a crime must be subjected to a psychological analysis. This sometimes looks like psychology gone mad. In fact we might almost call it the psychiatry of criticism. It is natural, however, that a French physician should be among the first to call attention to the hysterical phases of the recent insurrection in China. M. Matignon tells us that he was impressed long ago with the fact that hysteria is very common in China, and in the spring of 1900 he undertook to investigate the subject. He examined more than 300 subjects and proposed to extend his anthropological researches to three or four thousand cases, when the catastrophe at Peking put a stop to his studies and caused him the loss of his notes. He, however, has recently given his impressions, which are that nervous diseases, contrary to the general opinion, are extremely common among the Celestials. He says that hysteria especially exists, and that the Boxer uprising has thrown new light upon this affection as it is seen in China. He thinks that the Chinese mind is very open to suggestion. The Chinaman believes more as he understands less, and that which he does not understand at all he has absolute faith in. Last year this natural suggestibility was raised to the paroxysmal point. The whole Chinese Kingdom was in a state of anxiety which M. Matignon likens to the state which existed in Europe in the year 1000 at the prospect of the second Advent. The year 1900 was to have an intercalary month, and this was a grave omen which caused an exaggerated suggestibility in the Chinese mind. M. Matignon evidently thinks that the Boxer uprising was a sort of pandemic frenzy, not un-

like, we suppose, some of the popular manias which swept over Europe during the Middle Ages.

We are not disposed to criticise M. Matignon's view adversely, although he may have forced his conclusions rather too far. We would remind those who are interested in the subject that Dr. Nevius, an American missionary in China for forty years, wrote a curious book a few years ago on demon possession as he had observed it in China. Dr. Nevius unfortunately was entirely without scientific knowledge and critical acumen, and doubtless misinterpreted the many curious psychological phenomena which he had observed in the Chinese during his long sojourn among them. He was evidently also prejudiced by his environment and took the extremely superstitious and theological view of these mental traits. He believed in a veritable demon possession, although what he observed was evidently an outbreak of wide-spread hypnotic manifestations in the Chinese peasantry. If he had had the knowledge and literary skill of M. Matignon, without the superstition which disfigured his book, he could have made a most interesting contribution to the science of comparative anthropology. He entirely ignored the power of hypnotic suggestion, especially as it occurs under the influence of religious excitement. In fact, the good missionary had lived so long in China that he seemed never to have heard of such a thing. The consequence was that instead of his book being a contribution to science, it was only a detriment to the cause of religion. We have no doubt that the Chinese have the mental characteristics that are common to the whole human race, and that in such a furious outbreak as that which occurred last year under the influence of religious excitement and racial animosity they may have exhibited most interesting symptoms of mental perversion. We are indebted to the *Literary Digest* for an interesting reference to M. Matignon's article.

The Decline of Population in France.—We see a great deal written here and there about the decadence of France, and especially about the decline of her population. Some of the facts and figures seem to us to be altogether misinterpreted. In the first place, the assumption that every country on the face of the earth must show a decennial increase of population, or else be judged decadent, is only an assumption. There comes a time in the history of every country, (and even of different parts of a country), when what is called the "saturation" point is reached. At this point the country can support no more people. To have reached this point is not necessarily a sign of stagnation; quite the reverse, it may be an evidence of a very high state of civiliza-

tion. France has apparently about reached this point. For that matter, there are some localities, or even States, in our own country which have almost if not quite reached the same point. By the end of another half-century, such phenomena will have become more common in the United States. At the present rate of increase, in fact, it would take but a comparatively short time (as historical time is measured) for the whole United States to be densely overpopulated. What will be true of America, has been true for some time of part of Europe; and France, which is the centre and one of the most densely populated of the European States, is simply in the position in which some of our own American States will probably be long before all adult persons now living shall have died.

A recent writer calls attention to the fact that the more civilized a nation becomes the denser population it can support. In the Stone age France could support but a few thousands; in her Golden age she supports many millions. Another writer casts a reproach upon France because she does not increase so rapidly as Russia; but Russia has a vast territory, some of it almost unpeopled. Such a comparison is quite absurd.

It is well to remember that as the "saturation" point is attained there are natural checks on the increase of population. Nature looks after her own in this respect. A slight relief from over-population, even by a reduction in the birth-rate and an increase of emigration, is not always a bad thing, as history has shown. It is like putting some of the persons out of an overcrowded room, and letting no others come in. From a hygienic and medical standpoint over-population is much to be feared. Therefore, instead of deploring the lot of France, it may be well to inquire deeper and see whether things are really going to destruction with her.

On the Agglutinating Power of Some Serums in Relation to the Red Blood corpuscles of Man.—Jean Camus and Pagniez. (*Gaz. Heb. de Med. et de Chirur.*, March 7, 1901, 18 me. Annee, No. 19).—At a meeting of the *Societe de Biologie* held March 2, 1901, Camus and Pagniez made a report on the **agglutinating power of some human serums in relation to the red corpuscles in man.** They have found that, in the pathological state, human serum may agglutinate the red blood corpuscles of another man. Their studies have included 35 specimens of human serum, both normal and abnormal. Normal serums do not give agglutination so far as the studies have gone. Among the pathological serums a large number were endowed with manifest agglutinating properties. They agglutinated the red blood corpuscles of normal man but had no action upon these cells taken from other men suffering from disease. The active serums came particularly from patients suffering from anemia and cachexia, the majority of whom were tuberculous. The red cells of a patient furnishing a very agglutinating serum may be completely refractory to agglutination by other serums. As in the case of animal serums, heating to 58° C. or 60° C. diminishes without destroying the agglutinating property. [J. M. S.]

Correspondence.

THE TREATMENT OF PNEUMONIA WITH SALINE INFUSIONS.

By CLEMENT A. PENROSE, M. D.,
of Baltimore, Md.

To the Editors of "The Philadelphia Medical Journal."

Dear Sirs:—As my paper on salt infusions in pneumonia which received very favorable criticism over two years ago, when first presented before a body of eminent men (Johns Hopkins Hospital Society, January 23d, 1899), was made a leading editorial in the British Medical Journal shortly after, and led to some experiments being made in England, I cannot believe that it lacks a theoretical basis, and fear that Dr. D. E. Keefe's criticism comes, alas, too late to warn his brothers against the method which many are using, and I believe will continue to use.

I felt that Dr. Keefe's ideas on saline infusions were evidently preconceived, and that he had ignored the recent literature on the same when he states by way of a preface to his article, that "he is opposed to their use in cases of collapse after surgical operations unless from hemorrhage." I hope such a statement is based on experiment and not on theory alone. Recent work by some of our best surgeons has demonstrated the great utility of saline infusions in septic cases, after operations on the intestines, appendix, abdominal organs, and so forth, in which little or no blood is lost, which now fortunately is the case in most operations.

The question of edema of the lungs is a very ticklish problem, both regarding its physiology and pathology, and I take exception to Dr. Keefe's positive deductions. According to the best authorities, edema of the lungs is almost always secondary to heart failure, primary edema being a rare occurrence. Possler quite recently (*Munch. Med. Wochens.*, No. 8, February 19, 1901), believes he has demonstrated by inoculation of rabbits that the heart failure or sudden collapse in pneumonia is not due to cardiac weakness from overwork and so forth, but to paralysis of the vasomotor centres in the medulla from which it might be concluded that the small additional work given to the heart is more than compensated for by the relief, through the salt infusions, to the septic condition.

Dr. Keefe says: "Saline infusions fail in pneumonia because in the inflamed lung there is almost complete stasis by reason of the exudate outside and the clotting within the vessels." My own pathological studies have shown me that throughout all stages of pneumonia in spite of the pressure on the walls of the air spaces in the diseased portions of the lungs, the blood vessels for the most part remained pervious during life, and clotting or thrombosis takes place only in the very smallest vessels and capillaries, and to little extent in the great majority of cases. If salt infusion increases the circulation through the lungs, affected areas and otherwise, it may tend to prevent stasis. I am, however, inclined, owing to the complex nature of this subject, to lay stress on clinical experience rather than any theoretical deductions. Further observation in my own practice and that of others has made me feel that there is little danger of pulmonary edema, especially if infusions are given in parts remote from the lungs, i. e., thighs, abdominal muscles, and so forth. A few autopsies on patients infused under the breasts after surgical operations have shown in some instances blebs on the parietal pleurae. The mere weight of the fluid given subcutaneously, might be a slight impediment to respiration before absorption, which is usually rapid, has taken place.

As the importance of watching the pulmonic second sound in pneumonia, and bleeding when this becomes too accentuated or murmurish, has been emphasized by one of the greatest authorities on hearts in our profession, I must regret that it seems a useless signal to Dr. Keefe. The

statement that free oxygen in the blood is of no consequence is a questionable one, and any effect from diluting the haemoglobin may well be counterbalanced by the increased opportunity given to the blood of getting oxygen through the stimulation to the respirations which in all my cases became easier and deeper, and so continued.

From Dr. Keefe's paper, I judge he lays little stress on general toxemia. He speaks of toxins in the lungs, and says, "They are here mostly situated." Are toxins mostly situated in the throat in diphtheria? We trust the Doctor is not confusing the bacteria themselves with their products. When a patient after several days of muttering delirium becomes conscious a few hours after a saline infusion, I certainly have every reason to believe that great elimination or dilution, if you please, of toxins has taken place. More stress is laid every day on the agency of the kidney and spleen in removing toxins from the blood through the urine and sweat, and nothing increases these more with less depression than saline infusions, as is demonstrated daily in uremia, eclampsia, etc.

In conclusion, it may be stated most emphatically that I am prepared, in the light of further investigation, to stand by the facts laid down in my original article. My cases were presented most accurately; in fact, were well known to many before whom they were reported. My results were fairly given to the medical profession, and endorsed by prominent physicians. That many fine physiological points were involved was most apparent, and any theories advanced to explain the undoubted facts were presented with the hope of discussion by the physiologists of our Society. I cannot see that Dr. Keefe has justified his criticism.

The idea of employing a diluted anti-pneumotoxin serum, although not original with Dr. Keefe, is a good one, and some further work on this matter may appear in the future.

PAROTITIS COMPLICATING PNEUMONIA. WITH THE
REPORT OF A CASE.

BY GEORGE WILLIAM NORRIS, A. B., M. D.
of Philadelphia.

To the Editor of "The Philadelphia Medical Journal."

The following case was seen in the service of Dr. J. C. Wilson at the Pennsylvania Hospital during February of this year.

J. S. aet. 58, was admitted suffering from a croupous pneumonia of the right side. He was desperately ill and his life was almost despaired of. Recovery however followed, the disease terminating by crisis on the 9th day. Three days after this time the patient began to complain of pain at the angle of the left lower jaw. This region, which was at the time noticed to be swollen, increased rapidly in size, and became intensely swollen and tender, the overlying skin being tense, red and angry looking. Six days later distinct fluctuation developed. Three days after the swelling had first been noticed on the left side, the right began to be involved and soon presented, though to a less marked degree, the appearance of the left. The glands were incised by Dr. R. H. Harte, and a large quantity of pus evacuated, which gave a pure culture of the staphylococcus pyogenes aureus. Recovery followed.

Parotitis has been considered a rare complication of pneumonia, and probably is so, although quite a number of cases have been reported within the last few years. Out of a series of 500 cases of the latter disease recently tabulated by the author from the records of the Pennsylvania Hospital,* the condition was met with only once. From a study of the literature I have been able to collect in all eighteen cases, (present case included), from the study

of which the following facts have been gleaned. The complication is met with in all ages, more commonly in males. It usually appears with the defervescence whether by crisis or by lysis. The side involved bears no constant relation to the seat of pulmonary lesion. Both parotid glands were involved in four out of the eighteen cases, the involvement being successive. Incision and evacuation of pus were necessitated in five cases. One evacuated spontaneously. The pus was examined bacteriologically in only three instances. In one case pneumococci were present. The staphylococcus pyogenes aureus was found in this case, as well as in the two remaining ones. Death resulted in three cases, all of which were complicated, one by cystitis, one by endocarditis, one by endocarditis and empyema. In none of these cases of parotid bubo was there apparently any reason to suspect that the glandular enlargement was due to the specific infection of mumps. None of the cases evinced any tendency to contagiousness, there being no involvement of the testes or mammae, and suppuration occurred frequently.

The channel of infection was probably through Stensen's duct; although it is possible that a blood metastasis occurred in Scott's case in which pneumococci were found. Parotid bubo is broadly speaking an uncommon condition, and why an attack of croupous pneumonia should predispose to infection of the gland through its duct does not seem evident.

The presence of pus as indicated by fluctuation, being in this region usually hard to determine owing to the density of the parotid fascia, incision should be made as soon as a presumptive diagnosis of suppuration has been established. The well known dangers of pus in this region—i. e. paralysis of the facial nerve, infection of the auditory meatus, mandibular articulation, or even of the brain or the formation of a retro-pharyngeal abscess, far outweighing all other considerations.

The 17 cases are reported by the following authors:
 Carlow, (2 cases), Glasgow Medical Journal, July, '95.
 Osler, Univ. Med. Mag., Jan., '94.
 Hawthorne, Glasgow Med. Jour., July, '95.
 Talley & Gittings, "Phila. Med. Jour.," Mar. 28, 1900.
 Aldrich, Med. News, Nov. 5, '98.
 Hamilton, Univ. Med. Mag., Vol. 8.
 Coleman, "Phila. Med. Jour.," Apr. 29, 1900.
 Anders, "Phila. Med. Jour.," May 26, 1900, (2 cases.)
 Robison, "Phila. Med. Jour.," May 26, 1900.
 Eshner, "Phila. Med. Jour.," Feb. 16, '01.
 Miller, "Phila. Med. Jour.," Mar. 16, '01, (2 cases.)
 Holladay, "Phila. Med. Jour.," May 12, 1900.
 Scott, in process of publication.
 Morris, "Phila. Med. Jour.," Mar. 16, '01.

THE BRAINS OF TWO MORE CELEBRITIES.

BY E. A. SPITZKA,

of New York.

To the Editor of "The Philadelphia Medical Journal."

Dear Sir:—Subsequent to the completion of my paper on the brains of the Doctors Seguin, father and son, I obtained the reports of two recent examinations, those of Madame Sonya Kovalewska, the celebrated mathematician, (G. Retzius: *Biologische Untersuchungen*, Neue Folge, IX. 1900, pp. 1-16.) and of Professor Carlo Giacomini, (*Giornale della R. Accademia di Torino*, August 1900, pp. 737-808). The brain of the latter adds a noteworthy item to the chapter of coincidences since Giacomini's brain exhibited a striking anomaly which he himself was the first

to describe, namely: *two central fissures*, and therefore a so-called *gyrus Rolandicus*, upon the right side.

The brain of Sonya Kovalewska was not weighed until after four year's immersion in alcohol, the weight being then 1108 grams. Retzius calculated the original weight to have been about 1385 grams.

A WORD FOR THE CIGARETTE.

BY WILLIAM J. ROBINSON, Ph. G., M. D.

of New York.

To the Editor of "The Philadelphia Medical Journal"

A few words apropos of your editorial, *The Crusade Against Cigarettes*, in a recent number of the "Journal." The writer is not and has not been a smoker. He smoked but one cigarette in his life, and that was when he was seven years old; and that one made him so deadly sick that he never after had any desire to court the fragrant weed. If I make bold enough to speak in favor of the cigarette, I cannot well be charged with partiality or partisanship. That smoking by minors or children is injurious I admit. That smoking is or may be injurious to adults suffering with any buccal, lingual, pharyngeal, laryngeal, tracheal, bronchial or pulmonary troubles, I admit. But that cigarette smoking is capable of doing the damage ascribed to it by some sensational newspapers is extremely questionable; and that cigarettes are in any way more injurious than cigars is positively false. That smoked to excess both cigarettes and cigars may cause serious injury, is probably true. But no article or method should ever be condemned for its abuse or misuse. Tobacco is a sedative and all sedatives are dangerous when used to excess, but when used occasionally and in moderation cigarette smoking may prove distinctly beneficial. The writer has seen more than one case in which a cigarette allayed nervousness and irritability and produced a distinctly soothing effect; especially so in women of a delicate nervous constitution. In one case I prescribed it as a remedial measure, and it gave better results than the bromides or valerian. I hope I shall not be misinterpreted as advocating that American women should follow in the footsteps of European aristocracy and take up cigarette smoking, but I do say that if the poor cigarette is to be condemned and ostracised it should be on scientific grounds after a thorough and sober consideration of all the facts and evidence. To call smoking immoral and condemn it on that ground—well, it shows that some people have a very, very queer notion of what is moral and immoral.

The Effect of Carbonic Acid Baths on Healthy and Diseased Circulation.—Kowalsky (*Przegląd lekarski*, Nov.-Dec., 1900), found that in healthy persons baths of 30-33° C. diminish the activity of the heart and raise the blood pressure, the pulse becoming hard and tense. A temperature of 36-39° C. increases the heart's action, lowers the blood-pressure and renders the pulse soft. In diseased conditions of the heart these effects are greatly intensified, almost doubled. Baths of a temperature lower than 34° C. are indicated in all cases of cardiac insufficiency dependent either on valvular disease or degeneration of the heart-muscle. They are contraindicated in all cases of circulatory disturbances accompanied by increased blood-pressure and also in interstitial nephritis. In these conditions the temperature should be above 34° C. Cold baths (below 34° C.) also act on respiration and the excretion of urine, the former being rendered less frequent and deeper, the latter being increased. [A. R.]

Reviews.

Human Placentation. An Account of the Changes in the Uterine Mucosa and in the Attached Fetal Structures, During Pregnancy. By J. CLARENCE WEBSTER, B. A., M. D. (Edin.), F. R. C. P. E., F. R. S. E. Professor of Obstetrics and Gynecology in Rush Medical College (affiliated with the University of Chicago); Fellow of the American and Chicago Gynecological Societies and of the Edinburgh Obstetrical Society; Corresponding Member of the Royal Academy of Medicine, Palermo, Italy, and of the Italian Obstetrical and Gynecological Society; Late Lecturer on Gynecology, McGill University, Montreal; Formerly First Assistant in the Department of Midwifery and Diseases of Women, University of Edinburgh, Scotland. With 233 Illustrations. W. T. Keener & Co., Chicago, 1901.

Dr. Webster's book on the development of the human placenta is based upon eleven years' work, during which time he has examined the uterus in the second, third, fourth, fifth, sixth, seventh, eighth, and ninth months of pregnancy, in the three stages of labor and at various times during the puerperium. He has also studied a number of complete abortions in the early weeks of pregnancy, and has examined the pregnant uterus in various stages from the mouse, the rat, the rabbit, the guinea pig, the pig, the sheep and the cow.

This list of tissues examined is extensive; but for the condition of the uterus during the first few days of pregnancy the author has been obliged to make extensive use of the monograph of H. Peters on the *Embedding of the Human Ovum and the Earliest Known Stage of Human Placentation*, which appeared in 1899. This is a description of probably the youngest human blastodermic vesicle known; it has thrown light on many points in the evolution of the placenta that were formerly most hazy and has caused us to make radical changes in our ideas concerning this organ.

The first chapter is devoted to a consideration of the structure of the normal uterine mucous membrane in the adult nullipara. The author states that the lining epithelium consists of ciliated, columnar cells, and in this he agrees with the statements made in the text-books. The cilia of this epithelium are extremely difficult to demonstrate, however, and in the photomicrograph of the mucosa of the normal uterus these cilia are not shown.

The second chapter treats of the formation of the decidua vera. The author believes that the nature of the change from the nonpregnant condition is one of marked hypertrophy of the preexisting cellular elements in the interglandular tissue of the normal mucosa, and he has entirely abandoned, and for the best reasons, the older view that the decidual cells are developed from leukocytes or from the glandular or surface epithelium of the mucosa. In normal cases, the author finds that hemorrhage occurs only to a slight extent.

The third chapter treats of the formation of the decidua reflexa; decidua capsularis or circumflexa being the preferable term for this portion of the decidua. Here, again, recent researches, including those of the author, require that we abandon the old idea that the hypertrophied mucous membrane folds around the blastodermic vesicle, and we have now the more rational view that the ovum erodes its way into the substance of the mucosa and thus the capsularis is produced. We have always been taught and have in turn taught that the capsularis in the later months of gestation blends with the vera to form a single layer. The author confirms the views of Minot and E. Fraenkel that the capsularis is destroyed and that the chorion leve lies against the decidua vera. The capsularis, according to this interpretation of specimens, is removed by a process of coagulation necrosis; no evidence of fatty degeneration having been found.

Chapter four is devoted to a consideration of the changes in the decidua serotina, which in the newer nomenclature is known by the more comprehensive designation decidua placentalis. In his investigations, Webster has reached the same conclusion that has been reached by Peters and others, that the syncytium is not produced from the

epithelium of the uterine mucosa, but from the fetal ectoderm which covers the chorion. These studies show, further, that there is no evidence in support of the view that the lumina of the glands help to form the intervillous spaces of the placenta. The progressive changes in the decidua are not mechanical; the epithelium on the surface and in the glands is shed, probably on account of the lack of nutrition due to the occlusion of the lymphatics. The degeneration in the interglandular tissue is principally of the nature of coagulation necrosis, which gives rise to a progressive hyaline or fibrinous change.

The fifth chapter treats of the early relations between the ovum and the decidua. The most important part of this chapter relates to the method of establishment of communication between the maternal blood sinuses and the intervillous spaces of the chorion. We have always been taught that the maternal capillaries rupture. The author, following Peters, is of the opinion, however, that the trophoblastic hypertrophy of the chorionic ectoderm absorbs the endothelial walls of the maternal vessels by phagocytic action. He points out, and with reason, that the capillaries in the decidua vera are dilated as well as those in the decidua placentalis and asks the pertinent question: If the latter capillaries rupture spontaneously, why not the former?

The chorion and the amnion are discussed in chapters six and seven, and in chapter eight the plane of separation of the ovum is discussed. The author finds that in normal cases the separation of the placenta and the membranes takes place through the compact layer of the decidua, and not through the spongy layer, as formerly taught. If these observations are confirmed, we shall again be obliged to revolutionize our teaching.

In chapter nine the author describes the shed placenta and in the tenth chapter the phylogeny of that organ is discussed.

In all, the book is an important and thorough contribution to the subject of development of the placenta, and throws light on many theoretic points that have long been open to serious doubt, but that have been accepted on account of the authority of those responsible for the theories.

An extensive bibliography is appended, and there are two hundred and sixteen reproductions of photomicrographs. The latter, we think, are not as clear as reproductions of careful drawings would have been. [J. M. S.]

3500 Questions on Medical Subjects for Self-Examination.

With the Proper References to Standard Works in which the Correct Replies Will be Found. Third Edition, Enlarged. With Questions of the State Examining Boards of New York, Pennsylvania and Illinois. Philadelphia: P. Blakiston's Son & Co., 1901. Price, 10 Cents.

Self-examination for medical students is a thick book in paper cover, published by the firm of Blakiston's Sons & Co., the pages of which measure $3\frac{1}{2}$ by 4 inches. The book purports to be compiled by a medical man and a writer of experience. It is said that by its help the student can successfully quiz himself on all the important branches or review any one subject in which he feels himself to be particularly deficient. In point of fact the book is an advertising scheme for the publications of the Blakiston firm, since after each of the questions, of which there are 3500, is a set of figures, such as 9-27. Of these figures 9 refers to a quiz-compend on surgery, published by Blakiston, and 27 refers to the page in the quiz-compend on which the answer will be found. All of the "standard works in which the correct replies to these questions will be found" are quiz-compends, with the exception of Gould's Medical Dictionary and Morris's Anatomy. The entire book is founded on an erroneous conception of the value of the quiz system and of methods of study. How can any one imagine that by learning answers to 3,500 or 35,000 questions, a student can fit himself to practise medicine? And yet this is the sort of thing that a book of this kind propagates. A man learns a set of answers, parrot fashion, to a set of questions and is sent out to practise a profession. The quiz system at our colleges is liable to just this sort of abuse. When a quiz-master conducts his course for the purpose of getting his men through an examination he is working on fallacious lines. But if a quiz is conducted on lines calculated to assist a student in understanding his subject, to enable him to express himself in good and intelligent English,

and to show him that which he has mastered on the one hand, and that in which he is deficient, on the other hand, the system is productive of good. This applies also to books. A syllabus of a subject or a manual is advantageous to the student because it points out the essential facts of a subject and makes a foundation on which a more detailed superstructure can be reared. But a quiz-compend with its question and its answer destroys originality and kills individual thought, and the book before us is one of the worst features of an abused system. The author's name is properly withheld, and, we venture to think, little credit will accrue to the publishing house for putting the book on the market. [J. M. S.]

Actiologie und Prophylaxe der Lungentuberculose. Etiology and Prophylaxis of Pulmonary Tuberculosis. By DR. J. RUHEMANN, 8 vo., pp. 88. Jena: Gustav Fischer, 1900. Price, 2.50 Mark.

While the doctrine of the specificity of diseases has been more firmly established in recent years it is at the same time recognized that, especially from the prophylactic point of view, attention must be directed to the predisposing and contributory etiologic factors scarcely less than to the exciting causes. In the monograph before us evidence and argument are adduced to show the significant part played, especially by influenza, in the etiology of tuberculosis and as a corollary, the importance of devoting particular care to the prophylaxis and treatment of the former disease under two heads of etiology and prophylaxis, the former in 4 chapters, the latter in one. There are taken up successfully "the inadequacy of existing laws as to the etiology of tuberculosis," "the influence of influenza upon the development of tuberculosis," "the influence of influenza upon the progress of tuberculosis," "the influence of sunlight upon the development and progress of pulmonary tuberculosis," and "the prophylactic measures against tuberculosis." Whether or not one agrees with the argument and the conclusion, the publication will be found to contain much that is interesting and well worth reading. [A. A. E.]

Leukocytosis and the variations of the Polymorphonuclears in Typhoid Fever.—Barbaroux. (*Gaz. Heb. de Med. et de Chirurg.*, March 3, 1901, 48 me., Année, No. 18.) (Lyons thesis, 1900-1901, No. 137.) After a study of the leukocytosis of typhoid fever, Barbaroux concludes: (1) That during the fastigium of the disease there is usually a well-marked hypoleukocytosis, which effects principally the lymphocytes, for although the polymorphonuclears may be reduced in number their percentage is almost always equal to or above the normal. (2) Toward defervescence an increase in the number of leukocytes is seen, which does not, as a rule, however, reach the normal figure. In this stage, also, there is a variable percentage of polymorphonuclears. At the end of this latter period or in the first days of apyrexia, there is a considerable and constant diminution of the total leukocytosis, affecting particularly the polymorphonuclears of which the percentage is very low, usually less than 50%. (3) At the end of several days the number of leukocytes returns to normal or above with a more rapid increase in the number of lymphocytes than of the polymorphonuclears. (4) In benign forms of typhoid fever there may be hyperleukocytosis, as high as 12,000, or hypoleukocytosis, as low as 4,000 during the entire febrile period. If pneumonia occurs as a complication, the number of leukocytes, particularly of the polymorphonuclears, will almost certainly increase. If the complication is due to the bacillus of Eberth, the evolution of the leukocytic curve will correspond to that of a relapse. In grave forms of the disease with relapses, etc., the leukocytic curve is very variable, showing oscillation above and below the normal or a constant hyperleukocytosis. In certain forms of relapse a leukocytic curve similar to that of the first attack is often seen. In certain forms of the disease which end fatally it is impossible to demonstrate a general hyperleukocytosis with an increase of the percentage and of the absolute number of the polymorphonuclears during the latter period of the disease. In all irregular forms hypoleukocytosis is usual during the greater period of the disease. There is, as a rule, no parallel course in the agglutinating curve and the leukocytic curve. On the contrary, it is usual to find that there is considerable lowering of the number of leukocytes when the agglutinating power of the serum is at the highest. [J. M. S.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

College of Physicians.—Sections of Gynecology.—At the monthly meeting held April 18, Dr. R. G. LeConte read a paper on *The value of Hegar's sign in differentiating pregnancy from uterine myoma*. Dr. LeConte spoke of the difficulty in diagnosis when a myoma with little fibrous tissue presented a soft, smooth mass with rounded outline. In some of these there is doubt even when the abdomen is opened. Hegar's sign cannot always be proved or disproved, especially in fat subjects. Its value as a positive sign is unequally rated by eminent authorities. Dr. LeConte has found it of value in 3 cases operated upon for myoma. When the abdomen was opened the uterus appeared so much like a pregnant one that there was some doubt as to the condition present. A search for Hegar's sign showed it to be present in each case and hysterectomy proved each to be a myoma. Dr. C. P. Noble said that he had never seen Hegar's sign present when pregnancy was absent. An early sign of pregnancy upon which he places a great deal of reliance is the semi-cystic feel of the uterus caused by the increasing amount of fluid within. This with the jutting out of the body of the uterus beyond the cervix, due to enlargement, is considered to be the most reliable early sign. Dr. E. P. Davis said that Hegar's sign should be present in all normal pregnant uteri when no adhesions are present and is a most positive sign. Dr. Richard C. Norris stated that Hegar's sign was not of any value to the man who makes casual examinations as it is difficult to elicit and requires a skilled touch. Sometimes anesthesia is necessary. It is of value in association with intermittent contractions of the uterus and increase in size, especially unilateral increase. Dr. A. Ernest Gallant, of New York, read a paper on *the corset for movable kidney*. Dr. Gallant stated that from 90 to 95% of symptomatic movable kidneys can be relieved symptomatically by the judicious use of the corset. The symptoms and diagnosis of movable kidney were considered at length. In speaking of the diagnosis Dr. Gallant recommended to the practitioner the constant practice of abdominal palpation in all cases as well as the examination of heart and lungs. It is only in this way that proficiency in diagnosing pathologic lesions can be acquired. He believes that movable kidney is much more common than is stated. The statistics of 1900 gynecologic cases were given. Of 1000 at one dispensary 21 had movable kidney. Of 800 at another dispensary 7 had movable kidney. Of 100 seen in office practice 21 had movable kidney. The various sets of symptoms in different cases were considered. In 25 out of Dr. Gallant's 41 cases both kidneys were movable. Those cases in which the kidney is at the pelvic brim, as a rule give the least trouble. In speaking of the treatment it was said that fixation only transferred the weight from the vascular pedicle to a cicatrix. This treatment does not achieve all that is desired. Mistakes in diagnosis also make the surgeon hesitate before operating. Mechanical means are considered superior to operative procedure. Belts and pads have their advantages. Corsets are much better and physicians had better teach women to use them properly than to give them up. The prevailing style of corset is a good one for this purpose. It should be as long in front as can be worn. A corset 2 inches smaller than the size usually worn should be selected. The lacing should be from below upward, pushing the kidney well up beneath the ribs before fastening the upper hooks. The corset should be fastened on before the patient rises in the morning. Great attention should be paid to the general health of the patient. Dr. John B. Deaver has had very little success with appliances and prefers to anchor the kidney by means of gauze. Jaundice in movable kidney he believes to be due to a relaxed condition of the peritoneum and its contents which allows the kinking of the duct. The objection to the suture is that it may cause urinary extravasation. The kidney substance is too soft for the stitches to hold and inflammatory tissue is the only real cause of holding even when sutures are inserted. Dr. Chas. P. Noble examined all his patients for one year for movable kidney and found that every fifth one had that condition. He prefers the

patient in the standing position when making the examination. He uses sutures and has never had any untoward results from them. Dr. Shober exhibited a corset designed by a resident of Philadelphia. He believes that retention of urine and distention of the bladder is a cause of movable kidney by inducing absorption of the perirenal fat. Dr. B. C. Hirst spoke of the application of the corset to patients while in the Trendelburg position. Dr. J. M. Baldy stated that movability of the kidney was only a relative question which is settled by the observer's standard as to what constitutes a movable kidney. He does not find any such proportion of cases as were reported. The symptoms of the condition are largely neurotic and he does not see how mechanical appliances are to ameliorate them. Dr. John G. Clark said that the condition was often one of general enteroptosis, especially in women who have some children, hence relief is caused by binders. No operation should be done unless grave symptoms are present. So many women have flat abdomens that it is hard to get the corset to fit snugly. Dr. Geo. F. Shoemaker said that many women cannot wear corsets. Appliances generally have little effect on the kidney. Dr. B. C. Hirst gave a very brief report on the relative merits of the different methods of panhysterectomy in malignant disease of the uterus. Four methods were named—the abdominal, the vaginal, the abdominal and vaginal, and the vaginal and abdominal. The latter is much preferred. It is neater, any enlarged glands can be removed, and convalescence is shorter.

Pediatric Society.—The regular monthly meeting was April 9, the president, Dr. T. S. Westcott, presiding. The address of the evening was delivered by Dr. L. Emmett Holt, of New York, his subject being **some forms of indigestion in infants and young children with especial reference to their dietetic treatment.** Dr. Holt spoke mainly of the chronic forms of indigestion. In regard to the transmission of this condition Dr. Holt believes that direct inheritance is questionable. The progress of an infant during the first year depends upon its condition during the first 3 months, and that upon the start it gets in the first 4 weeks. Dr. Holt is more and more impressed with the sensitiveness of the infant digestive apparatus. Almost as much trouble with infants is caused by bad nursing as by bad feeding. The average obstetrician has but little knowledge of the care needed during the first few days or weeks of an infant's life. To be successful the pediatricist needs to have charge of the infant from the first, and not begin when it is 1 month old. The child can be accustomed to cow's milk only by very careful training. The milk of the Walker-Gordon laboratory is considered to be much better than any other infant food. The initial formula is generally 1% fat, 6% sugar, and .5 proteids. The proof of whether the child is doing well on a certain formula is its degree of comfort. A healthy infant should sleep about 22 out of 24 hours, should not vomit, should have no colic. Sometimes it will be constipated, but this will disappear when the food is made stronger. Is the child entirely comfortable? Then bide the time when it shall gain in weight and do not pay too much attention to constipation. Feeding should be begun at the end of the first 24 hours, and with a strong, lusty child, even before that time. Early feeding helps prevent the initial loss in weight. The symptoms of indigestion may be divided into two groups: those where the stomach is at fault, and those where the intestines are the seat of trouble. Very rarely has gastric dilatation much to do with indigestion. Vomiting is caused more often by a high amount of fat than by any other condition, the organic acids formed from the fat being the cause of trouble. In these cases avoid milk and cream and give milk and water. Stomach washing and in some cases irrigation may be tried. In cases of vomiting from the presence of mucus, stomach washing is the only remedy. Attacks of acute indigestion are dangerous and are often caused by surprisingly small quantities of cow's milk. These cases are generally said to be due to infection from the milk, but other causes may be acting. A case was cited in which a child which had been sick had had a normal temperature for 4 days when one ounce of milk was given and death followed in 48 hours. This was due to a latent condition of the bowels which the milk had caused to be active. Such cases prove that good milk in small quanti-

ties may be poisonous—the fault, however, being not in the milk, but in the child. Attention should always be paid to the previous history of the child. If several attacks of indigestion have been caused by cow's milk, do not begin it at once. Dr. Holt stated that he was a firm believer in the artificial feeding of infants, but that it has its limitations, and a wet nurse is desirable in some cases, though this may be the worst possible expedient in others. Every mother is to use her milk when possible, but this is not always the best for the infant, an immense amount of harm being done by nursing when it should not be done. The best test is the effect of the milk upon the child. Where there is persistent indigestion with no gain in weight, the case is hopeless, and nursing should be stopped. In feeding children with indigestion try less milk with higher percentages and give water between meals. Feeding should not be oftener than once in 2 hours and in the majority of cases 4 hours is better. Some of the points emphasized in conclusion were: (1.) The simplicity of the question of feeding infants when they possess healthy organs and the complexity of the problem when these organs are deranged. (2.) The comfort of the infant is the guide as to the correctness of the feeding. (3.) No mother should nurse an infant which has persistent indigestion and does not gain in weight. (4.) If there is a gain in weight, then try to overcome the indigestion. (5.) There is no more troublesome symptom than vomiting. This is due in the majority of the cases to too large an amount of fat, hence that ingredient should not be increased too rapidly. (6.) Too much attention should not be paid to traditional opinions regarding the amount of fat, proteids, etc. In discussing the paper of Dr. Holt, Dr. J. P. Crozier Griffith said that great care with the minute details of feeding and nursing infants was the cause of success. Constipation in a healthy baby is a sign of assimilation of the food taken, and should be let alone in very many cases. It is the custom now to say that something is wrong with the food when indigestion occurs. Older writers traced many of these cases to taking cold, to wearing certain binders, etc. These points are too often overlooked at the present time. There are undoubtedly many instances in which outside conditions are responsible, and the details of hygiene should be carefully watched. Dr. E. E. Graham spoke of the treatment of acute indigestion. Milk is withdrawn, and sterile water or albumin water, with stimulants if necessary, is given. After a time the use of expressed meat juice is begun, this being followed by peptonized milk. Dr. Alfred Stengel said that the time had hardly been reached when fundamental principles in infant feeding could be dealt with. Efforts in that line are now mainly attempts to cause sick children to thrive on the food of healthy children. The reduction of food should be considered as well as the change in character. Proteid foods and high fat percentages are badly borne in proportion to the degree of inanition present in the infant. Carbohydrates should be increased and the others withdrawn. Dr. Holt said that regarding intestinal lavage, etc., the primary principle to follow was not to do any harm. In cases of summer diarrhea many infants are killed by over-treatment. A child fed by rule can be managed if that principle is started rightly. Hospitals are the poorest places to study infant feeding. Find out what food the child can stand and send it out to return for treatment when necessary.

Resignation of Dr. Risley.—Dr. Samuel D. Risley has resigned from the service of the Philadelphia Polyclinic after a long service as Professor of Diseases of the Eye in that institution. He has been created by the Board of Trustees, Emeritus Professor of Diseases of the Eye. In common with several other members of the Board of Trustees of the Philadelphia Polyclinic, Dr. Risley had also resigned voluntarily in order that the Board might become entirely a body of laymen. Dr. William Campbell Posey was elected to the vacancy caused by Dr. Risley's resignation.

Vital Statistics of Philadelphia for the week ending April 20, 1901:

	Cases.	Deaths.
Inflammation of the appendix 7, bladder 1, brain 16, bronchi 8, heart 1, kidneys 19, liver 3, lungs 47, peritoneum 10, pleura 3, stomach and bowels 13, tonsils 1		132
Marasmus 12, debility 6		18
Tuberculosis of the lungs		75
Apoplexy 17, paralysis 4		26
Heart-disease of 24, dropsy of 2, fatty degeneration of 2, neuralgia of 5		33
Uremia 13, diabetes 2, Bright's disease 7		22
Carcinoma of bladder 1, breast 3, stomach 4, uterus 1, liver 1, penis 1, throat 1, rectum 1		13
Convulsions		17
Diphtheria	48	10
Brain-congestion of 2, disease of 1 softening of 4		7
Typhoid fever	44	8
Old age		17
Cyanosis		1
Scarlet fever	85	3
Abscess of neck 3, pelvic 2, spine 1, alcoholism 1, aneurism aorta 1, asthma 1, anemia 1, atheroma 2, burns and scalds 4, casualties 9, cerebrospinal meningitis 2, congestion of lungs 6, cirrhosis of liver 4, croup, membranous 4, disease of spine 2, drowned 2, erysipelas 1, fever, puerperal 1, indigestion 1, jaundice 2, obstruction of the bowels 1, edema of the lungs 3, poisoning 1, rheumatism 1, sclerosis, arterial 2, septicemia 3, smallpox 1, sarcoma of jaw 1, of uterus 1, suffocation 4, suicide 1, syphilis 1, tetanus 1, unknown coroner case 1, whooping cough 8, wounds, gunshot 1		81

NEW JERSEY.

The Camden City Dispensary.—The Camden City Dispensary, the well-known institution which has been doing such a noble and charitable service for the worthy poor in the city of Camden and vicinity, in need of medical and surgical aid, enters upon the thirty-sixth year of its history with a record creditable alike to the city as well as the physicians who have been energetic in pushing the institution to the front. As early as 1859 Dr. Othniel Hart Taylor called the attention of the Camden City Medical Society to the propriety of petitioning City Council for the establishment of a dispensary. Any institution like this one which ministers to the worthy poor is deserving of the highest commendation.

NEW YORK.

Elected Professor.—Dr. Heinrich Stern has been elected professor of internal medicine in the New York School of Clinical Medicine.

Dr. Frank Wayland Abbott.—Dr. Frank Wayland Abbott, regarded as one of the foremost oculists in Western New York, died at his home, No. 523 Franklin street, on April 9, after a protracted illness. Dr. Abbott was graduated from the University of Buffalo in 1866, and was oculist in chief at the General Hospital and the Eye, Ear and Throat Hospital, of Erie County.

New York School of Clinical Medicine.—The New York School of Clinical Medicine invites the local profession and visiting physicians to the following course of lectures to be delivered every Friday evening in April and May at 6.30, at 323 West 42nd St. April 5th, Examination of the Male Urethra by the General Practitioner, Clinical Demonstrations; Ferd. C. Valentine, M. D. April 12th, Medical Questions of the Responsibility of Alcoholics, Opium and Other Drug Takers, Thomas D. Crothers, M. D. April 19th, Complicated Fractures: Diagnosis and Modern Treatment, Thomas H. Manley, M. D. April 26th, Diagnosis and Surgical Treatment of Prolapsed Kidney: With Clinical Demonstrations, Augustin H. Goelet, M. D. May 3rd, Treatment

of Strangulated Hernia, Carl E. Pfister, M. D. May 10th, Pelvic Trilogy in the Diagnosis of Diseases of Women, A. Ernest Gallant, M. D. May 17th, The Techniques of Major and Minor Amputations, Robert H. Cowan, M. D. May 24th, Treatment of Obesity, Heinrich Stern, Ph. D. M. D. May 31st, Diseases of the Stomach: Practical Examinations and Treatment. Demonstrations on Patients, Freeman F. Ward, M. D. June 7th, Psoriasis and Acne. Effective and Practical Methods of Treatment: Clinical Demonstrations, W. R. Inge Dalton, M. D. Marcus Kenyon, M. D., Secretary.

New York Neurological Society.—Stated Meeting April 2, 1901, Joseph Collins, M. D., President.—**Recurrent Oculomotor Palsy.**—Dr. William M. Leszynsky presented a woman, twenty-nine years of age, whom he had first seen four months ago. When six years old she had begun to have attacks of headache confined to the right temporal and supraorbital regions, and invariably accompanied by vomiting. The attacks occurred every five or six weeks. At her twelfth year the customary paroxysm had been associated with ptosis of the right eye, from which she had recovered in two weeks, the migraine continuing to recur as before. The second attack of oculomotor paralysis had occurred in her nineteenth year, with some pain and vomiting. There were partial ptosis, diplopia and inability to look upward with the right eye. She had improved in three weeks, but the eye did not move upward as well as before for a few months and then there had been complete recovery of motility. The third attack had occurred in her twenty-second year, and had been characterized by almost complete ptosis, outward deviation of the eye and diplopia. She had been obliged to keep the eye covered for three months, but had recovered in about a year. The fourth attack had been two and a half years ago and the fifth only three weeks ago. She now complained of the eye turning outward and of her inability to look upward. The periodical headaches bore no relation to menstruation. Examination showed slight drooping of the right upper eyelid, paralysis of the superior rectus and paresis of the inferior and internal recti. The right pupil is 5 mm. in diameter and rigid, while the left measures 3.5 mm. and reacts normally. Vision is normal in both eyes, and the fields and fundi are normal. She is anemic and neurasthenic. The family history was unimportant, and her ocular condition had practically remained unchanged since the first examination. The speaker said that the most interesting features were the comparative rarity of this type of oculomotor palsy and its pathology. Only two authentic cases of recurrent oculomotor palsy had been studied post-mortem, one by Richter, in 1887, and the other by Karplus, in 1895. In the former, a fibrochondroma existed in the course of the nerve trunk at the base of the skull, and separated but did not destroy the nerve fibres. In the other case, there was a neuro-fibroma of the motor oculi at the base. In many of the reported cases complete recovery had taken place, but in others the paralysis had gradually increased during the intervals, and had ultimately become permanent. Dr. Leszynsky said that he had seen four other cases. In the first, there had been complete paralysis of the third nerve with a clear history of accompanying migraine. Recovery had been spontaneous. Dr. B. Socks said that these cases were extremely rare, though he had been fortunate enough to see two in the past six months. One had been in a boy of four years who within a year had had two distinct attacks of oculomotor paralysis of one eye. He had recovered in a few months from the first attack. The family history was entirely negative. He understood that improvement had followed the second attack. There had been apparently no migraine here. Dr. Leonard Weber said that he had presented a case of this kind to the society twelve or more years ago. The man had oculomotor palsy on the right side. He had watched the case for a number of years. After about two years there had only been a little ptosis remaining. After a course of iodide the man had greatly improved, and had ultimately died of pulmonary tuberculosis. Dr. B. Onuf said that he had presented such a case to the society one year ago. The patient had since been given iodide of potassium in increasing doses, and had moved to the country. The attacks had become shorter and less severe. He did not believe that there was always a lesion of the oculomotor alone. His own case was undoubtedly one of migraine. Dr. Les-

zynsky said that a very novel theory had been brought forward regarding this paralysis occurring in connection with migraine. It had been assumed that there is an increased vascularity of the hemisphere during the attack of migraine, causing a disturbance of the function of the third nerve. **A Case of Malignant Tumor of the Shoulder Perforating the Spinal Canal.**—Dr. Leonard Weber read this report, and presented the specimen. The subject was a man of thirty-one whom he had first seen in 1891. He had presented the usual symptoms of a recent syphilis, and had been treated for this with improvement. In 1894 he had returned because of a perichondritis of the cartilaginous portion of the nasal septum. At this time a small movable tumor, the size of a cherry, was noted in the right shoulder. This was supposed to be gummatous. The tumor diminished under mixed treatment, but a small nodule remained. In June, 1900, the man had sought relief because of a hard, solid and almost immovable tumor of the shoulder, which he said developed shortly after a blow on the shoulder received one year previously. No benefit had resulted from rapidly increasing doses of iodide or from the biniodide of mercury. Three months later a portion of the growth was submitted to microscopical examination, with the result that it was declared by two pathologists to be a round cell sarcoma. An effort had then been made to remove the growth, but this had been found impracticable. Injections of arsenite of soda and carbolic acid had been given for a time, but without benefit. On December 3 he had been admitted to St. Mark's Hospital, because of a suddenly developed paraplegia. Bed sores soon formed and he became septic, and died on February 11, 1901, from exhaustion. The cord symptoms in this case were due to hemorrhage and degenerative myelitis. As to whether the little tumor first felt in the shoulder was specific, the speaker said that this was probable, and added that the case emphasized the desirability of removing apparently innocent tumors at an early stage. **A Case of Cerebellar Apoplexy with Autopsy.** Dr. Weber also made this report. The patient was a man, twenty-nine years old, living amid the most unsanitary surroundings. The urine had a specific gravity of 1024, and contained a slight trace of albumin and some hyaline and granular casts. There was no history of syphilis. He had been sick for about two months before coming under observation on September 11th. There was constant headache, but no sensory or motor disturbances. The diagnosis seemed to lie between tumor, hemorrhage and abscess of the cerebellum. On account of the length of time that he had been sick abscess seemed to be more probable than hemorrhage. He died in a few days, and at the autopsy the entire venous system was found engorged with blood. There was marked hypertrophy of the left side of the heart; no endarteritis of the arch of the aorta; both kidneys were slightly enlarged, the cortex showing proliferation of connective tissue in patches, and presenting the gross appearance of interstitial nephritis. No opportunity was given for microscopical examination. In the substance of the right cerebellar hemisphere was an accumulation of both recent and old coagula, and the apoplectic focus had ruptured into the fourth ventricle. He had seen one case of cerebellar apoplexy in a girl of twenty-five years, who had an unsuspected and untreated syphilis. **A Tumor of the Optic Thalamus.**—Dr. Joseph Fraenkel presented this specimen, which had been taken from a person whom he had shown to the society in January, 1898. At that time the boy had had the cardinal symptoms of brain tumor, and a paralysis of the face which was very marked when there was any emotional disturbance. There had been no hemianopsia. The boy had been discharged from the Montefiore Home, and had done fairly well for two years and a half. When readmitted, there had been very nearly the same symptoms as before, and in addition a much more marked unsteadiness of gait and a disposition to fall to the right side. Dr. Fraenkel said that it had been said that he had been led to think it possible that the tumor was after all situated in the cerebellum. On removing the brain at autopsy, a very old cyst was found on the fourth ventricle, the exact nature of which had not yet been determined. There was also a large tumor occupying the right optic thalamus. **Spinal Cord Showing Result of Fracture, Dislocation of the Cervical Spine.**—Dr. Edward

D. Fisher reported this case and presented the specimen. The patient was an acrobat, twenty years of age. While turning a somersault from the shoulders of a companion he had fallen a distance of about five feet, and struck on his head. He was instantly paralyzed. When seen by the speaker that evening there had been complete anesthesia from below the nipple extending down the arms to the armpit, and on the inner side of the arm and forearm, and taking in the ring and little fingers. There was complete loss of motion and paralysis of the bladder and rectum. The reflexes, superficial and deep, had been completely lost. Permission could not be obtained for operation until three days later, and in the meantime there had been a temperature range of 104° or 105°F. The operation had been done by Dr. B. F. Curtis under cocaine anesthesia, and the laminae of the fifth, sixth and seventh vertebrae removed. No evidence of injury to the cord could be discovered. The man died three days later. The autopsy had revealed a fracture of the body of the seventh vertebra, no subdural hemorrhage, marked softening of the cord at the seventh cervical segment. There was very little gray matter left in the cord at that level, and there was very little evidence of hemorrhage into the cord-proper. A very prominent symptom had been the extreme pain experienced along the course of the nerves. The classical distribution of the paralysis and the complete loss of reflexes were interesting features. Dr. B. Sachs remarked that twenty years ago it had been pointed out that a very significant symptom of the disease of the optic thalamus was this peculiar facial palsy made visible by emotion. Dr. Leszynsky said that he had seen recently a case of dislocation in the dorsal region with loss of reflexes and paralysis below the seat of injury. An operation had been done, but death had followed. The autopsy had revealed a complete transverse destruction of the cord. Dr. Fraenkel said that some time ago he had presented a paper to the society on this matter of the reflexes, and had continued to give a good deal of attention to this subject. He would assert that the skin reflexes are not lost in total destruction of the cross section of the cord, and the relation of the tendon reflexes to the skin reflexes should enable one to decide whether or not the cord has been completely destroyed in this manner. When the compression of cord was sufficiently great to interfere functionally with conduction upward and downward, the tendon reflexes are lost while the plantar reflexes are exaggerated. When, however, there is structural disease of the entire cross section of the cord, the plantar reflexes are also lost. This he considered a valuable point in the differential diagnosis. He had reported two cases with autopsies in which there had been loss of reflexes without total abolition of the conduction in the cord. Dr. Leszynsky said that in the case he had just referred to all forms of reflexes had been abolished, both superficial and deep. **Brain From a Case of Epilepsy Operated Upon.**—Dr. H. L. Winter exhibited this specimen, which had been taken from a child of seven years. All of the head measurements were small; there was no paralysis of any of the muscles. The child was an imbecile and had epileptoid seizures which appeared to be general. Dr. Stewart had operated upon the child at Bellevue Hospital. On reaching the brain a large cyst cavity had been found in the left hemisphere. The child died seven days later with a high temperature. The hemisphere was found to have been nearly destroyed by the cyst, and the convolutions were not well marked. The interesting feature was the almost complete destruction of the hemisphere without any paralysis. The fibres of the medulla were found not to decussate as freely as usual. **Abscess of the Brain.**—Dr. Joseph Collins presented this specimen. It had been impossible to make a localizing diagnosis. The patient was a man, twenty-seven years of age, a tailor by occupation. Two weeks before admission he had been suddenly seized with severe and more or less paroxysmal headache distributed over the whole head. The pain was almost intolerable for six days, and then he became dizzy and had projectile vomiting without nausea. There had been some whistling sound in the right ear. When seen by the speaker, four days after coming into the hospital, there was double choked disk, but no hemianopsia. There was no leukocytosis, although the hemoglobin percentage was 36. Apparently there was no impairment of hearing. The knee jerks were normal. There was no evidence of palsy

or of spasm in any part of the body, and no symptoms referable to the special senses. The patient died four days later of exhaustion. The autopsy revealed an abscess situated in the right hemisphere, and involving particularly the posterior end of the inferior parietal lobe and of the superior parietal lobe. The cuneus itself was partly implicated. The teat-like extremity of the cuneus, it should be noted, was entirely intact on the side of the abscess cavity, and if the optic radiations are not cut across it would not be difficult to explain the absence of hemianopsia. A diagnosis had been made of abscess of the right superior parietal convolution. Dr. Fisher said that both the superficial and deep reflexes had been absent in his case, and it was because of this that he had inferred that there was complete destruction of the cord. The operation had been undertaken to relieve intense pain.

WESTERN STATES.

Bullet in His Heart.—Evidence that a man may live with a bullet in his heart was afforded by the use of the X-ray upon Charles B. Nelson, of Cadillac, Mich., who in 1896 was the central figure in a sensational shooting that nearly resulted in his death. Under the fluoroscope the ball in Nelson's heart could be plainly seen rising and falling with each pulsation of the vital organ. The bullet has been there since the night of July 1, 1896.

Licenses Refused.—Seven graduates of the Pacific Coast Regular College of Medicine, comprising the first graduating class of that institution, which began its work only about nine months ago, have been refused licenses to practice by the Board of Medical Examiners of the Medical Society of the State of California, on the ground that their alma mater does not meet with the minimum requirement for medical colleges, as adopted by the Board December 4, 1900.

Meeting of the Chicago Pathological Society, Monday, April 8th, 1901. Dr. L. Hektoen, President.—Dr. Bertha E. Bush reported a case of varicose veins of the right upper extremity in a child. This report places upon record a case of developmental varix, in a young child, the process affecting the anterior superficial veins of the entire right hand, arm and shoulder. Numerous sacular dilatations occur just beneath the skin, those at the inner end of the clavicle and in the palm of the hand being the most conspicuous. Skiagraphs show deformity of the right metacarpal bones, and generally diminished growth of the arm and hand. There is no pulsation or edema, and no history of hemorrhage. Noteworthy points in the case are: 1. The congenital origin. 2. The region involved. 3. The obscure etiology. 4. The scarcity of literature.

Dr. H. T. Ricketts presented a consideration of **Blastomycetic (Oidiomycetic) dermatitis and its organisms**, with demonstrations. Through courtesies from Professors Hyde, Montgomery and Hektoen, he had studied the pathological and mycological features of ten new cases of Blastomycetic (Oidiomycetic) Dermatitis observed during the last 18 months, mostly in the clinics of Profs. Hyde and Montgomery. The work was done in the pathological laboratory of Rush Medical College. There is a uniform clinical history in all cases; the process beginning as a pustule, which becomes a large ulcer, the surface later being covered with coarse papillae bathed in pus. A reddish areola containing milium abscesses surrounds the verrucose tissue; the centre of the lesion cicatrizes as the periphery extends. The histological features are uniform; carcinomatoid proliferation, and leukocytic infiltration of the epithelium, intra-epithelial abscesses, premature and abnormal cornification, peculiar retrogressive epithelial changes and epithelial giant cells, and in the corium, dense leukocytic and plasma-cell infiltration, fixed tissue proliferation, subcutaneous abscesses, giant cells and tubercles, resembling those of tuberculosis, but being less typical in the inter-relationship of cells and showing less advanced regressive changes. Plasma-cells seek the periphery of the process. Apparently there is an eosinophilous type of the disease, which, in the case studied, is associated with a mould fungus form of the parasite, and very large papillae. Russell's fuchsin bodies are found in plasma-cells and intercellular spaces. There is a close relationship between the plasma-cells and the formation of a peripheral protective zone of fibrous tissue. They do not appear to become fibroblasts, but to undergo a gradual disintegration as provender for forming fibrous

tissue. Mast-cells exist in large numbers, and are classified as 1, leukocytic; 2, connective tissue cell type; 3, those possessing halos; and, 4, the plasma-mast-cell type. In the tissue the organisms are found singly, in budding pairs and in groups, in intra-epithelial and subcutaneous abscesses, free between healthy rete cells, in giant cells, and in the granulation tissue of the corium. From seven cases the organisms have been cultivated. They fall into three groups: 1, the yeast-like, resembling those of Hektoen, Hessler, Busse and Curtis; 2, the odium-like; 3, the mould-fungus type, resembling the organism isolated by Ophuls and Moffit from the protozoic (?) disease. Study shows that all these have common generic properties, and are separated only by specific characteristics which are more or less variable. In accordance with pre-existing nomenclature they all belong to the genus *oidium*. "*Blastomyces*" is considered not sufficiently inclusive. Pure cultures inoculated into animals produce local abscesses, septicemia, or, if injected into veins, mycotic nodules and consolidation in the lungs. The various methods of proliferation in cultures are, germination, lateral conidia, terminal spore-groups, abjunction of mycelial segments, aerial conidium-bearing hyphae (in the mould-fungus, and questionable endogenous spore-formation. Of many inoculations of tissue from man into guinea pigs, none have resulted in tuberculosis. A study of Busse's case of "*Sacchromycosis hominis*," of the protozoic (?) disease of Wrenicke, Gilchrist, Ophuls and Moffit, and others, and of Blastomycetic dermatitis, together with the fungi concerned in all, affords convincing evidence that the three are closely related processes, caused by similar organisms; the protozoic (?) disease and *Saccharomycosis hominis* (Busse) are examples of the generalized infection, while Blastomycetic dermatitis (Gilchrist) is a local manifestation of the disease. The term *Oidiomycosis* is suggested as a name for the combined manifestations. Cultures, as well as gross and microscopic specimens of tissues were exhibited. Discussion of paper by Dr. H. T. Ricketts. Dr. Maximilian Herzog: If so many varieties of organisms are found in cases of clinical blastomycetic dermatitis, they can not be a single disease which is due to a single cause. Dr. Coates objected to the term *oidiomycosis* as liable to introduce confusion. Dr. Ricketts, in closing, said he did not insist on the use of the term *oidiomycosis*. He considered the protozoan diseases as due to an organism very closely related to the ones under consideration. Dr. L. M. Loeb reported two cases of infection by the *bacillus aerogenes capsulatus*. (1) A compound fracture of both bones of the forearm was followed by emphysema of the whole extremity in two days. Recovery took place uninterrupted after shoulder amputation. (2) An abrasion of the outer side of the knee was followed in one day by phlegmonous emphysema of the entire leg and by constitutional symptoms of profound intoxication. Fifteen to twenty short incisions were made and drainage of bichloride dressings employed. In ten days gas bacilli and emphysema were gone and recovery interrupted only by a suppurative of the knee joint which took place. This case again brings up to consideration the more conservative methods of treatment. Discussion of the paper by L. M. Loeb. L. F. Barker spoke on the circumstance of the discovery of the organism. He urged early recognition of the disease and treatment. Dr. Gideon H. Wells mentioned a case in which the emphysema was first noticed in the subcutaneous tissue of the left shoulder, extending some distance in the course of a few days. Because of the finding of pulmonary tuberculosis, it was suspected the emphysema was due to a tuberculous abscess connected with the chest wall, which had ruptured. At autopsy this was found to be not the case, but due to the *bacillus aerogenes capsulatus*.

Missouri State Medical Association.—The programme for the Jefferson City meeting is as follows: Call to order at 9.30 A. M.

FIRST DAY.

MORNING SESSION.

Invocation—Rev. A. H. Barnes.

Reading of Minutes.

Report of Chairman of Committee of Arrangements.

Address of Welcome.—Gov. A. M. Dockery.

Report of Treasurer.

Appointing Committees: (a) Auditing Committee; (b) Vacancies on Committee on Credentials; (c) Special Committees.

Report of Committee on Scientific Communications.

Report of Committee on Publication; B. C. Hyde, Kansas

City, chairman; F. J. Lutz, St. Louis; H. W. Loeb, St. Louis.

Report of Committee on Credentials.

Election of Officers. (Can be made a "special order of business" for some other hour by a two-thirds vote).

Miscellaneous business.

AFTERNOON SESSION.

Report of Committee on Credentials.

1. Report of Committee on Progress of Surgery—J. D. Griffith, Kansas City, chairman. Discussion opened by F. J. Lutz, St. Louis, and C. H. Wallace, St. Joseph, committee.

2. The Epidemic of So-Called Smallpox—J. D. Brummall, Salisbury. Discussion opened by S. C. James, Kansas City.

3. Treatment of Acute Insanities—John Punton, Kansas City. Discussion opened by C. H. Hughes, St. Louis.

4. (a) Intestinal Obstruction—H. Clay Dalton, St. Louis.

(b) Intestinal Obstruction following Abdominal Section—Edward Wallace Lee, St. Louis. Discussion opened by O. Beverley Campbell, St. Joseph.

5. Entropion and Ectropion—Flavel B. Tiffany, Kansas City. Discussion opened by Carl Barck, St. Louis.

6. (a) The Value of Venesection and Saline Injections in the Treatment of Pneumonia—and addition to the paper read before the association last year—William Porter, St. Louis.

(b) Treatment of Pneumonia—H. W. Latham, Latham. Discussion opened by C. F. Wainwright, Kansas City.

7. Peculiar Nervous and Urinary Manifestations in the Aged Following La Grippe—O. P. Kernodle, Sedalia. Discussion opened by Thomas Chowning, Hannibal.

EVENING SESSION.

8. Demonstration of Kidney Lesions with Stereopticon—M. Dwight Jennings, St. Louis.

9. President's Address—U. S. Wright, Fayette.

SOUTHERN STATES.

Physician Assassinated.—Dr. H. S. Scruggs, Jr., who resided at Aulona, a suburb near Memphis, Tenn., was found sitting upright in his buggy near his home on April 17th, with a bullet hole behind the left ear. His horse wandered along the roadway for several hours before the crime was discovered.

Cecil County Medical Society.—The Cecil County Medical Society has elected Dr. Joseph W. Wallace, of Chesapeake City, president; Dr. John H. Jamar, of Elkton, treasurer, and Dr. H. P. Hinchcliffe, of Elkton, secretary.

Oral College Examinations.—The faculty of the Medical College of Virginia have recently decided to examine members of the graduating class by oral, instead of written examinations, as has been the custom until now.

Relief Bills Contemplated.—A meeting of a joint committee representing the medical, dental, pharmaceutical and legal professions, was recently held at Richmond, Va., for the purpose of thoroughly organizing these different bodies for better protection. The new State constitutional convention meets early in June, and it is hoped that a plank may be inserted in the constitution whereby the granting of special privileges and the passing of private relief bills allowing certain persons to practice without standing the required examination, may be abolished.

MISCELLANY.

Appointment.—Dr. Aristides Agramonte, formerly Chief of the Bacteriological Laboratory, has been appointed to the Chair of Bacteriology and Experimental Pathology in the Medical Faculty of the University of Havana, Cuba.

Obituary.—Dr. J. B. Wait, at Medford, Ore., on April 5, aged 59 years.—Dr. Block, of San Francisco, Cal., at Berlin, Germany, on April 12.—Dr. Charles Kelly Gardiner, at Huntingdon, W. Va., on April 14.—Dr. B. E. Lusk, at Lone Oak, Mo., on April 15.—Dr. George W. Cox, at Philadelphia on April 19, aged 61 years.—Dr. John P. Robb, at Fredericksburg, Va., on April 18, aged 80 years.—Dr. L. R. Kirk, at Elkton, Md., on April 19, aged 69 years.

Charges in the Medical Corps of Navy for Week Ended April 20, 1901:

P. A. SURGEON N. J. BLACKWOOD, detached from Naval Hospital, Philadelphia, April 17, and ordered to the Alliance.

P. A. SURGEON L. MORRIS, detached from the Naval Academy, and ordered to Naval Hospital, Philadelphia, April 17th.

ASST. SURGEON A. E. PECK ordered to the Pensacola. SURGEON J. F. URIE, detached from the Dolphin, April 20, and ordered to the Marine Recruiting Rendezvous, Boston, April 22.

SURGEON E. P. STONE, detached from Naval Dispensary, Washington, and ordered to the Dolphin, April 20th.

SURGEON F. ANDERSON, ordered to the Naval Dispensary, April 19th.

SURGEON J. E. GARDNER, detached from Marine Recruiting Rendezvous, Boston, and ordered to Naval Hospital, Cavite, P. I., May 11.

DR. C. G. SMITH, appointed Assistant Surgeon from April 12, 1901.

SURGEON W. F. ARNOLD, from New Orleans to Olongapo, P. I., Sta.

P. A. SURGEON A. ALFRED, to duty with Marine Brigade, Cavite, P. I.

ASST. SURGEON E. J. GROW, detached from the Glacier, and to the Isla de Luzon.

ASST. SURGEON J. STEPP, detached from duty with 1st Regiment of Marines, and ordered to the Castine.

ASST. SURGEON H. C. CURL, detached from the Castine and ordered to the Naval Station, Cavite, P. I.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 days ended April 18, 1901:

G. T. VAUGHAN, surgeon, reassigned to duty in the Marine Hospital Bureau, April 13, 1901.

H. D. GEDDINGS, passed assistant surgeon, directed to proceed to Buffalo, N. Y., for special temporary duty in connection with the installation of the Marine Hospital Service exhibit at the Pan-American Exposition, April 18, 1901.

RUPERT BLUE, passed assistant surgeon, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty, April 16, 1901.

H. B. PARKER, assistant surgeon, directed to proceed to San Francisco, Cal., and report to Surgeon I. H. White for special temporary duty, April 15, 1901.

M. H. FOSTER, assistant surgeon, 2 days of the leave of absence granted Assistant Surgeon Foster by Bureau letter of March 11, revoked—April 18, 1901.

G. H. CORPUT, assistant surgeon, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty—April 15, 1901.

DUNLOP MOORE, assistant surgeon, relieved from duty at Port Townsend quarantine, and directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty—April 18, 1901.

T. D. BERRY, assistant surgeon, granted leave of absence for 30 days from May 2—April 13, 1901.

J. C. BALLARD, acting assistant surgeon, leave of absence granted acting assistant surgeon Ballard by Bureau letter of February 4th, amended to read—6 days from April 23—April 16, 1901.

B. W. GOLDSBOROUGH, acting assistant surgeon, granted leave of absence for 7 days—April 13, 1901.

R. H. MCGINNIS, acting assistant surgeon, directed to proceed to St. Augustine, Fla., for special temporary duty—April 12, 1901.

RICHARDSON, S. W., hospital steward, directed to proceed to Buffalo, N. Y., and report to Passed Assistant Surgeon H. D. Geddings for special temporary duty—April 17, 1901.

L. P. HALL, hospital steward, directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters—April 13, 1901.

APPOINTMENT.

LOUIS P. HALL, of New York, appointed Junior Hospital Steward in the U. S. Marine Service—April 12, 1901.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended April 20, 1901:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
CALIFORNIA:	San Francisco	Mar.30-Apr.13	5	
DISTRICT OF				
COLUMBIA:	Washington ..	Apr.6-13	1	
FLORIDA:	Jacksonville ..	Apr.6-13	14	
ILLINOIS:	Chicago	Apr.6-13	10	
IOWA:	Clinton	Apr.6-13	1	
KENTUCKY:	Lexington	Apr.6-13	7	
	Louisville	Apr.5	1	
LOUISIANA:	New Orleans..	Apr.6-13	12	2
MARYLAND:	Baltimore	Apr.6-13	1	
MASSACHUSETTS	Fitchburg	Apr.6-13	1	
MICHIGAN:	Detroit	Apr.6-13	3	
Smallpox present	at 104 places	Apr.6-13.		
MINNESOTA:	Minneapolis ..	Apr.6-13	8	
	Winona	Apr.6-13	1	
NEBRASKA:	Omaha	Mar.30-Apr.13	18	
NEW HAMPSHIRE	Manchester ..	Apr.6-13	3	
NEW JERSEY:	Jersey City ..	Mar.31-Apr.7.	7	
	Newark	Apr.6-13		1
NEW YORK:	New York	Apr.6-13	44	11
OHIO:	Cincinnati	Apr.5-12	1	
	Youngstown ..	Apr.6-13	1	
PENNSYLVANIA:	Lebanon	Apr.6-13	1	
	Pittsburg	Apr.6-13	4	1
	Steelton	Apr.6-13	4	
SOUTHCAROLINA	Charleston ...	Apr.8	1	
TENNESSEE:	Memphis	Apr.6-13	5	
	Nashville	Apr.6-13	16	
UTAH:	Salt Lake City	Apr.6-13	25	
WEST VIRGINIA:	Huntington ..	Mar.23-Apr.13	62	
	Wheeling	Apr.6-13	1	
WISCONSIN:	Milwaukee ...	Apr.6-13	1	

SMALLPOX—FOREIGN AND INSULAR.

BELGIUM:	Antwerp	Mar.23-30	6	3
BRAZIL:	Rio de Janeiro	Mar.1-15		13
CHINA:	Hongkong	Mar.2-9	2	1
FRANCE:	Paris	Mar.23-30		12
GIBRALTAR:		Mar.23-30	1	
GREAT BRITAIN:	Scotland			
	Dundee,	Mar.23-30	1	
	Glasgow ...	Mar.29-Apr.5.		10
INDIA:	Bombay	Mar.12-19		10
	Calcutta	Mar.8-16		151
	Karachi	Mar.10-17	14	5
	Madras	Mar.9-15		11
ITALY:	Messina	Mar.23-30	1	
	Naples	Mar.23-30		Present
MEXICO:	Mexico	Mar.23-30	1	
	Vera Cruz	Apr.6-13		1
RUSSIA:	Moscow	Mar.16-23	8	
	Odessa	Mar.23-30	5	1
	St.Petersburg.	Mar.16-30	30	4
	Warsaw	Mar.16-23		7
PORTO RICO:	Ponce	Mar.30-Apr.1.	4	

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	Mar.1-15	36	28
COLUMBIA:	Panama	Apr.1-8	7	1
COSTA RICA:	Port Limon ..	Apr.5	1	

CHOLERA.

INDIA:	Bombay	Mar.12-19		3
	Calcutta	Mar.2-16		43
	Madras	Mar.8-16		3

PLAGUE—UNITED STATES.

CALIFORNIA:	San Francisco	Apr.6-13	2	2
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PLAGUE—FOREIGN.

AFRICA:	Cape Town ..	To Mar.9	100	27
BRAZIL:	Rio de Janeiro	Mar.1-15		1
CHINA:	Hongkong	Mar.2-9		15
INDIA:	Bombay	Mar.12-19		1,203
	Calcutta	Mar.8-16		819
	Karachi	Mar.10-17	163	126
	Madras	Mar.9-15		1

Plague in the United States as reported to the Surgeon-General, United Marine-Hospital, from January 1, 1901, to April 19, 1901:

PLAGUE.

CALIFORNIA:	San Francisco	Jan. 6.....	1	1
"	"	Jan.15.....	2	2
"	"	Feb. 5.....	1	1
"	"	Feb. 6.....	1	1
"	"	Feb. 7.....	1	1
"	"	Feb.10.....	1	1
"	"	Feb.11.....	1	1
"	"	Feb.12.....	1	1
"	"	Mar. 2.....	1	1
"	"	Apr. 1.....	1	1
"	"	Apr. 4.....	1	1

GREAT BRITAIN.

Re-election.—Sir William Selby Church, Bt., has been re-elected president of the Royal College of Physicians, of London.

Now a British Subject.—Sir Felix Semon, whose appointment as Physician Extraordinary to the King was announced, has become a naturalized British subject.

BRITISH CONGRESS ON TUBERCULOSIS.

PRELIMINARY PROGRAMME.—SECTION I.

STATE AND MUNICIPAL.

Meetings to be Held Daily from Tuesday, July 23d, to Friday, July 26th, from 9.30 to 2.

In this section detailed consideration will be given to the following question, and resolutions relative thereto will be submitted when deemed necessary.

Division I.

STATISTICAL.

What conclusions may be drawn from the statistics available as to connection between the Mortality from Phthisis and the conditions contributing to it?

In this connection regard will be had to the following points:

1. The behaviour of Mortality from Phthisis in England and Wales during the reign of Her late Majesty Queen Victoria.
2. The Geographical Distribution of Phthisis in England and Wales.
3. The Incidence of Phthisis Mortality in particular occupations.
4. The Age and Sex Distribution of Phthisis.
5. The Distribution of Phthisis in the several Sanitary Areas of London.
6. The Statistical Evidence against Heredity of Phthisis.
7. *Tubercles mesenterica* in relation to Milk Supply.
8. A Statistical Study of Phthisis in relation to Soil.
9. The Indications for Future Statistical Research.

Section II.

MEDICAL, INCLUDING CLIMATOLOGY AND SANATORIA.

On Tuesday, the 23rd July, a discussion on "Climatology" will be opened by Dr. C. Theodore Williams and Dr. Burney Yeo: "What Influence has Climate on the Treatment of Consumption, and how far can cases be grouped for Treatment in certain climates?"

On Wednesday, a discussion on "The Therapeutic and Diagnostic Value of Tuberculin in Human Tuberculosis," uniting with the Section of Pathology, to be opened by Dr. Heron. Professor Koch, of Berlin, has consented to take part in the discussion.

On Thursday, a discussion on "Sanatoria for Consumption" will be opened by Professor Clifford Allbutt.

On Friday, Papers.

Demonstrations will be given on—"Cases of Skin Tuberculosis and their Treatment." "The Use of Roentgen Rays in Diagnosis."

If you are desirous of joining in any particular discussion, or of reading a paper, please communicate with the Secretaries of the Section.

Section III.

PATHOLOGY, INCLUDING BACTERIOLOGY.

Tuesday, July 23rd:

"The Morphological and Physiological Variations of the

Bacillus tuberculosis, and its Relations—

(a) To other 'acid-fast' bacilli.

(b) To the ray fungus and other streptothrices."

To be opened by—

Dr. Alfred Moeller, Dirig. Aarzt der Heilstaette, Belzig, bei Berlin.

Dr. William Bulloch, Bacteriologist and Lecturer on Bacteriology and General Pathology to the London Hospital.

Wednesday, July 24th:

"The Tissue-changes and Constitutional Effects produced by the various constituents of Tuberculin."

Joint Discussion in common with the Medical Section, to be opened by Professor Koch.

Thursday, July 25th:

"The Varieties of Tuberculosis (Morbid Anatomy and Histology)."

To be opened by—

Professor Dr. C. Benda, Urbankrankenhaus, Berlin.

Professor Sheridan Delephine, Professor of Pathology, Victoria University (Owens College, Manchester).

Professor D. J. Hamilton, Professor of Pathology, University of Aberdeen.

Friday, July 26th:

"Mixed Infections in Tuberculosis."

Amongst others who are expected to take part in the work of this Section are Dr. Roux and Prof. Metchnikoff, of the Pasteur Institute, Paris.

In addition to the papers in the above subjects the Secretaries are prepared to receive papers on other points of Tuberculosis, which will come on for discussion after the official subjects have been disposed of.

Section IV.

VETERINARY (TUBERCULOSIS IN ANIMALS).

Tuesday, July 23rd.

Subject for discussion—

"The Diagnosis of Tuberculosis in Animals during Life."

This will be opened by Professor Dewar, F. R. C. V. S. Principal of the Royal (Dick's) Veterinary College, Edinburgh, and amongst those who are expected to take part in the discussion are:

Professors McFadyean, Penberthy, Edgar, McEachran, and McLauchlan Young; Messrs. Abson, Blower, Clarke, Dunstan, Fraser, Goodall, Harding, Hicks, Laithwood, Sessions, J. F. Simpson, and Villar.

Wednesday, July 24th.

Subject for discussion—

"Tuberculosis and the Milk-Supply."

This will be opened by Mr. Jno. A. W. Dolar, M. R. C. V. S., and amongst those who are expected to take part in the discussion are:

Professors McFadyean, Stockman, and McLauchlan Young; Dr. McCall; Messrs. Laithwood, Martin, P. Simpson, Sessions, and Villar.

Thursday, July 25th.

Subject for discussion—

"Tuberculosis and the Meat Supply."

This will be opened by Mr. James King, M. R. C. V. S. Chief Veterinary Inspector to the Corporation of the City of London, and amongst those who are expected to take part in the discussion are:

Professors McFadyean, Penberthy, Williams, and Stockman; Messrs. Hunting, Malcolm, Shaw, and Wolstenholme.

Friday, July 26th.

Subject for discussion—

"The Legislative and other Measures necessary to Combat Tuberculosis amongst Animals."

This will be opened by Professor McEachran, F. R. C. V. S., D. V. S., Chief Veterinary Inspector to the Canadian Government, and amongst those who are expected to take part in the discussion are:

Professors McFadyean, Williams, and Edgar; Colonel Nunn; Messrs. Abson, Butters, Hunting, Shipley, Tutt, Villar, and Wolstenholme.

The official languages of the Congress will be English, French, and German, and authors of papers are requested to supply beforehand abstracts for translation. Each speaker opening a discussion will be limited to thirty minutes, and each subsequent speaker to ten minutes. An abstract of every paper and communication must be sent to the Secretary-General, 20 Hanover Square, at the latest on or before June 15th, 1901.

MUSEUM.

In connection with the Congress it has been decided to form a temporary Museum illustrating the Pathology, Treatment, or Prevention of Tuberculosis.

The Museum will consist of—

Section I.—Pathological and bacteriological preparations and specimens illustrating Tuberculosis in man and animals.

Section II.—Plans and models of hospitals and sanatoria, charts, and documents bearing upon the historical, geographical, and statistical aspects of the subject.

It is hoped that any preparations or specimens in connection with work contributed to the Congress will be exhibited in the Museum.

A fully descriptive Museum Catalogue will be published. It is desirable, therefore that all descriptions should be forwarded at the latest on, or before, **June the first**.

Definite information about the date and place for forwarding exhibits will be sent to intending exhibitors. In the meantime the Museum Committee are anxious to obtain as much information as possible concerning the material available for exhibition and the amount of space required.

RUSSIA.

In Favor of an Occasional Drink.—The petition sent to the Military Cabinet by the Society for the Protection of Public Health, asking that the customary drink of *wodka* given to the soldiers be discontinued, was declined on the ground that the amount of alcohol given to each soldier is small, and that he gets that at infrequent intervals. Such a moderate consumption of liquor, the government thinks, is harmless.

An Asylum for Prematurely-born Babies.—The City Council of St. Petersburg made an appropriation of 8,000 roubles (\$4,000) a year for the erection and maintenance of an asylum for prematurely-born children.

American Filters are Bad.—A commission of sanitary specialists in Moscow decided against the use of American filters which, they claimed, are ineffective.

Foreign Skill Invited.—Prof. Bergmann was called out to attend to the wound received by the Minister of Public Instruction at the recent riots. Several well-known Russian physicians are also in attendance. The *Vratch* is quite indignant over this lack of confidence in home talent.

Good Results Obtained in the Sanitarium-Treatment of Tuberculosis.—The results obtained in Chail's Sanitarium for Consumptives seem to be very encouraging, indeed. During a period of 8 years the number of cured and improved reached 84.4%.

CONTINENTAL EUROPE.

Retirement of Professor Ostroumoff.—Professor Ostroumoff, of Moscow, retires this year from his connection with the medical faculty after forty years of service.

French Ophthalmological Society.—The French Ophthalmological Society will hold its eighteenth annual meeting this year in Paris, on May 6. The subject proposed for discussion is the value of iridectomy in glaucoma, to be introduced by M. De Wecker.

New Surgical Invention.—According to the *London Globe*, a sewing machine for the skin has been recently invented by Dr. Paul Michel, who exhibited it at the late Congress of Medicine.

Congenital Cystic Degeneration of the Uterus.—Voskresensky (*Kienskia Universitetskia Izvestia* July, 1900) observed this rare condition in the body of an old woman who died of chronic Bright's disease. The walls of the entire uterus were found composed of small cysts filled with a gelatinous substance. Microscopically, the walls of the cysts were found covered with cylindrical epithelium. The structure was fibroid in character and only here and there a few muscular bundles in a state of atrophy. The author attributes this congenital degeneration to the accidental presence of Wolffian bodies in the embryonic uterus at the time of intrauterine development. [A. R.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

April 6th, 1901.

1. A Plea for a Pro-Maternity Hospital.—J. W. BALLANTYNE.
2. On a Uterus Which Contained One Hundred and Twenty Fibroids. J. BLAND-SUTTON.
3. Placenta Previa. R. P. RANKEN LYLE.
4. A Case of Puerperal Infection Treated by Operation (Pryor's Method). NUTTING S. FRASER.
5. A Note on the Separation of the Placenta in the Third Stage of Labor. J. D. SLIGHT.
6. A Case of Ectopic Gestation; Operation; Recovery. H. H. LLOYD PATCH.
7. The Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. See Lancet for April 6, 1901. J. MITCHELL BRUCE. (Lecture III).
8. The New Type of Scarlet Fever from a Public Health Point of View. WM. ROBERTSON.
9. A Preliminary Note on the Use of Ox-Serum in Rectal Feeding. OTTO F. F. GRUENBAUM.
10. The Value of Diphtheria Antitoxin in the Treatment of Membranous Non-Diphtherial Tonsillitis. J. N. d'ESTERRE.

1.—Ballantyne remarks that the Promaternity Hospital need not be a separate establishment; it may quite well be an annex of the maternity, and in time may come to be of equal size as the maternity. It must, however, be distinct from the latter, and will be intended for the reception of women who are pregnant but who are not yet in labor. In time it may be taken advantage of by more or less normal ambulances, as working women who ought to rest during the last weeks of pregnancy but who are unable to do so from financial reasons. Ballantyne remarks that practically no provision is made in existing hospitals for pregnant women. This idea of the pro-maternity hospital has been forced upon him by communications from medical men in England and the United States. Such a hospital, he suggests, would be an excellent place in which to study the pathology of pregnancy, such as placenta previa, albuminuria, and the pre-eclamptic condition. [W. A. N. D.]

2.—Bland-Sutton records a most interesting case of a uterus containing 120 fibroids which he removed by hysterectomy. Four sessile tumors projected into the cavity of the uterus, and these had become so moulded to each other as to form facets on their contact-surfaces such as are found in multiple gall-stones. After hardening the uterus in methylated spirit sections were made from which a careful computation showed the uterus, which scarcely exceeded the dimensions of a fist, to contain 120 fibroids. In all that were examined the tumor-cells were found disposed around the blood-vessels. Each minute fibroid was globular, and one section quite white, so that the contrast in color with the red of the uterine muscle fiber made them conspicuous objects on the cut-surface. Each fibroid was sharply differentiated from the uterine tissue by a thin capsule, from which it could be readily enucleated. [W. A. N. D.]

3.—Lyle divides placenta previa into two varieties, the complete and the incomplete, and remarks that the diagnosis is not difficult but depends on the fact of being able to feel the placenta attached to the lower uterine segment. Carcinoma of the cervix causing hemorrhage in advanced pregnancy might be possibly mistaken for placenta previa, but a careful examination would elicit the true nature of the case. The prognosis for the mother depends on the variety, the complete form being more dangerous than the incomplete; on the treatment adopted, any form of mechanical dilatation of the cervix or the rapid extraction of the child, being extremely dangerous to the mother's life; on the amount of interference; and on early treatment. The prognosis as regards the child, depends on the period of pregnancy, the amount of hemorrhage, and the rapidity of labor. As regards treatment the advantage of version and bringing down a foot, are as follows: 1. It does away with the tampon, and consequent danger of infection. 2. It allows early opera-

tion. 3. It arrests the hemorrhage with great certainty. 4. It gives time for the patient to rally. 5. It gives time for the labor pains to set in with consequent natural dilatation of the cervix. 6. There is less danger of post-partum hemorrhage. [W. A. N. D.]

4.—Fraser records a case of puerperal infection treated by Pryor's method. The infection was probably from a case of appendicitis which had been dressed by the physician prior to his attendance upon the labor case. The operation consisted in opening of the posterior cul de sac and the application of antiseptic dressings under chloroform anesthesia. Following this an ice-bag was placed over the abdomen and from a pint to a quart of normal saline solution injected every eight hour into the cellular tissue of the back. The patient made a good recovery. [W. A. N. D.]

5.—Slight speaks of Hart's observation, namely, that the wall of the third-stage uterus is thinner at the placental site than it is elsewhere above the retraction ring. The placental site is about one-quarter of an inch in thickness while the rest of the wall is four times thicker. Slight believes that in this fact he has found the key to the mechanism of the third stage of labor. The hypothesis which he advances is that during the pain the thin part of the wall is stretched by the thicker part and the placenta and uterus is thereby torn through. The placenta is firmly grasped by the encircling uterus and cannot move, hence as the placental site stretches separation must follow. [W. A. N. D.]

6.—Patch records a case of extrauterine pregnancy on the left side. The operation was performed at the patient's home and the foreign body allowed to escape in piecemeal. Notwithstanding the unfavorable surroundings, the patient made a good recovery. [W. A. N. D.]

8.—While compulsory notification, accompanied by hospital treatment, has lowered the mortality of scarlet fever it has undoubtedly altered the type of the disease. So much so that now it is often difficult to tell when one has, or has not, to deal with the suspected disorder. On every side one hears it repeated that epidemics are now characterized by a want of symptoms and signs. The bright red rash is seldom seen, and when there is a rash it often disappears before the arrival of the medical attendant. If one looks for throat signs they, too, may have been transitory. The symptoms of onset are so slight that even an anxious parent takes no notice of a passing day's indisposition. In fact, the only points that guide one are the existence of cases in the same school or neighborhood, with perhaps slight pain and stiffness due to an enlargement of the glands about the neck. It is these mild cases that kindle into flame the big epidemics that are becoming only too prevalent in big towns. In Paisley, in 1900, the cases of scarlet fever were of mild character and seemed to William Robertson to be a hybrid between scarlet fever and epidemic roseola. Desquamation was indisputable, however. The infection was probably propagated through the summer playgrounds. The erection of high tenements in large towns only encourages the spread of such diseases scarlet fever, measles and whooping-cough. [J. M. S.]

9.—Otto F. F. Gruenbaum uses a mixture of ox-serum, glucose and milk with liquor pancreaticus for rectal feeding. Ox-serum contains a constant amount of proteid which is easily absorbed by the mucous membrane of the large intestine. It does not give rise to offensive stools, which is often the case when egg albumin is used. By injecting 90 ccm. every 4 hours, 540 ccm. of serum is introduced in the 24 hours, which contains 38 grams of pure proteid. By adding 60 ccm. of milk to each enema the total proteid in the diet would be raised to 51 grams. Examination of washings for the rectum showed that less than a gram of proteid was excreted unaltered. In no case did a rash appear nor any albuminuria or albumosuria. Carbohydrates in the form of starch or glucose are readily absorbed. The author has given 30 grams, all of which was absorbed without the production of glycosuria. Fat is not easily absorbed; of the 18 grams in the milk, some has invariably been returned in the wash-out enemata. The heat value of the above diet is 578 calories. This may be increased by another 300 calories by the subcutaneous injection of sterilized olive oil; 30 or 40 ccm. of which may be given daily. [J. M. S.]

10.—d'Esterre reports the case of a woman, aged 35

years, who had had rheumatism, influenza, pneumonia, pleurisy, muscular rheumatism and constantly recurring sore throat. When first seen she complained of sore throat, and her temperature was 103°. Both tonsils were considerably swollen and almost completely covered with a distinct yellowish membrane-like deposit. Bacteriological examination of the membrane did not show diphtheria bacilli, but resulted in an abundant growth of streptococci. Fifteen hundred units of antidi-phtheritic serum were given before the results of the bacteriological examination were known, and the patient made a rapid and complete recovery. Five months later the patient had a second attack exactly similar to the first. Bacteriological examination gave the same results and the same dose of antidi-phtheritic serum was followed by complete and rapid recovery. [J. M. S.]

LANCET.

April 6th, 1901.

1. Lettsomian Lectures on Diseases and Disorders of the Heart and Arteries in Middle and Advanced life. J. MITCHELL BRUCE. Lect III.
2. Sclerotic Hyperplasia of the Pharynx and Naso-Pharynx. A. BROWN KELLY.
3. On the Existence of Immunity after Enteric Fever. BURTON A. NICOL.
4. The Pathology and Treatment of Rheumatoid Arthritis. P. W. LATHAM.
5. A Case in which a large Pyloric Tumor disappeared after Gastro-enterostomy; Post-mortem examination eleven years after Operation. FRED. BOWREMAN JESSETT.
6. The Influence Exerted by Air upon the Exhibition of Anesthetics. GEORGE FLUX.
7. Three Cases of Acute Ascending Paralysis. T. A. GREEN.
8. History of Renal Surgery. DAVID NEWMAN.

2.—Kelly concludes that the pharynx may reveal sclerotic hyperplasia without the association of syphilis, rhino scleroma, or other infectious diseases. Similar sclerotic hyperplasia may show itself beneath the vocal cords as subglottic hypertrophic laryngitis. Histologically, the hyperplasia due to syphilis closely resembles the sclerotic hyperplasia of non-syphilitic origin. [F. J. K.]

3.—Nicols discusses the existence of immunity after enteric fever, and believes that at the present time proof is wanting to show that such immunity occurs after an attack of typhoid fever. He holds that the teachings of sanitary science point out many ways by which the spread of the disease may be controlled. [F. J. K.]

4.—Latham writes upon the pathology and treatment of rheumatoid arthritis. He clearly points out the fact that post-mortem records show that the spinal cord and the sympathetic ganglia have never been examined by modern methods; therefore, the question as to the existence of organic lesions in these parts is still unanswered by pathologists. The author believes that clinical investigation points strongly to the presence of morbid changes in the nervous system. Neuralgic pains occur early in the course of this affection, thus pointing strongly to the neurotic character; and not unfrequently migraine, worry, fright or shock appear to be exciting factors. Muscular atrophy develops so rapidly that this change can hardly be attributed to disuse; indeed, in some instances the atrophy precedes the arthritis. The author emphasizes that it is not unreasonable to assume that spinal congestion or chronic myelitis, chiefly affecting the ganglion cells of the anterior horns, but in some instances the posterior horns, may produce rheumatoid arthritis. From the standpoint of treatment, in the earlier stages of rheumatoid arthritis, the author thinks that continuous counter-irritation of the spine is a valuable therapeutic measure. Counter-irritation to the spine is only of service in the advance stages of the disease, in relieving the patient of pain, during an exacerbation of the

mischiefs, thereby preventing further extension of the disease. [F. J. K.]

5.—F. B. Jessett reports an interesting case of a woman aged 56 years when he first saw her 11 years ago. At this time she was suffering with all the symptoms of pyloric stenosis, vomiting after meals and enormous distension of the stomach accompanied by emaciation. At that time the abdomen was opened and a mass was found as large as a cocoanut involving a large area of the stomach, and as resection seemed impossible, a gastro-enterostomy was done. The patient improved at once, the tumor which had before been readily palpated through the abdominal wall gradually disappeared, and the patient soon regained her strength and health. 11 years after the operation the patient died of apoplexy. A post-mortem showed a contraction of the stomach at the former seat of the growth which resulted in the formation of an hour-glass stomach. The anastomosis has been made with the pyloric pouch and the opening was quite free, through it passing nearly all of the stomach contents, since the pyloric orifice was very much contracted. The opening between the two portions of the stomach at the seat of contraction was so small as to scarcely admit the passage of one finger. Jessett is unable to explain the disappearance of this mass which at the time of the first operation seemed malignant. [J. H. G.]

6.—George Flux, in speaking of the administration of anesthetics, urges upon anesthetists the consideration of the fact that it is the atmospheric air which acts as the conveying agent for the anesthetic; and that the depth of the anesthesia and effect of the anesthetic will depend upon the amount of dilution with atmospheric air. If the inhaler is placed tightly over the face and the air breathed by the patient pass through the inhaler, then of course much more effect of the anesthetic is obtained, and, on the contrary, if air is allowed to pass between the inhaler and the patient's face, then very little of the vapor is carried into the patient's lungs. Hence, it is maintained, that the amount of anesthetic used is no index as to the extent of the anesthesia, but rather the way in which it has been administered. [J. H. G.]

7.—Green reports three cases of acute ascending paralysis. Two of the case terminated fatally, but post-mortem examinations were not made. [F. J. K.]

8.—David Newman, in continuing the discussion of the history of renal surgery, speaks first of the history of the operation of nephrorrhaphy, which was performed by Dowe, of New Orleans, in 1874. Incision of the kidney for relief of pain was recommended first by Tiffany, of Baltimore, in 1885. Resection of the kidney was first done by Czerny in 1887, and since then has become an established operation in renal surgery. The various methods of anastomosing the ureters is next described, and also operations for stone in the ureter, and for the relief of stricture and valvular obstruction of the ureter. [J. H. G.]

NEW YORK MEDICAL JOURNAL.

April 26, 1901.

1. The Early Diagnosis of Ectopic Gestation. ANDREW F. CURRIER.
2. The Use of Hot-water Vaginal Injections. JAMES HAWLEY BURTENSHAW.
3. A Case of Dystinuria ending in Recovery. JOHN REID.
4. Acute Spinal Ataxia (Nontabetic) and its Relation to other Forms of Acute Ataxia. CHARLES L. DANA.
5. The Pathology of Intra-uterine Death. NEIL MACPHRATTER.
6. Grippe, Pneumonia and Insanity. EMILE ARONSON.
7. Notes on the Treatment of Diphtheria, Based on the Methods of the New York City Hospital. WM. L. SOMERSET.

1.—Currier remarks that ectopic gestation should include gestation only within the fallopian tube proper, the interstitial form being, strictly speaking, uterine. The symptoms which determine the diagnosis of tubal gestation

may be divided into the ordinary and the extraordinary. The ordinary include the enlargement of the breasts, with increased prominence of the veins and enlargement of the papillae in the areola that surrounds the nipple, the bluish discoloration of the vaginal mucosa, the softness of the tissue of the vagina and the uterus, non-appearance of the menses, irritability of the stomach, possible nausea and vomiting, increase in the size and change in the contour of the uterus, and increase in the secretion of the glandular structure of the vagina and the uterus. The extraordinary signs should be regarded as confirmatory of the ordinary. They are not always present, or always present at the same period, or always of equal intensity and significance. The most important is hemorrhage. It is most likely to occur, and occurs most early, in those cases in which the seat of the gestation is the fimbriated extremity of the tube. It is least likely to occur when the oval sac is near the middle of the tube. Next in importance to bleeding is pain. It is not always present, it is usually paroxysmal, sharp and darting, and inclines the patient to relax the thigh muscles and flex the thighs upon the abdomen. The third diagnostic point consists in the presence of the pelvic tumor, which is usually best determined by examination per rectum. The passing of decidual membrane by the vagina, pulsation of the vaginal arteries, and various other signs are all of minor importance. [W. A. N. D.]

2.—Burtenshaw states that there is no therapeutic measure so frequently misapplied, so thoroughly abused, or so imperfectly understood as the **hot-water vaginal injection**. Employed conscientiously and in accordance with the rules of common sense it is one of the most valuable remedies at our command; employed as it usually is it is capable of doing infinite harm. He suggests the following directions for the therapeutic douche: 1. Use a large sized fountain syringe or douche-can attached to a support 3 or 4 feet above the body. 2. Always lie flat on the back when taking a douche with the hips slightly elevated and the shoulders depressed. 3. Always use at least 3 gallons of plain water as hot as can be borne (at a temperature at from 107° to 120° F. for each douche. 4. Take the injection twice daily, morning and evening, except on the 2 days preceding and the 2 days following the menstrual period, when it should be omitted. 5. Rest for half an hour or an hour in a recumbent position after taking each douche. Large hot-water vaginal irrigations should never be employed by healthy pregnant women for the reason that they reduce the bactericidal power of the vaginal secretion. Reclus asserts that the use of hot water enemata in pelvic inflammations is much to be preferred to the vaginal douche. Burtenshaw has made use of this method in but a few cases, and not with entirely satisfactory results. [W. A. N. D.]

4.—Dana gives the following summary in his article on **acute spinal ataxia (non-tabetic), and its relation to other forms of acute ataxia**:—(1) Acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. (2) Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. (3) Acute bulbar or bulbocerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. (4) Acute neuritic ataxia occurs as the result of multiple neuritis of the sensory type. It is usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria. [T. M. T.]

5.—Macpratter has made a most extensive study of the **pathology of intra-uterine death**. He remarks that morbid influences in the uterus, the embryo, or its appendages, or general or local constitutional perversions may render it absolutely impossible for a viable fetus to be born. An investigation into all the conditions and various circumstances leading up to and producing uterine death is surrounded frequently by innumerable difficulties. He emphasizes the importance of investigating the condition of the male parent in those cases in which a woman is unable to

carry a fetus to the full term of gestation. The father may be too old or too young to impart the essential potency to the fecundatal fluid. Certain paternal diseases may have a similar effect, the fetus not receiving the necessary amount of vitality to continue the development of the product. It has been demonstrated conclusively that a woman may abort consecutively and yet be parentally fertile. Undoubtedly the fault here lies in the husband. Occasionally this defect may be congenital, but more frequently it is acquired. It is well, in investigating the causes of intra-uterine death to examine the male parent for non-descent of the testicle. Inflammation of the seminal glands, either acute or chronic, may be the cause of atrophy of the testicle and of the delicate tubuli. Syphilitic inflammation of the testicle has probably a greater tendency to be followed by deposit of fibrous exudate than the other varieties. Tuberculous disease of the testicle and seminal vesicle, and lead-poisoning in the male are both responsible for a certain percentage of the intra-uterine mortality. The causes attributable to the mother are much more numerous and complicated. All agencies which conduce to deterioration of the mother's health converge in this direction, as unhealthy surroundings, pernicious habits, unsuitable occupations, insalubrious climate, and extremes of heat and cold. The same may be said of artificial ways of dressing, tight lacing, irregular or late hours, lack of healthy exercise in the open air, anxiety, grief, or mental depression of any kind. Over-feeding, and over-stimulation have a harmful effect upon childbirth. It is difficult for an obese woman to become pregnant, and if she does there is great liability to miscarriage. That anemia will produce the death of a fetus is well recognized. Inter-breeding in animals, as well as in plants, has a tendency to produce mental and physical deformity, and even premature death in the former and immature leaves and seeds in the latter. The infectious diseases and pneumonia produce death of the fetus when the temperature goes above 104° F. and before the same temperature becomes fatal to the mother. Eclampsia is particularly fatal to the fetus, although whether it arises from the accumulation of urea, albumin, or some other deleterious substance circulating in the blood, is not known. For some unexplained reason there is a fertility among phthisical pregnant women which may be considered abnormal. The tendency to abortion in these women is nevertheless greater than in healthy women. Heart-disease is a much more serious condition in pregnancy than is phthisis, and syphilis in the mother is especially inimicable to the fetal life. The local pathological conditions that may interfere with the fetal nutrition and cause death include diseases of the fetal appendages, such as atrophy of the decidua, apoplexy into the decidua, and hemorrhages between the chorion and decidua, the latter forming one of the most frequent local causes of death of the embryo stage of gestation. This condition constitutes the well-known apoplexy of the ovum, and the fetal death in these cases is due to fatty degeneration of the tissues with consequent interference with the fetal nutrition. Deciduitis in its various forms is likewise responsible in a certain number of cases. Chronic diffuse endometritis may be considered the mildest type. Virchow describes a polypoid form; another well-known variety is the catarrhal, which constitutes the hydrorrhea of pregnant women, while the syphilitic form is exceedingly grave in its effect upon the embryo. Deciduoma malignum, according to Macpratter, may occasionally be the offending condition. Diseases of the chorion, such as the vesicular degeneration, is a rather infrequent cause of embryonic death. In this condition the chronic villi undergo a myxomatous change with rapid increase in size and total destruction of the normal placental and fetal tissue. Morbid conditions of the amnion may likewise be encountered, such as an excessive amount of the amniotic fluid or, the converse, absence of the proper quantity, constituting a so-called "dry labor." Placental disease which may effect the fetal life, may take place as a hemorrhage or apoplexy which by so separating the placenta from the uterine wall as to interfere with its function, will result in fetal death. Placenta previa and placentalitis, the latter syphilitic in origin, must not be overlooked. Various forms of degeneration of the placenta, such as fatty, calcareous, edematous, myxomatous and cystic are likewise responsible in certain cases. There may also be certain diseases attributable to the umbilical cord, such as coilings and twistings or the actual forma-

tion of knots which constrict the vessels sufficiently to arrest the circulation. Among other causes of fetal death not already enumerated may be mentioned hydrocephalous and malformation of the child, rupture of the uterus, deformities of the pelvis, and ovarian and fibroid tumors. Macphatter closes his paper with a few suggestions as to the treatment of the various conditions mentioned. [W. A. N. D.]

7.—Somerset carries out the following special treatment in a child that is carrying an intubation tube:—(1) Careful attention must be given to the drainage of the air passages, and irrigation of the throat is not desirable; (2) All mucus and membrane coughed up, but not expelled, should be removed by the finger; (3) Nasal irrigation is permissible; (4) Feeding, whenever possible, should be done in the ordinary way, and if the child cannot swallow in the normal position, lavage is usually the remedy. If lavage is contraindicated, semi-solid food may be given; (5) Internal medicine should be reduced to a minimum. If the case is complicated by an exudation of especially tenaceous mucus, the inhalation of medicated steam should be tried; (6) Absolute rest is essential, and morphine should be used if necessary; (7) The tube should be used just as short time as possible. In early cases it should be removed by the fifth day. Children under two years old generally carry the tube two weeks or longer. [T. M. T.]

MEDICAL RECORD.

April 26, 1901.

1. The Toxemia of Pregnancy: its Diagnosis and Treatment. S. MARX.
2. Faith Cures and the Law. JOHN B. HUBER.
3. Report of Three Cases of Malignant Endocarditis: One following Measles, another Typhoid Fever in a Child and Simulating Splenic Lymphatic Leukaemia, and another Terminating in Recovery. ALBERT E. ROUSSEL.
4. Strangulated Hernia in Infants: Description of a Hitherto Unrecognized Cause and Seat of Strangulation. ALEXIS V. MOSCHCOWITZ.

1.—S. Marx discusses the toxemia of pregnancy and its diagnosis and treatment. He concludes that the toxemia is a complex condition depending on more than one factor. Many women go to term with albuminuria, without symptoms referable to toxemia. When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. In the most desperate and malignant cases there are found neither albumin nor casts. Urea is always found markedly diminished in the so-called "true toxemias" of pregnancy, or urinemia. Finally Marx makes a strong plea for a regular and methodical cause of urea examinations in all cases of toxemia, or for the relegation to secondary importance of the time honored examination for albumin. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication of premature labor, which is especially indicated when conscientious medical treatment fails. [T. L. C.]

4.—A. V. Moschcowitz reports 2 cases of **strangulated hernia in infants** with a description of a hitherto unrecognized cause and seat of strangulation. The author believes that the comparative rarity of strangulated hernias in infants of three and four months, would alone be almost sufficient justification for the publication of his two cases. His chief reason is the heretofore unrecognized location of the condition **low down in the scrotum**, which occurred in both of his cases. As a rule the strangulation occurs in all hernias at the external ring, or the internal ring, or the neck of sac. The few exceptions of this general rule are caused by newly-formed inflammatory bands and adhesions, or more rarely, but openings in the prolapsed omentum. He gives a critical review of the reported cases regarding this point, and in order to explain the unusual conditions present in his cases goes back to the developmental stage of the organs in this region. In the course of development the process us vaginalis may being the shutting off of the normal tunica vaginalis, but the process

may stop before it is entirely completed. The result will be a sac of the usual congenital variety with the important difference that it will be constricted in its lower portion. In other words, the sac may not improperly be compared to an hour-glass open at its top. The size of the two halves varies, depending upon the different theories which have been proposed as regards the exact mode of development. He believes that in many cases of strangulating by the neck of the sac may be accounted for by the theory of Lockwood, who states that there seems to be a strong tendency for the processus vaginalis to close in two places which are some distance apart, namely just above the testicle and near the internal ring. [T. L. C.]

MEDICAL NEWS.

April 26, 1901. (LXXVIII, No. 16.)

1. An Historical Sketch of the Department of Medicine and Surgery of the University of Michigan.
2. Some Errors in the Examination of Urine. LOUIS HEITZMANN.
3. Acute Traumatic Malignancy. WILLIAM B. COLEY.
4. Epistaxis. CHARLES N. COX.

2.—Heitzmann, in his article on **Some Errors in the Examination of Urine**, considers the heat test for albumin the most reliable, provided that acids are used to differentiate between phosphates and albumin. He recommends the use of equal parts of glacial acetic acid and water instead of nitric acid on account of the latter's strength, stating that in urine with small quantities of albumin it would not precipitate the albumin, but dissolve it out. The acetic acid must not be pure for the same reason. He claims epithelial, blood, granular, fatty and waxy casts as true casts, the first three being found in acute conditions, the latter three in subacute and chronic inflammation. Granular casts are, as a rule, never found until the inflammation has lasted six weeks or two months, although exceptionally, especially in cases of nephritis after contagious diseases, they can be seen in small numbers in the 2d or 3d week of the kidney disease. Fatty casts, when present in large numbers, mean chronicity and fatty degeneration of the kidney. Waxy casts indicate a waxy or amyloid degeneration of the kidney and are found in chronic constitutional diseases. The sizes of casts vary greatly, the most narrow being those from narrow or looped tubules; the second size, from the larger convoluted tubules; while the larger ones come from the straight collecting tubules. The cylindroids or mucus-casts he describes as casts made up of mucus threads which may be derived from any portion of the genito-urinary tract and are therefore not diagnostic of nephritis. Great care must be taken not to mistake these casts for hyaline, as is not an infrequent occurrence. He does not favor the use of the centrifuge, and believes that allowing the urine to stand six to twelve hours previous to microscopical examination is to be preferred, except in case of tubercle bacilli. He concludes by saying that the diagnosis of nephritis does not depend necessarily upon the presence of casts, since they are almost invariably absent in interstitial nephritis. Pus corpuscles, red blood discs and kidney epithelia are sufficient for a diagnosis. [T. M. T.]

3.—Coley states that the **relationship between antecedent trauma and the development of sarcoma or carcinoma** can be most rationally explained on the theory that such tumors are infectious, or of micro-parasitic origin. The similarity between sarcoma and diseases known to be of infectious origin is very striking. The clinical evidence, aside from the bacteriological or pathological, points more and more strongly to specific infection as a cause of sarcoma, and he especially instances the close resemblance of the histology of tuberculous sarcoma. He suggests that the most probable explanation is that the microorganism exists latent in certain subjects under normal conditions. The local trauma diminished the vitality of the

tissues and hence their resisting power and the germs, previously innocuous, gain a foothold and develop. He concludes as follows:—(1.) Trauma is a very important factor in the causation of malignant tumors; (2.) The relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumor. [T. M. T.]

4.—Cox holds that the majority of nasal hemorrhages are due to some intranasal lesion and the most frequent injury which gives rise to epistaxis is a blow or fall upon the nose resulting in rupture of some of the minute vessels of the mucous membrane lining the nose. The most frequent seat is the triangular cartilage of the septum just within the vestibule. When bleeding occurs in this locality it is not necessary to pack, as the bleeding point can be seen and easily reached. Deviation or spur of septum, varicose enlargement of the veins of the septum, minute angiomas, intranasal growths are all apt to produce bleeding. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 18, 1901.

1. The Opinion Evidence of Medical Experts. JOHN D. McLAUGHLIN.
2. The Umillian Murder. HERBERT B. PERRY.
3. Upon what Sort of Information shall a Medical Examiner Hold a View? H. M. CULLS.
4. Leukocytosis and Typhoidal Perforation. From the Medical Clinics of the Montreal General and Royal Victoria Hospitals. COLIN K. RUSSELL.

1.—When testifying to his opinion, based either on facts that he has himself observed on admitted facts, or upon some hypothesis; expressing the judgment of a scientific man, ready to submit it to the opinion of the members of his own profession, to the cross-examination of council, publicly and to the world, the physician evokes an interest that rarely surrounds a witness under any other circumstances. Few theories, however fantastic need go unchampioned at present in the condition of medical expert testimony and it is the experience of lawyers that to testify as an expert is becoming more and more repugnant to those physicians whose evidence would be of the most value. But who will say that the conditions, of which certain cases cited by McLaughlin are but illustrations, are not largely owing, rather to the defective method of the law, than to the imperfections of science or that we are confronted with a state of things that it is impossible to ameliorate? Surely the fault cannot be laid at the door of science. Wherever the experts in the cases referred to were in contradiction, one of them was right and the other wrong. It would seem that it is the duty of the law to establish as many barriers to the progress and triumph of the wrong side of expert testimony as is humanly possible. The author points out on what insufficient grounds some men have been heard as expert witnesses in certain trials. It is difficult to perceive how an expert's position in relation to facts differs from that of a judge in respect to the law. In a law judge, learning and disinterestedness are the two requisites that are conceded by every one to be preeminent, and the faintest trace of prejudice, bias or partisanship disqualifies a person from becoming a judge. Neither little learning nor much bias, under our practice, disqualifies the expert. After describing the method of procedure in Germany the author says that he would not be thought to advocate the German method but that he underlying principle of the law relating to expert testimony is that the expert should not be a partisan. [J. M. S.]

2.—Perry describes the wounds on the body of a murdered man, whose corpse was found 3 months after he had been killed. The man accused of the murder was sitting in the kitchen of a farm-house, handcuffed to an officer. The district police officer came in suddenly and asked the accused what he had done with the head of his victim. The accused said the he "did not know," but his pulse,

which had been beating at the rate of 80 per minute suddenly increased to 120. [J. M. S.]

4.—Russell reports 6 cases that show that the leukocyte count may vary greatly in typhoid fever. Even where no complication is evident the leukocytes may number 15,000. Again, when certain complications, other than perforation, exist the leukocyte count may be markedly above normal. When pain and tenderness in the abdomen come on suddenly in the course of typhoid fever and there is absence of definite complication such as cholecystitis the presence of leukocytosis renders exploratory incision justifiable and advisable in order to obviate the danger of fatal issue from too great delay. [J. M. S.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

April 20th, 1901.

1. James Lemaire. The First to Recognize the True Nature of Wound Infection and Inflammation, and the First to Use Carbolic Acid in Medicine and Surgery. HOWARD A. KELLY.
2. Tracheloplasty. HENRY PARKER NEWMAN.
3. The Physiologic Care of Colds. CHARLES H. SHEPARD.
4. Atrophy of the Mucous Membrane of the Stomach. FREEMAN F. WARD.
5. Some Notes on Two Cases of Voluntary Laryngeal Whistling. G. HUDSON MAKUEN.
6. Some Anomalies of the Ear Due to Errors in Development. GEORGE C. STOUT.
7. Care and Use of Instruments. ALLEN de VILBISS.
8. Surgical Diagnosis of Abdominal Tumors. W. H. EARLES.
9. A Contribution to the Study of Mountain Fever. R. HARVEY REED.
10. A Study in the Hematology of Neurasthenia. CHARLES HOWARD LODOR.
11. Intubation of the Larynx with Personal Reminiscences. F. E. WAXHAM.
12. Some Points in the Diagnosis of Gall-Stones. JAMES B. HERRICK.
13. The Present Status of Spinal Surgery. SAMUEL LLOYD.

1.—Howard A. Kelly goes very carefully into the history of antiseptics, dividing the honor of its introduction among several investigators, giving a large portion of the credit to Jules Lemaire, who in 1863 published a very comprehensive work on the use of carbolic acid. Coal-tar had been used for many years in a powder or paste as a disinfectant for hygienic purposes, and was first put up in an emulsion by Le Beuf in 1850 and experimented with by Lemaire, who showed that "In surgery he established the great principle of a living septic agent in putrifying and suppurating wounds, and he laid the foundation stone of successful treatment." Lister's first publication on the use of carbolic acid was published in 1867. [J. H. G.]

2.—Henry P. Neuman prefers to call the operation of amputation of the cervix uteri *tracheloplasty*. He thinks this operation much to be preferred over the curette, the cautery and other methods which are always more or less unsatisfactory. The author then describes his own particular method of amputating the cervix, which is illustrated by a number of cuts showing the steps of the operation. [J. H. G.]

3.—Shepards maintains the view that colds are due to an inactive condition of the excretory organs, resulting in imperfect elimination through the normal passages and causing a discharge of some of the impurities of the system, through the respiratory mucous membrane, particularly of the head. In the treatment of a cold, he recommends abstinence from food for 24 hours, flushing of the bowels with warm water, exercise in the open air, and a Turkish bath. A simple "cold in the head" may be treated by drawing hot water in the nostrils several times, and then blowing it out. This measure is simple and effective. Cold bathing in the morning is recommended for those in fair health as a measure to avoid colds. [F. J. K.]

4.—Ward in an article on atrophy of the gastric mucous membrane, states that he does not believe the condition is essentially associated with pernicious anemia, as most authors do. He holds that we can only diagnose achylia gastrica, when there is complete absence of all the normal

constituents of the gastric juice, and only after this condition has been found, after repeated examinations, at various times. He lays particular stress upon the fact that the disappearance of free HCl does not necessarily point to gastric carcinoma, for in cancer of the stomach it may be present in the gastric juice and may be absent in some cases of acute and chronic gastritis. A report of 5 cases of atrophy of the gastric mucous membrane is given. He emphasizes that diarrhea, as a rule, exists with achylia gastrica. The important indication in the treatment, in addition to general hygienic measures, will be found in regulating the diet; the patient should be urged to take large quantities of farinaceous food; a mild astringent, such as tannigen or tannalbin, will be found serviceable, and for the anemia iron is indicated. When there is much mucous in the stomach he recommends lavage. [F. J. K.]

5.—Makuen reports 2 cases of **voluntary laryngeal whistling**, and he states that the subject is of interest as showing the possibility of development of voluntary laryngeal muscle action. [F. J. K.]

8.—W. H. Earles urges upon the surgeon the more careful study of methods of making accurate **diagnosis of intra-abdominal lesions**, maintaining that "Surgeons too often take things for granted and develop conclusions without first having established the proper premises." He particularly recommends the careful consideration of the history of the patient and the development by constant practice of the sense of touch. He thinks that although in some cases an anesthetic is of assistance that in many others it really obscures the condition by removing the evidences of sensitiveness and pain of the diseased organ. [J. H. G.]

9.—Reed, in an article on the **study of mountain fever**, draws the following conclusions: In the majority of cases of mountain fever, the Widal test is negative; the duration of mountain fever is shorter than that of enteric fever; the exciting cause does not seem to be Eberth's bacillus; the exacerbations and remissions of temperature in mountain fever are more abrupt than in typhoid fever; the eruption of mountain fever has a peculiar "spotty feeling;" it is raised, does not disappear upon pressure, and covers the entire body. [F. J. K.]

10.—Waxham states that the **oxygen-carrying-capacity of the erythrocytes is lowered in neurasthenia**, and that there is poor vaso-motor control of the vascular system, giving rise to variation in the peripheral blood. [F. J. K.]

11.—F. E. Waxham rehearses a number of interesting and amusing experiences in the early practice of **intubation**, showing the great popular prejudice against this operation when it was first introduced. He calls attention to the wonderful change in the **mortality of diphtheria** since this operation has come into vogue and since the antitoxin treatment has become thoroughly established. [J. H. G.]

12.—Herrick, in an article entitled **some points in the diagnosis of gall-stones**, gives an analysis of some of the important symptoms of gall-stone colic. The pain may be referred to the back, or it may be located to the left of the median line of the abdomen, or the pain may radiate upwards or shoot downwards toward the genitalia. Jaundice follows in great a number of the cases of biliary colic, but in some the icterus is slight, so that it may be overlooked, and there are cases in which no evidence of jaundice is to be discovered. There is a large class of cases in which inflammation follows the passage of gall-stones through the duct. Vomiting and nausea, pain and tenderness over the gall-bladder are present, and upon examination the gall-bladder is found distended. The author states that the exact nature as to the causation of Charcot's hepatic intermittent fever has not been determined. Intermittent hepatic fever, accompanied by chill and sweating, does not only occur in association with the passage of stones through the biliary duct, but has also been observed in cases of carcinoma, which produce pressure upon the common bile duct. The association of gall-stones with carcinoma can hardly be looked upon as a mere coincidence, as gall-stones precede the development of carcinoma in many cases. Reference is made to Riedel's tongue-shaped process—a pericyclic thickening of the gall-bladder extending from the anterior border of the liver as indicating a gall-bladder stone in many cases. The author states that the occurrence of enteric fever seems to predispose to the formation of gall-stones in many instances. Reference is made to the differential diagnosis between gall-stone colic when the

pain is referred to the left side and angina pectoris. Arteriosclerosis, hypertrophy of the heart, violent, distinct precordial pain, which radiates to the neck and left arm, with a sense of impending death, points to angina pectoris. The differential diagnosis between biliary colic and senile pneumonia is often difficult, especially when the right lower lobe is affected and the cough is slight with little expectation. The author also refers to the difficulty in differentiating certain case of localized peritonitis, appendicitis, intestinal obstruction, hemorrhagic pancreatitis, Dietl's crisis in floating kidney, hysteria, and malaria with neuralgic pain and jaundice, from gall-stone colic. [F. J. K.]

13.—Samuel Lloyd, continuing the **present status of spinal surgery** discusses the question of tumors. The surgical treatment of tumors of the spine dates back to '87, and owes its origin to Gowers and Horsley. Lloyd reports briefly a collection of 51 cases. He reports a case of hydatids which produced compression of the cord and in which he operated with complete recovery, the patient being able to return to his ordinary occupation. Many of the deaths following operations for tumors of the spinal cord are really due not to the operation but to the nature of the growth. Only 8 per cent. of the cases operated upon have died as a direct result of the operation itself. **Fractures of the spine** are next discussed. Recoveries from operative interference in the cervical region of the spine have been very few, the prognosis in the lumbar and dorsal regions is much better. The nature of the fracture itself will also influence the prognosis; for instance, where there is complete severance of the cord, as evidenced by the rapid appearance of bedsores, paresis of the bladder and rectum, and obliteration of the deep reflexes, operative interference would hold out little hope of benefit. The author, however, does not agree with Keen that where deep reflexes are absent operative interference is contra-indicated, because a number of cases are on record where the reflexes have been absent and yet there has not been complete severance of the cord, and improvement has followed laminectomy. Statistics show that most of the deaths following fracture-dislocation of the spine occur within a few days, and hence, the number of deaths which are attributed to the operation would undoubtedly have taken place even though no operation had been performed. As to the best time at which to operate Lloyd thinks that it is best to wait until the patient recovers from the shock and until it is evidenced that there will be no spontaneous recovery complete enough to make life bearable. If the patient shows a tendency to gradually improve after the injury, operation should not be done, but where the symptoms show progression or seem to have reached the end of improvement operation should be undertaken. [J. H. G.]

AMERICAN MEDICINE.

April 24th, 1901.

1. How to Deal with the Vermiform Appendix. Some Forms of Complicated Appendicitis. HOWARD A. KELLY.
2. The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. WILLIAM HENRY PORTER.
3. Congenital Deformity of Wrist; Osteotomy of Radius. DeFOREST WILLARD.
4. The Logic of Hydrochloric Acid Therapy. Restoration of Lost Gastric HCl Secretion by Medical and Surgical Methods. JOHN C. HEMMETER.
5. Metatarsal Fracture. CARL BECK.
6. Some Remarks on Inguinal Colostomy. WILLIAM J. MAYO.
7. The Prevalence of Streptococci in Cow's Milk. D. H. BERGEY.
8. Case of Congenital Form of Hernia of the Appendix Vermiformis in Connection with a Cyst of the Canal. G. CHILDS MacDONALD.

1.—Howard A. Kelly deals with those cases of **appendicitis** in which the appendix is found to be densely adherent, or when it opens into an abscess, or when there exists a more or less general peritonitis. In all such cases the operator dreads all avoidable contamination of the surrounding tissues with any part of the appendiceal abscess, and all avoidable injury to the coats of the adherent intestine. Kelly has found that when the appendix is diseased and densely adherent at its tip, that the best plan often is first to seek out and expose its base, which

is detached and divided so as to free the appendix from the cecum. The distal portion is now wrapped for protection in gauze, while the opening into the bowel is closed. Then the severed appendix is dissected out of its bed with much greater facility than was possible with both ends anchored, one to the cecum and one to the adhesions. This plan of procedure is especially useful in the gynecological field. In cases in which the vermiform appendix is attached to a pyosalpinx, or an ovarian, or fibroid tumor, after it is severed from the bowel, it can then be enucleated with the pelvic abscess or with the tumor. When the end of the appendix enters the abscess cavity surrounded by the adherent intestine, which cannot be stripped off with safety, Kelly, after freeing the base of the appendix from cecum traced it up until it entered an abscess cavity under the ascending colon. It could not be separated from the adhesions without injuring the bowel so the appendix was grasped with a pair of forceps, on either side, close to the abscess and split open and followed to its lumen, as a guide, by using a groove director and a pair of open scissors, with one blade in the appendix. The operator was thus enabled with certainty to enter the very middle of the abscess cavity, to lay it open and cleanse it out without doing any damage to the colon. [T. L. C.]

2.—(Will be abstracted when concluded).

3.—DeForest Willard presents skiagraphs of a case of congenital deformity of the wrist in which osteotomy of the radius was performed. The patient was a girl of 14, whose carpus was thrown by the arched condition of the radius so far out of the normal line anteriorly that it entirely failed to articulate with the ulna, and was joined very faultily with the radius. The resulting disability was so great, and continued to grow greater every year, that the simplest exertion could not be performed with comfort. The mother had the same deformity in both wrists but in a less degree. The arch in the radius caused its articulating surface to look almost at right angles to its normal position, while the semilunar and scaphoid lay with their sides against the joint surface instead of upon their normal faces. An osteotomy of the radius $1\frac{1}{2}$ inches above the wrist joint, with forcible straightening and fixation for 5 weeks in a corrected position with plaster of Paris gave a greatly improved result both as to appearance and strength. [T. L. C.]

4.—J. C. Hemmeter discusses the logic of hydrochloric acid therapy, and restoration of lost gastric HCl secretion by medical and surgical methods. The purposes for which HCl are given are: the absence, or the diminution of, normal secretion; to supplement gastric proteolysis; to act as an antiseptic; to act as a tonic and stomachic. He reports a case of immense atonic dilatation of the stomach in which the greater curvature extended into the pelvis. Every morning before breakfast stagnating food masses could be washed out of the stomach. Analysis of the stomach contents could never detect free or combined HCl. The ferments pepsin and chymosin were still active in their precursory stages. After 6 months of medical treatment no lasting improvement was effected. The operation of gastroplication was then advised and performed, and nephrorrhaphy, which was indicated, was also performed 5 months after this operation free HCl was detected after the test meals. This was an evidence that the glandular layer had not been destroyed by disease but that the peptic cells had simply been exhausted by the presence of food in a dilated stomach which could at no time empty itself entirely. [T. L. C.]

5.—Carl Beck contributes a paper on metatarsal fracture. Before we had resource to the X-rays, as a method of diagnosis, metatarsal fracture must have been frequently overlooked. If only one or two metatarsal bones are broken but little tendency to displacement is present, which explains why the symptoms are not pronounced. After discussing the diagnosis of the condition Beck takes up the question of treatment. If there is no displacement present in fracture of any of the second, third or fourth metatarsal bones, a simple and short plaster of Paris dressing meets the requirements. The patient should be kept in bed the first week and during the next two weeks should be encouraged to walk, protected by the proper ambulatory dressings. If the first, or fifth, metatarsus is broken, and no displacement is noticeable, a small strip of moss-board slightly moistened is placed alongside the outer, or inner margin, of the foot before the plaster of Paris dressing is applied. If there is displacement of the second, third

or fourth metatarsal bone pressure will then reduce the fragments, which are then kept in place as indicated in the other condition. If the displacement is sideways (instead of in the dorsal or planter direction) reduction is best accomplished by grasping the fragments as firmly as possible near their epiphyseal end and alternately turning and shifting them until the reposition is perfect. [T. L. C.]

6.—In this contribution on inguinal colostomy William J. Mayo concludes as follows: Colostomy is not now a rival or excision of the rectum for malignant disease, and should only be employed in hopeless cases presenting obstructive phenomena. For a permanent colostomy the combination of Wyeth's and Bailey's methods gives a satisfactory result. Colostomy, preliminary to excision of the rectum, should be located high on the colon to give sufficient length to the sigmoid to permit restoration of the continuity of the bowel. For ulceration, and other conditions in which the upper limit of the disease is not definitely known, the interior of the bowels should be explored through the inguinal incision in order to determine the proper site of the opening. Right-sided colostomy has an increasing field of usefulness in amebic dysentery, chronic colitis and allied conditions. [T. L. C.]

7.—D. H. Bergey reports on the prevalence of streptococci in cow's milk. During the past summer in 40 samples of market milk examined, 90% were found to contain micrococci, and in 50% of the samples, streptococci were found. Of 16 samples of milk collected from a well conducted dairy, only 12.5% contained micrococci, and only 6.25% contained streptococci. Of 28 samples collected from another of the best dairies only 17.8% contained micrococci, and no streptococci were found. In another first-class dairy in which 7 samples of mixed milk were examined 65.71% contained micrococci and 28.57% contained streptococci. In still another of 8 samples examined 62.5% contained micrococci, while none contained streptococci. These bacteriological examinations illustrate that extreme cleanliness is necessary in order to produce milk containing less than ten thousand bacteria per cubic ccm. This care will also tend to the exclusion of the extraneous bacteria from milk. [T. L. C.]

VRATCH.

February 24 (Vol. XXII, No. 8).

1. On the Etiology of Large Infants. B. N. AGAPHONOW
2. On the Treatment of Tetanus. M. I. ROSTOWTSEV.
3. The Primary Stages of Cardiac Affections in Military Men. D. I. VIERUSHSKY.

1.—Agaphonow gives an exhaustive review of the literature on the subject, citing observations of various authors as to the normal and excessively large weights of infants at birth. One of these infant-giants observed by Blach weighed 12,000 grms. The case reported by the author is that of a woman, 34 years old, in her fifth labor, who, after considerable difficulty, was relieved of a female child weighing 5950 grms. and measuring 58 cm. The difficulty experienced in this case was due to the fact that while the comparatively small head was delivered without any trouble, the shoulders remained impacted within the vagina, the left shoulder pressing firmly against the pubis. The cord was wrapped around the child's neck, the child having died of asphyxia. After considerable effort the shoulder was finally released by downward traction, and delivery accomplished. The placenta, delivered by Shultze's method, weighed 1190 grms.; the cord was very thick and measured 86 cm. The mother of this child was a large woman with quite a roomy pelvis. The father was also a large man. From this and similar cases, the author concludes that large children are born of large parents, and that the difficulty in these cases is not in the delivery of the head, as is usually the case, but the shoulders. [A. R.]

2.—Rostowtsev points out that the frequent disappointments following the administration of antitetanic serum are to be attributed to the fact that the tetanus-toxins combine chemically with the nerve cells, and the antitoxin neutralizes only those toxins which are circulating freely in the blood. By the time the patient comes for treatment a considerable amount of toxin has already entered into combination with the nerve-cells, and is therefore beyond

reach. Antitetanic serum, therefore, is really a prophylactic, and not a curative agent. He reports the following two interesting cases: In one, a factory woman, 38 years old, received a severe injury of the right thumb. Two weeks later she developed tetanus, which at first was localized in her right upper extremity, but soon became generalized. She received 50 c. c. of tetanus-antitoxin on each of three days. She made a slow recovery, still showing some rigidity of the facial muscles on the 65th day of the disease. The peculiar feature in this case is that the tetanus developed at first locally, which is rarely the case in man. That the antitoxine as responsible for the cure is proved by the fact that on the days when no injections were made, the symptoms were considerably aggravated, while on the other hand marked improvement followed each injection. The second case was in a peasant girl, who developed what turned out to be a very severe attack of tetanus, but gave no history of trauma. However, her body was found covered with scratches, some of which may have served as the point of infection. Not having any antitoxin on hand, and hampered by the expense, the author decided to try normal brain tissue. On the second day after her admission, 10 grms. of pigs' brain rubbed up in 30 c. c. of normal salt solution were injected subcutaneously, the brain emulsion as well as the skin being in a thoroughly aseptic condition. Some improvement followed. The injection was repeated on each of two following days, and again on the ninth day, calf's brain being used on one occasion. Like in the first case, the symptoms were aggravated considerably at the intervals between the injections, thus proving that the latter were exerting a beneficial effect. The patient finally recovered. It is noticeable that in this case Kernig's sign, considered pathognomonic of meningitis, was observed. The author concludes by advising urgently the use of normal brain-emulsion in cases in which the serum cannot be obtained. The injections, if carried out under strict asepsis, are perfectly harmless. [A. R.]

3.—Vierushsky has observed a number of cases of cardiac diseases in recruits and soldiers, which could not be detected by the usual signs, and were, in many instances, discovered accidentally. The 45 cases studied by him can be divided into three groups: 1. Those in which the typical manifestations of cardiac disease were present (20); 2. Those which did not present a complete clinical picture (17); 3. Those in which there was a constant murmur at the apex, but no other symptoms (8). Owing to the complicated mechanism of the first sound, a murmur, immediately following, but not replacing it, is recognized with difficulty in the first stages of the disease. The method usually employed of having the patient make active movements so as to accentuate both the normal sound and the murmur, is also liable to error, inasmuch as by the exercise the two sounds of the heart follow each other in such rapid succession that the murmur may escape detection. A much more satisfactory method is to examine the patient in a recumbent position. The action of the heart is slower, but the sounds are more distinct. In this case no previous exercise is necessary, inasmuch as in this position the blood-pressure is raised. In some cases it may be found necessary to slow the heart and thus render the sounds clear by appropriate medication. Of the other clinical signs hypertrophy of the ventricle and accentuation of the second sound in mitral insufficiency was sufficiently marked to be recognized only in a few cases. Epigastric pulsation and displacement of the apex-beat served as useful indication in many cases. The changes in the pulse, both in rate and volume, were not constantly observed. These, however, may be present in persons with sound hearts and invariably accompany neurasthenic conditions, thus rendering their presence of little diagnostic value. Likewise, the changes in blood-pressure are of slight diagnostic significance. As to the etiology, it was found that rheumatism is by no means the only factor. In many cases the cardiac affection followed some acute infectitious disease, such as typhoid fever, smallpox, inflammations of

the lungs, diphtheria, etc. In quite a number of cases the disease developed apparently without any cause and entirely unobserved by the patient. It has been also observed, as it might *a priori* be expected, that the service in the army tends to make the progress of any cardiac affection much more rapid. [A. R.]

March 3, 1901 (Vol. XXII, No. 9.)

1. Five Hundred Operations for Cataract. S. N. KORSHENIEWSKY.
2. A Case of Repeated Extra-uterine Pregnancy. D. D. SANDBERG-DEBELE.
3. A Case of Diabetes in a Nursling. N. A. ORLOW.
4. A Case of Diabetes in a Boy, 3 1-2 Years Old. W. I. NOSKOW.
5. Poisoning by Cream-tarts in Charkow. P. N. LASH-ENKOW.

1.—S. N. Korshenewsky performed 500 cataract operations with the following results: Good vision was obtained in 348, or 17.2%; medium in 61, or 13.5%; weak in 17, or 3.8%; vision lost in the affected eye in 25, or 5.5%. The results in 49 cases are not reported. The operations were performed under various circumstances, in hospitals as well as peasants huts. The condition of the eye was also variable, almost all forms of cataract with their usual complications being represented. Iridectomy was employed in every case. The author insists on thorough asepsis and antisepsis. [A. R.]

2.—D. D. Sandberg-Debele reports the case of a woman 34 years old who was operated for extrauterine pregnancy in the right tube. About 14 months later she presented a recurrence of the symptoms accompanying her last pregnancy and fluctuating pelvic tumor on the left side. No improvement having followed the usual treatment, the tumor, was incised through the posterior vaginal wall and a considerable amount of clotted blood removed. The patient made good recovery. In speaking of the frequency of extrauterine pregnancy, the author mentions the fact that out of 3873 gynecologic case in the Maryin Hospital there were 130 extrauterine pregnancies (3.4%). As to treatment, 113 of these cases were treated without operation. 28 recovered entirely, while 85 left the hospital very much improved but with an encapsulated hematoma in the pelvis. 17 patients were operated on. In 5 laparotomy was resorted to, while in the other 12 the tumor was evacuated through the posterior vaginal wall. Every one of the latter made an uneventful recovery. The author prefers the vaginal route as the most convenient, the simplest and safest, especially so in cases where hospital facilities cannot be obtained.

3.—N. A. Orlov reports a case of diabetes in an infant 4-5 months old, left at the Foundling Asylum. The urine contained large quantities of sugar as determined by Trommer's, Nylander's and the indigo tests. The cardinal symptoms of diabetes, namely, polyuria, polyphagia and autophagia were present. The child also had a number of boils on its body. The little patient died on the 12th day. The autopsy revealed an acute broncho-pneumonia with pulmonary edema, acute intestinal catarrh, edema of the dura and a serous effusion in the third ventricle. The latter, according to the author, was the etiologic factor in the disease. The claim is made that this is the first case of genuine diabetes in an infant recorded. [A. R.]

4.—W. I. Noskow reports the case of a boy 3 1-2 years old who after an attack of gripe developed an enormous appetite, extreme thirst, emaciation, debility and polyuria. The urine was found to contain 4.8% of sugar and acetone. The boy was going down rapidly and finally died in a state of coma which lasted for 48 hours. As to the probable etiology in this case, the author believes that hereditary syphilis played an important part. The child's father suffered for a number of years and finally died from syphilitic affection of the nervous system. The attack of gripe which the boy had served as the exciting cause. [A. R.]

5.—Will be abstracted when completed.

ZEITSCHRIFT FUER HEILEKUNDE.

February, 1901. (Vol. 22. No. 2.)

1. Experimental Investigations in the Study of Poisoning. VON CZYHLARZ and DONATH.
2. Clinical Observations upon the "exertion interval," from Retardation of the Pulse, and its Significance in the Diagnosis of Mitral Insufficiency. R. SCHMIDT.
3. Malignant Tumors of the Lungs. M. WEINBERGER.

1.—Von Czyhlarz and Donath divide poisons into bacterial poisons and others. Their investigations include only the other poisons, the alkaloids, etc., especially in relation to their effect upon the liver. From a review of the literature of the subject, it is clear that the liver in some way diminishes the virulence of poisons. Three series of experiments were performed, 72 in number. In the first series an emulsion of liver, spleen, kidney, and brain, was made, and tests made with each, by injecting them with strychnin in toxic dose, into animals. These experiments showed distinctly the power of the animal organs, in emulsion, to lessen the effect of the poison. The longer the emulsion and poison were allowed to mix before injection, the less was the effect of the poison. More experiments showed plainly that the richer the emulsion in cells of the organ, the more active was the resistance of the organism to the poison. Blood had the same effect, while blood serum had none at all. In the second series, a solution of strychnin was passed through the liver of an animal before being injected into another animal. Here also the poison had far less effect after being conducted through the liver. In the third series an extremity was ligated, strychnin injected, and the ligature only removed four hours later. In spite of the toxic dose of strychnin injected, not one of the animals showed bad results. From all of this, von Czyhlarz and Donath conclude that the power of decreasing the activity of a poison lies in the cells of the animal organs. And that all tissue has some such power is shown by the last experiments. The liver undoubtedly possesses this power to a very large degree. [M. O.]

2.—About 40 years ago Marey first noticed that there was an interval between the beginning of systole (the apex-beat) and the beginning of the pulse wave in the aorta of about one-tenth of a second. Martius called this the "closed interval" (*verschlusszeit*), while the "expulsive interval" (*austreibungszeit*) follows sharply after it, each occupying half of systole. The "closed interval" was later called "exertion interval" (*anspannungszeit*). Martius believed that the length of the "closed interval" could be measured from the apex-beat. When the apex-beat was protracted, the "closed interval" was lengthened. Schmidt reports the case of a woman of 60, who had had rheumatism. Cardiac symptoms developed four years ago. Examination showed orthopnea, widespread cyanosis, ascites, and edema. A diffuse pulsation existed over the heart and epigastrium; the apex-beat was heaving, not circumscribed. A long systolic murmur covered the first sound, the second sound being dull, ending in a short rumbling diastolic murmur. The pulmonary second sound was markedly accentuated. At the aortic cartilage, low systolic and diastolic murmurs were audible. Over the sternum a loud blowing murmur was heard. There was great hypertrophy. Both the apex-beat and the impulse of the heart were plain. The autopsy, held two months later, showed stenosis and insufficiency of the mitral valves, with insufficiency of the aortic and tricuspid valves. Though the "closed interval" was wanting, both the apex-beat and the impulse of the heart were present. After a long discussion, with a complete review of the literature of the subject, Schmidt concludes that the apex-beat, or impulse of the heart, is in no way related to the "closed interval," nor does it necessarily occur in time with the "closed interval;" that with regard to the retardation of the pulse after the apex-beat, lengthening of the "exertion interval" will eventually be noted clinically; that in many cases of organic mitral insufficiency, whether well compensated or following acute rheumatism, the pulse will be strikingly retarded after the apex-beat, and is caused by the mitral valves remaining open during systole; that this symptom is not pathognomonic of mitral insufficiency; but that, in difficult cases, it may be an aid in the differential diagnosis between uncomplicated mitral insufficiency and hemic murmurs. [M. O.]

3.—Malignant tumors of the lungs may be sarcoma, en-

dothelioma, or carcinoma. The two former are very rare, and generally metastatic. Primary carcinoma arises from the bronchial mucous membrane. Diagnosis during life is seldom made. Weinberger reports two cases of primary bronchial carcinoma, one of which ran a course almost typical of tuberculosis, with symptoms of a bronchial tumor later; the other patient expectorated pieces of a tumor which were diagnosed microscopically. A third case is added, of sarcoma of the mediastinum which had grown into the lung. Roentgen photographs were made of all three cases, showing malignant tumors of the lungs, proved by autopsy. In the first case, a man of 42, who had been ill about one year, typical signs of beginning phthisis appeared in the right apex; followed later by a distinct difference, under the Roentgen ray, between the movements of both sides of the diaphragm, the right side moving far less than the left. The large shadow of the tumor was upon the right side. Autopsy showed carcinoma of the upper lobe of the right lung, starting from a bronchial twig, embracing the right bronchus, trachea, left bronchus, esophagus, superior vena cava, pleura, second and third ribs, and the bronchial glands. The second patient was a man age 52. Examination under the Roentgen ray showed a right sided tumor of the pleura or lung. At the autopsy carcinoma of the right bronchus, with numerous metastases was found. The third case was a girl of 20, in whom a mediastinal lymphosarcoma had grown into the upper lobe of the left lung. This was shown both by the Roentgen photographs and by the autopsy. Roentgen photographs will aid materially in the differential diagnosis of thoracic tumors. Adhesion of the pleural surfaces, effusion into the pleural sac, atheroma of the aorta, and the consistency of a tumor may sometimes be diagnosed by the Roentgen rays. [M. O.]

ZEITSCHRIFT FUER HEILKUNDE.

February 26, 1901. (28 Jahrgang, No. 8.)

1. Sensation in Peritoneum: Local and General Anesthesia in Abdominal Operations. K. G. LENNANDER.

1.—In resection of the bowel for gangrenous hernia, or in gastro-enterostomy, it has been the custom in Upsala, for 10 years, to stop administering anesthetics when the operator reaches the resection, or suturing of the intestine itself. Just enough was then given to prevent the patient from coming out of the influence of the anesthetic. Lennander has operated many times, for hernia, entero-anastomosis, fecal fistula, cholecystotomy, nephrostomy, etc., with Schleich's local anesthesia. From these operations he noticed that the parietal peritoneum showed great excitability to sensation of all kinds, while the peritoneum covering the abdominal viscera was absolutely insensible to stimuli. Especially was this marked with compresses; against the parietal peritoneum (of the anterior wall or sides), they caused great pain, but were not felt among the internal organs at all. The subserous tissue of the parietal peritoneum contains nerve-fibres, while that covering the viscera does not. In injecting cocaine by Schleich's method, both the serous and subserous tissues of the parietal peritoneum are made insensible. The pain in colic he explains as due to stretching of the nerves in the parietal peritoneum following distension of a part of the intestinal canal. Tenderness on pressure also will depend upon whether the parietal peritoneum is inflamed. From his own observations, Lennander concludes that in all abdominal operations without any suspicion of infection the Schleich method of anesthesia should be employed. If, for any reason, this should not be possible, a general anesthetic should be given until the main procedure is reached, when the anesthetic should be stopped. Or enough should be given just to keep the patient under. The result will be a painless operation, with only a small quantity of the anesthetic used. When local anesthesia is used, one person should attend solely to the patient, that he does not see or hear the instruments. [M. O.]

Original Articles.

SCURVY IN INFANTS

By LOUIS STARR, M. D.

of Philadelphia

Infantile Scurvy is a constitutional disease occurring usually before the end of the second year, depending upon continued faulty feeding and presenting a well-defined complex of symptoms. The characteristic features are: First, immobility, progressing to pseudoparalysis, intense hyperesthesia, and general swelling situated most frequently in the legs, but not limited to these members; the investing skin is shiny and tense, but there is neither edema nor local heat, and subsidence of the general swelling reveals deep fusiform thickening about the shafts of the long bones in the neighborhood of the joints. In extreme cases there is a tendency to fracture near the epiphysis. Second, the gums about erupted teeth are swollen and purple in color, and, in marked cases, become spongy and readily bleed. Third, a rapid disappearance of all symptoms upon the institution of a proper, anti-scorbutic diet.

Scurvy shows no preference for sex, occurs at any season, in any climate or locality, amidst the best or worst hygienic surroundings, and in every class, though wealth furnishes by far the larger number of cases. In the majority of instances the disease develops between the age of six months and the end of the second year, though this limit is by no means a fixed one, and is closely confined to artificially fed infants, there being but two recorded cases in nurslings.

The direct causal factor is the continued use of food that lacks some essential nutritive elements or presents them in a form not readily assimilable. An analysis of the reported cases shows that the patients have received a great variety of foods, and if the few instances in which the only traceable cause is simple poverty in diet be eliminated, the sole factor that is uniformly present is the absence of the quality of *freshness*, the food is not "live." To put the whole question in a few words, the cause of scurvy in infants is *continued deprivation of fresh food*.

The faulty foods may be classed in the order of their potency:

1st.—The different proprietary infant's foods administered without the addition of cow's milk. These foods are responsible for the greatest number of cases, and which variety most readily induces the disease, depends chiefly upon the extent of employment or the fashion at the time.

2d.—Proprietary foods employed with the addition of insufficient quantities of cow's milk.

3rd.—Oat-meal or wheat gruel. Barley and other farinaceae administered with water alone or with water and insufficient cow's milk.

4th.—Condensed milk and water.

5th.—Sterilized milk. Properly modified milk mixtures subjected to a temperature of 212° F. from thirty minutes to an hour or more.

6th.—Too dilute milk and cream mixtures. Laboratory mixtures with too low albuminoid percentage.

Consideration of these groups furnishes an explanation of the greater frequency of scurvy in infants reared in luxury than in the very poor. The proprietary foods being expensive are little used by the latter class, the processes of modifying and sterilizing cow's milk are troublesome and require too much thought and time, and the cares of house work and bread-winning prevent regular and accurate artificial feeding. In consequence the child of poverty is fed upon milk, either diluted or pure, as the chance may be, and if this be not at hand, upon tea, potatoes, bits of bread or other table food; a bad diet, and one which often leads to rickets or dangerous gastro-intestinal disorders, but which is too varied and "live" to produce scurvy.

The variations in the diet usually made at the end of the second year, also explain the infrequency of the development of the disease after this age.

The essential cause of scurvy is unknown, but it is certain that it is some peculiar deprivation, and that the needed elements are present in fresh milk and the juice of fresh, ripe fruits.

Very few post-mortem examinations are on record, in fact, since infantile scurvy has been recognized as a distinct condition and its treatment established a favorable outcome is to be expected in the vast majority of instances. Of twenty-six cases that have come under my own observation during the past ten years, but one terminated fatally. This, my second diagnosed case, occurred in 1891.

The patient, a boy fifteen months old, had been ill nearly four months before I was consulted, and was so far reduced in flesh and general strength, was so anemic, and had such grave intestinal complications, that all efforts at treatment were unsuccessful. After death the body showed extreme emaciation, the skin was inelastic, pale, and presented numerous ecchymotic spots of varying size. The gums about the eight incisor teeth that had been cut were deep purple in color, very swollen and spongy and covered with blood. Both legs were much swollen above the ankle joints, the right to the greater extent. On section, the lower third of the right tibia was found to be surrounded beneath the periosteum, by a thick mass of dark, grumous blood, the lower epiphysis was detached, and the distal end of the shaft, macerated and eroded, lay free in the disintegrating blood clot. The lower third of the left tibia was surrounded by a similar, though less extensive, sub-periosteal blood effusion; it was not fractured. The fibulae, femora, and bones of the upper extremities were normal.

The intestines contained blood and blood-stained mucus, and the mucous membrane was thickened and studded, especially in the colon, with follicular ulcers.

Microscopic examination of the bone and periosteum showed no lesion beyond the mechanical one at the seat of fracture, and the same was true of sections from the liver, spleen and kidneys, and of the blood.

These findings correspond very closely to those detailed by Barlow and Northrup, and the anatomical lesions of the disease may be briefly stated to be chiefly due to hemorrhage, the most characteristic being the sub-periosteal blood effusions about the shafts of the femora and tibiae, sometimes of the long bones of the arms, and occasionally those of the cranium and thorax. Bleeding may also occur into the subcutaneous tissue (ecchymosis), and from the nose, stomach, bowels and bladder.

J. J. Thomas* asserts that the kidneys are frequently involved in infantile scurvy, and attributes the lesion, catarrhal nephritis, to the presence of an irritant in the blood, which, by its effects upon the walls of the renal vessels, produces hemorrhages. While this is a condition one would naturally expect, it was absent in my single fatal case, and in none of the others was either albumen or blood present in the urine during the course of the disease.

The scorbutic condition is produced gradually after weeks or months of improper feeding; there may be slowly increasing evidences of impaired nutrition before the characteristic symptoms appear, but usually these suddenly interrupt a state of apparent health. It is first noted that the infant is content only when perfectly quiescent; that he screams when lifted in the nurse's arms, or that he ceases to creep or walk. Soon it becomes evident that crying is produced most readily by movements involving the legs, and that either one or both limbs are held fixed, the thigh being drawn up towards the abdomen, the leg flexed, and the foot drooped. Next swelling appears above the knee or ankle joints, and immobility and tenderness increase; the latter to such an extent that the patient stops crying only while lying undisturbed on a pillow. Then the gums about any teeth that may be cut become purple in color; in the beginning there is merely a narrow line of this discoloration, but it rapidly extends; the gum swells, grows spongy, and bleeds at the lightest touch. With these special symptoms there is moderate general debility and loss of flesh, restless sleep, impaired appetite, a tendency to constipation, a diminished flow of high-colored, lateritious urine, and in some cases moderate elevation of temperature, though absence of fever is the rule.

Without treatment or when badly managed, the disease runs a chronic course, and the symptoms slowly but steadily increase in gravity, until emaciation becomes extreme, petechial spots appear on the surface, the swollen gums overlap the teeth, and there is a constant oozing of blood. The immobility, hyperesthesia and swelling affect the arms as well as the legs, epiphysal separation may take place, and the child, irritable and prostrated, lies passive upon the bed, dreading the slightest attempt at movement or even the approach of its nurse. The symptoms deserve a more detailed consideration in the order of their development.

Hyperesthesia is almost invariably the initial symptom, it appears in, and may be limited to one leg, but often involves both. The infant first exhibits sensation of pain by changes in facial expression or by crying when the affected member is

moved in changing the napkin or in arranging the stockings or dress. If the child be old enough to creep, stand or walk, it excites the mother's suspicion that something is wrong by suddenly becoming inactive, and by lamentations when induced to attempt previously enjoyed use of the legs. The tenderness increases steadily in degree, and, if primarily seated in one limb, extends to its fellow, and, in severe, long standing cases, to one or both arms; The little patient becomes helpless, suffers agony during the trifling movements necessary in making the toilet, and even anticipates pain and screams on the approach of the most gentle attendant. The characteristic of the pain is its production solely by movements of the parts involved, and if the element of dread can be eliminated, moderately firm pressure upon or friction of the surface is readily borne.

Immobility is the natural sequence of hyperesthesia, develops almost simultaneously, and with it increases in degree and extent. The decubitus is quite typical; the infant lies on its side with the trunk thrown a little forward, the thigh drawn half way up to the abdomen, the leg semi-flexed, and the foot drooped; when long maintained, this posture produces slight edema of the dorsum of the foot; this is not sufficient to show pitting on pressure, though the skin looks puffy and is shiny. When the upper extremities are affected, the forearm is semi-flexed and rests on the trunk. This posture is maintained for hours with no attempt at movement and no complaint while undisturbed.

The immobility is not paralytic in character, and if, despite the suffering produced, the limbs be manipulated, the joints are always found to be readily movable and free from stiffness.

Swelling of the soft tissues about the bones is a common feature; it varies in degree, though never very marked, and is quite distributed, spreading over the area of the bone affected; thus, when the femur is involved the tumefaction extends from the knee nearly to the hip-joint, when the tibia, from the ankle nearly to the knee; if the arm bones are affected, swelling while present is less noticeable. The swelling is greatest over the distal ends of the bones. It never involves the joints.

Any pressure that does not move the limb is painless; there is no pitting, the skin is normal in color, and there is no increased local heat.

As the case progresses the tumefaction subsides to a certain extent, tends to become limited to the lower third of the bone, and beneath it, deep pressure reveals a firm fusiform enlargement of the shaft; this is due to sub-periosteal hemorrhage and varies greatly in extent in different cases.

Lesions of the gums are observed only in cases in which one or more teeth have been cut; they appear early, but often escape attention until sufficiently far advanced for hemorrhage to take place. Primarily, the gum margin about the necks of the teeth becomes deep red in color and slightly swollen; soon the color changes to deep purple, the area of discoloration extends, the swelling increases, and ultimately the whole alveolar mucous membrane in the neighborhood of erupted teeth becomes ecchymotic, the swelling is so extreme that the thickened gum margin overlaps the teeth, the

*Boston M. & S. Journal, September 3rd, 1896.

tissue is spongy and hemorrhage is produced by the lightest touch or takes place spontaneously, blood constantly oozing in small quantities. Rarely sloughing occurs, and occasionally when the gum lesions are very marked, the teeth are temporarily loosened in their sockets; they should be maintained in position if possible, however, since they become firmly set again as the patient recovers.

The general features are very diverse in degree of prominence. Often, when the scurvy is mild in grade, the infant is seemingly so well nourished and in such apparent health, that the parents are surprised at the sudden development of local symptoms. Usually, however, even in these cases, the trained observer is able to detect evidences of malnutrition in the slight anemia and muscle flabbiness.

In well marked instances there is emaciation; dry, pale, or sallow skin; debility indicated by an irritable, weak pulse and loss of muscle tone; the tongue is lightly coated, the appetite capricious, and the bowels tend to constipation, the evacuations being rather scanty and clay colored, showing deficient biliary secretion. Occasionally there is diarrhea, with greenish mucoid discharges, and at times the feces contain blood. There may be more active indications of gastric indigestion, and very frequently there is an antecedent history of great difficulty in feeding on account of proneness to gastro-intestinal disturbance.

Fever is not a symptom of scurvy, and when present is due to some accidental complication, as intercurrent acute intestinal catarrh, and not to the disease itself. Under these circumstances, the temperature is generally but moderately elevated, the thermometer ranging from a little above normal to 100° or 101° F.

The urine is diminished in quantity, high colored, often laden with urates and increased in gravity. The frequent presence of albumen and the evidences of nephritis have been asserted, but is not borne out by my own experience. In grave cases there may be hematuria.

Hemorrhage is a late feature, appearing after prostration is advanced and the blood crisis has deteriorated. It takes place first in the sub-cutaneous areolar tissue, especially in dependent parts of the body, and beneath the mucous membrane of the mouth. The ecchymotic spots are deep purple in color, and range in size from that of a pin's head to patches one-fourth of an inch or more in diameter.

Bleeding from the gums has been already mentioned, and is an earlier symptom than sub-cutaneous ecchymosis. Later, epistaxis and hematuria may be observed, and, much more frequently, hemorrhage from the bowels, the leakage either merely staining the discharges from the rectum, or appearing as pure, though dark colored and altered blood. The loss of blood directly increases the cachetic condition noted in severe cases, and if at all profuse plays an important part in exhausting the vitality in fatal cases.

Fracture of the femur, tibia, or humerus, is a late symptom, and shows an extremely grave type of

affection. Separation at the lower third of the tibia existed in my single fatal case, and I know of no instance of recovery after its occurrence. In fact, it is doubtful if reunion of the soft macerated and eroded lower end of the shaft of the bone with its epiphysis, could be accomplished, even granting the possibility of the infant's recovery from the condition of extreme prostration and mal-nutrition that is invariably present before fracture takes place. The bone lesion gives rise to characteristic deformity; when the femur is involved, there is a distinct downward bend in the thigh, situated a short distance above the knee joint and due to weight traction of the part of the limb below the seat of separation; with the tibia, the same bending is observed above the ankle joint, but it is less in degree, because the fibula acts as a partial splint, and the depressing weight is not so great. Palpation does not yield crepitation, and it is difficult to feel the end of the bone through the surrounding soft tissues and the mass of extravasated blood.

As the greater number of scurvy cases are quite typical, the diagnosis is usually attended with little difficulty.

The distinguishing features are, the development in infants from six months to two years old, after the prolonged use of unsuitable food, of extreme hyperesthesia and immobility of the limbs; swelling of the thigh above the knee-joint and of the leg above the ankle-joint; fusiform enlargement of the lower third of the shaft of the femur and tibia; deep purple discoloration (ecchymosis), swelling and sponginess of, and hemorrhage from, the gums surrounding erupted teeth; general cachexia and anemia, and finally—the test feature—rapid disappearance of symptoms and complete recovery following the adoption of an antiscorbutic diet, and—the negative symptom—non-involvement of the joints.

The pain produced by movement and the immobility of the limbs are responsible for most of the errors in diagnosis, scurvy being frequently mistaken for rheumatism, hip-joint disease, paralysis and affections of the spine.

Considering the very uniform and characteristic complex of symptoms in scurvy, it is difficult to understand why this confusion should occur; but I have seen two cases in which a reputable surgeon had applied dressings for hip disease during a period of four and six weeks, and many in which counsel was requested, because a supposed rheumatic attack obstinately resisted every method of treatment. However, since the disease has been more carefully studied, illustrative cases reported, and the subject given a place in text-books, mistakes in diagnosis are becoming more and more infrequent.

The question of the relation of scurvy and rickets has been much discussed. Before the former disease had been carefully studied rickets was supposed to uniformly precede or accompany it, and prior to the publication of the observations of Cheadle and Barlow, it was classed as "acute rickets." Both diseases develop during infancy, and

both are caused by food that is deficient in certain essential qualities, but here the similarity ends. For the lesions of rickets are found in the bone tissue, those of scurvy in the blood vessels, and while the effects of these are readily and completely removable in scurvy, in rickets their mark is left permanently in bone thickening and deformity. Again alterations in diet that quickly terminate scurvy are inoperative in rickets. The two conditions, therefore, are not generically related; one may appear without the other, or they may co-exist in the same patient, though such an association is exceptional in my experience.

The symptoms of rickets show little similarity to those of scurvy and make the differentiation an easy matter. The most uniformly present and characteristic, in the type of cases in which there is the greatest likelihood of confusion, are profuse perspiration about the head and chest, anemia and evidences of malnutrition, delayed dentition, enlargement of the *joints*, bending of the long bones, cranio-tabes, misshapen head with prominence of frontal and parietal bones, rachitic rosary, deformity of thorax with depressed ribs and projecting, distorted sternum, and prominent abdomen.

Purpura may be distinguished from scurvy by its etiology, unsuitable food not being an essential cause; by the absence of hyperesthesia, immobility, spongy bleeding gums and deep sub-periosteal hemorrhage. The leakage of blood in purpura has a tendency to be general and more superficial, being most marked in the subcutaneous tissue and from the various mucous surfaces and kidneys.

When treatment is not guided by a correct diagnosis, scurvy runs a protracted course, and the patient gradually passes into a condition of such profound cachexia that death may take place from exhaustion. On the other hand prompt detection and judicious management almost certainly leads to rapid recovery, improvement beginning after a few days and all symptoms disappearing in from two to three weeks.

Dangerous symptoms are extreme anemia and prostration, epiphyseal separation, the appearance of petechial spots, the expulsion of blood from the bowels and hematuria. Extreme gastric irritability, making feeding difficult, and the intercurrent of enteric catarrh, materially add to the gravity of the prognosis.

The subjoined table of twenty-six cases, occurring in my own practice, is of interest as an illustration of the clinical features in infantile scurvy of the type ordinarily met with in practice.

The management of scurvy is very simple, depending entirely upon the substitution of a fresh antiscorbutic diet for whatever form of unsuitable food may have been the casual factor. If a proprietary food has been employed, it must be abandoned, sterilization must be discontinued as a process of preparation, condensed milk or food too rich in farinaceous material must be changed to a properly modified, untreated, cow's milk mixture, and if the food has been simply deficient in proteids, it

must be strengthened so far as the digestive powers admit, and any deficiency supplemented by the use of some other form of albuminoid, as raw-beef juice.

Briefly stated, the essential treatment is the employment of a food composed of cow's milk, cream, water, and milk-sugar, properly proportioned to the age of the infant, and given, so far as the cream and milk are concerned, in the natural, fresh state, i. e., not passed through the separator and not sterilized.

Pasteurization and predigestion at a temperature of 115° F., are admissible in certain cases, but should never be employed when the cream and milk are carefully handled at the dairy and can be kept clean and sweet, and when the infant's digestion is even moderately active.

The juice of fresh ripe fruit—orange juice especially—is a useful addition to the diet, and when, as is usually the case, it can be taken without producing diarrhoea, is an efficient aid to rapid recovery.

For scurvy in an infant of eight months, an appropriate food schedule is:

First meal, 7 A. M.

Cream.	½ ounce
Milk.	4½ ounces
Milk Sugar.	1 drachm
Water.	3 ounces

At 9 A. M.—One to two teaspoonsful of fresh orange juice, according to effect on bowels.

Second meal, 10.30 A. M. Same as first.

At 11.30 A. M.—Two teaspoonsful of raw-beef juice, free from fat, and with a little salt.

At 1 P. M.—One to two teaspoonsful of fresh orange juice.

Third meal, 2 P. M. Same as first.

At 3 P. M.—Two teaspoonsful of raw-beef juice with salt.

At 5 P. M.—One to two teaspoonsful of fresh orange juice.

Fourth meal, 6 P. M. Same as first.

At 8 P. M.—Two teaspoonsful of raw-beef juice with salt.

Fifth meal, 10 P. M. Same as first.

If orange juice cannot be obtained, or should it disagree, good substitutes are two to four table-spoonsful of scraped ripe apple (raw), two table-spoonsful of fresh grape juice, or six solid grapes from which the skins and seeds have been removed.

In addition to the alteration of the diet very little treatment is necessary. Gentle inunction of the limbs, with warm olive oil, may contribute to the comfort of the patient, and some acceptable preparation of iron, as the ferrated elixir of cinchona, will assist in restoring the strength and building up the blood. If there be great prostration, strychnia and alcoholic stimulants should be administered, and all complications must be met as they arise.

TABLE OF CASES OF INFANTILE SCURVY OCCURRING IN THE AUTHOR'S PRACTICE FROM 1890-1900.

Race Sex Class	Age	Prior Duration of Symptoms	SYMPTOMS	ETIOLOGY	Grade	TREATMENT	RESULT
White F. Wealthy	10 months	3 months	Swelling of both legs above ankle joints, immobility; hyperesthesia; Gums about the erupted teeth purple; swollen, spongy bleeding. Ecchymosis, slight at seat of swelling. Impaired digestion, tendency to constipation, marked emaciation, anemia and prostration; urine high colored, scanty. Temperature 100-101 F. No rickets.	Proprietary foods, then condensed milk mixture.	Severe	Home modified milk mixture (raw). Digestants and tonics (not sufficiently antiscorbutic, being my first case).	Recovery slow.
White M. Wealthy	10 months	4 months	Marked swelling of right leg with separation of epiphysis of tibia; moderate swelling at lower third left of leg and above both wrists. Immobility; hyperesthesia. Gums about the 6 erupted teeth extremely swollen, spongy, deep purple, sloughing, bleeding. Distributed petechiae, most numerous over swelling. Anorexia, tendency to vomiting and diarrhoea with blood-stained, mucoid evacuations; extreme emaciation, anemia and prostration; urine scanty but normal; temperature ranged from 99-102 F. No rickets.	Condensed milk from birth.	Fatal	Humanized milk. Beef juice. Iron. Codliver oil; stimulants.	Death after five months illness.
White F. Wealthy	5 months	3 months	Marked swelling above right ankle, less above left, considerable ecchymosis in these positions, immobility; great hyperesthesia, no teeth; gums normal; anorexia; irritable stomach; diarrhoea; emaciation; anemia; great prostration. Temperature range about 100 F. No rickets.	Artificial food from birth; condensed milk; proprietary food. Attack began while taking sterilized cows milk mixture.	Severe	Home modified milk mixture (raw), orange juice, raw beef juice, weeks. Restoration of general health slow, about 3 months.	Scurvy symptoms disappeared in 4 weeks. Restoration of general health slow, about 3 months.
White M. Moderate	7 months	3½ months	Great enlargement of lower third of right femur, skin over this region purplish; hyperesthesia; immobility. Emaciation and prostration marked; anorexia; occasional vomiting; tendency to diarrhoea with green, undigested evacuations; urine normal; no fever, no rickets. During treatment the lower incisors appeared, and the gums previously negative at once became purple and swollen.	Nursed one week, then fed upon strong oat-meal water with a little cows milk. Attack followed one month feeding on sterilized milk.	Severe	Humanized milk. Raw beef juice, digestants, stimulants, cod liver oil. Early use of diet not sufficiently antiscorbutic.)	Recovery progressive but slow, complete in three months.
White M. Moderate	8 months	3 weeks	Slight fusiform swelling at lower third of each thigh, and less above each ankle. Hyperesthesia, immobility, gums about 4 incisor teeth livid purple, very swollen and bleeding readily. Appetite fair, bowels regular, urine normal, slight pallor and muscular flabbiness, no emaciation, no fever, no rickets.	Artificially fed from birth properly proportioned cream and milk mixture, sterilized.	Mild	Sterilization discontinued.	Recovery in three weeks.
White M. Moderate	8 months	3 weeks	Swelling at lower third of each femur, and to less extent above ankle joints. Immobility; hyperesthesia. Gums about 4 incisor teeth purple, swollen and bleeding at slightest touch. Weakness, moderate anemia. Muscles flabby, no emaciation, Afebrile, no rickets.	Weaned at 6th week, then fed on a mixture weak in cows milk strong in a proprietary food.	Average	Cream and milk mixture, fresh and proper strength. Dr. 2 very mild weeks. Raw beef juice and dr. 1 orange juice 3 times daily.	Improvement after 10 days. Recovery in 2 weeks.
White F. Moderate	11 months	2 months	Considerable swelling above each knee joint less above the ankles. Hyperesthesia. Immobility. Dentition normally advanced, gums purple, swollen, bleeding. Anemia prostration, some emaciation, appetite poor, bowels constipated. Urine scanty but normal. No fever. No rickets.	Mixed feeding in early months. Weak condensed milk mixture. Attack followed severe epidemic influenza.	Average	Home modified cream and milk mixture. Raw orange juice. Raw beef juice.	Improvement in 10 days. Recovery in 2 weeks.
White F. Moderate	9 months	2 months	Swelling above both knees and ankles. Hyperesthesia. Immobility. 2 incisors cut, gums purple and swollen. Anorexia, impaired digestion, irregular bowels. Emaciation and prostration. No fever. No rickets.	Artificial feeding from birth. Sterilized weak milk mixture with proprietary food. Attack followed measles.	Mild	Cream and milk mixture. Sterilization stopped. Raw beef juice. Tonics.	Improvement in 7 days. Recovery in 4 weeks.
White F. Wealthy	8½ months	2 weeks	Hyperesthesia and immobility of both legs, but no swelling. 2 incisors cut, gums livid purple, much swollen. Irritable, no prostration or emaciation, some pallor. No symptoms of rickets.	Feed at breast for 1 month, then on condensed milk and a proprietary food.	Very mild	Cream and milk mixture. Raw orange juice. Raw beef juice.	Improvement in 7 days. Recovery in 2 weeks.
White M. Moderate	12 months	2 months	Hyperesthesia, immobility of both legs, and some swelling above the knee joints. 6 incisors cut, gums purple and swollen. Irritable, emaciated, anemic, anorexia, tendency to vomit, irregular bowels. No symptoms of rickets. Feeble from long continued malnutrition.	Artificial food after 1st week. 1st condensed milk then cows milk and cream mixture, sterilized.	Very mild	Pasteurization substituted for sterilization. Orange juice. Raw beef juice.	Immediate improvement. Recovery in 3 weeks.
White M. Moderate	15 months	3 weeks	Swelling above the knees and ankles. Hyperesthesia. Immobility. Dentition normally advanced, gums purple, swollen and readily bleeding. Marked anemia, emaciation and prostration. No symptoms of rickets.	Weaned at 4th month. Cows milk mixture to 7th month then and at time of onset a proprietary food.	Severe	Home modified cream and milk mixture. Raw orange juice. Raw beef juice.	Recovery in two weeks.
White F. Wealthy	8 months	6 weeks	Swelling of lower third of both legs. Hyperesthesia. Immobility of both legs and left arm, no swelling of latter. 2 incisors cut, gums purple and swollen. Anorexia, constipation. Anemia, muscle flabbiness and emaciation. No fever, no rickets.	Mixture of milk water and a proprietary food sterilized and predigested.	Average	Sterilization stopped. Humanized milk. Orange juice. Raw beef juice.	Improvement in 2 days. Recovery in 2 weeks.
White F. Wealthy	12 months	3 weeks	Swelling above the right knee and ankle. Hyperesthesia, immobility not complete. Upper and lower central incisors cut, lower gums show purple line, upper deep purple and swollen. Anorexia, constipation, moderate pallor, weakness and emaciation. Urine scanty. No fever, no rickets.	Artificially fed from birth on proprietary food.	Mild	Partially predigested cream and milk mixture. Orange juice and raw beef juice.	Recovery in two weeks.

TABLE OF CASES OF INFANTILE SCURVY OCCURRING IN THE AUTHOR'S PRACTICE FROM 1899-1900.

Race Sex Class	Age	Prior Duration of Symptoms	SYMPTOMS	ETIOLOGY	Grade	TREATMENT	RESULT.
White M. Wealthy	15 months	6 weeks	Scurvy followed prolonged illness. Chronic enterocolitis, bronchitis, mastoid disease. Hyperesthesia and immobility of left leg 10. Teeth cut, gums deep purple, much swollen, readily bleeding. No symptoms of rickets.	Long continued illness. Food on account of impaired digestion, too low in albuminoid percentage.	Mild	Added to dilute milk mixture, mashed potatoes, dry bread and seaweed fruit. Raw beef juice.	Recovery rapid.
White M. Wealthy	13 months	6 weeks	Swelling above both knee joints. Hyperesthesia. Immobility. Dentition normally advanced, gums purple, swollen, bleeding, teeth loose. Marked emaciation, prostration and anemia. Temperature ranged from 98.4° to 103° F. No rickets.	Condensed milk feeding from birth	Severe	Home modified cows milk mixture (raw). Orange juice. Raw beef juice.	Recovery in about 3 weeks.
White M. Wealthy	15 months	3 months	Child feeble from birth, difficult to feed, and badly fed and managed. Swelling of both legs above ankles. Hyperesthesia. Immobility. Dentition normal, gums purple. Extremely swollen, bleeding. Anorexia, feeble digestion, obstinate diarrhoea with fetid discharges. Emaciation, anemia, prostration. Fever moderate. No rickets.	Persistent bad feeding.	Severe	Egg-albumin, water and raw beef juice, child gradually built up to broths and milk mixtures, stimulants, health slow, complicating diarrhoea treated.	Active scorbutic symptoms disappeared in 2 weeks, but restoration to health slow.
White F. Wealthy	10 months	3 months	Swelling of lower third of right femur and lower third of right leg. Hyperesthesia. Immobility. Dentition normal, gums purple, swollen. Moderate pallor, weakness and emaciation. Anorexia, constipation. No fever and no rickets.	Artificially fed from birth. Food too low in albuminoid percentage.	Mild	Home modified milk mixture (raw). Orange juice. Raw beef juice.	Recovery in about 4 weeks.
White M. Wealthy	15 months	6 weeks	Marked fusiform enlargement of lower third of right femur. Hyperesthesia. Immobility. Dentition normally advanced, gums purple, very swollen, readily bleeding. Anorexia, constipation. Emaciation, anemia. Weakness. Urine scanty, high colored. No fever. No rickets.	Artificially fed from birth. Weak cows milk mixture with a proprietary food.	Severe	Home modified milk mixture (raw). Orange juice. Raw beef juice.	Improvement noticed in 2 days. Recovery complete in 18 days.
White F. Moderate	15 months	3 months	Swelling of both tibiae above ankle joint, right most marked; slight swelling of both arms above the wrists. Hyperesthesia. Immobility of legs complete, of arms partial. 7 teeth cut, gums purple, swollen, bleeding; first molars in upper jaw nearly erupted investing gums, swollen and purple. Anorexia, constipation, poor digestion, prostration, great emaciation. Urine scanty, high colored. No fever. No rickets.	Weaned at 2nd month, then fed on sterilized milk (long process), and then on sterilized milk alternating with a proprietary food.	Very Severe	Home modified milk mixture predigested with peptogenic milk powder at 115° for 4 minutes. Orange juice, raw beef juice.	Improvement at once. Recovery in 2 weeks.
White M. Moderate	13 months	3 months	Hyperesthesia and immobility of legs; no swelling, 8 teeth cut, gums purple, greatly swollen, readily bleeding. Appetite poor. Irregular bowels tending to constipation. Marked anemia and emaciation. No fever. No rickets.	Bottle fed from birth; milk mixture, properly proportioned, but sterilized (long process).	Mild	Sterilization discontinued.	Improvement immediate. Recovery in 3 weeks.
White F. Moderate	10 months	6 weeks	Hyperesthesia and immobility of both legs, some swelling above knees. 6 teeth cut, gums purple, slightly swollen, anemia, poor appetite, regurgitated a portion of each feeding. Obstinate constipation. No fever, no rickets.	Bottle fed from birth, food too dilute.	Very Mild	Home modified milk mixture (raw). Orange juice, raw beef juice. Laxative Suppositories.	Improvement immediate, recovery in 10 days.
White M. Moderate	14 months	2 weeks	Hyperesthesia and immobility of both legs, no swelling about bones. 6 teeth cut, gums purple and moderately swollen; poor appetite, impaired digestion, constipation, anemia, moderate prostration, little emaciation. No fever. No rickets.	Breast fed for 2 months, then on varying foods, condensed milk and several proprietary foods.	Very Mild	Home modified milk mixture (raw). Orange juice, raw beef juice.	Recovery rapid.
White M. Moderate	12 months	2 weeks	Some swelling above left ankle, both legs hyperesthetic and immobile. 6 teeth cut, gums purple and much swollen, anemia, muscle flabbiness, anorexia, emaciation, irregular bowels with undigested evacuations. Temperature 98.5° to 101° F, urine normal. No rickets.	Artificially fed from birth to 7 months. No milk diet 3 weeks, but nursed from seven weeks breast. Proprietary food.	Average	Home modified milk mixture (raw). Orange juice, raw beef juice.	Marked improvement in 3 days, recovery in 3 weeks.
White M. Wealthy	14 months	6 weeks	Fusiform swelling above both ankle joints. Hyperesthesia. Immobility. No swelling but hyperesthesia and partial immobility of left arm. 10 teeth cut, gums deep purple, very swollen, readily bleeding. Appetite normal, bowels tend to constipation. Urine high colored, emaciation, anemia, some prostration. No fever. No rickets.	Breast fed for 3 months; then proprietary foods.	Average	Home modified milk mixture (raw). Orange juice.	Recovery in two weeks.
White M. Moderate	9 months	4 weeks	Fusiform swelling above left ankle joint, with legs hyperesthetic and immobile. 6 teeth cut, gums deep purple, greatly swollen and bleeding, anemia, constipation, urine scanty but normal, emaciation, weakness. No fever. No rickets.	Artificial feeding from birth, too weak milk mixture.	Mild	Home modified milk mixture (raw). Orange juice.	Recovery rapid.
White F. Wealthy	10 months	1 week	No swelling, but hyperesthesia and immobility of both legs. One lower incisor cut, gums purple and slightly swollen. Constipation, pallor and muscle flabbiness, but general nutrition good. No fever. No rickets.	Artificially fed from birth. Laboratory milk fat 4 sugar 7 albuminoids . . 1	Very Mild	Home modified milk mixture (raw). Orange juice.	Recovery in one week.

NOTES ON LEUKEMIA WITH A REPORT OF THREE
CASES.*

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In November, 1845, Virchow (1) published his first description of a case in which the white cells of the blood were enormously increased both absolutely and relatively to the red cells. In 1846 (2) he reviewed his own and three other published cases, insisting that the increase of white cells was not due to pus, and hence that the condition was not a suppuration of the blood. In January, 1847 (3) he cited further cases from the literature, one (of Bichat) dating back to 1801, and discussed the relation of the spleen to the white cells. Later in the same year Virchow proposed the name leukemia—white blood. In October, 1845, Craigie and Bennett (5), of Edinburgh, published a case of great increase of the white cells of the blood which they believed to be due to the presence of pus, and hence termed suppuration of the blood. In 1851 Bennett (6) published further cases and proposed the name leucocythemia—white-celled blood. Bennett's claim to priority based upon his first paper has been generally disallowed, and it now seems clear that Virchow was the first to recognize the essential nature of the disease, the fact that it is not a suppuration, and to discover the relationship between the leukemic alterations in the blood and certain pathological changes in the spleen and lymph nodes. The first case diagnosed during life was that of Vogel (7) in 1849. Virchow recognized two forms of the disease, the splenic and the lymphatic, while it was reserved for Neumann (8) in 1869 to describe the participation of the bone marrow in the leukemic process, and to establish the myelogenous form of leukemia. During the past thirty years leukemia has received much attention from clinicians and hematologists, and also from the standpoint of pathological anatomy, and the literature of the subject is enormous. It is not the object of this paper to review all the various theories regarding the nature and classification of this disease, but rather to summarize our present views regarding these points.

As to the nature of leukemia, three chief theories have been and are held, of which Taylor (9), in Sajous's Cyclopedic, gives the following summary: "The Virchow-Neumann theory considered the excess of white corpuscles to be due to an abnormal hyperplasia of the hematopoietic tissues, and most of the adherents of this view have conceived this hyperplasia as analogous to that seen in malignant neoplasms." "The Bisiadecki-Loewit theory predicates a retardation of the evolution and prolongation of the life of the circulating leukocytes, the collections in the tissues being interpreted as the results of the deposition of the excess of the circulating leukocytes." This theory to-day finds few adherents. The modern theory is "that leukemia is an infection, and that the hyperplasia of the lymphatic tissues and the circulatory excess of white

cells are the result of a specific stimulation and leukocytosis analogous to those seen in other infections." This third theory, whether accepted for all cases or only for certain forms of leukemia may be regarded as an elaboration and explanation of the Virchow-Neumann theory, agreeing with it in regarding the blood changes as secondary to the lesions of the fixed tissues while expanding it by attempting to show the cause of these latter lesions. To-day the infection-theory is the one most generally accepted for the acute leukemias, while it is by no means impossible that all forms of leukemia may be caused by one or more infective agents. So far all efforts to demonstrate the specific organism have been disappointing. The various bacterial forms which have been found in leukemic blood were probably all due to complicating infections or to post-mortem contamination. Loewit has thus far failed to offer convincing evidence that the sporozoa described by him stand in a causative relation to leukemia or even that they are anything more than the products of cellular disintegration. Nevertheless, while we lack the demonstration of a specific infective agent, the argument from analogy is so strong that it is difficult to doubt the infectious nature at least of the acute forms of leukemia. The classification of the various forms of leukemia has caused much confusion in the past, but most of the later writers seem to be reaching a substantial agreement which harmonizes the pathological and the morphological classifications. Ehrlich and Lazarus (11), Cabot (12), Osler (13), and Von Limbeck (14), agree in dividing leukemia into a lymphatic and a spleno-myelogenous or myelocytic form, while Engel (15) adds a splenic leukemia and Taylor (9) a mixed form. Engel says that in splenic leukemia the polynuclear neutrophiles predominate, but admits that these cells originate in the bone marrow and are adult forms of the myelocytes, while he makes no distinction between this condition and neutrophilic leukocytosis, except the permanence of the former. Taylor's (9) mixed form is said to include the whole group of acute leukemias, but in describing it he quotes Fraenkel as saying:—"The blood changes are entirely characteristic. There is a remarkable increase of the mononuclear elements, which are of the most varying sizes, but do not contain neutrophilic granules." Obviously, such a form would ordinarily be classified as lymphatic and would thus be brought into harmony with the more usually accepted classification. Von Jaksch (16) recognizes a splenic form, although he admits that, at the autopsy in almost any case, leukemic changes more or less marked will be found in spleen, marrow and lymph nodes. His description of the splenic form is "one in which simply relatively large leukocytes are found." Judging this rather vague description from the context, it would seem to refer to what others call a lymphemia, in which the larger forms of lymphocytes predominate. It is thus not difficult to bring these seeming variations into harmony with the classification which we have adopted of myelogenous and lymphatic leukemia. While these two forms may usually be readily distinguished, it is necessary to recognize that a mixed form does occur, though rarely. Though splenic tumor is a constant feature

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of the myelogenous form, it is also a most common accompaniment of lymphemia, and Neumann (17) early pointed out that lymphatic overgrowth is not necessarily confined to the lymph nodes, but may involve the spleen or the bone marrow itself. Inasmuch as we know of no special forms of white blood cells furnished by the spleen, and as we have no pathological records of pure splenic leukemia, there seems to be no reason for recognizing this as a separate class, and when, in this paper, the word splenic is used in speaking of any case, it should be understood as referring to the splenic tumor and not to any peculiarity in the blood composition. A further classification of leukemia is into an acute and a chronic form. As the acute cases are almost invariably, if not always, of the lymphatic variety, it is usual to sub-divide lymphemia into two forms, acute and chronic. The diagnosis of leukemia can be satisfactorily made only by means of a microscopical examination of the blood. The question, however, whether by means of the blood examination alone it is possible to determine the presence or absence of leukemia, and whether by studying stained blood preparations we can decide upon the form of leukemia, which is present, are still under discussion; but the present tendency is to answer both in the affirmative. Bearing in mind that the characteristic blood changes of leukemia are qualitative rather than quantitative, the truth seems to be that, in any well marked case, it is possible from the blood examination alone to determine both the existence of the disease and its variety. In the earliest stages this result may not be obtainable, and it must be admitted that certain well-developed cases show during their progress, as a result of complications or of therapeutic measures, such marked remissions in the leukemic peculiarities of the blood composition that an examination during one of these remissions would necessarily fail to show the true character of the disease. In such cases repeated blood examinations may be necessary in order to clear up the diagnosis.

In myelocytthemia or splenic-myelogenous leukemia, the characteristics of the stained specimen of blood are, according to Ehrlich and Lazarus (11), as follows:—

"A. That aside from the polynuclear cells the mononuclear granular leucocytes also appear in the circulating blood.

B. That in the increase of the white blood cells all three types of granular cells, the neutrophiles, the eosinophiles and the *Mastzellen* participate.

C. That atypical forms appear, for example, dwarf forms of the various sorts of white blood cells, also mitotic or karyokinetic figures.

D. That the blood always contains nucleated red blood cells in large numbers."

Ehrlich and Lazarus (11) lay special stress upon the fact that no one variety of cell is pathognomonic of this disease, and it is through a misunderstanding of Ehrlich's position in regard to this matter that much controversy has arisen. The predominant characteristic of the blood picture in this form of leukemia, is the presence of large numbers of myelocytes, or large mononuclear leukocytes containing neutrophilic granulations. These cells are never found in the circulating blood in health, and

although occasionally seen in other diseases, for example, diphtheria, pneumonia, severe anemias, lympho-sarcoma and various children's diseases, still in none of these is their number to be compared with the numbers found in even the least marked cases of myelogenous leukemia. Mononuclear eosinophiles are found in small numbers. Normally, these varieties of white cells are found only in the bone marrow, and they are regarded as the direct antecedents of the corresponding polynuclear cells. The polynuclear eosinophiles always show an absolute, and often a relative increase. This point has, however, lost much of its diagnostic value, since the discovery of an eosinophilic leukocytosis. The appearance of atypical forms of all the varieties of leukocytes, and of cells, which are difficult to classify in any way, is highly characteristic of the disease under discussion, and gives to the blood picture a most variegated appearance. Nucleated red cells—both normoblasts and megaloblasts—are always found in large numbers, but no such preponderance of megaloblasts is seen as that which characterizes the blood of pernicious anemia. Often in the early stages no anemia is found, and later in the disease the anemia is usually moderate in degree, so that the number of nucleated red cells is far greater than in anemia of like grade, due to other causes. We see, then, that the blood in myelogenous leukemia presents a most characteristic picture, differing in almost every point from normal blood.

In lymphatic leukemia the picture is quite different, but hardly less distinctive. Here the number of leukocytes is ordinarily much less than in the myelogenous form, while the anemia is usually far more pronounced, especially in the acute and sub-acute cases. The typical feature is the great absolute and relative increase in the number of lymphocytes—mononuclear leukocytes with non-granular protoplasm. Neutrophiles, eosinophiles and myelocytes are comparatively rare. The nucleated red cells are far more numerous than in myelocytthemia, their number corresponding fairly well to the degree of anemia present, except in children, in whose blood the nucleated reds may be present in very considerable numbers. While leukemia ranks as a comparatively rare disease in this country, it is not unlikely that many cases are overlooked. During the past year it has been my fortune to see and examine three cases which I desire here to report. These cases occurred in the practices of Dr. Eugene Wasdin, Marine Hospital Surgeon; Dr. Marcel Hartwig, and Dr. Charles R. Borzilleri, and to the courtesy of these gentlemen I am indebted for the opportunity of making this report:

CASE 1.—C. S., aged 36, German, single, a boat steward. In 1882 he lived at Santos, Argentina, for 6 months, and from there shipped for Liverpool. On this voyage eleven of the crew died of yellow fever, and six escaped infection. In 1886 he was in Brunswick, Georgia, for six months, where his general health became so poor that he was unable to do his work. He finally left on the advice of a physician. In 1895 he conducted a bakery beside the Chicago drainage canal, which was then in process of construction. The water supply was contaminated with drainage. Diarrhea, dysentery and malaria were common in the camp. Here he suffered from severe headaches, diarrhea and great prostration for five months. He then went to Duluth, where he speedily recovered from these

symptoms. In the spring of 1896 he first noticed a swelling in the left side. The tumor was diagnosed as splenic, and within six months attained about its present size. He has taken Fowler's solution for the past three years. On May 4th, 1900, he entered the Marine Ward of the Buffalo Hospital of the Sisters of Charity, complaining of diarrhea. Marked tenderness was found over the sternum and tibias, and a splenic tumor was found, the limitations of which were as follows:—

From the navel toward the right	5 inches.
" " " " left	11 inches
" " " upward	7 "
" " " downward	6 "

A blood examination made by me two days later gave the following results:—

Hemoglobin.	50% von Fleischl
Leukocytes.	272,000 per c.m.m.
Erythrocytes.	3,630,000 per c.m.m.
Ratio of white to red cells, 1:13.3.	
Differential count of leukocytes:—	
Lymphocytes (small)	08%
Large monocuclear leukocytes and transitional forms.	2.5%
Polymorphonuclear neutrophiles	39.6%
Eosinophiles.	6.4%
Mast cells.	1.3%
Myelocytes.	49.3%
Eosinophilic myelocytes.	0.1%

Nucleated red cells:—In counting 1000 leukocytes there were seen 30 normoblasts and 14 megaloblasts. The nuclei of several of these cells showed a tendency to subdivide and one megaloblast was seen in which the nucleus was completely divided into two equal parts. The red cells showed poikilocytosis with macrocytes and microcytes and a few showed polychromatophilic degeneration. Atypical forms of leukocytes which are difficult to classify were seen in large numbers. The entire blood picture was characteristic of a high grade of myelogenous leukemia. The urine showed no abnormality except a moderate increase of indican. The patient was discharged from the hospital May 19th, 1900, unimproved.

CASE 2.—P. B., male, age 13 months: The elder of twins and from birth the smaller and weaker. The family history is negative, father, mother and twin brother are living and in good health. The child was never robust, but his illness dated only from March, 1900, and was characterized by severe anemia, feebleness, occasional diarrhea and malnutrition. Beginning in April there was slight irregular fever. In May a tumor was first observed in the left side of the abdomen. There was at no time any visible or palpable enlargement of the superficial lymph nodes, nor were there any hemorrhages observed.

I saw this patient June 1st, 1900, and found the child moderately emaciated, with enlarged abdomen and with a profound pallor. The spleen was easily palpable and extended downward to the level of the umbilicus. Its edge was parallel to the free border of the left ribs and from 1½ to 2 inches from it. The blood examination gave the following results:—

Hemoglobin.	30% von Fleischl
Leukocytes, 21,600 per c.m.m.	
Erythrocytes, 1,912,000 per c.m.m.	
Ratio of whites to reds, 1:91.	
Differential count of leukocytes:—	
Lymphocytes, large and small	87.0%
Polymorphonuclear neutrophiles.	10.5%
Eosinophiles.	1.5%
Myelocytes.	1.0%

In counting 200 leukocytes there were seen 8 normoblasts and 8 megaloblasts. The blood picture is striking through the great predominance of lymphocytes, showing all gradations from small to very large, many of them staining poorly both in nucleus and protoplasm. The large forms are very numerous, but the presence of all intermediate sizes renders the subdivision into two groups impracticable. The great diminution in the percentage of neutrophiles is very striking. The red cells show a marked poikilocytosis. Microcytes and macrocytes are numerous, as well as all manner of irregular forms. Polychromatophilic degeneration is well marked. Diagnosis:

subacute lymphatic leukemia. This patient died 17 days later. No autopsy was held.

CASE 3.—X., female, age 7 months. Family history:—Father and mother, aged respectively 39 and 30, both born in Italy, are living and in good health. Of twelve uncles and aunts nine are alive and well. The causes of death in the other three unknown. No specific history. Oldest brother, sound and well until five months old, when he developed enlargement of the abdomen, great anemia and emaciation. These conditions continued until the eleventh month, when he died. Second brother, died at three months of bronchitis. Third brother, developed gangrene of both lower extremities at the eleventh day, which gradually extended upward until his death on the twenty-first day. Sister, well until four months old, when she developed marked anemia, splenic tumor and emaciation, and died at the eighth month. Fourth brother, except for some of the ordinary infectious diseases of children, has always been well, and is so now at the age of four years. Case number three, the sixth child in this family was apparently well until four months old. He then developed anemia, which became profound, enlargement of the spleen, emaciation, troublesome diarrhea, slight irregular fever and great debility. There was noticeable enlargement of the superficial lymph-nodes in the cervical and axillary regions. No history of hemorrhages. At the age of seven months, July 16th, 1900, I examined the blood of this patient with the following results:—

Hemoglobin.	25% von Fleischl
Leukocytes, 33,000 per c.m.m.	
Erythrocytes, 1,150,000 per c.m.m.	
Ratio of white to red cells, 1:35.	
Differential count of leukocytes:—	
Large and small lymphocytes.	78.6%
Polymorphonuclear neutrophiles.	18.2%
Eosinophiles.	1.8%
Myelocytes.	1.4%

In counting 500 leukocytes 14 nucleated red cells were seen, all normoblasts, and one of them showing mitotic division of the nucleus. The other characteristics of the stained specimen were essentially similar to those seen in Case 2, the most noticeable difference being the absence of megaloblasts. Diagnosis:—Subacute lymphatic leukemia. The patient died about one month after this examination. No autopsy was held.

In cases 2 and 3 it will be noted that the absolute numbers of leukocytes were not sufficiently high to exclude a leucocytosis and a study of the morphology of the white cells was necessary in order to arrive at a diagnosis. Case number 3 is further interesting, because it seems highly probable from the history that a brother and a sister of this child also died from leukemia.

In conclusion, a few words as to the diagnosis of cases 2 and 3. It may be urged that these should be regarded as examples of the anemia infantum pseudo-leukemica of von Jaksch. Without entering into the controversy as to whether or not we are justified in regarding the group of rather widely varying cases which have been classified under this title as examples of a distinct disease, I would say that I am inclined to agree with von Limbeck (14), Schmaltz (18), Epstein (19), Raudnitz (19), Fischl (19), and Cabot (12), in questioning the existence of anemia infantum pseudoleukemica as a definite entity.

My two cases, moreover, differ from von Jaksch's description of this disease in at least the following points:—

a. Neither the number of red cells nor the amount of hemoglobin is reduced below the findings in well authenticated cases of leukemia.

b. Extraordinarily large neutrophiles are not found.

c. No white cells have been found which contain red cells or portions of red cells within their protoplasm.

d. The great majority of the leukocytes are lymphocytes and not polymorphonuclear neutrophils.

While recognizing the frequency of splenic tumor, of an increased percentage of lymphocytes and of the appearance of numerous nucleated red blood cells in the severe anemias of infancy, and while regretting the absence of autopsies in these two cases, still, in view of the very great preponderance of lymphocytes, and of the absence of all evidence of tuberculosis, syphilis, rachitis, or other cause of secondary anemia, I feel justified in classifying both cases as instances of true lymphatic leukemia.

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CLINICAL EXPERIENCE WITH ADRENALIN.*

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The aqueous extract of the suprarenal glands is, perhaps, the best culture medium known. Its instability, the involved method of preparation, its unsightliness, and finally the inexactitude of its various strengths, all tend to make us welcome a preparation which shall be exact, stable, and, above all, clean.

Chemists of repute have been laboring unceasingly in the attempt to isolate the active principle, and in 1897 Prof. J. J. Abel, of Johns Hopkins University, announced that he had succeeded in isolating the blood-pressure-raising constituent of the suprarenal gland, which he named Epinephrin. Some time after Dr. Otto von Furth of Strasburg, declared, in the *Zeitschrift für Physiologische Chemie* (Vol. XXIX, p. 106), February, 1900, that Epinephrin was merely impurities mixed with the active principle, and claimed that he had isolated the real active principle, which he named Suprarenin.

In a recent communication (*American Journal of Physiology*, March, 1901), Prof. Abel says that Suprarenin is only a modification of Epinephrin.

Believing that neither Prof. Abel, nor Dr. Furth had obtained the active principle in pure isolated form, Dr. Jokichi Takamine, now of New York city, recently undertook the task of isolating the active principle of the suprarenal gland, and stated that he had been successful in isolating the blood-pressure-raising principle of the gland in a stable and pure crystalline form. His methods were entirely different from those of either Abel or Furth, and not wishing to usurp the credit due to previous investigators, he named his product Adrenalin.

The following is a description of Adrenalin and its physiological effect: "Adrenalin is a light, white, micro-crystalline substance, showing itself thus far in five different forms of crystals, according to the different condition of solutions from which they have been made. In fact, a given quantity can be transformed from one shape of crystal to another by a different method of crystallization. The five different ones are: (1) wart, or tomato-like; (2) boat, or leaf-shaped; (3) rhombic plates and their agglomerations; (4) fine needles; (5) prism-shaped. Adrenalin has a slightly bitterish taste, leaving a numbed feeling on the spot of the tongue where it has been applied. When dry it is perfectly stable. On heating it turns brown at 205° C., and melts, decomposes and swells simultaneously at 207° C. Adrenalin shows slightly alkaline reaction on moistened litmus paper. Phenol-phthalein also indicates slight alkalinity. It is soluble in cold water with difficulty, and more readily in hot water. The hot saturated aqueous solution separates the crystal after cooling. The colorless aqueous solution of Adrenalin is easily oxidized by air, changing its color from pink to red and eventually to brown. It is easily soluble in acids or alkalies, but not in ammonia or alkaline carbonates.

"Three kinds of salts, Hydrochloride, Sulphates, and Benzoates were made, by carefully dissolving Adrenalin with three different acids and evaporating *in vacuo* over strong sulphuric acid. In course of time they became a brown brittle amorphous mass, deliquescent in the air. So far efforts to crystallize them have failed. Experiments were made and showed that the physiological activity of Adrenalin was astoundingly strong. A fraction of one drop of aqueous solution of Adrenalin or its salt, in the strength of 1 to 10,000, blanches the normal conjunctiva within 30 to 60 seconds. It is a powerful astringent.

"Intravenous injection produces a powerful action upon the muscular system in general, but especially upon the muscular walls of the blood vessels and of the heart, resulting in enormous rise of blood-pressure.

"A comparative test of the strength of Adrenalin with the fresh extract of suprarenal gland, 1 cc. of which represents 1 gramme of fresh gland, was carried out on a dog weighing 7 kilos. Adrenalin solution corresponding to 0.000008 gm., was intravenously injected, and the rise of blood-pressure was 14 mm. of mercury. In order to have an equal amount of rise in blood-pressure, 0.005 gm. of the suprarenal extract was necessary.

"These data show that Adrenalin is 625 times

*Read before the Section of Laryngology of the New York Academy of Medicine, March 27th, 1901.

stronger than suprarenal extract. The sample of Adrenalin used for this experiment contained some mineral impurities, and pure Adrenalin will be over 1000 times stronger than the fresh gland.

"Approximately 1-200,000 grammes of Adrenalin intravenously injected into an adult man is sufficient to produce some distinct effect."

A small quantity of the solution of Adrenalin chloride, 1 to 5,000 in normal salt solution, was placed in my hands in December, 1900, through the courtesy of Dr. W. H. Bates. The liquid was colorless, odorless and slightly salt to the taste. By an accident the fluid was lost, but early in the present year several bottles of varied strengths of this solution, 1 to 1,000, 1 to 5,000, and 1 to 10,000, together with a bottle of the crystals of Adrenalin, were placed in my hands for experimentation, through the courtesy of Dr. Takamine. The cases in which these were applied were all rhinological, and it is to their effect in these conditions only that my remarks apply. The blanching of tissues following the application of the strongest of these solutions was accompanied within a few seconds and was very thorough. It was less extensive and a trifle slower as the weaker solution was applied. In no instance was there any constitutional disturbance following its use. Since these investigations began no suprarenal extract has been employed by me for any purpose whatever. The solutions were in colored glass bottles, with glass stoppers, and slowly changed in color, becoming pink, brown and finally muddy, and floccules, such as are noticed in cocain and morphia solutions, appeared. The effect of the remedy was not altered by these changes, and the same bottles and their contents were constantly employed for six weeks. Subsequently a small amount of chloretone was added to the fresh solutions, and now there is but slight change of color and no floccules appear. The specimen of this latter solution here presented has been in daily use for a month from the same bottle, and it will be seen to be clear and slightly yellow in color. Tablets of Adrenalin tartrate have been made which are readily soluble in water,; one dissolved in 16 grammes of water makes a solution of 1 to 1,000. These tablets are so prepared that their solution remains unchanged when dissolved. Still smaller tablets are to be had, and one of these latter, when dissolved in enough water to fill the ordinary atomizer bottle, will be all sufficient for the patient's use. It is needless to say that this form of the tablet will be most convenient. The thirty-five cases in which this active principle was applied are taken from my case book from among my private patients, and from notes made at my clinic. They are here briefly tabulated: The tables presented show at a glance that the usual effect of the aqueous extract of the suprarenal gland was obtained. A few operative cases bled freely, a fact that occurs occasionally with the extract itself, but in every instance the hemorrhage was promptly checked by a second application of Adrenalin. Following my previous experience with the suprare-

nals, in which subsequent hemorrhage occasionally occurred, every case operated upon, except two, were packed after operation with iodoform gauze and the dressing left in situ for 24 hours. No hemorrhage occurred in these cases. In the two cases the patients' noses were not packed, but they were placed in bed and kept quiet, for two days and Adrenalin 1 to 10,000 was applied by means of spray every two hours. There was no subsequent hemorrhage in either of these cases.

It is worthy of note that following the use of suprarenal extract and also of Adrenalin, a slough occasionally forms just as occurs in cautery operations on the mucous membranes. This has occurred in quite a number of cases, both post-operative and in merely inflammatory states, and probably tends to protract the subsequent healing. This effect may be useful to us in some of our operative work on the nasal mucosa.*

It will be seen that not only was the Adrenalin used as a hemostatic, but for the relief of nasal congestion, as a diagnostic aid, and for the continuous treatment of acute inflammatory affections of the accessory sinuses. It was of this latter effect of the suprarenals that I wrote to Bates some months ago, that if that remedy had no other uses, its value in giving prompt relief in acute vaso-motor rhinitis was so enormous as to place it in the front rank in nasal therapeutics.

The following conclusions seem justifiable as a result of personal experience with the active principle of the suprarenal gland in these cases:—

1. Adrenalin solutions supply every indication in rhinological practice for which the aqueous solutions of the extract have been hitherto applied.
2. They can be used in sterile form.
3. They remain unchanged for a long time.
4. A solution of 1 to 1,000 is very strong and is all sufficient for operative cases, and 1 to 5,000 or 1 to 10,000 for every purpose of local medication.
5. They may be safely applied to persons of every age and of either sex.

My own experience having been so highly satisfactory with Adrenalin, makes me feel justified in saying that in the isolation of the blood-pressure-raising principle of the suprarenal glands we are confronting an epoch-making discovery. The discovery of the active principles of other animal substances will be sure to follow in the near future and organo-therapy will not only derive a new impetus, but exactitude in the administration of these remedies will be sure to follow.

We will no longer be compelled to use an animal extract of potency to-day, and an utterly inert one at another occasion, but would always have the same remedy of known strength and power. Percentages of solutions would be exact in every instance, and in appropriate cases their administration by hypodermic methods could safely be employed with absolutely sterile solutions.

TABULAR CONSPECTUS OF THE APPLICATION OF ADRENALIN.

Case No.	Age	Sex	Solution 1 part in	CONDITION.	RESULT.
1	48	F	5000	Evulsion of nasal polyp, cold snare	Bloodless
2	21	M	5000	Breaking nasal synechiae, blunt separation	Bloodless
3	31	M	5000	Nasal congestion causing constant cough	Relief prompt and lasting
4	21	M	1000	Enchondrosis septum, electro-trephine	Bled freely
5	26	F	10,000	Nasal congestion, spray for patients use	Great relief
6	31	M	10,000	Nasal congestion, spray for patients use	Great relief
7	54	M	10,000	Nasal congestion, spray for patients use	Great relief
8	14	F	1000	Polypoid degeneration and hypertrophied middle turbinate uncapped and snared	Bloodless
9	21	M	1000	Polypoid degeneration and hypertrophied middle turbinate uncapped and snared	Bloodless
10	26	F	1000	Enchondrosis septum, electro-trephine	Complete subsidence of symptoms and eventual recovery
11	32	F	10,000	Acute rhinitis, acute infection of maxillary antra, spray used by patient every two hours	Complete subsidence of symptoms and eventual recovery
12	45	M	10,000	Acute rhinitis; used by patient	Relief
13	28	M	5000	Discomfort and tension after Asch operation	Immediate Relief
14	52	M	5000	Epistaxis (ulcer septum)	Immediate Relief
15	50	F	1000	Removed degenerated middle turbinate	Bloodless
16	28	M	10,000	Subsequent to operation enchondrosis septum	Used at home with comfort
17	7	M	10,000	Acute rhinitis	Relief
18	10	F	10,000	Acute rhinitis	Relief
*19	35	M	Tablet	Enchondrosis septum, trephine	Bloodless
*20	18	F	Tablet	Enchondrosis septum, trephine	Bloodless
21	28	M	10,000	Nasal polypi	Bloodless
22	22	M	10,000	Enchondrosis septum, trephine	Slight bleeding
23	23	M	10,000	Excision middle turbinate, Holmes' scissors	1-5000 Stopped hemorrhage
24	18	M	5000	Enchondrosis septum, trephine	Bloodless
25	22	F	5000	Hemorrhage after packing excision middle turbinate	Slight bleeding checked by 1-5000
26	23	M	10,000	Snaring lower turbinate	Slight bleeding checked by 1-5000
27	30	M	10,000	After operation middle turbinate, spray two days	No bleeding
28	35	F	10,000	Excision middle turbinate	Bloodless
29	19	F	10,000	Cystic degeneration inferior turbinate, snare	Brisk hemorrhage ceased after packing 1-5000
30	18	F	5000	Excision middle turbinate	Bloodless
31	62	F	1000	Angioma septum, cold snare	Bled freely, but checked at once by 1-1000
32	14	F	5000	Exostosis septum removal	Bled freely, but checked at once by 1-1000.
33	21	M	1000	Deviated septum, Asch operation under Cocain	Bloodless
34	25	F	1000	Excision middle turbinate	Nearly bloodless, slight bleeding checked by 1-10000
35	45	M	5000	Enchondrosis septum	Slight

*Note—No. 19 and No. 20 were treated with a solution of the tablet of Adrenalin Tartrate. 1 in 1/2 oz. of water makes a solution of 1-1000.

OBSERVATIONS AND TABULATED REPORT OF THE RESULT OF ONE HUNDRED AND FIFTY OPERATIONS FOR APPENDICITIS.*

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My object in presenting a paper on a subject which has received such an exhaustive discussion, as has appendicitis, is to present the results ob-

tained in a few anomalous cases and to state the conclusions which the balance have forced upon me. I know of no other class of surgical work which calls for as much acumen to arrive at a differential diagnosis as is required in obscure cases in appendiceal surgery. The initial symptoms in an acute attack of appendicitis, under ordinary circumstances, are so plain, and, in a few instances, so easily recognized, that I can scarcely conceive how the disease is permitted to advance in so many patients to the point where the pus forms, or why their lives should be jeopardized by waiting for something to turn up. The cases upon which my observations are based have not been selected, but have been taken as they come, good and bad, acute and chronic, and will therefore present the average good and bad cases in each variety. The mortality is low, but I do not dare hope ever again to attain such good fortune. The more cases one sees of this dangerous affection, the more difficult they become from an operative point of view, because we meet with more neglected cases and our mortality must therefore of necessity be greater.

The ordinary symptoms of appendicitis I shall dismiss with but mere mention. The acute onset of the disease associated with nausea or vomiting, the colicky pain, the tenderness and rigidity are characteristic of acute inflammatory disease of the appendix. These symptoms may not all be present in the early hours of the attack. The acute onset of any abdominal pain should always make the physician suspicious of appendicitis and under the circumstances invites an examination of the abdomen to ascertain the cause of the pain. If this were done systematically there would not be so many neglected cases of appendicitis. Unfortunately, only too often, a hypodermic injection of morphine is administered which tends to obscure the symptoms. Upon inspection, the abdomen of a patient suffering from an acute attack of appendicitis, will show voluntary restricted movement and that they favor the affected side. Upon palpating the abdomen lightly, a distinct sense of resistance is noticeable, which is lost, however, if the pressure exerted is too great. As the region of the inflamed appendix is approached, the amount of tenderness, pain, and rigidity is found to increase.

The location of the pain, tenderness and rigidity depends upon the site which the appendix occupies. If the appendix is retro-cecal the symptoms will be confined to the right iliac fossa; if the appendix points toward the median line, the maximum focus of the symptoms will be shown there; while, if the appendix points into the pelvis, and the tip alone is involved, the symptoms will be confined almost entirely to the left side of the abdomen. If the body of the organ is included in the inflammatory process there may also be right-sided symptoms. In certain cases of appendicitis the onset of the attack is associated with pain which has been mistaken for kidney colic. This pain should not be mistaken for a renal affection, for it is an inflammatory pain and is not associated with any urinary disturbance.

The symptoms of appendicitis after pus formation are more readily recognized. The symptoms of the onset of the disease are still in evidence, viz., pain, tenderness, and rigidity. The pain in the later stage of the disease is continuous, while the pain

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of onset is paroxysmal. The tenderness is more marked after pus is present and becomes aggravated as the collection increases in size and amount. The rigidity gradually increases as the disease advances until the abdominal wall becomes stiff and board-like to the touch. If the appendix is located in the pelvis and a purulent collection is formed, then the left-sided symptoms are more marked and the vesical symptoms are aggravated. When the bladder is full or partially filled, the discomfort is not so distressing, but during micturition and after the bladder has been emptied, the contraction of the bladder makes traction upon the adhesions, thus increasing the pain. The purulent stage of appendicitis is most frequently associated with a mass. The location of the mass is variable and is dependent upon the position of the appendix; it may be found behind the cecum, in front of the bladder, on the left side of the abdomen (iliac fossa), toward the median line behind the mesentery, and even extending down upon the thigh. Although fecal impaction has been considered as one of the causes of the mass in appendiceal disease, I have never found this to be the case.

The temperature or pulse-rate are valueless as indications, in appendicitis, of how far the disease has advanced or what may be the condition within the abdominal cavity. I have seen on more than one occasion a patient with a large purulent collection, whose temperature and pulse-rate were normal; while, in other instances, there was every indication of the presence of pus with high temperature and rapid pulse and yet operation revealed only a moderate invasion, microscopically, involving the mucus and submucus coats of the appendix alone. In one instance I saw a child which had an almost typical typhoid temperature where operation revealed numerous small abscesses in the tip of the appendix.

The diagnosis I have found easy to make with but few exceptions. The cases in which there was any doubt occurred entirely with the female sex and were associated with some disease of the adnexa. In one case there had been a previous history of dysmenorrhea; there was no apparent disease of the tubes or ovaries on vaginal examination; still, a mass was noted in the right broad ligament, which was tender to the touch and imparted to the patient the same sort of pain which was elicited on palpating the abdomen; she had the classic symptoms of the onset of an acute attack of appendicitis. Operation revealed a purulent collection in the pelvis, a perforated appendix which was adherent to the right broad ligament, tube and ovary. There was some question as to the propriety of leaving the tube and ovary on the affected side owing to involvement in the abscess wall and to the fact that they had been included in the inflammatory process. They were not removed and at the present time are in normal condition. The patient at this time is free from her dysmenorrhoea.

In another instance the case was complicated by an extra-uterine fetation on the right Fallopian tube. The patient suspected pregnancy and had been examined by me some weeks previous to the attack of appendicitis, her pelvis was found to be clear. Four weeks later she was suddenly attacked with an acute abdominal pain with all the symptoms of an

acute attack of appendicitis. Owing to the previous question of pregnancy, a vaginal examination was made, when a mass was revealed which I made out to be an extra-uterine pregnancy. Operation revealed an acute appendicitis with the appendix attached to the right broad ligament, and an unruptured extra-uterine pregnancy of the right Fallopian tube. With all the symptoms present, the diagnosis should be easy. The initial symptoms of pain, tenderness and rigidity, with nausea or vomiting make the diagnosis.

A differential diagnosis must be made between appendicitis and intra-abdominal lesions other than appendicitis do we have the precise sequence of symptoms that are almost always present in acute disease of the appendix. The acute intestinal disturbances, such as enteralgia and indigestion, like appendicitis, have an acute onset, but differ from it in that they do not have the localized tenderness and rigidity. The pain in appendicitis is aggravated by pressure, while in enteralgia it is somewhat relieved. In appendicitis the pain does not remain at the point of the abdomen in which it makes its appearance, but becomes localized later at the focal point of the appendiceal inflammation, while in acute indigestion and in enteralgia the pain remains localized about the umbilicus.

The differential diagnosis between typhoid fever and appendicitis should not be a difficult one to make on account of the prodromal symptoms on the one hand and the acute onset on the other. If the patient, the subject of an attack of appendicitis, is seen late after pus has formed, and there is a hectic temperature, then it might present some features in common with typhoid fever. A careful examination of the abdomen, and a review of the history of the onset will clearly demonstrate which affection the patient is afflicted with. In appendicitis there is a history of sudden onset, with pain, tenderness, nausea or vomiting and paroxysmal localized pain; while in typhoid fever the history will show that the patient has suffered from backache, headache, epistaxis, lassitude, and the classical temperature record with diffused abdominal pain.

From acute intestinal obstruction appendicitis can be readily diagnosed from the indifference of onset. The symptoms in acute intestinal obstruction are ushered in with more acuteness, the pain is not paroxysmal as it is in appendicitis, but remittent; the pain is always referred to the neighborhood of the obstruction, and this is most commonly found in the region of sigmoid flexure of the colon, unless it is an obstruction from a band, or diverticulum, when it will be found in the lower part of the abdomen. There is absolute constipation in obstruction while in appendicitis, there may be either diarrhea or constipation. There is usually subnormal temperature in obstruction, while in appendicitis the temperature is practically unchanged. In intestinal obstruction there is discharged from the bowel both blood and mucus. Shock is not associated with appendicitis except when perforation occurs or general peritonitis sets in, while shock is a common symptom of obstruction.

The inflammatory disease which is most difficult at times to differentiate from appendicitis is acute cholecystitis, with or without

gallstones. Both appendicitis and acute cholecystitis are inflammatory diseases, and are both usually confined to the right side of the abdomen; they have symptoms alike, viz., pain, tenderness and rigidity. If the patient is seen early it will be noticed, if suffering from acute inflammatory disease of the gall-bladder, and if free from adhesions, that the distended gall-bladder will move with respiration; again, that the gall-bladder occupies a higher position in the abdomen and that a line drawn from the tip of the ninth rib to the umbilicus and divided at its center will approximately indicate the position of the normal gall-bladder: it is at this point, or thereabouts, that the maximum amount of tenderness and pain will be found if the gall-bladder is involved. In appendicitis the maximum focus of the symptoms will be noted at or about McBurney's point. I had the opportunity of examining a patient, some time since, who had had several attacks of hepatic colic; quite recently he had an acute attack of appendicitis. Examination demonstrated a tender spot over the appendix and another over the gall bladder. Operation revealed an enlarged and cystic appendix; the gall bladder was found considerably distended and contained twenty stones.

The prognosis in appendicitis is good, except as I have before stated, when operation has been delayed. In cases of appendicitis which have been permitted to advance to the suppurating stage, operation is always attended by more uncertainty, not only on account of the condition when seen, but as much in consideration of the remote effect of the disease plus the effects of operation. These may be summed up as the sequelae, viz., liability to acute intestinal obstruction whether due to adhesions: to contraction of the abscess wall and kinking of any loops of bowel included in the abscess wall; or from a parietic state of the bowel from sepsis or from distension: or a deposit of lymph which will interfere with the peristalsis of the bowel.

The cases operated upon for chronic diseases all made a good recovery. Of the acute cases operated upon four died, giving a mortality in all the cases of two and two-third per cent.

The cases that died I will relate in brief:

CASE 1.—E. was aged twenty-four years, he had had five attacks. The diagnosis was made thirty-six hours after the onset. The appendix was gangrenous and greatly distended with pus. This patient did badly from the time of operation until his death. The vomiting persisted and the patient presented all the evidence of peritonitis. The bowels were very hard to move, although the patient passed flatus occasionally. The abdomen was distended. Autopsy revealed an ileus, which had its origin in the small bowel at a point corresponding to a small deposit of lymph which was located in the mesentery. The peritoneal cavity contained clear fluid. At the time of the operation a drop of pus escaped from the appendix as it was removed and dropped on the abdominal wall; this spot subsequently broke down and left a sharply defined ulcer showing the intensely infectious nature of the contents of this appendix.

CASE 2.—R., aged nineteen years, had three attacks of appendicitis. The diagnosis was made forty-eight hours after the onset. The operation took place seventy-two hours after the onset. A large abscess was found extra-peritoneally, a second abscess existed within the peritoneum and was not entirely walled off; the appendix was gangrenous as well as the omentum. The appendix and gangrenous omentum were removed. The wound was packed, no attempt being made to clean the abdomen. The patient died twenty-four hours later from sepsis.

CASE 3.—B. was aged twenty-four years. This was her first attack. The diagnosis was made thirty-eight hours after the onset. The operation occurred twelve hours later. A small abscess was found, the appendix was adherent to the iliac vessels. The appendix was removed. Drainage was employed. Death occurred twelve hours after operation and was due to heart failure induced by suddenly arising from the recumbent position during the absence of the care-taker.

CASE 4.—Miss M., aged twenty-two, had one attack. She was sick one week when the diagnosis was made. She was operated upon on the day the diagnosis was made. The condition of the abdomen found at the operation was as follows: A huge abscess extending from the lower border of the ribs to the iliac crest, and bounded internally by the median line. The appendix was perforated. The appendix was removed and the abscess cavity drained. Ten days later the temperature suddenly shot up and the patient became delirious. The abdomen was reopened and a secondary collection evacuated. The patient died two days later. The autopsy revealed a pyelo-phlebitis with multiple abscesses of the liver.

The treatment of appendicitis has for some time past been considered as properly within the province of the surgeon. If this is so considered, then it must be proper and fit for the surgeon to select such means or measures as will best safeguard the sufferer and restore him to health. It is incredible that, at this time, there should be any discussion as to the advisability of removing a diseased organ; or as to the proper time for its removal. The best of the diseased appendix for numerous reasons: to results are always obtained by the prompt removal prevent pus formation; to avoid avoidable complications; to exclude peritonitis, if not already present; to insure a speedy recovery with the least likelihood of sequelae, which must come in a certain percentage of cases if the disease is permitted to advance until pus has formed or the peritoneal cavity invaded with pus from a ruptured appendix. The treatment of appendicitis should be confined to surgical measures and these varied to meet the individual cases, either acute or chronic. There can be no fixed or fast rules laid down to govern these cases, but certain surgical principles are involved which, if observed, will make our results all that can be desired.

In two of the cases the purulent collection was evacuated and the appendix left undisturbed, as I did not deem it wise to remove the organ at the time of operation on account of the desperate condition of the patient. After the immediate effects of the disease were under control, the appendix was removed, thus completing the otherwise unfinished procedure. I believe it is bad surgery to make this a universal practice, but there are, however, isolated instances where conservatism, if it may be so called, can be properly practiced.

An analysis of the tabulated statistics is of interest. Of these cases 5 had the diagnosis made at once after the onset of the disease; 11 within nine hours; 9 within fifteen hours; 5 within twenty-four hours; 4 in thirty-six hours; 15 in forty-eight hours; 9 in three days; 5 in four days; 1 in six days, and 1 at the expiration of a week. In one case the attack was fulminating.

Operations were performed in the acute cases as follows: 4 within ten hours after onset; 11 after fifteen hours; 11 after twenty-four hours; 4 after thirty-six hours; 5 after forty-eight hours; 13 after three days; 3 after four days; 5 after five days; 1 on

POINTS CONNECTED WITH THE GENERAL ETIOLOGY AND PATHOGENESIS OF DIABETES MELLITUS.**

HENRICH STERN, PH. D., M. D.

of New York.

It may appear a paradox, but it is a fact that, in the United States, at least, the mortality statistics afford us the most reliable method of obtaining certain general etiological data of diabetes.

I have revised and studied the mortality statistics of New York City for a period of 11 years (1889-99 incl.), pertaining to diabetes mellitus,** and in the following are given a few of the data and conclusions derived therefrom:

Sex: Of 1867 deaths from diabetes mellitus, 931, that is, almost 50%, occurred in females. This proportion differs widely from the supposition that the affection is much more fatal in males than in females. Former mortality reports have shown that from two to two and a half times more men succumbed to this malady than women. It is but consequential to assume that the death rate from diabetes mellitus stands in direct proportion to the frequency of the disease itself, and that in New York City about equal numbers of both sexes are afflicted with it.

Infantile Diabetes: Judging by the mortality from diabetes mellitus in childhood, the period when this disease almost always terminates fatally, we may adduce that this malady is a rare affection in infancy and early adolescence. I found 4 cases of death from diabetes mellitus in infants below 1 year of age during the 11 years from 1889-99; at 1 year of age 1 death; at 2 years of age, 2 deaths; at 3 years, 2 deaths; at 4 years, 4 deaths ensued, that is 13 instances in which the disease terminated fatally below the 15th year of life. Between the 5th and 9th year 11 cases of death are on record for the period in question; from the 10th to 14th year of life I came across 17 recorded instances; and from the 15th to the close of the 19th year the mortality from this affection amounted to 38. The total mortality from diabetes in infancy and early adolescence being 79 forms about 4.25% of the total deaths from this disease during this period of 11 years. Of these 79 deaths, 55, which is over 70%, occurred between the ages of 10 and 19. The period of puberty seems to be without influence upon the production of diabetes mellitus or upon its fatal termination.

Sex in Infantile Diabetes.—Of the 13 instances of death which occurred under 5 years of age, 3 took place in females. Among the 66 other instances of deaths from diabetes in early life, 33 ensued in males and 33 in females, exactly 50% in each sex. The external conditions of life in the United States as a general rule are in the mean the same for both sexes to the 20th year; a fact to which the equal

distribution of the disease in both sexes may be well ascribed.

Race.—The death rate from diabetes in the colored race is exceedingly low. This may be due to either the infrequency with which the pathologic condition appears in the Ethiopian race or to its occasional non-recognition when it is present. Of the 15 instances of death from diabetes which ensued among the colored population of New York City, between 1889-'99, 9 occurred in males and 6 in females.

Hebrews, no doubt, are more commonly affected with chronic glycosuria than is the nation among whom they dwell. The death certificates in the United States furnish no direct evidence whether the deceased belongs to the Jewish race or not nor in many instances does the name disclose the racial identity. Those buried in the Jewish cemeteries were classed by me as Jews. A few others of undoubted Jewish origin (personal name, name of parents, place of birth) not interred in specific Jewish burial grounds, were also counted among the Jews. Out of a total of 202 deaths in 1899, 54, that is, about 25%, occurred in Jews; of these 21 were males and 33 females.

Of those born in Ireland, 37 succumbed to diabetes in 1899. Taking the Irish as a race—as I have done with the Jews—adding those who were born outside of Ireland of Irish parentage or who are of Irish descent, we have a total mortality of at least 51—22 males and 29 females. This figure also forms over 25% of the total mortality from diabetes mellitus.

The frequent mortality from diabetes mellitus in the Jews and Irish may be ascribed to manifold causes; mental exertion, the characteristic modes of living, gluttony, alcoholic intoxication, etc., might be considered predisposing factors in the production of the diabetic state but the cardinal predisposing cause in my opinion, is the breeding in and into which, in a very pronounced degree, the Jewish, as well as the Irish race, still adhere.

Frequency of Diabetes Among the Poorer Classes.—Diabetes mellitus is not a special visitation upon the well-to-do as is commonly supposed; but it occurs frequently among the working people between whom gluttony and leisure hours are the exception. Among the 102 males who died from diabetes in 1899, 66 at least were working for a livelihood or were dependent upon others, and lived in tenement houses.

For clinical purposes we may ascribe the various glycosurias to one or more of the following causes:

1. To excessive ingestion of carbohydrates—alimentary glycosuria.
2. To diminution, or functional disturbance, or excessive or abnormal disintegration of the erythrocytes:—glycosurias following the introduction of poisons and toxins, or the perverted function or removal of certain glands and organs—hematogenic glycosuria. (Pancreatic diabetes—Seegen's grave diabetes).
3. To traumatism—neurogenic glycosuria.
4. To interference with the glycogenic function of the liver to the extent that the ingested carbohydrates are not utilized normally—common or hepaticogenic diabetes.

*Diabetes mellitus. The mortality therefrom in the city of New York during the period from 1889 to 1899; from the official records. Comments.—Journal Am. Med. Ass'n., Jan. 28, 1901.; also the mortality from diabetes mellitus in the City of New York (Manhattan and the Bronx), in 1899. Classified according to months, age and sex; also an expose as to nationality, duration of residence in the United States, occupation, direct causes of death and accompanying diseases.—Med. Record, Nov. 17, 1900.

**Read at the meeting of the New York Academy of Medicine, March 19, 1901.

5. To a general protoplasmic deterioration and plasmolysis—diabetic deterioration.

It would be beyond the scope of this paper to dwell at length upon the special and direct underlying factors of every type of glycosuria. Besides, the primary cause of all hyperglycemic conditions—excepting the alimentary form—seems to be one and the same, and the true pathogenesis of one clinical type of glycosuria or diabetes appears, therefore, the true pathogenesis of all the others. Assuming that the primary stimulus of hyperglycaemia acts by the medium of the blood, the clinical subdivision, hematogenic glycosuria or diabetes, although per se not comprising the other before characterized clinical forms, gains at once special importance. In the following I shall consider only the hematogenic form and the most typical of all diabetic conditions—the diabetic deterioration.

HEMATOGENIC GLYCOSURIA AND DIABETES.

Ludwig Bremer's method of diagnosing diabetes from a drop of blood * while in all likelihood will never supplant in general favor the older and more approved tests, for glycosuria or diabetes, has served on the other hand, the admirable purpose of drawing attention to a hitherto unknown factor in hyperglycaemia. The St. Louis physician was the first to observe that erythrocytes of diabetic blood stained with an eosin-methylene-blue solution, did not appear red or brown-red, as would the red corpuscles of normal blood, but that they attain a yellow or yellowish-green coloration. Having found that the specific reaction does not depend on the presence of dextrose, as it does not ensue in artificially saccharated healthy blood on the application of the eosin-methylene blue solution, he concluded that there is a foreign substance in the diabetic erythrocytes which calls forth this unusual phenomenon.

The reducing power of diabetic blood upon a weak solution of methylene blue, first observed by Williamson,* confirms, to a certain degree, Bremer's conclusions. This reaction, due in part to the reducing quality of dextrose, cannot be ascribed to the latter alone, as the amount in which this substance usually occurs in glycosuria does not suffice to bring about the very pronounced methylene blue reduction, and as it will take place even then, when the diabetic had not excreted glucose for some time.

*Centralblatt, f. d. med. Wissenschaften, 1894, No. 49; Med. News, Feb. 9, 1895; "an improved method, etc.," N. Y. Med. Journal, March 7, 1896. "Die Diagnose des Diabetes Mellitus aus dem Verhalten des Blutes gegen Anilinfarben," Centralblatt, f. innere Med., 1897, No. 23. In the last communication the author speaks of the reaction ensuing when stained with Congo red, methylene blue, and Ehrlich-Blandi's fluid. When treated with Congo red and methylene blue diabetic blood does not appear colored as the normal blood; treated with the Ehrlich-Blandi fluid, diabetic blood turns orange, and normal blood assumes a violet coloration.

*Lepine (Genese des differentes formes de diabete sucre. Sem. Med. 1897, p. 259) and Gubler and Assolant (Anomalies pathologiques bei Diabetes mellitus und Glycosurien, Wiener Klin. Wochenschrift, 1897, No. 46), found a similar coloration of the blood of some other pathologic conditions (leucocythaemia, pseudo-leukemia, leucism, etc.). Gubler and Assolant (Nacht. Bull. de Scienze Med. di Bologna, Nov., 1897) did not observe the reaction in the blood of other diseases (he did not examine leukemic blood). I have seen the same reaction in extreme cases of leucemia, and in cases of extreme and persistent states of very low blood alkalinity. The reaction does not seem to be definitely pathognomonic of diabetes or glycosuria, but it is possible that the reactions in the blood of various disorders are called forth by different alterations.

Notwithstanding these facts,* Nardi thinks it highly probable that the reaction with anilin dyes is the result of the presence of free glucose in the blood of the diabetic. Diminished alkalescence of the blood has been thought the cause of the reduction by some authors; the blood alkalinity in diabetes, however, especially in its lighter manifestations, where a rigid meat-fat diet is not observed, is hardly ever decreased.

The reaction of diabetic blood upon certain anilin color stuffs appears to be a purely chemical process. This inter-action may be due to the presence of an abnormal element in, or the absence of a normal substance from the diabetic blood, or to both eventual factors together. Bremer* opines that a foreign body is probably combined with the hemoglobin; I. Loewy** concurs with this view in general, and ascribes the changes in the blood as caused by deviations in the structure of the erythrocytes.

As early as 1896 I approached this subject. At that time I was inclined to Ebstein's theory, which supposed that the general oxidizing qualities of the diabetic organism were more or less impaired, an assumption which, in the light of modern research, appears untenable. (Substances far more difficult of oxidation than the carbohydrates are burned up in the body of the diabetic. Tartaric, citric, malic and other organic acids oxidize, and, like in the healthy state, are excreted as salts of Co^+ with the urine of diabetes. Benzol oxidizes to phenol and hydrocarbons, less oxidable in the human system than amylaceous ingesta are completely oxidized to Co^+ and H^+O and serve as a most valuable fuel for the glycosuric and diabetic organism. Moreover, levulose, invertin, inosit and mannit are also burned up in the body of the diabetic.* It seems that we can only speak of diminished oxidizing qualities in the stages of acetoneemia and acidosis.)

Taking the theory of a primary sub-oxidation for granted, I inferred that there must be a certain connection between Bremer's phenomenon and the oxygen-carrying property of the diabetic red blood corpuscle. Continued examination of the diabetic blood with the inadequate means then at my disposal apparently confirmed my supposition that the oxygen had been partially replaced from its hemoglobin combination, and as carbon monoxid intoxication is nothing else but a deficient oxygenation, I considered carbon monoxide of catabolic origin the replacing factor.

It is true CO hemoglobin could never be identified spectroscopically, and those instances in which I detected CO in hyperglycemia by chemical agents, were, to the greater part, not such of true diabetes;* in the latter affection I thought to have found Co a few times, but only during the very last stage. In "A contribution to the pathogenesis and etiology of diabetes mellitus," which appeared in the *Medical Record* of December 18, 1897, after stat-

*Loc. cit.

*N. Y. Med. Jour., I, March 7, 1896.

**I. Loewy, *Zeitschrift für klinische Medizin*, 1896, 34, 1, 1-10.

*H. Stern, *Tabacco as a factor in glycosuria*, *Medical Record*, 1901.

ing that the stage of diabetic auto-intoxication is characterized by the presence of dimethyl-ketone in excess of ethyl-diacetic, and of levorotatory oxy-butyric acids, I continued that I thought to have of late succeeded in identifying an abnormal chemical substance in the blood of diabetics who have died in a comatose condition. The foreign element in question detected by the NaOH and Katayuma's tests appeared to be carbon monoxid. Fearing prematurity, I did not then mention the details of my observation.

The non-detection of CO in the blood of my diabetic cases prior to the establishment of far advanced toxemia, furnishes by no means conclusive evidence of its absence, for in many instances of chronic CO poisoning we have to deal with, but infinitesimal amounts of this substance.

The negation of a primary and general disturbance of the oxidizing qualities of the diabetic, however, precludes carbon-oxydemia as a causative factor of true diabetes and relegates it, together with the other known toxic principles, to the rank of an anomalous metabolic condition. Furthermore, I have since convinced myself sufficiently that the changes in the cellular substance of the diabetic red blood corpuscle, evidenced by the anilin dye reaction, are neither the direct or indirect result of CO intervention.

The almost characteristic behavior of the diabetic erythrocyte must be due to another factor which might be either the result or cause of the diabetic condition. This abnormal element in the cellular substance of the erythrocyte is presumably of autochthonous formation, perhaps, though it takes its origin from exogenetic influences. If the foreign substance has arisen from within the organism, it is either enterogenous or histogenous. It does not seem to be due to a retention anomaly as carbonaemia and carbonoxydemia per se fail to reduce the anilin dye stains.

If the substance in question were derived by resorption from the gastro-intestinal canal, it could not become an almost permanent factor in the blood, as this would pre-suppose a long-continued, uninterrupted absorption of the products of intestinal hyperfermentation and putrefaction, a condition hardly ever prevailing, and in my experience not frequent in diabetes. On account of this and some other less important reasons we have to regard the erythrocytic foreign element—not considering at this moment its possible ectogenesis—as a product of abnormal cell and organ activity or disintegration. Thus the foreign substance, whether it originated by perverted plasmolytic or nucleolytic processes, or by anomalies of internal secretions, may safely be classified among the toxic principles.

The possibility of an ectosystemic origin of the substance in question deserves some attention.

A considerable number of authors have observed the appearance of diabetes in formerly healthy persons after they had come into more or less intimate contact with diabetic individuals. The transmissibility, therefore, of the affection seems feasible, although no convincing proof has been given for it. One could surmise that the abnormal blood constituent represented the metabolic products of a specific bacterium, and that the potency of this

toxin gave rise to the glycosuric phenomenon. Some observers investigated the subject of diabetic infectivity more closely, but I cannot accept their meagre and contradictory results as conclusive evidence for the same.

I have dwelt at some length on the foreign substance in the diabetic erythrocyte, as notwithstanding the hyperglycaemia, it appears to be the only tangible and ever-occurring foreign element in the blood of diabetics. Whether it forms the etilogic substratum, or if it is but another of the metabolic products of the diabetic condition, is a question which the future has to answer.

The Diabetic Deterioration.

While Traube,* Ebstein,** Cantani*** and other observers distinguish between a mild and grave form of diabetes, they contended that both are manifestations—differing in degree only—of the same directly underlying pathologic condition, and assumed that the severe form was but an advanced stadium of the lighter type.

I. Seegen**** whose fundamental investigations on the production of sugar in the animal organism have as yet met with little appreciation, was the first to recognize two distinct, and, of each other, entirely independent clinical types of the diabetic affection. He demonstrated that the one form—the excretion of sugar resulting from the failure of the liver cells to normally convert the ingested carbohydrates—bears no relation to the other type which owes its origin to the inability of the entire or almost the entire organism, to utilize the sugar conveyed to its structure by the blood.

The present writer has described a third clinical form of diabetes, the diabetic deterioration.*

These three clinical varieties of diabetes emanating respectively from three distinct *direct* causes, seem, however, to be but the consequence of one and the same *fundamental* disturbance.

They may be thus differentiated:

1st form.—The glycosuria disappears after complete or partial exclusion of carbohydrates. The excreted dextrose is due to deficient glycolysis.

2nd form.—The glycosuria persists after the complete exclusion of carbohydrates. The excreted glucose is due to proteolysis.

3rd form.—The continued excretion of dextrose concurs with larger amounts of nitrogen egested than were introduced with the nutriment. The excreted dextrose is due to plasmolysis.

Close observations of a certain type of diabetics, conducted by me,* have demonstrated that diabetic azoturia is not always the result of hyperingestion of albumins, and that in this instance the amount of nitrogen excreted most always exceeds that of the nitrogen introduced with the nutriment. The last fact, not recognized by anyone before me, points to a third form of diabetes, which directly has little or nothing in common with the so-called pancreatic type of the affection.* In experimental pancreatic diabetes in animals fasting or under an exclusive

*Virchow's Archiv IV, 109.

**Die Zuckerkrankheit, ihre Theorie und Praxis, Wiesbaden, 1887.

***Diabetes mellitus, Leipzig, 1890.

****Die Zuckerkrankheit, ihre Theorie und Praxis, Wiesbaden, 1890.

*A contribution to the pathogenesis and etiology of diabetes mellitus. Med. Rec., Dec. 18, 1897.

*Pathogenesis of diabetes mellitus.

meat diet, Minkowski** observed a permanent ratio between urinary dextrose and nitrogen. The proportion of dextrose to nitrogen varied in these instances between 2.62:1 and 3.05:1; the mean figure given by Minkowski being 2.8 D. to 1 N.

In my cases, which a priori are at variance with artificial diabetes, the proportion of D:N, under similar conditions, was most always a different one. For instance, in case I, of my observations, which I select at random, the following data were obtained:

Patient under an exclusive albuminous diet for 13 days; average daily amount of albumin ingested, 185 grams., containing 28.86 gms. N.; average daily amount of urine, 3002 c. c.; average daily amount of dextrose in same,*** 5.5%, that is, 165.1 gms.; average daily amount of carbamid in same, 3.2%, that is, 96.1 gms., containing 44.9 gms. nitrogen;**** average amount of nitrogen plus in urin, 16.04 gms.

Proportion of dextrose to nitrogen, 3.67:1. Patient fasting for 17 hours (water in moderate quantity). Amount of urine for 24 hours (including 7 hours after fast), 1850 c. c. Amount of dextrose in the same, 3%, that is, 55.5 grams. Amount of carbamid in the same, 3.8%, that is, 70.3 grams, containing 32.85 grams nitrogen. Proportion of dextrose to nitrogen, 1.69:1.

The non-existence of a constant dextrose-nitrogen ratio tends to prove the discrepancy between the third form of the diabetic affection and experimental pancreatic diabetes.

Minkowski is of the opinion that his figures express quantitatively the production of sugar from albuminous substances in the organism, and that after the removal of the pancreas the total quantity of the sugar thus produced is excreted by the urine.

Admitting that Minkowski's figures are expressive of the sugar production from albumin in the organism, then the relation of D:N in the urine of some of my cases must be exceedingly atypical, and this the more so, as the amount of nitrogen ingested was mostly less than that eliminated by the kidneys and faeces.

During the 13 days of albuminous diet the average daily nitrogen plus in the urine amounted to 16.04 grams.

Utilizing Minkowski's figures and calculating from the N ingested, the amount of urinary glucose should be 80.8 grams. The total daily average quantity of urinary glucose amounted, however, to 165.1 grams. Therefore, 84.3 grams of glucose more were contained in the urine than presumably have been derived from the nutriment.*

*As stated before, the same primary cause seems to stand at the foundation of every diabetic affection. The pathological type clinically is to be counted at once among the haematogenic forms.

**Arch. f. Experiment. Pathol. u. Pharmacol. Bd. XXXI.—Ueber die Nahrung und die Ausscheidung bei Diabetes.

***Through a typographical error, the percentage of glucose was given as 8.4; 8.1; 8, and 6.5, whereas it should read 5.4; 5.1; 5, and 6.

****Crea does not present the total nitrogenous excretion: about 7.5 per cent of N is contained in other urinary constituents. In my later investigations I have determined the total N output.

*I have no reason to doubt that the patient adhered conscientiously to the prescribed and minutely specified albuminous regime. He certainly did not partake of larger quantities of nitrogenous material, as he had developed an aversion to it. In case he should really have transgressed and partaken of carbohydrates, this would have only augmented the intensity of the dextrose output, which per se, is of little moment in our considerations.

We have, consequently, an unaccounted for plus of D. 84.3 to an unaccounted for plus of N, 16.04. That is, a proportion of 5.25:1.

It would lead me far beyond the limits of the allotted time were I to dwell upon the points involved in a more exhaustive manner. For the present purpose it suffices to know, that the irregular and inconstant D:N ratio precludes pancreatic diabetes, and that the N output surpassed during a certain period in almost every instance the N introduction.

This third form of diabetes seems to be the manifestation of a specific plasmolytic process.

In the healthy organism a dextrose resembling substance may be normally yielded by plasmolysis, which, after it has undergone succeeding changes, is ultimately disposed of as carbon-dioxide. However, the production by plasmolysis of dextrose or of its precursor, appears to be an abnormal catabolic process, which causes permanent disintegration of the tissue-protoplasm. This specific dissimulation of the living protoplasm, induced, perhaps, by the erythrocytic foreign element, is a limited hemi-metabolic metamorphosis, so to speak, and bears the character of a deterioration; that is, the protoplasm may retain its appearance and may continue to exist, although it has permanently lost its molecular integrity.

This plasmolytic dextrose-carbamid-yielding process I have designated as diabetic deterioration.

In other words, diabetic deterioration is a more or less limited molecular disintegration of plasmotic tissue substance into a carbohydrate body and a non-colloid nitrogenous compound.

A logical and concomitant phenomenon of the hyperexcretion of nitrogen is the progressive inanition of the patient affected with the disease. The glycosuria is persistent, but its intensity does not seem to reflect the progress or the exact stadium of the affection.

CENTRALBLATT FUER CHIRURGIE.

March 2, 1901. (28 Jahrgang, No. 9.)

1. Medullary Narcosis. KARL SCHWARZ.
2. Pseudarthrosis of the Terminal Phalanx of the Finger. W. MUELLER.

1.—Schwarz, before using the Bier method of medullary narcosis, now gives his patients gradually increasing injections of tropacocain. In 10 cases the tropacocain was given in doses up to 5 cg. to insure total anesthesia. There were none of the unpleasant symptoms which accompanied the cocain injections, no pallor, sweating, nausea, vomiting, headache, vertigo, or rise of temperature. The analgesia was perfect 10 minutes after the injection. [M. O.]

2.—Mueller reports three cases of complicated fracture of the terminal phalanx of a finger. The first patient had broken the end phalanx of his right index finger, and three months later he found that his finger easily tired when writing. The tip of the finger could be hyperextended, and a Roentgen photograph showed a groove beneath the root of the nail. Operation showed marked pseudarthrosis, which was easily cured by freshening up the edges and then immobilizing the finger. The second case was much like the first, in an older man. Hyperextension was also possible. He would not permit operation. The last case was in a boy of 16, in whom operation affected a speedy cure. His report is well illustrated with Roentgen photographs. [M. O.]

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The Pathology and Bacteriology of Diphtheria.

—The monograph by Councilman, Mallory and Pearce ("Diphtheria," Boston, 1901,) is a detailed study of the bacteriology and the pathology of two hundred and twenty fatal cases, which in itself is a claim to distinction. The authors confirm the observation, already made, that tuberculosis and diphtheria are often associated; sixteen percent of their cases presented a combination of the two diseases. They do not consider that there is any relation between the two diseases, this percentage representing merely the frequency of tuberculosis at an early age. The mesenteric lymph-nodes, in the cases observed in this series, were more frequently involved in the tuberculous process than either the lungs or the bronchial lymph-nodes. Much attention has been paid to the bacteriological condition of the accessory air cells, and information has been gained that throws much valuable light on the reason for the persistence of the diphtheria bacilli in the nose for such prolonged periods in some cases. The maxillary sinuses were examined in fifty-two cases; of these, both sinuses were the seat of inflammatory processes in twenty-one and one sinus only, in nine. All but three of the double antral cases presented the diphtheria bacillus; but of the single case only three contained that organism. The pneumococci and the pus cocci were often associated with the bacillus of diphtheria in the pathological exudates, which may be mucoid, serous, seropurulent or purulent, and, in some cases, may consist of a fibrinous membrane. It is an important point for practical purposes to determine whether this infection of the accessory air cells occurs as frequently in the cases that recover as in those that are fatal. In eighty-six cases out of one hundred and forty-four, autopsy showed middle ear disease. The diphtheria bacillus was found in enough cases to show that it is capable of setting up a suppurative condition and thus allies itself with the pus-producing organisms. From a study of the membrane the authors are able to say that they have never found the diphtheria bacillus growing in the living tissues nor in connection with those degenerative changes in the epithelium that may be regarded as the primary lesions of the disease.

This observation confirms, if confirmation is needed, the toxemic character of the disease. It seems, from this study, that the beginning of the lesion is due to the toxic action of bacilli, probably growing in the fluids of the mouth or throat. When necrosis is once produced the necrotic tissue forms a suitable culture medium. The membrane formation is due to a combination of degeneration and necrosis of the epithelium and an inflammatory exudation, rich in fibrin factors, from the underlying tissue. The cells may break up into detritus or they may form hyaline masses, and the factors are converted into fibrin when the exudate comes in contact with the necrotic epithelium. The authors believe that there is nothing to be gained by making an anatomical distinction between a croupous and a diphtheritic membrane; there is nothing specific in the membrane formation in diphtheria. This opinion is in line with the evidence of bacteriological examination, that the clinical distinction between diphtheria and benign sore throat is not to be depended upon. We are cordially in agreement with this opinion and would even go farther and say that all cases of sore throat should be subjected to bacteriological examination and that the proper classification of cases of diphtheria is into the bacteriological and the clinical. Degeneration of the myocardium is one of the most common conditions found in diphtheria. The simplest form is fatty degeneration, which may become very extensive. Acute interstitial lesions of two kinds have been demonstrated; in one there is a collection of plasma and lymphoid cells and in the other there is a proliferation of the cells of the tissue. The first variety of interstitial lesion is not dependent on the degeneration of the muscle, while the second is due to that degeneration. The lesions in the lungs are serious and frequent. Broncho-pneumonia is the most common lesion; although atelectasis and inflammatory edema are also common. True acute lobar pneumonia was never found. The scope of the monograph includes a study of the lesions of the spleen, the alimentary canal, the liver, the kidneys, the lymph-nodes, the thymus, the nervous system, the skeletal muscle, the bone-marrow, the pancreas, the adrenals, the thyroid gland

the salivary glands, the testicles, and the pituitary body. Space does not allow of more detailed notice of these sections of the work. The fact that no lesions were found in the adrenals is somewhat surprising, because congestion, hemorrhage and foci of necrosis in these glands are the most common lesions in the experimental disease, whether produced by inoculation with bacilli or by injection of toxins. On the whole, the work is an excellent addition to the literature of diphtheria, both on account of the original investigations described and because of the thorough review of former writings on the subject.

The American Military Hospital in Peking.—It is a source of satisfaction, after reading in some of our home journals the carping criticisms directed against the United States Government and its policy in foreign affairs, to read the highly eulogistic account, given by the correspondent of the *British Medical Journal*, of our military hospitals in Peking. This writer looked upon the occasion of his visit to the United States military hospitals as one of the pleasantest afternoons he spent in the Chinese capital. He learned that the medical arrangements in the American army possess a far higher degree of importance than in the English service. The hospitals are given the best sites, and the amount of skilled labor assigned to the chief medical officer is as unstinted as the funds placed at his disposal. Combatant officers good-naturedly complained that "it's no use trying to get a nail knocked in anywhere else until the hospital is finished." The correspondent was surprised at the number of comforts allowed the American soldier. His diet on active service contains luxuries unknown in the British commissariat. But it is not until the American soldier goes to the hospital that he is really in a position to know how much his Government loves him. The correspondent did not think it an exaggeration to say that the American Military Hospital in Peking could hold its own with most London hospitals. It is certainly extraordinarily high praise to compare favorably an improvised military infirmary with great metropolitan hospitals. But the correspondent makes good and plain his position by entering into details about the equipment and service in these field hospitals. The diet kitchens, the skilled cooks, the trained attendants, the thorough-going antisepsis, the lavish supply of personal comforts, and, above all, the good results obtained in both surgical and medical practice, are some of the features described by his facile pen.

We have thought it worth while to comment on this generous praise from a foreign eye-witness, not because we believe it will surprise the majority of home readers, but rather because it will

be a partial corrective to the detractions of the little clique of domestic critics who never find anything praise-worthy in the American Army on duty in foreign lands, or in the Government behind it.

The Way They Manage Smallpox in Utah.—A correspondent in Utah sends us some information about the smallpox in that State. There is apparently a great deal of it. In March there were 112 new cases in Salt Lake City alone, and quite a good many new ones in April, although the disease is slowly decreasing. The authorities tried very hard to pass a Compulsory Vaccination law, but it was defeated; and it is interesting to note that the legislator, if he deserves such a title, who introduced the Anti-Vaccination bill, subsequently had smallpox in his own family. We should like to believe that this was a special visitation of Providence. It is astonishing how little attention is paid to the disease. One may see the smallpox flag on many houses, and note that the windows and doors are open and that people pass and repass with seemingly no fear of it. One house just by a church had the flag out, and the inmates of the house sat by an open window watching the church-goers. Our correspondent was coming down in the elevator in one of the big business buildings. A young man entered who exclaimed, "Well, I've got it!" It seems that the doctor from whose office he had just come, had told him to go home and nurse himself. His face was full of pustules, but regardless of this fact, the young man walked to the corner and took a street-car. It seems that the Mormons have been "counselled" against vaccination; hence this condition of affairs.

We think this indifference is probably to be explained in part by the mild type of smallpox which is now prevailing almost everywhere in the United States. We called attention in these columns recently to the mildness of this epidemic. The fact is, people have lost their dread of the disease because the disease itself seems to have lost much of its malignancy. How much of this is due to smallpox having become weakened or modified by the process of vaccination, it is of course difficult to say. On the other hand, all epidemics, it must be recalled, move in cycles, and it may be that smallpox in the United States at present is simply presenting its mild phase. In other words, we cannot assure ourselves that the disease may not at any time assume a much more malignant type. In the meantime the inhabitants of Utah seem to be making the most of their opportunities for getting a mild inoculation of the disease without money and with small risk.

The Constitutionality of the Compulsory Vaccination Act Upheld in Pennsylvania. It will generally be found that the misdirected efforts of certain well-meaning persons in opposition to many progressive movements are based principally upon prejudice, misconception, misinformation and want of information. This is peculiarly true with regard to such matters as vaccination, animal experimentation, disease-notification and the like. In the long run a correct decision will be rendered by the sound common sense of those who are not blinded by emotion, but are open to conviction by facts. A rational intelligence must ever prevail over misguided fanaticism, however well intended. It is therefore particularly gratifying to learn that the Supreme Court of Pennsylvania has just decided in an opinion sustaining the decision of the lower court that the Act of Assembly requiring the vaccination of all children desiring to attend the public schools is constitutional. The case in point is one in which an anti-vaccinationist had applied to the courts for a mandamus compelling the principal of a public school to receive as a pupil a child that had not been vaccinated, refusal being based upon a rule of the Board of Education and an Act of Assembly. The demurrer of the plaintiff was overruled by the Court of Common Pleas, and it is the decision of the latter that has just been sustained. The Supreme Court of Pennsylvania coincides with the view that "school directors, in the exercise of a sound discretion, may exclude from the public schools pupils who have not been vaccinated." It goes on to say further: "Whether a resolution excluding from the public schools pupils who have not been vaccinated is a reasonable one is to be judged of in the first instance by school directors. In the present state of medical knowledge, and of convincing opinion of those having in charge the public health, the courts will not say that such a resolution is an abuse of official discretion." This is both sound law and common sense. The utility of vaccination has been established beyond all peradventure and the prejudices of the few must be subordinated to the welfare of the many.

The Rudolph Virchow Stiftung.—The Germans are practical. In nothing is this more evident than in their expression of gratitude. It takes a form that gratifies the object, and at the same time is of direct benefit to a larger or smaller portion of humanity, or an aid to scientific advancement. Think for a moment of the great number of *Festschriften* that have been published in Germany, and published, as a rule, not as is done in America, in a special volume with a limited circulation, but in one of the regular massive German Archives; a special honorary number occupying an entire vol-

ume. For example, we refer to the most recent, the volume of *Deutsche Zeitschrift fuer Nervenheilkunde*, dedicated to Erb. But even this does not seem practical enough for our very practical German friends. Virchow, full of honors, is about completing the eightieth year of his age. He was born on the 13th of October, 1821, and for more than a half century has actively borne his part in the scientific advancement of the world. Now his friends and admirers, not a few, have organized a committee upon whose roll appear the names of practically all the distinguished medical men of Germany, and with these have been associated a committee of foreigners, among whom are the most distinguished names of the world. And the object is not the erection of a monument, or even the endowment of a professorship, but the increase in the endowment of the *Rudolph Virchow Stiftung* in Berlin, by which the committee hope to prepare for the master "the greatest pleasure and satisfaction upon the occasion of his eightieth birthday;" because "the man who directs it, and whose name it bears, has made of it a so distinguished use, for the purpose of the advancement of science."

An Odd Coincidence.—In the chapter of coincidences, the case of Giacomini and his brain should take prominent place. It does not often fall to the lot of a man to describe for the first time some very striking anomaly of the brain; still more rarely does it fall to his lot to die and have some one else discover that he had the very anomaly which he had himself described. Yet this seems to have been the happy fate of Giacomini—an illustration, perhaps, of the truth of the old Greek aphorism that you cannot judge of a man's happiness until after he is dead. Giacomini, an Italian scientist, was the first to describe a second central fissure, just behind the fissure of Rolando. Afterwards Calori described a second case. Since then the cerebral morphologists have been looking eagerly for a third. Dr. Burt Wilder thought he had found it in an educated suicide's brain, but he felt obliged later to say that he was mistaken. Now, by strange chance, Giacomini dies, and his anatomist comes forth and says that in Giacomini's brain is also a second central fissure! We are indebted to Mr. E. A. Spitzka, of New York, for a drawing of this brain, and hope to present it in the near future. In the meantime we should like to have a psychological explanation of this strange happening.

Bogus American Dental Diplomas in Germany.—We have received a communication from one of the American consuls in Southern Germany to the effect that his Consulate has been entrusted by Ambassador White with the investigation of the

matter of the sale of illegitimate dental diplomas in that part of Germany by certain American institutions, especially in Chicago. The abuse has occupied much time for more than a year, and of late has been especially engrossing. The Consulate has been collecting evidence against the scoundrels at home, and working with the Ministry of Justice, the Attorney General's office and the Police Department in Germany to punish the holders of such diplomas. The parties in America have been bold and reckless because their market has been principally abroad, and they seem never to have dreamed that their work could be brought home to them, but the Consulate has succeeded in a number of cases in securing possession of the diplomas, licenses, certificates, etc., and has had them photographed, thoroughly identified under oath, and certified. Copies have been sent to the Governor of Illinois, the National Association of Dental Faculties, the United States Commissioner of Education, and, of course, to the Department of State. Eight prosecutions have been commenced in Germany against holders of such "rags," in one of which conviction was secured on a defective indictment, which was set aside on an appeal on technical grounds, but the case will be retried on a new indictment which had just been found. In another case a conviction is to be expected. The Consulate has just sent to the American State Department a report covering 174 printed pages, giving a full history of the matter, and the Consul has completed a very full brief of the law and facts in a case against one of the chief offenders, at the request of the Minister of Justice in Bavaria. So reckless have the Chicago people been that there is good reason to assume that in 1900 about nineteen hundred illegitimate licenses have been issued in Illinois. The Consul has also excellent ground for assuming that the Imperial German Consulate at Chicago has not been sufficiently careful in the matter, and diplomatic representations will probably be made, and an explanation asked. Whatever may be the ultimate result, the American Consul is making it so very hot for the holders of such diplomas that he has practically closed the market in Southern Germany, and it is believed that the evidence furnished to the American authorities and the press will make dealers at home more circumspect in their transactions. We print the statement of the Consul largely in his own words. This disgraceful business must be stopped, and it rests largely, we judge, with the Illinois State Board of Dental Examiners to explain and to stop it.

The New Living "Siamese" Twins.—Dr. Chapot-Prevost, who successfully operated upon the only other living xiphopagus, has just published a report

of his examination of the new living Chinese twins, Liou-Tang-Sen and Liou-Seng-Sen. In a communication read before the Paris Academy of Medicine (*Gazette Medicale de Paris*, 1901, Nos. 12 and 13), he says that this xiphopagus is on exhibition in Vienna at the Barnum-Bailey circus. After much persuasion he was permitted to make a thorough examination of the twins, who were born in 1887, in Nankong, in a level country, and were their mother's first children. Delivery was uneventful, the father alone officiating. Seng came into the world head first, Tang feet first after his brother. At birth each child was a little under normal in size. There was one umbilical cord with only one placenta. The mother was 20 years old, the father, 18; and there had been no history of twins on either side. Their mother had no children afterward. The twins were breast-fed until they reached the age of two years and a half. The boys began to talk at 18 months, plainly only at three years. Both are intelligent, Tang rather more than Seng. They can sleep on either side. Four years ago they had chicken-pox. Tang taking it one day after his brother. Seng shows the scars yet. They are always happy and hardly ever disagree. They walk and run together, easily, in one direction, but when they attempt to go the other way, with their other sides approximated, there is great difficulty, one going from left to right, the other from right to left. They were 11 years old when they left China, before which time a Scotch physician in Shanghai had examined them. Tang is 1.352m. high, while Seng measures only 1.343m. A year ago each weighed 60 pounds. One can urinate at a time; one will be awake while the other sleeps; and only one may be hungry. From the various measurements, radiographs, and photographs taken, but slight difference has been found between them. The bridge which unites them is 4 cm. long above, 9 cm. below. There is one umbilicus in the center of the bridge, above. As they have grown, this bridge uniting them has also grown, and they now stand further from one another than formerly. The two xiphoid cartilages join inside this uniting bridge, and below them it is probable that the liver and peritoneal cavity of each joins the other. Seng has a double inguinal hernia, Tang right inguinal hernia. Dr. Chapot-Prevost calls them the eleventh reported living case of true xiphopagus, and believes that surgical interference would undoubtedly be successful.

A Plea for the Aspirator.—No error is more common, especially in hospital practice, than mistaking a pleural effusion for a pneumonic consolidation, and *vice versa*. This is due largely to the fact that it is often practically impossible to obtain an ade-

quate history, and that the physical signs are so indefinite that a final diagnosis cannot be made immediately. The differential diagnosis is concerned only with pneumonias of the bases and pleurisy with effusion either of a serous or purulent nature. At the onset of the affection difficulties may arise, especially if a chill be absent and only "stitches in the side" occur. Frequently, in such cases, neither crepitant rales nor friction sounds are present. Only high fever and a typical pneumonic sputum are symptoms which in such a case would give a clue to the correct diagnosis. A careful investigation of the methods of physical diagnosis will, however, sooner or later, even in the most obscure case, show the true nature of the malady. It is true that occasionally pleurisy with effusion, complicates croupous pneumonia, but a change in the symptoms and physical signs will readily denote this. We desire especially to call attention to a condition which sometimes arises, and is, we fear, very frequently neglected, namely, the fact that a pleurisy with effusion (and often an empyema, especially in children and adolescents), is a sequel of croupous pneumonia. If, after the ninth or eleventh day a crisis has occurred, or the acute affection has terminated by lysis, and the fever continues, giving a subfebrile range, and dyspnea and some cyanosis be present, a pleural effusion upon the affected side should be thought of. The temperature may even be markedly remittant and of a septic type, sweating and chills occurring, and acute phthisis of the pneumonic type be thought of, especially if the patient is losing weight rapidly. An exploratory puncture carefully conducted, in accordance with the established laws, will frequently disclose the true nature of the disease. A mistake is frequently made in using a hypodermic needle or a Pravaz syringe for the purpose of puncturing. It must be remembered that a thick serous fluid, and especially pus, will not flow through a narrow needle, and even if its presence be demonstrated by these means, an aspirator will subsequently have to be used, thus inflicting two punctures upon the suffering patient. Harm is never done in aspiration, if only the ordinary care, which should govern us in all operative procedures, is used. Knowledge of the position of the diaphragm, and the intrathoracic organs, will prevent any injury to these. Another feature in the differential diagnosis, often we fear neglected, is the displacement of viscera which is sure to occur in even medium sized effusions. The recognition of the position of the apex beat of the heart, the position of the liver, and the obliteration of Traube's semilunar space, are all points of the greatest importance in the differentiation of consolidation of the lung and fluid in the pleura.

The Trouble in the New York Pathological Institute.—We regret to learn from the *Medical Record* that the State Lunacy Commission of New York, has notified Dr. Ira VanGieson that his services will not be needed after May 1st. We have referred on several occasions in these columns to the trouble which has existed between the State Lunacy Commission and the working staff of this institute. We have always attempted to be judicial in our expression of opinion, but we have feared that the difference was a fundamental one and that it might yet lead to serious impairment of the usefulness of this institution. Dr. VanGieson and his associates represent that we may call the ultra-scientific party. They are actuated by the highest motives and the most laudable zeal to advance the cause of scientific psychiatry. Some of their critics believe that they have taken a too exclusively laboratory view of this science, and that their work has not been sufficiently practical. It is doubtless true that they have extended their field of work beyond the limits that are usually considered essential in psychiatric research. But the zeal and the cultivated intelligence which have led them to do this, are of the kind that have often been the forerunners of important discoveries in science. They can scarcely be blamed because they have sought to throw light from all quarters upon one of the most involved and far-reaching of the medical sciences. If in doing this they have somewhat ignored the immediate practical needs of the hospitals, the fact is not altogether to be wondered at. This is the indictment which has been brought against them, as we understand it, by the Lunacy Commission. They themselves, on the other hand, claim that the ideas of the Lunacy Commission, and even of some of their colleagues in the hospitals for the insane, are crude and not up to date, and that their opponents, indeed, in their zeal for practical administration have shown a failure to appreciate the needs of scientific psychiatry.

We cannot help but believe that where such fundamental differences of opinion exist on such an important topic there must be some mutual fundamental defects. We fear there has been on both sides a lack of adjustability, or of that wise spirit of compromise which is so often essential in the practical affairs of life. At this distance we cannot help but feel that there should have been sufficient sagacity and forbearance on each side, as well as zeal for the common cause, to have brought harmony out of even such discordant elements. The scientific world, and especially the world of psychiatry, may well deplore the results of this unequal contest. It may also well deplore the fact that this contest has involved an acute display of personal feeling which even extends beyond the limits of the

State of New York. This issue has been made to appear to be only another phase of the so-called antagonism of the administrative men to scientific workers. We are not willing to believe that there is as much of this antagonism abroad in the world as is made to appear, but we would rather think that these unfortunate misunderstandings are often due as much to lack of tact as to any inherent or inevitable want of agreement.

For Dr. VanGieson personally, we have much sympathy, and we trust that he will yet find a congenial field in which to work out his plans and theories. The members of the Lunacy Commission will now have an opportunity to show the world by the kind of appointment they make what their real ideas are about the nature of scientific work in mental science. Their opportunity is great; their responsibility is still greater.

The Influence of Intercurrent Disease on the Course of Epilepsy.—The influence of intercurrent disease in a patient already suffering from a well-defined malady has long been recognized, but is, as yet, not understood. In general, it may be said that certain diseases act favorably on the primary condition; as, for example, erysipelas in certain forms of sarcoma; while others exert a markedly unfavorable influence and aggravate the primary condition. Such, for instance, is the effect of a broncho-pneumonia in whooping cough, or measles. Dr. M. J. Voisin has recently published a report of one of his clinics (*La Semaine Medicale*, March 20th, 1901), in which one phase of this problem, the effect of intercurrent disease on epilepsy, is ably discussed. He calls attention to the fact that many diseases of febrile form exert a restraining influence upon the epileptic attacks, while others show a decidedly provocative influence. He has observed four cases of erysipelas in epileptics who averaged two or three attacks a month, with decided symptoms of vertigo. The manifestations entirely disappeared during the acute attack of erysipelas, but with the establishment of convalescence the vertigo reappeared, soon to be followed by the convulsive seizures. The influence of anthrax was not less evident than in the cases which have been described by M. Queriand. In Voisin's patient, the epileptic attacks entirely disappeared with the suppurative symptoms which terminated in the patient's death. The effect of lobar pneumonia and measles is similar and more variable. The attacks usually disappear during the acme of the disease, and then may be increased, or diminished in severity, after convalescence. The association of epilepsy with so prevalent a disease as tuberculosis presents a variety of results. It has been found, however, that the epileptic attacks are less frequent, or disappear entirely,

when the tuberculous process is most acute; and that they reappear when the pulmonary symptoms are ameliorated. Voisin states that variola, acute articular rheumatism, and intermittent fever act very similarly, but points out the interesting fact observed by M. Fere, that when epileptics are vaccinated, there is a decided lessening of the attacks in those patients in whom the virus has taken. An epidemic of diphtheria, occurring in Voisin's service, afforded him the opportunity of observing the effects of the disease itself, as well as the results of antitoxin treatment. Of nineteen patients attacked with diphtheria, four were epileptics. In these it was observed that the attacks disappeared entirely during the course of the diphtheria, and returned in their usual number after the disease had run its course. Of a series of 144 children who received a protective dose of antitoxin, 63 were epileptics. Of these 63, 57 developed an intense erythematous eruption which appeared tardily. It was observed that the eruption was most severe in the worst cases of epilepsy, and in those children who were idiots. Voisin remarks that it is not possible to consider this as an example of auto-intoxication, but believes, rather, that it is dependent upon vaso-motor disturbance in the defective central nervous systems of these cases. The foregoing are the diseases which act more or less favorably upon the course of epilepsy.

Scarlatina is a most serious disease when it attacks epileptics, and the prognosis must be most guarded. In 19 cases of scarlatina which occurred epidemically in Voisin's service, 4 were in epileptics, and these all died within four or five days, while the 15 others recovered uneventfully. Influenza greatly increases the number of epileptic attacks, and its pulmonary complications exert a very deleterious influence on such patients. Voisin mentions the remarkable increase in the number of attacks in certain of his cases. One patient had 174 attacks in five days; and another suffered from the astounding number of 214 in a single day. Typhoid fever also increases the number of seizures. This has been made the subject of a thesis by Dr. Lannois, of Lyons. Three theories have been adduced to explain the effects we have studied. They are, that it is due to the action of the high temperature itself; that it is the result of a toxemia exerting its influence on the nervous centers; and third, that the diminution or the increase in the number of attacks is due to the fact that certain toxins exert an inhibitory action upon the motor tract, while others increase the motor excitability. The last hypothesis is the one which Voisin adopts tentatively. In conclusion, he points out that there is a post-paroxysmal rise of temperature in epilepsy,

usually amounting to five or six-tenths of a degree Centigrade. When the post-paroxysmal rise amounts to one or two degrees Centigrade, or more, the existence of an intercurrent disease should be suspected. This does not apply to the *status epilepticus*, in which a greater rise is common. These observations are of wide general interest, and give rise to many problems, with the solution of which we may reach a more comprehensive knowledge of the pathology of epilepsy, as well as the action of toxins upon the nervous system.

Uretero-Intestinal Anastomosis.—Those who have read the interesting "Historical and Experimental Research" of Dr. Reuben Peterson on anastomosis of the ureters with the intestine, which was begun in the *Journal of the American Medical Association*, February 16th, and continued through six issues of that journal, must have been impressed with the author's painstaking efforts to deal fairly with the subject from every point of view, and his very valuable conclusions regarding the advisability of the operation and the best method of performing it must appeal to every surgeon. The best method of dealing with the ureter injured during the course of an operation, in cases of advanced disease of the bladder, and in extrophy of the bladder, has been the subject of unlimited discussion. Peterson proves conclusively that placing the ureters in the rectum is an operation not only accompanied by a high mortality, but that in very rare cases does the patient afterwards escape an infection of the kidney through the transplanted ureters. In the experiments on dogs this sequel to the operation was nearly universal. He has shown that hydronephrosis is not an infrequent result of the operation because of constriction of the ureter by the sutures, and hence the point is made that the sutures should only pass through the peritoneum and fat about the ureter. Peterson maintains that the operation of introducing either one or both ureters into the bowel is an unjustifiable operation unless the trigonum of the bladder with the ureteral orifices is also transplanted. The technique of the operation is excellently illustrated in Peterson's article. Even with transplantation of the trigonum infection of the kidney from the bowel may take place. That the rectum tolerates the presence of urine and that a patient with the ureters emptying into the rectum can remain moderately comfortable, are questions long since settled. The very few cases on record in which the patient has escaped infection of the kidneys after the introduction of the ureters into the rectum without their vesical orifices, must convince every thoughtful surgeon of the wise conclusion reached by Peterson regarding the advisability of this procedure.

The Prevention of Blindness.—While the medical profession is striving with remarkable pertinacity for legislation to prevent the dissemination of infectious diseases, it appears to be almost oblivious to the ravages caused by ophthalmia neonatorum. While the question regarding the licensing of prostitution is being argued to a remarkable degree, the fact is lost sight of that one of the gravest sequels of prostitution is the blindness caused in the newborn by infected mothers. While the duties and privileges of midwives are being considered, but little attention is paid to instituting a compulsory prophylaxis which midwives could carry out in labor cases. The medical profession is indebted to Dr. Lucien Howe, of Buffalo, N. Y., who perhaps has done more for the adoption of laws governing this subject than any other man in the United States. At the meeting of the American Academy of Medicine, held in Jefferson, N. H., August 30, 1894, he presented a paper entitled "The Present Condition of Legislation for the Prevention of Blindness." It was the State of New York that made the first effort in this country to obtain a law in this direction, Maine, Rhode Island, Minnesota, Ohio and Maryland soon following. While the prophylaxis of ophthalmia neonatorum should be a part of obstetrical routine, it is frequently neglected by some hasty and careless obstetricians. Howe (*Crede's Method for the Prevention of Purulent Ophthalmia of Infancy in Public Institutions*) states that previous to the introduction of Crede's method, the records of over 17,000 births tabulated by thirteen observers, showed that over 9% of the the children developed ophthalmia neonatorum, and that after the introduction of this prophylactic measure the reports of over 24,000 births, tabulated by 31 observers, showed only .65%. It is true that many women are not infected at the time of childbirth, but legislation is not instituted for individuals, but for the protection of the community. Up to this time legislation on this subject has been for the purpose of compelling midwives, nurses and persons other than legally qualified physicians, to report a case where there is a swelling, reddening or discharge of pus from the eye.

The act passed by the State of Ohio may be taken as an illustration.

Section 1. Should one or both eyes of an infant become inflamed or swollen, or show any unnatural discharge at any time within ten (10) days after its birth, it shall be the duty of the midwife, nurse, or relative having charge of such infant to report in writing within six (6) hours to the physician in attendance upon the family, or, in the absence of an attending physician, to the health officer of the city, village or township in which the infant is living at the time, or, and case there is no such officer, to some practitioner of medicine legally qualified to practice in the State of Ohio, the fact that such inflammation, swelling or unnatural discharge exists.

Section 2. Any failure to comply with the provisions of this act shall be punishable by a fine of not less than

ten dollars (\$10.00) nor more than one hundred dollars (\$100.00) or imprisonment for not less than thirty (30) days, nor more than six (6) months, or both fine and imprisonment.

There have been very few convictions, or even prosecutions, for violation of this and similar laws. For this reason alone its value is quite limited. It should be the duty of every State not only to enforce the reporting of suspicious cases, but to institute measures for prophylaxis. It would be well for the profession to inform the laity in all cases where there is the slightest suspicion of contamination, that the instillation of nitrate of silver is to a great degree a preventive measure in ophthalmia neonatorum. In this manner all persons would be invested with a right which for their own protection they would attempt to enforce, thereby indirectly influencing the attending physician, the midwife, or the nurse. It is furthermore the duty of every State, so far as it is in its power, to enforce the employment of recognized prophylactic measures in the newborn. Again and again some medical man has assumed the leadership and tried to prevent the catastrophes resulting from cases of ophthalmia neonatorum by invoking legislation for its prevention. A great many not only become burdens to themselves, but burdens and an expense to the State in which they live, and for this reason, if for no other, it is high time that something should be done. "There are none so blind as those who will not see."

Objectionable Names for Institutions.—The choice of a name for an institution designed primarily for the relief of suffering, or for developing arrested mentality in children, is one upon which very much depends. It is rather more than sentiment which has so often prompted objections to such titles as Home for Incurables, Home for Consumptives, Cancer Hospital, Institute for the Feeble Minded, and even (as recently established in England) a Hospital for the Dying. There is something of pathos in the thought of a man digging the grave in which his bones will rest—there is a gross violation of the delicacy that is born of the broad spirit of humanitarianism, in the thought of tagging a man's remaining days with the stigma of the malady from which he suffers. Every physician well knows the truth of the lines:

"The wretch condemned with life to part,
Still, still on hope relies,
And every pang that rends the heart
Bids expectation rise."

It behooves us to champion the changing of these objectionable names of institutions. Let us select something which shall not typify so ruthlessly the blasted lives, or undeveloped faculties of the un-

fortunates entrusted to our care. We recognize fully the value of the element of suggestion in bettering the physical processes through the mental, and we know full well how a patient deprived of hope will quickly wane and die:

"Hope, dead, lives nevermore,
No, not in Heaven."

The objects and aims of such institutions are by no means furthered by this method of designation. Rather do they become places to be dreaded and shunned. It may be urged in defense of these titles that after all a name stands for little; that the patients will know soon enough the true import of their disease and their surroundings. But how much better the late Dr. J. M. DaCosta expressed the thought in bequeathing a sum of money to the Pennsylvania Hospital for the endowment of a ward for cases "now deemed incurable." The avenue of hope is still left open. Every effort in the direction of eradicating the significance of hopelessness in these cases must be regarded in the light of removing the fetters of apparent banishment and ostracism.

Cellular Poisons or Cytotoxins.—The great Virchow showed a prophetic instinct when he formulated his theory of cellular pathology. Each organ represents a community of cells; each cell is the ultimate unit, possessing in a large measure its own individuality. It has its own secretion and excretion; it lives, develops, reproduces itself and dies. When a large number of such cells, constituting an organ, become diseased, the entire community suffers, while death of the majority of cells terminates the life of the organ, and if the latter is essential to life, also that of the organism. All physiological functions, as well as pathological alterations, therefore, reside primarily in the cell. In the course of its physiological activity the cell produces poisons (toxins) and substances which neutralize the latter (antitoxins). The toxins, on the other hand, may be harmless to the cell which secretes them, but destructive to the life of cells of other organs or of the same organ in other species of animals, like, for instance, the insect-sting or snake-venom. These facts, of such great importance to the future progress of medicine, are being elucidated by remarkable researches along biological lines. Metchnikoff, to whom we owe our knowledge of phagocytosis, has contributed to the *Russki Archiv Patholog. Khimichesk. y Meditsiny i Bacteriologii* (February, 1901), a paper of most absorbing interest. In it he reviews the progress made in the study of cell-toxins, especially with reference to hemolysis, or the destruction of the red blood-corpuscles of one species of animals by the serum of another. The substance which destroys the blood-corpuscles, or

hemotoxin, consists of two distinct bodies: One, an alexin called by Metchnikoff, *cytase*, is unstable and is destroyed by a temperature of 55-56 C.; the other, *fixator*, withstands a temperature not higher than 65-68 C. The former is found in the serum of any animal; the latter only in the serum of those which have received injections of blood (active serum). In order that the serum of an animal of one species may destroy the red blood-corpuscles of that of another a combination of both *cytase* and *fixator* must be present. Neither alone is capable of dissolving the red blood-corpuscles. To determine the source and distribution of the hemotoxin. Metchnikoff conducted the following experiments: He injected defibrinated blood of a goose into the abdominal cavity of a guinea pig. The red blood corpuscles were at once seized by the mononuclear leukocytes and digested by the ferments secreted by the latter. The analogy between this intercellular digestion and hemolysis is so close that it lead to the conclusion that hemotoxin is the product of phagocytes excreted into the serum. While the *fixator* is circulating freely in the plasma the *cytase* remains within the living phagocytes. But when the leukocytes are by some means, as by the injection of fluids, seriously injured, the *cytase* is released and also circulates in the plasma. The combination of the two constitutes the hemotoxin. The latter, therefore, may be looked upon as the digestive ferment of the phagocytes alone. Any of the other cells produce substances which are toxic. The injection of spermatozoa of one animal into the serum of another is followed by the formation of the spermatoxin, which is identical both in its action on the spermatozoa and composition to hemotoxin. Leukotoxin, a substance which destroys the leukocytes, was prepared by Metchnikoff, Dellsen, Funk and others. Von Dungern obtained, by injecting into guinea pigs the mucous membrane of the trachea of a bull, a serum which destroyed the motion of the cilia of ciliated epithelium. Lindeman, working in Metchnikoff's laboratory, injected into guinea pigs part of the mucous membrane of the result that he obtained a serum capable of causing albuminuria and acute nephritis when injected into rabbits.

Nerve toxins have also been produced although with less constant results. So far experiments have been conducted mostly with heterocytoxins, i.e. those produced by injecting the cells of one species of animals into those of another. Further experiments, however, prove that the organism is also capable of producing autotoxins. The reason the organism is not poisoned under normal conditions is explained by Metchnikoff by the following hypothesis: As long as the organism is healthy the

cytase remains enclosed within the leukocytes, but as soon as the latter are injured by some pathological alteration, the *cytase* is released, combines with the *fixator* circulating in the blood, and autointoxication results. It has further been demonstrated that by a process of gradual immunization it is possible to produce specific anticytotoxins. In these Metchnikoff sees the future possibility of not only curing various degenerative changes produced by the toxins, but actually preventing them. Among the conditions to be benefited in this millenium he includes senile degenerations and atrophies.

Clinical Study of Deciduoma Malignum.—G. Metoz, (*Gaz. Heb. de Med. et de Chirurg.*, March 10, 1901, 48 me. Année, No. 20.) (Paris Thesis.) A noticeable feature in the etiology of **deciduoma malignum** is that the tumor always follows pregnancy, either after normal labor or after abortion. The tumor may develop, as a rule, from 4 to 8 months after delivery. Women attacked with the disease are usually young, the usual age being between 26 and 40 years. Hydatiform mole seems to be an etiological factor in the production of the tumor, 48 cases out of 98 show this condition preceding the development of the tumor. In the case of deciduoma malignum, as in epithelioma of the uterus the tumor often reaches its full development before giving rise to symptoms. When the growth has reached a certain size so that fungous masses without consistency are developed, intense hemorrhages appear. This form of development belongs particularly to that form of deciduoma which follows abortion, or normal labor, and does not apply to those cases of deciduoma that follow extrauterine pregnancy. Uterine hemorrhage is the first symptom of the disease and is due to the involvement and the destruction of the vessels by the vegetating masses. The most important characteristic of the hemorrhages is their extraordinary resistance to all kinds of treatment. When the tumor follows the molar pregnancy the uterus is markedly increased in volume; when it follows abortion or normal labor, the uterus hardly exceeds in size that of 3 months pregnancy. The tumor is usually smooth and regular. On vaginal examination the os is sometimes partly open and sometimes normal. The uterine cavity presents a tumor that projects but little beyond the surface and that is sometimes pedunculated. A little later in the disease metastases appear, which may involve all the organs. Among the seats of these metastases, the vagina seems to be one of the most common. Pulmonary metastases are common and are usually found at the base or at the apex of the lung. Patients thus attacked present symptoms similar to those of patients suffering from chronic bronchitis. Examination of the sputum reveals nothing characteristic. Cachexia appears early. When hemorrhages appear after a patient has expelled an hydatiform mole the clinician ought to think of deciduoma at once. Hemorrhagic metritis and fibroma produce menorrhagia and menstrual disorders accompanied by leucorrea but never such a profuse flow of blood as accompanies deciduoma malignum. Vaginal hysterectomy is the proper treatment of the condition. [J. M. S.]

A Rare Case of Enteroliths.—E. M. Schvalbe (*Medicinskoje Obozrenie*, March, 1901) calls attention to the rarity of true enteroliths in man. In the Russian literature only one case is reported. He reports a case of a woman 68 years old who was admitted to the hospital suffering from intestinal occlusion and general peritonitis. She died 24 hours later. An autopsy revealed the presence of a white chalky fluid in the stomach, while the intestines were filled with large and small stones weighing in the aggregate 710 grms. (the largest stone weighed 34 grms). A chemical analysis of these enteroliths showed them to consist of carbonate of lime with an admixture of sand. It was subsequently learned from the the relatives that the woman was in the habit for the past few years of her life of ingesting large quantities of chalk or sand. [A. R.]

American News and Notes.

PHILADELPHIA NEWS.

College of Physicians of Philadelphia.—Section on Ophthalmology.—Meeting, April 16, 1901. Dr. Wm. Thomson, Chairman, presiding.

Dr. C. A. Veasey exhibited a male patient, 26 years of age with **Right Oculomotor Paralysis and Left Trifacial Paralysis**, involving both the sensory and motor tracts, together with some impairment of the right knee-jerk. The paralyzes were complete, and had been preceded by considerable ciliary pain, described as being behind the eye-balls. At the time of the appearance of the paralyzes there was some difficulty in passing the urine, a soreness and "pulling" behind the knees, which made walking painful, considerable vertigo, and some headache, though the last was by no means pronounced. There had also been slight staggering at times. The case was thought to be one of cerebro-spinal syphilis with meningeal involvement, probably most marked at the base, in the interpeduncular space, and over the pons.

Dr. Geo. C. Harlan exhibited a case of **Abscess of the Orbit from Disease of the Ethmoid; Curetting through the Orbit and Drainage through the Nose**. The patient had had nasal catarrh for more than a year, with caries of the turbinate bone.

Dr. G. C. Harlan called attention to a method of performing **Iridectomy in Case of Obliteration of the Anterior Chamber**, which was described by Gayet at the meeting of the French Ophthalmological Society in 1884. After fixing the eye with the double fixation forceps, Gayet makes a minute incision into the periphery of the anterior chamber with the ordinary scarificator by sawing movements, enlarging the incision with blunt scissors. Dr. Harlan had found this method of operating very useful recently in a case of chronic iritis with increased intraocular tension. He had found a narrow Weber canaliculus knife admirably adapted to enlarging the incision. Its probe point passes readily between the iris and cornea.

Dr. S. Lewis Zeigler presented a case of **Hemophilic Extravasation into the Conjunctiva, Antrum, and Cheek**, associated with habitual constipation.

Dr. Ziegler also reported **Recurring Hemorrhages from the Ciliary Body**, in a woman, aged 26 years, who suffered from habitual constipation.

Dr. John T. Carpenter read a paper on **Purulent Chorioiditis** occurring in a boy, 2 years old, who had suffered from a severe attack of mumps 4 weeks before. There was deep-seated yellowish reflex behind the pupil, and the entire uveal tract became infiltrated with pus.

Dr. H. F. Hansell made some remarks on the **Use of Pilocarpin in the Treatment of Inflammations of the Eye**. He read the history of a number of cases, and gave in detail the method he employs in the treatment. The cases were those of interstitial keratitis, traumatic purulent iritis, vitreous opacities, and retinochoroiditis. In most of the patients the improvement had been most rapid and marked, while in all the treatment had proved beneficial. He expressed regret that the treatment had not been more generally followed in chronic deep-seated ocular inflammations where the usual routine treatment was most prolonged or unsuccessful, and felt sure from his increased experience that many forms of inflammation and of loss of vision could, with few exceptions, be materially improved. The recovery in some of the cases described was most satisfactory. The most striking was that of Case No. 1, of traumatic purulent kerato-iritis, in which the intense injection had decidedly cleared and the large collection of pus in the anterior chamber, altogether disappeared in 24 hours, with complete recovery in one week.

Discussion—Dr. de Schweinitz had secured gratifying results with pilocarpin in the treatment of the same class of cases referred to by Dr. Hansell. He stated that some

nerve specialists placed great reliance upon the drug in toxic insanity after influenza, autointoxication, and similar processes, the brain rapidly clearing after two or three sweats. Apart from its action hypodermatically, he had found pilocarpin or the fluid extract of jaborandi, in small doses by the mouth, to be of value, especially in degeneration of the vitreous. He had never had but twice unpleasant symptoms following the pilocarpin sweating, one a bad attack of pulmonary edema, and the other intense salivation. The persistent nausea that is so common after the use of the drug is usually relieve by small doses of chlorodyne, as suggested by Dr. H. C. Wood. Dr. Shumway had, in one instance, persistent secondary sweating, for which he was compelled to use alcohol bathing. Dr. Hansell said he had never had to employ measures to limit the period of skin action.

Dr. G. E. de Schweinitz reported a case of **Probable Methyl-alcohol Amaurosis, the Pathway of Entrance of the Poison being the Lungs and the Cutaneous Surface**, and reviewed the literature of blindness from this liquid. The man, aged 39, was a varnisher by trade. Two months prior to his amaurosis he had been constantly employed in shell-lacing, and was accustomed to dilute the shellac to the desired thinness with methyl-alcohol. He was therefore almost uninterruptedly during the working hours of this period exposed to the fumes of the wood-spirit, and was also accustomed at the end of his day's work to wash his hands, forearms, and face with the same liquid in order to remove the shellac stains. Dr. de Schweinitz drew particular attention to the dangers which workers in this liquid ran, and thought that they, as well as their employers, should be properly warned. He pointed out the analogy between these dangers and those which were encountered by workers in lead, nitrobenzol, and dinitrobenzol, and how in the last three-named trades all proper precautions were taken to prevent the well-known toxic action of these drugs.

Discussion—Dr. Hansell said that he had examined the man on several occasions. When he first came to the Jefferson Hospital he had double optic neuritis of moderate grade and was totally blind. Under treatment vision improved in each eye so that he was able to go about the streets alone. The improvement was retained for a few weeks and then vision commenced to decline. The diagnosis that was made at the first examination was hemorrhage into the chiasm, and this seemed to be confirmed at later examinations by a well-marked right hemianopsia, distinctly outlined in the left eye and less complete in the right. The optic neuritis gave away rapidly to atrophy. There was no paralysis of any of the ocular muscles.

Dr. Wm. Thomson gave a demonstration of a **New Lantern Test for Detecting Color Blindness**, being aided by a young ophthalmologist who suffered from green blindness, the form of color defect which has been found most difficult to detect by the wool test of Holmgren and its varieties.

Neurological Society.—At the meeting of April 22 Dr. Alfred Gordon exhibited a **Case of tea-intoxication with spinal symptoms**. The patient was a woman of 41 who had drunk as high as 360 ounces of tea per day. She presented the symptoms of combined sclerosis together with hysterical manifestations. Cerebral symptoms were not marked. The possibility of lead poisoning was suggested, this being derived from the coloring of the tea. Dr. J. Chalmers Da Costa exhibited a **case of trichiniasis**. This case, of which only a preliminary report was made, was interesting from several points of view. The affection began in the calf of the right leg during January 1901. The gastrocnemius muscle enlarged and was painful at night. The condition has extended until the thigh is now involved. The muscles are greatly enlarged and dense. There is a history of traumatism on the calf of that leg last August but recovery from the bruise was apparently complete. The patient changed occupation after the injury and began eating pork 4 times a week but denies eating any raw pork, although he has eaten raw beef. Sections of muscle removed

for study shows numerous trichinae. The highest percentage of eosinophilis in the blood was 4% the first count made. Later counts show that the leukocytes have increased from 12,000 to 20,000, but the eosinophiles are less. The case is interesting because of the absence of all the ordinary signs of trichiniasis. Dr. Max Bochroch exhibited a case of chronic arthritis. The patient has a history of 3 attacks of rheumatism. There is now limitation of movement of the back and there is also some rigidity of the shoulder and hip joints. The supra- and infra-spinatus muscles are much atrophied. Drs. William E. Hughes and W. G. Spiller reported a case of severe anemia, with changes in the spinal cord. Post mortem showed sclerosis of the spinal cord but there was no evidence of changes in the vessels the condition probably being due to a toxic material in the blood. Discussion by Drs. Lloyd, Burr and Mills emphasized the point that changes in the vessels are not essential points in the etiology of this condition. Dr. Mills stated that pernicious toxemia is a better term than pernicious anemia. Dr. W. W. Keen reported a case of secondary suture of the posterior interosseous nerve with complete re-establishment of function. The patient was a man of 38 who in August 1900 received an axe wound which severed the posterior interosseous nerve. In November the nerve was exposed, 7mm. removed and the ends approximated. Slight extension of the fingers was possible in 8 days and the improvement afterward was steady. Dr. David Riesman reported a case of intermittent claudication. The patient was a man who had pain, numbness, loss of power of the legs, etc. when he was on the street. A few minutes rest would enable him to proceed again. The etiology of the condition seemed to include only three factors, tobacco, exposure, and mental strain. Nitro glycerine and potassium iodide gave no relief but the patient seems better after the use of the bromides. Strophanthus will be added.

Pennsylvania Hospital.—The Pennsylvania Hospital, termed by its historian, Dr. Thomsa G. Morton, "the Mother of American Hospitals," will celebrate on May 11 next the 150th anniversary of its establishment. It was founded by the Assembly of the Province of Pennsylvania in 1751, in response to a petition in the handwriting of Benjamin Franklin, which was drawn up at the suggestion of Thomas Bond. Funds were not plentiful, and it was only on the offer of Drs. Thomas Bond, Lloyd Zachary, and Phineas Bond to give their services for three years that a modest grant of £2,000 was made, to be supplemented by a like amount from private subscription. Since its inception, to quote from the *Philadelphia Ledger*, "the hospital has either led or kept pace with advancements in surgery and medicine. It was the first to introduce clinical teaching in this country, the first bedside instruction in medicine being given by Dr. Bond. It was the pioneer in this country in caring for the insane, and led the world in evolving and perfecting the humane and rational treatment of those suffering from disordered minds." Another circumstance that gives it fame is that it is the one great hospital in the country that has cared for wounded soldiers of the colonial and Revolutionary wars, the War of 1812, the Mexican war, the civil war, and the Spanish-American war.

Philadelphia County Medical Society.—A regular meeting of the Society was held April 24, the President, Dr. George Erety Shoemaker, occupying the chair.

Dr. John B. Roberts exhibited 2 cases: (1) Insertion of artificial vitreous after evisceration of the eyeball; (2) Rhinoplasty after loss of the end of the nose. The further program of the evening was a symposium on Diphtheria. Dr. J. D. Steele read a paper on *The present aspect of the Antitoxin Treatment of Diphtheria*. Dr. Steele quoted figures from various societies and compilers showing the diminished mortality from diphtheria since the introduction of the antitoxin treatment. The results vary according to the promptness with which the antitoxin is administered, the mortality being from 3 to 5% in cases where injections are begun on the first day and increasing each day thereafter until the average of about 16% is reached. A case was cited to show the protection afforded the myocardium by early injection of antitoxin. A girl who had a badly damaged heart as shown by multiple murmurs was taken with diphtheria. On the evening of the second day 1250 cc. of antitoxin in 2 doses was administered. The girl went on to rapid convalescence with

no apparent involvement of the heart by the disease. Paralyzes following diphtheria are not materially reduced by the use of antitoxin. As to the immunizing power of antitoxin an occurrence at the Presbyterian Hospital was cited. Three or 4 cases of diphtheria occurred in the children's ward. The remaining children and the nurses were given immunizing doses of antitoxin. Cultures were soon afterward made from the throats of 17 patients and 2 nurses. In 5 patients and 1 nurse the Klebs-Löffler bacillus was found. A later test from 10 patients and 4 nurses showed the bacillus in 3 patients and 3 nurses. Yet there was no evidence of clinical diphtheria in any of these cases. To prevent the spread of diphtheria the immunizing power of antitoxin should always be employed in addition to isolation and the making of cultures from the throat to determine where infection exists. A successful method of removing the bacilli from the throat is to swab on 3 successive days with a solution of silver nitrate, 1 drachm to the ounce. Statistics of the mortality from diphtheria in Chicago, New York, Boston, and Philadelphia were given. These showed Philadelphia to have a mortality considerably higher than either of the other cities mentioned, the general city history not being at all satisfactory in this respect. The conclusion of the paper was that the curative and immunizing power of diphtheria antitoxin had greatly reduced the mortality from diphtheria and that it should be promptly used for the treatment and prevention of that disease. It has probably not been employed in Philadelphia with the energy shown in the other cities named, with the result of a higher death rate in the former city.

The discussion on the subject of the evening was opened by Dr. A. C. Abbott, who spoke on *The Bacteriology of Diphtheria*. Dr. Abbott said that many physicians had difficulty in understanding why some cases of diphtheria did not have severe clinical symptoms and yet the bacteriologist would tell them that virulent germs were present in the throat of the patient. The speaker explained this by saying that variety in diphtheria was not more remarkable than in other diseases. This is probably due not so much to the bacteria as to the resistance of the individual. Then again there are variations in the virulence of the bacteria, but it is true that virulent bacilli are as often found in mild cases as in severe cases clinically. The pseudodiphtheria bacillus was once differentiated by its pathogenic powers from the bacillus of diphtheria, the guinea pig test being the standard. Now the term is confined to those which resemble the true bacillus but can be differentiated by other methods. Nasal cases with no clinical manifestations should be carefully looked after. Dr. Richard Pearce exhibited lantern slides showing *The Pathology of Diphtheria*. The slides illustrated the changes taking place in the heart and kidneys when those organs are involved. Dr. Joseph McFarland spoke on *The mode of operation of antitoxins*. Two theories are held regarding this. One is that they stimulate vital reaction in the organism against the toxins present. A second, held by the Germans, is that there is a chemical reaction between the toxin and antitoxin. It is impossible at the present time to say which is correct but indications point to the latter as the more probable. The various toxin and antitoxin reactions are partly specific. In some instances where half a dozen or more poisons are similar, as snake venoms, one antitoxin does for all and is not specific for any one. Diphtheria toxin is the only one of its kind, hence diphtheria antitoxin is the only one that will counteract it. The chemical effect of various antitoxins and their effects on toxins and tissues was discussed at length. Dr. M. Howard Fussell said that as an early practitioner he had looked for the typical textbook cases of diphtheria but he failed to find them. Neither the constitutional nor local symptoms are characteristic. It is said that in diphtheria the exudate is removed with difficulty and leaves a bleeding surface. But this is found in other infections. Slight complaining by the patient is more characteristic of diphtheria than of other infections. The only positive diagnosis is that made from throat inoculations but while waiting for the result of the bacteriological investigation antitoxin should be given. Dr. Fussell rarely uses more than 1000 units at a dose, but repeats it unless improvement is early and rapid. Applications to the throat are made or not made according to the individual. Deaths have occurred as a result of persistently making applications to nervous struggling children. Simple alkaline solutions in Dr. Fussell's experience. He always gives mer-

cury and iron. Dr. Packard said that he believed the high mortality of Philadelphia was due to the fact that many mild cases of diphtheria were not reported as such because of placarding houses, etc.

The Pennsylvania Society for the Prevention of Tuberculosis.—The annual meeting of the Pennsylvania Society for the Prevention of Tuberculosis was held in Philadelphia on April 11, 1901. The secretary reported that during the past year the society had published and distributed over 30,000 of its tracts and had used constant efforts to induce those in influential positions to aid in preventing the spread of the disease. The Society used its influence to secure the new rule of the Bureau of Health by which cases of tuberculosis are to be registered in Philadelphia. It has published a leaflet on the subject of Registration. Its publications have been sent all over the United States in response to many requests. Its officers have endorsed and assisted the Free Hospital for Poor Consumptives of Philadelphia and have gone to the New Jersey Legislature to assist in pleading for a State Hospital for consumptives in that State. The society has made strong efforts to show the need of a State hospital for consumptives in Pennsylvania.

Historical Club of the Department of Medicine of the University of Pennsylvania.—The first stated meeting of this club was held at the office of Dr. Charles A. Oliver, on Wednesday evening, the seventeenth of April, 1901. Dr. Oliver presiding.

The club which was organized in March, 1901, has for its objects "the study of the history, with the collection, presentation and publication of dates relating to the Department of Medicine of the University of Pennsylvania." Besides original research into the past history of the Department with the periodic publication of a series of Proceedings, and the getting of a special library, it is intended that the club shall collect historic portraits, pictures, engravings, furniture, instruments, books, certificates, etc., to be placed in appropriate University quarters. After an informal discussion in reference to the collection and disposition of some of the diplomas of the early graduating classes of the department, the original minutes of the organization meeting of the Alumni Society of the Medical Department were read and deposited among the archives of the Club by the presiding officer of the evening. Arrangements were made to present a series of papers on the Graduates of the Medical Department who served during the Revolutionary War at the next meeting.

Pathological Society of Philadelphia.—The annual Conversational Meeting of the Society was held April 25. The address was delivered by Dr. Charles Wardell Stiles, of Washington, his subject being "*Trichinella spiralis*, Trichinosis, and Trichina Inspection—A Zoological Study in Public Medicine." Dr. Stiles spoke first of Dr. Leidy, of Philadelphia, who in 1847 discovered the trichina in ham from which he was preparing a sandwich. The parasite had been discovered in man in 1835, but Dr. Leidy's discovery was the foundation of the knowledge of its life history. Dr. Stiles then reviewed the trouble between the United States and Germany regarding pork sent from this country. The system of inspection was detailed. During the years 1860-98 there were 14,824 cases of trichinosis in Germany with 831 deaths. The German inspection of pork includes the diaphragm, poas muscles, and the tongue. In 1896 there were in Prussia 27,602 paid microscopists engaged in meat inspection. This would mean nearly 65,000 for the United States were such a system inaugurated. Comparing the cost for the two countries it would cost this country between 3 and 4 millions of dollars annually. Dr. Stiles then compared the American curing process with German inspection as a means of rendering pork safe to eat. A summary of the cases in Germany from 1881 to 1898 shows that 3388 cases and 132 deaths, or 53% of all cases and 41% of all deaths were due to faults of German inspection methods. Inspection creates a false security and dependence had better be placed on curing and cooking. During the exclusion of American pork from Germany there were 4093 cases of trichinosis with 274 deaths in that country. Since readmission of American pork there have been 1093 cases and 27 deaths. Statistics show that there have actually been less cases during the admission of

American pork than during its exclusion. Since its readmission there has been greater vigilance by the authorities and 90% of all cases have been traced to their source. Not one case has been traced to American pork, thus fully proving its sanitary quality. The German inspection is no more valuable than the curing methods here and the government should not accede to the few and establish a system of inspection with its great cost.

In reply to several questions Dr. Stiles stated that the ordinary pickling methods in use here would destroy all trichinae in 3 months. The so-called "embalming" of meat, made famous by the late war, is one of the greatest advances in hygiene ever made in this country. It enables the process of curing to proceed from the interior of the meat outward at the same time that it is extending inward from the immersion fluid. The Government here takes no part in the curing of meat for home consumption, but export meat must have been in the pickle for a certain length of time. The government takes no stand in regard to the chemicals used by the packers. There is no inspection here for local trade but interstate meat is inspected for tuberculosis, hog cholera, etc., but not for trichinae. Pork in general contains trichinae to the amount of 2%.

Obituary.—Dr. William Jekyll Reichmann, at Algiers, Africa, on March 29.—Dr. Joshua Kenedy, at Scales Mound, Ill., on April 20.—Dr. Thomas H. Buckler, at Baltimore, Md., on April 20, aged 90 years.—Dr. Lewis R. Kirk, at Rising Sun, Md., on April 19, aged 69 years.—Dr. Edward M. Schaeffer, at Baltimore, Md., on April 21, aged 45 years.—Dr. J. H. Woodburn, at Indianapolis, Ind., on April 23.—Dr. Joseph S. Carradine, at East Orange, N. Y., on April 23.—Dr. Joseph S. Carradine, at East Orange, N. Y., on April 23.—Dr. Edwin F. Morris, at Birmingham, Ala., on April 23, aged 36 years.—Dr. Horatio Guzman, at Washington, D. C., on April 23, aged 50 years.

Vital Statistics of Philadelphia for the week ending April 27, 1901:

Total mortality	485
Cases.Deaths.	
Inflammation of appendix 2, bladder 1, brain 11, bronchi 7, kidneys 23, lungs 73, pericardium 1, peritoneum 5, pleura 1, stomach and bowels 36	140
Marasmus 10, debility 8, inanition 11	29
Tuberculosis of the lungs	73
Apoplexy 13, paralysis 8	21
Heart-disease of 34, fatty degeneration of 4, neuritis of 2	40
Uremia 11, diabetes 4, Bright's disease 13	28
Carcinoma of bladder 1, breast 4, stomach 4, pelvic 1, face 1, kidney 1, rectum 1, throat 1	14
Convulsions	14
Diphtheria	6
Brain-abscess of 2, congestion of 1, softening of 3, tumor of 1	7
Typhoid fever	7
Old age	6
Cyanosis	4
Scarlet fever	8
Atheroma 1, alcoholism 2, asthma 3, anemia 1, burns and scalds 4, casualties 13, congestion of the lungs 5, carbuncle 1, cirrhosis of the liver 3, consumption of the bowels 1, croup, membranous 1, dropsy, abdominal 2, erysipelas 4, fever, gastric 1, remittent 1, gall stones 1, gangrene 3, hernia 1, influenza 6, jaundice 2, locomotor ataxia 1, leukemia 1, obstruction of the bowels 2, edemia of lungs 2, rheumatism 5, retention urine 1, sclerosis, arterial 3, septicemia 4, small-pox 1, sarcoma parotidgland 1, sarcoma liver 1, stricture of esophagus 1, suicide 2, teething 1, tetanus 1, tumor, neck 1, stomach 1, whooping cough 3, wounds, gunshot 1.	

NEW ENGLAND.

Death of Dr. George Cogswell.—Dr. George Cogswell, 93, one of the oldest residents of Haverhill, died April 11th, at his residence in Bradford district. He was born in Atkinson, N. H., the son of Dr. William Cogswell, who was chief surgeon at West Point during the Revolution.

Death of Dr. Fred J. Brockway.—Dr. Fred J. Brockway died at the Brattleboro retreat April 21st, after an illness of several months. Dr. Brockway was born in South Sutton, N. H., in 1860. During his boyhood he attended the district schools, and prepared for college at the Tilton seminary, where he graduated. Soon after he entered Yale, where he received the degree of A. B. in 1882, after which he taught school in Stamford, Ct., for two years, when he entered the college for physicians and surgeons in New York, where he graduated in 1887, being class president and one of the honor men. After graduation he received an appointment in the surgical department of Roosevelt hospital, which position he held for a period of two years, retiring to accept the position of resident surgeon at Johns Hopkins hospital, Baltimore, being the first resident surgeon. In the fall of 1890 he returned to New York as lecturer and demonstrator of anatomy at the college of physicians and surgeons, and later was appointed secretary of the faculty, which position he held until the date of his last illness. He was a member of Omega society, life member of the New England society, member of the academy of medicine, West End medical society, county medical society, American association of anatomists, academy of science, American museum of natural history, New York athletic club and the Johns Hopkins resident association. He was the author of "Chemistry and Physics," "Compend of Anatomy." He wrote the chapter on viscera for the last edition of "Gray's Anatomy," revised "Nancree's Anatomy," and when stricken by illness was preparing a work on anatomy, which Dr. W. H. Rockwell, Jr., formerly of Brattleboro, will complete. In addition to these he wrote several monographs on anatomical subjects. When stricken down he was entering upon a most flattering professional career, his gentle and lovable nature having won for him a host of friends among his scientific brethren. He seldom took a vacation, but, on the contrary, worked almost incessantly, and the final breakdown resulted largely from ceaseless devotion to his profession.

A Case of "Folie Communique."—According to the *Journal of Mental and Nervous Diseases*, a family consisting of two brothers and a sister, living in New Haven, Conn., recently all became insane within one week. The sister became ill and acute mania quickly developed. A few days later the older brother suddenly lost his reason and began to rave, attacking the physician who was called in. Two days after this the younger brother developed acute melancholia. Although the family was considered well-to-do, no property has been found, and they will become charges of the State Hospital for the Insane.

WESTERN STATES.

Appointment.—Dr. Reuben Peterson of Chicago has been appointed to the Bates professorship of the diseases of women in Michigan University, to succeed Dr. J. N. Martin.

Dr. John Bassian.—Dr. John Bassian died on April 18th at Fresno, Cal., aged 70 years. He was a native of Turkey, an eccentric man, one of profound learning and one who had at his fingers' ends all the languages of the Mediterranean and of the Levant. He was the father of Alexia Bassian, who is well known in the musical world. She once sang before the Prince of Wales and exhibits a solitaire and diamond cluster ring as a gift and memento of the occasion. Dr. Bassian served as a surgeon in the Turkish army and was special court physician to the Sultan.

Cancer Increasing.—Late statistics from all points tend to sustain the claim of many American observers that cancer is increasing in frequency to an alarming extent. In Moscow the number of reported cases has doubled

since 1880, while in Russia (according to Heymann) the rate of mortality from carcinoma is four times as great as in 1877.

Insane from Religious Excitement.—In the report of the Central Hospital for the Insane, at Indianapolis, Ind., the superintendent classifies the causes which led to the insanity of the persons committed during the year, and of the five hundred and seven nearly ten per cent. were made insane by reason of religious excitement. The report says that none of the latter were affected by hereditary insanity.

Appointment.—Dr. A. W. Barber, of Cheyenne, Wyo., was recently appointed secretary of the State Board of Health.

Appointment.—Dr. George B. Storey, of Portland, Oregon, who has been acting as assistant surgeon in the army in the Philippines since the outbreak of the war with Spain, has been appointed assistant surgeon in the regular army, with the rank of first lieutenant.

Western Ophthalmologic and Oto-Laryngologic Association.—At the Sixth annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association held in Cincinnati, Ohio, April 11th and 12th, the following officers were elected: Dr. C. R. Holmes, Cincinnati, O., President; Dr. W. L. Dayton, Lincoln, Neb., first vice-president; Dr. J. O. Stillson, Indianapolis, Ind., second vice-president; Dr. H. W. Loeb, St. Louis, Mo., third vice-president; Dr. O. J. Stein, 100 State street, Chicago, Ill., treasurer; Dr. William L. Ballenger, 100 State street, Chicago, secretary. At the meeting in Cincinnati the scientific program was of very high grade. Forty new members were elected.

SOUTHERN STATES.

An Interesting Medico-Legal Point.—A case of a great deal of interest for medico-legal experts has recently occurred in Christiansburg, Va. It appears that a woman was given an overdose of some narcotic, presumably opium in some form, by her husband; he notified some of the neighbors that she was dead, but did not allow them in the room; she was buried on the second day. Suspicions having been aroused, the body was disinterred and it was found that she had given birth to an infant, she being near her expected time of confinement. This fact at once gave rise to the rumor that she was put in her coffin alive and in her struggles to extricate herself, gave birth to the child.

Blackmailers Foiled.—Dr. J. H. Hargram, of Petersburg, Va., has caused the arrest of three men in his city, who came to his office and charged him with wronging the daughter of one of them and demanded at the point of a pistol that he should pay \$1000. The doctor finding himself at a disadvantage said he had no money, but would go out and fix up a note. He was allowed to go and went at once to a magistrate and swore out a warrant against the intruders.

In Active Practice for 57 Years.—Dr. James McCaw, of Richmond, Va., on the occasion of his retirement from the medical profession was recently presented with a silver bowl by his medical friends.

Decision in Favor of Vaccination.—In a test case made in Austin, Texas, the Attorney General has decided that school trustees have the right to require certificate of successful vaccination of all children making application to be admitted to schools.

Dr. Henry Bryon McKellops.—Dr. Henry Bryon McKellops died April 23, at St. Louis, at the age of seventy-eight years. He had an international reputation as an authority on all matters pertaining to dentistry and dental surgery. He was born in Salina, near Syracuse, N. Y. In 1855 the Ohio Dental College conferred on him the degree of Doctor of Dental surgery; in 1865 he organized the Missouri Dental Association, and in 1877 was elected President of the St. Louis Dental Association. In 1868 he was chosen President of the American Dentists' Association, and later of the Southern Dental Association, and the Mississippi Valley Dental Society. Dr. McKellops was commended for gallantry during the Mexican war, commanding Morgan's Riflemen.

Association of American Medical Colleges.—The next regular meeting of this association will be held at the Hotel Ryan, St. Paul, Minn., Monday June 3d, 1901. It will consist of two sessions, an educational session and a business session. The educational session will be opened at 2 P. M., by the President's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are respectfully invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 P. M. the business session will be held at which the amendments to the Constitution proposed by several colleges will be considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

Retires as Rear Admiral.—Medical Director Walter K. Schofield, of this city, goes on the United States Navy retired list, still retaining the title of medical director, however, but with the rank of rear-admiral added. Director Schofield has been in the service for forty years. He was born in Connecticut in 1839. At the outbreak of the Civil War in 1861 he entered the medical corps as assistant surgeon and was with Farragut's fleet during many of the most memorable engagements of the rebellion, serving off Charleston and later off the coast of Florida. He served a year in the hospital in New Orleans; afterward he was transferred to the Norfolk Hospital, where he was stationed when peace was declared. Director Schofield has a host of friends among naval veterans, who all attest to his skill as a surgeon. After the war Director Schofield was stationed in China, Japan, South America, Africa and Europe. During those years he passed through all the grades of the medical branch of the service, ending with the title of medical director. Six years ago he was transferred to Philadelphia, during which time he has been serving with the Pennsylvania Marine District recruiting stations.

Havana Improving.—Major W. C. Gorgas, Chief Sanitary Officer at Havana, accompanies a tabulated report of the vital statistics of Havana for March with a letter calling attention to the fact that the death rate (26.28) is lower than that of any March since 1889. There were only four cases and one death from yellow fever, and since March 23 the city has been free from the disease. Major Gorgas ascribes this condition as partly due to the systematic and extensive way in which the sanitary officers have been killing the mosquitoes during the month over a wide area. The condition with regard to smallpox is equally satisfactory, and Havana has not had a case since last August, although it has been breaking out in all parts of the United States.

Leprosy in Canary Islands.—The existence of about 200 lepers on the Island of Teneriffe, Canary Island, has been officially reported at Washington by the United States Consul. At Santa Cruz de Teneriffe, the capital, there are 22 lepers, 15 of whom are men, and there are also some children. There are in addition living at the same place about 200 people. Officially it is not recognized that leprosy exists on these islands.

CANADA.

(From Our Special Correspondent.)

Deaths in Ontario for the month of March, according to the bulletin of the Ontario Provincial Board of Health totaled 2,411 as compared with 2,480 for February and 2,330 for the corresponding month in 1900. This increase represents more than appears in the figures for as 96 per cent of the population reported last year the returns for this year are from only 87 per cent. The following are the deaths from the principal contagious diseases in March: Scarlet fever, 29; diphtheria, 46; measles, 12; whooping cough, 6; typhoid, 21; consumption, 188. Diphtheria shows an increase over 1900 when in the same month only 34 deaths occurred. The Registrar-General is of the opinion that better attention to registration has something to do with the increases in the death returns for the past months. A Lecture on the Life of Huxley

was given before the Canadian Institute on Saturday evening last, the 20th inst. by Dr. A. B. MacCallum, professor of physiology in Toronto University. One interesting incident in the life of this eminent scientist of local importance was referred to. Huxley was anxious to marry, and in order to enable him to carry out this project, he applied amongst other places for the vacant chair of natural history in Toronto University. This occurred in the period of "storm and stress" between 1850 and 1855. The post in the University of Toronto had been advertised at £350 per annum with a share of the fees; and while he was applying for this position Professor Tyndall was seeking a chair in the same institution, namely that of mathematics and natural philosophy. Politics were, however, then too strong in the affairs of this university, for although Huxley was the leading scientist, as teacher and investigator in the field of natural history, a brother of the leader of the then government of Ontario carried off the prize against his eminent competitor. It has been stated that it was Huxley's opinions on religious subjects which caused his rejection, but Professor MacCallum states this could not be the truth as it was not until five years later that anything of this character appeared in the writings of this great man. Then, Professor MacCallum says it was worthy of note "that the filling of the position was made the occasion for criticism against the university as a Godless institution on the ground that the successful applicant was a Unitarian in religious belief."

The Executive Committee of the Canadian Association for the Prevention of Tuberculosis met in Ottawa on the afternoon of Saturday the 30th inst. His Excellency, the Governor-General presiding. Dr. E. P. Lachapelle of Montreal was added to the Committee. It was decided to make all the Secretaries of the provincial boards of health corresponding members. The Rev. Dr. Eby, the general secretary of the Association, on request from the Ontario Executive and the Toronto branch was appointed a special organizer and agitator for the next six months in order to carry on a systematic campaign of education throughout the province on the legislation passed one year ago in the provincial parliament referring to municipal sanatoria; and towards this campaign, the central Association voted the sum of \$300. Dr. Eby resigned the general secretaryship and Dr. H. B. Small, the treasurer of the Canadian Medical Association was invited to accept the position.

McGill's Soldiers, the boys who have returned from the South African battlefields were tendered a banquet by the Graduating Society of the University on the evening of Friday, the 19th inst. The South African officers, non-coms., and privates thus honored by their fellow graduates numbered twenty-four and were largely from the medical faculty of the University and included Surgeon-Major Wilson, Surgeon-Major Worthington and Surgeon-Major Fiske. Two were undergraduates of McGill, Trooper Harold Borden and Gunner O'Reilly, both of the medical faculty, were not forgotten by their comrades and many were the eulogiums passed upon their bravery by the different speakers, for they had left their bodies in far South Africa in defence of their country's flag. Both were sons of well-known medical men in Canada, the former being the only son of the Hon. Dr. Borden, Minister of Militia; the latter of Dr. O'Reilly, of Hamilton, Ont.

The Sewage Farm in Montreal which was constructed a little over a year ago at a cost of \$75,000 has proved a dismal failure. At that time the advice of the then city engineer was that a couple of feet of pipes was necessary, one to carry the surface water and the other the sewage proper to the farm, was totally disregarded; and now the filth from the sewer outlets empties itself into the surface of the farm at one end and then rushes out at the other over the intervening country into the Back River without being purified at all. For over a mile there is a slimy trail of filth; and the stench from the raw sewage passing over the surface of the ground is said to be awful and is fast adding another source of disease to the inhabitants of that city. It is so early in the month of May that the sanitary reform. Montreal has just passed through a serious epidemic of scarlet fever, and the approach of warm weather is almost being anticipated on account of the dreadful filthy condition of the city at the present time. Ordinarily, the infant mortality in that city is enormous and the present aspect of affairs seems to give no indication that there will be any abatement in that respect.

The Medical Council of Ontario has just sent out to a number of practitioners throughout the province a circular

letter which will not be very palatable reading to many of them. It costs \$100 to become a licentiate of the College of Physicians and Surgeons of the province of Ontario; and when licensed, the College demands that \$2.00 be an annual fee for registration. Some years ago a rough breeze blew up over this very same fee and there was much feeling in the profession with regard to it, many holding that it was an altogether unnecessary tax, that the College should be able to manage its affairs out of the funds derived from students at their examinations. Now a number of practitioners who have allowed the payment of these \$2.00 annual assessments to drift, have received notices from the official prosecutor of the Medical Council that their names have been erased from the official prosecutor of the Medical Council that their names have been erased from the register and that unless all arrears be paid within thirty days, they will be proceeded against just the same and in the manner pursued in regard to other unregistered practitioners, that is, quacks. No doubt, the affair will create interesting diversion for the prosecutor in that he will be taking his pound of flesh out of the constituents of his employers.

Bishop's College, Montreal, held its annual convocation for the Medical and Dental faculties last week. the chancellor, Dr. John Hamilton, presiding. Dean Campbell of the Medical Faculty presented the annual report of that department of the University, referring in strong terms of the need for larger endowments for that faculty if it were to carry on the work of teaching as successfully as it has done in the past. Especially did the primary chairs require assistance, because it was impossible to have them filled at the present time by men who enjoyed large practices. The year just closed shows an increase in this faculty, and a decrease in the dental, the latter being no doubt due to the additional year, and a more searching preliminary examination. During the past year there were 84 students registered out of which number nine received their M. D. C. Ms that day. Dr. Hyman Lightstone delivered the valedictory for the new M. D.s while Dr. Anglin replied for the faculty.

The Sect of Christian Scientists in Canada, while not large, is said to be growing. The subject has been taken up repeatedly recently in Toronto pulpits and it has received universal condemnation from all denominations. In 1890 they are said to have started with a membership of a score or two; while at the present time they have a membership of over 3,000 and some 5,000 adherents. Thirty-two of their churches exist scattered over all parts of the Dominion, four of these in the cities of Toronto, London, Berlin and Montreal being owned outright, whilst the balance are merely rented. In Toronto, sometimes spoken of as "The Good," there are some 500 of these people, which cannot be said to be very many out of a total population of 230,000.

Smallpox has broken out again in this city and there are now some four or five cases, one of them being a medical man. Throughout the province of Ontario the outlook is improving generally. Very few cases have been reported from old Ontario. The men employed in the lumber camps in the northern part of the province, that known as new Ontario have nearly all left their camps for their homes, and some 5,000 of them have been vaccinated, whilst over 2,000 pieces of baggage have been disinfected at Sudbury, where is situated the smallpox camp. At the present time smallpox exists in fifteen centres west of Sudbury and in thirty centres in old Ontario. At a number of places in different parts of Canada, pupils at the schools are being kept away on account of not submitting to the process of vaccination.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Hospital Service for the 7 days ended April 25, 1901:

F. W. MEAD, surgeon, Department letter of January 11, 1901, granting Surgeon Mead leave of absence for 60 days, amended so that said leave shall be for 1 month and 24 days—April 19, 1901.
A. H. GLENNAN, surgeon, to proceed to Tallahassee, Florida, for special temporary duty—April 22, 1901.
W. P. MCINTOSH, surgeon, to proceed to Ducktown, Tennessee, for special temporary duty—April 19, 1901.
W. J. PETTUS, surgeon, department letter of January 11, 1901, granting surgeon Pettus leave of absence for 2 months, amended so that said leave shall be for 1 month and 27 days—April 8, 1901.

C. P. WERTENBAKER, passed assistant surgeon, to represent the service at meeting of Texas Medical Association, Galveston, Texas—April 22, 1901.

J. A. NYDEGGER, passed assistant surgeon, to proceed to Cape Charles Venture, Va., for special temporary duty—April 24, 1901.

H. S. MATHEWSON, passed assistant surgeon, to proceed to Ponce and Guayanilla, Porto Rico, for special temporary duty—April 24, 1901.

W. W. KING, assistant surgeon, to proceed to Guayanilla, Porto Rico, for special temporary duty—April 24, 1901.

L. P. GIBSON, acting assistant surgeon, granted leave of absence for 7 days—April 25, 1901.

J. C. RODMAN, acting assistant surgeon, granted leave of absence for 7 days from April 24—April 25, 1901.
MARK H. WATTERS, hospital steward, relieved from duty at Chicago, Illinois, and directed to proceed to St. Louis, Missouri, and report to the Medical Officer in command for duty and assignment to quarters—April 19, 1901.

Changes in the Medical Corps of the Navy, for the week ended April 27:

ASST. SURGEON J. B. DENNIS, detached from the Naval Academy, and ordered to the Chesapeake, May 2.

ASST. SURGEON C. G. SMITH, ordered to the Vermont, April 25.

MEDICAL INSPECTOR F. ROGERS, ordered to the Brooklyn for duty as Fleet Surgeon of the Asiatic Station.

SURGEON W. F. ARNOLD, detached from duty at Olongapo, P. I., and ordered to the New Orleans.

SURGEON C. F. STOKES, ordered to the Cavite Naval Station, to await the Solace.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended April 26, 1901:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
DELAWARE:	Newcastle.... Apr.1-15	4	
FLORIDA:	Jacksonville ..Apr.13-20	6	
ILLINOIS:	Chicago ..Apr.13-20	17	
KENTUCKY:	Cynthiana ....Apr.17	6	
	Lexington ....Apr.13-20	4	
LOUISIANA:	New Orleans..Apr.13-20	10	1
MINNESOTA:	Winona .....Apr.13-20	2	
NEW HAMPSHIRE:	Manchester ..Apr.13-20	7	
NEW JERSEY:	Jersey City ..Apr.14-21	4	
OHIO:	Cincinnati ...Apr.12-19	7	
	Cleveland ....Apr.13-20	46	
PENNSYLVANIA:	Pittsburg ....Apr.13-20	1	
	Steelton .....Apr.13-20	3	
TENNESSEE:	Nashville ....Apr.13-20	1	
WEST VIRGINIA:	Wheeling ....Apr.13-20	1	
PHILIPPINES:	Manila .....Mar.2-9	8	
PORTO RICO:	San Juan: ....Apr.6	13	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Mar.23-Apr.6..	8	
BELGIUM:	Antwerp	Apr.6	3	1
CHINA:	Hongkong	Mar.2-9		6
FRANCE:	Paris	Mar.31-Apr.6..		10
GIBRALTAR:		Apr.1-7	2	
GREAT BRITAIN:	England:			
	Southampton	Apr.6-13	3	
	Scotland			
	Glasgow	Apr.6-13		5
	Leith	Mar.31-Apr.6..	1	
INDIA:	Bombay	Mar.19-26		12
	Calcutta	Mar.16-23		144
	Karachi	Mar.9-16	12	8
	Madras	Mar.16-22		10
MEXICO:	Progreso	Mar.31-Apr.6..	4	
	Yucatan,			
	Merida	Apr.11	Prevalent	
NETHERLANDS:	Rotterdam	Mar.31-Apr.6..	1	
RUSSIA:	Odessa	Mar.31-Apr.6..	13	1
SPAIN:	Corunna	Mar.31-Apr.6..		1
	Vigo	Mar.1-31		1

YELLOW FEVER.

COLOMBIA:	Panama	Apr. 8-15	8	
HAITI:	Cape Haitien	Mar. 23-30	1	1
MEXICO:	Coatzacoalcas	Apr. 1	Prevalent	
SALVADOR:	San Salvador	Mar. 31	4	3

CHOLERA.

CHINA:	Hongkong	Mar. 2-9	1	
INDIA:	Bombay	Mar. 19-26	4	
	Calcutta	Mar. 16-23	65	
	Madras	Mar. 16-22	1	

STRAITS SET- TLEMENTS:	Singapore	Feb. 26-Mar. 2	5	
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PLAGUE—INSULAR.

PHILIPPINES:	Manila	Mar. 2-9	8	
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PLAGUE—FOREIGN.

CHINA:	Hongkong	Mar. 2-9	16	
INDIA:	Bombay	Mar. 19-26	886	
	Calcutta	Mar. 16-23	1,040	
	Karachi	Mar. 19-26	239	192

STRAITS SET- TLEMENTS:	Singapore	Feb. 26-Mar. 9	3	
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CONTINENTAL EUROPE.

To Investigate Malaria.—Dr. Koch intends, in conjunction with the German Colonial Office, to organize various expeditions into German Africa for the purpose of carrying on investigations into the origin of malaria. He will direct the work from Berlin.

Portuguese Medical Expedition.—A Commission had been appointed by the Portuguese Government to study the sleeping sickness in the Province of Angola. This Commission which will at the same time include amongst its scientific researches an inquiry into the etiology and the transmission of malaria will be composed of the following members: Drs. Annibal Bettencourt, Ayres Jose Kopke Correa Pinto, Jose Gomes Bezande, jun., Joao Braz Gouveia, and Annibal Celestino Correa Mendes.

Brains of 300 Suicides Examined.—Professor Meller of Kiel University, the renowned expert in mental diseases, as a result of autopsies made during five years on 300 suicides, states that he found that the brains of 43 per cent. showed distinct malformation; 29 per cent. of the remainder were suffering at the time of their death from acute febrile inflammation, and 142 of the whole number had organs diseased by alcoholism.

(From our Special Correspondent.)

German Surgical Society.—The 30th session of the German Surgical Society, which meets annually in its own building in Berlin, began on Wednesday morning, April 10th. The society has at present some 1050 members, an unusually large number of whom were present. The congress opened with the President's address by Czerny of Heidelberg. Czerny surveyed briefly ten lines of research work which are of especial interest, and promise to the surgeon; the etiology of the infectious and contagious diseases, especially tuberculosis and cancer, and the question of immunity. An important question is the treatment of hopeless cases of chronic disease. Russia has set the world a grand example by founding a hospital for hopeless cancer cases in connection with the clinic of Prof. Lewschin in Moscow. Czerny urges the teacher to provide his students with ample opportunity for practical work, and not to fear too much the danger of wound infection. He objects to the proposed admission of graduates of the "Real Gymnasien" to the medical course, as does the active German profession. The president closed his address with a brief mention of the members of the society who died during the past year, among them the French surgeon Ollier, of Lyons.

The first paper of the Congress was read by Kuester, of Marburg on "Renal Surgery in the 19th Century; a Review and a Glance into our Future." Kuester reviewed the history of renal surgery, a branch of surgery which has existed for but one generation. Its founder was the Heidelberg surgeon Simon; soon after the Anglo-Saxon surgeons took up the work, especially Morris; a little

later France followed, notably Le Dentu and Guyon. In 1868 an American performed a nephrectomy as a result of a false diagnosis, and a little later Spencer Wells did the same operation, yet Simon was the first to perform a well planned operation on the kidneys. From that time until 1875 only 8 nephrectomies were performed, in the following 5 years 48. The first statistics gave a mortality of 44.6%, a later one 25%; while the statistics of the last 10 years show a mortality of only 16%. One can rightly say that the operations on the kidney have lost their danger. The good results of the last 10 years are not to be ascribed exclusively to improved technique and wound treatment; a more finely developed diagnostic power and an increased knowledge of pathological anatomy have made better results. The beginning of disease can be more surely diagnosed. The main symptoms of the surgical diseases of the kidney are pain, tumor, and pathological urine. And yet we were unable to determine whether one or both kidneys were diseased until cystoscopy and catheterization of the ureters filled out these defects in our knowledge. Even then our diagnosis was not yet complete. The diagnosis of the kidney function has taught us that a kidney which excretes apparently healthy urine may still be diseased; for example, when two ureters are present, one of which leads into a healthy part, or when it is impossible to catheterize the ureter. We cannot always recognize the more delicate pathological changes in the kidney even after operative exposure of the organ. These defects in our knowledge are now filled by the diagnosis of the function of the kidney, and by the phloridzin test. The principal affections of the kidney requiring surgical intervention are: (1) Movable kidney. Kuester does not believe that the clothing of the modern woman explains the etiology of the disease, because floating kidney occurs very often in the women of Egypt, who wear loose clothing. Nephropexy is indicated and gives satisfactory results. (2) Wounds of the kidney requiring surgical aid to check hemorrhage. Simon recommended nephrotomy; the surgeon of to-day would limit nephrotomy to cases of extensive laceration, ordinarily, however, he would apply suture and tamponade. (3) Pyelonephrosis, primary pus formation, which Kuester would call cystonephrosis. Nephrotomy gives good results in tuberculosis of the kidney; in a ureter diseased in its entirety, and even a tuberculous bladder can heal after removal of a diseased kidney. The Roentgen rays have brought advances in the diagnosis of renal calculi. With a short exposure one can succeed in obtaining a picture of even the phosphate concretions. Nephrotomy or pyelotomy is indicated. Calculus of the ureter necessitates more extended operation, especially when their location is the neighborhood of the bladder. Kuester recommends in such cases osteoplastic resection of the sacrum according to the method of Morris, or laparotomy. In cases of cystonephrosis nephrotomy is indicated in order that one be able to save all healthy tissue. In cases of cystonephrosis or cyst kidney due to floating kidney, one often obtains good results by nephropexy with stretching of the ureter. (4) In the cases of tumor of the kidney, one often obtains good results by nephropexy with tumors are malignant, as for example the struma supranalis accessoria (Grawitz.) Partial nephrectomy is often indicated and has shown good results. In regard to the methods of operating, Kuester considers lumbar nephrectomy the only rational procedure, except in some cases of tumor where laparotomy is to be preferred, since complications can be recognized more easily and quickly.

The second paper by Casper, of Berlin, describes "Advances in Renal Surgery;" and the results of researches carried on with Richter. Many failures in renal surgery are due to faulty diagnosis; the question is not, is the organ to be left healthy, but is its function sufficient. The determination of nitrogen, of the freezing point, and of sugar, enable us to answer this question. The freezing point of the blood and of the urine is nearer that of distilled water, the nearer normal the kidney. The excretion of sugar is determined by inducing an experimental diabetes by injections of phloridzin. Casper has tested the method in 14 cases and demonstrates the results. Kuemmel, of Hamburg, "Practical Experience in the Diagnosis and Treatment of Diseases of the Kidney" has continued the experiments in the determination of the freezing point of blood and urine, reported by him at the congress of last year. He has tested the method in 100 cases and considers it one of the most valuable helps in diagnosis. The freezing

point of normal blood is 0.56; 0.55 or 0.57 he considers comparatively good, with 0.58 he would refrain from operating. His method is as follows: He first determines the freezing point of blood; if this is normal he examines the urine from each kidney; if only one kidney is diseased operation is indicated. Kuester considers the determination of freezing point, of urea and the phloridzin test absolutely necessary to diagnosis, without them fatal mistakes will be made. Kuester demonstrates the method for determining the freezing point of the blood. Braatz, of Koenigsberg, discusses in a short paper the changes in the kidney following median section of the organ. He believes that contraction of the organ follows even when the sutures are not drawn tight. Schoenberg, of Hamburg, "Demonstration of Roentgen Photographs of Renal calculi," explains the failure of the Roentgen rays in the diagnosis of gall stones and renal calculi by the fact that these concretions have too small an atomic weight, for this reason the phosphates ought really to be most easily photographed, but their specific weight is too small. The order is therefore as follows. Oxalates, phosphates and urates. It is entirely impossible to photograph the xanthin and cystin concretions. The difficulty in obtaining photographs of the calculi is, however, due in part to the diffusion of the rays in the body. Schoenberg describes his method of decreasing this diffusion by means of bad coverings for the tubes and by using suitable diaphragms and plates, and demonstrated skiagraphs of very small renal calculi. Steiner, of Berlin, describes a rare case of congenital malformation of the kidneys, the left kidney being absent, the organ of the right side being double. Symptoms were pain, tumor, urine containing pus. Steiner removed the upper kidney of the right side, and although pyonephrosis was present in the lower organ the patient recovered.

The paper by Goldmann, of Freiburg, discusses "The Treatment of Hypertrophy of the Prostate." Goldmann observed in a case where suprapubic puncture had been performed and the catheter had remained for eight days, that the patient had no further trouble with his hypertrophied prostate. Two years later he performed the autopsy on this patient and found that the bladder was fixed to the abdominal wall in such a way as to exert traction on the internal urinary meatus. He then experimented on the cadaver, and has operated on several patients. He recommends cystopexy, suturing the bladder to the abdominal wall in suitable cases of hypertrophied prostate. Loewenhardt, of Breslau, "On the Treatment of Tumors of the Bladder," makes a plea for the endovesical operation. He believes that the advantages of the septic alta, a better field of operation, thorough treatment of the tumor stump, are often more than compensated by the less severe endovesical operation, doing away with general anesthesia, and with less loss of blood. He considers the difficulty of manipulating the instruments of little moment. Colpocystotomy and Kelly's method are absolute. For tumors at the internal orifice he recommends Gruenfeld's method. Loewenhardt demonstrates an instrument for exact work with the cautery on tumors situated near the openings of the ureters.

The first paper on wound treatment was read by von Bruns, of Tuebingen, which will be published later in the Philadelphia Medical Journal.

Fraenkel, of Vienna, "Wound Treatment Following Operations for Localized Tuberculosis," believes that the small, and especially the very small tuberculous foci, cannot be reached by operation, and therefore recommends the treatment with iodoform and similar substances, the effect of which he explains by the inflammation and consequent formation of connective tissue, thus shutting off the pathological from the healthy tissue. In the discussion Kuster, of Marburg, recommends the treatment of infected wounds with the cautery with which he has obtained favorable results. He expresses his great mistrust of the use of carbolic acid. Koenig, of Berlin, believes that the best treatment of septic wounds is exposure and thorough incision. He uses zinc chloride in cases where Kuester recommends the cautery. We will obtain better results in the treatment of tuberculosis by thorough excision and formation of fresh wound surfaces.

The second session opened with an important paper by Kocher (Bern) "Report on the Second Thousand Cases of Extirpation of Goitre. (b) On an Operation for Struma intrathoracica. (c) On the Non-operative Treatment of Goitre." Kocher emphasizes first that he performs only excision, rarely enucleation. He has given up the latter

operation, and has not changed his technique. He never severs the muscles. He has constructed a forceps for compressing the isthmus not to exert pressure on the blood vessels, but to make the ligatures smaller. Kocher's mortality is 4%. Infection plays no role. He introduces no antiseptic into the wound, only the ligatures, for which he uses silk exclusively, are prepared with antiseptics. He has used the prophylactic treatment with thyroid extract before operation, in cases of diffuse and long standing goitre. He seldom or never uses narcosis, operating under cocaine, and so avoids the abundant hemorrhage caused by vomiting. Kocher would give struma intrathoracica an especial place in surgery. As a result of the struma profunda he has seen emphysema, bronchitis, tachycardia, etc., and he claims that goitre lung as well as goitre heart exists. The main question in cases of struma intrathoracica is whether it is movable or not, the movable struma naturally giving more favorable operative results. Kocher then demonstrated the diagnostic value of the Roentgen rays combined with percussion, and shows a goitre which extended to the second intercostal space. In regard to the technique of the operation for struma intrathoracica Kocher ligates all blood vessels and divides the isthmus before extracting the goitre; he demonstrates a forceps and a spoon which he has constructed as aids to rapid extraction. Tamponade is never performed, since it can cause choking, and is no guarantee that hemorrhage is checked. In regard to the medicinal treatment of goitre, Kocher states that he has given up the thyroid extract and has returned to the old treatment with potassium iodide. This treatment may cause acute and chronic iodism, which, however, can also be caused by thyroïdin. Kocher then describes interesting experiments which his son, Albert Kocher, has been making with iodum phosphate; he has found that the amount of iodine contained in the thyroid continually decreases in goitre, while the percentage of phosphorus increases; this is especially the case in pregnant women. After treatment with phosphorus, he observed in one case an increase of iodine from 0.018 to 0.4, in another case from 0.00862 to 1.2, while the percentage of phosphorus decreased. Kocher calls attention to the fact that in those countries where goitre abounds very little phosphorus containing foods are consumed, while in England, for example, where goitre is practically unknown, eggs and meat form the main food constituent. He thinks that this factor may be of influence upon the development of goitre. Kracke (Freiburg) discusses the treatment of goitre and reports on 420 operations performed at the clinic at Freiburg. One-third of these cases were in males, two-thirds in females. In 220 cases he has performed extirpation of one-half of the gland. Some of the first cases were total extirpations, the rest enucleations or resections. The modulated form was the most frequent, pure hypertrophy of the gland rare; 10 cases were of malignant struma, in one of which he successfully removed a metastasis from the struma; twice he removed accessory struma, once from the fossa supraclavicularis, once from the tongue. He operates, as does Kocher, under local anesthesia, avoiding narcosis on account of the bad effects of the consequent choking, vomiting and postoperative hemorrhage. He has had but two cases, one of them from heart trouble probably due to excessive use of thyroid extract, the other from tetany following extirpation of both lobes of the gland. He has seen dangerous postoperative hemorrhage only following enucleation, never since he has abandoned this operation and the narcosis. He could explain the rise of temperature following enucleations by the increased resorption of gland substance during the operation. Kraske points out that operations for goitre are becoming more frequent, and therefore that the treatment with thyroid extract can be of no value. He has abandoned it entirely. His opinion is that thyroid extract can have no effect on the pathological gland tissue, but the improvement in some cases to atrophy of normal tissue consequent upon non-use. The treatment is, therefore, theoretically wrong, and may even, by the production of connective tissue due to atrophy of the gland, make operation more difficult. He advises the profession to oppose the thyroid extract treatment. In the discussion, Goldmann (Freiburg) reports a case of tuberculous regeneration of a struma intrathoracica. Riedel (Jena) has operated in 500 cases. He calls attention to the fact that the goitre may develop on the left side with the thorax, and appear in the ordinary form on the right side. He thinks the instruments devised by Kocher unnecessary, provided

one makes a sufficiently long incision; he considers Kocher's incision too short and advises a curved incision extending from the jugulum to the ear. He operates as do Kocher and Kraske, without narcosis. Retere (Frankfort on the Main) reports a case so far advanced that he would not risk operation, but which was cured by treatment with iodids. Koenig (Berlin) calls attention to the goitres of the low lying level districts. He has seen 70-80 cases here in Berlin, at least half of which were in natives who acquired their goitre here. He asks Kocher how much of the gland should be left. Kocher answers that he finds $\frac{1}{4}$ of the gland a sufficient proportion to leave. Krause (Berlin) reports on "27 Intracranial Resections of the Trigeminal (among them 25 Extirpations of the Gasserian Ganglion) and their Results." The results following resection of the separate branches of the trigeminal are not sure; therefore, in cases of true trigeminal neuralgia, and where such a severe operation is indicated, the extirpation of the gasserian ganglion and the trunk of the trigeminal must be performed. Krause has performed resection of the branches in 2, extirpation of the ganglion in 25 cases in patients in from 30 to 72 years of age. He uses the temporal method of operation described by him in 1892. One patient, a woman of 58 years, in an extremely weakened condition, died in collapse; a man of 72 years died in consequence of sclerosis of the coronary arteries and heart failure; a third patient, a woman of 60 years, died three weeks after operation. The autopsy showed no inflammation, but an extensive edema of the meninges. Of his oldest cases there are still alive: A woman of 76 years and a man of 63, operated on, 8 and $8\frac{1}{2}$ years ago; a woman of 77 and one of 54, operated on $6\frac{1}{2}$ years ago; a woman of 43 and one of 51, operated on $5\frac{1}{2}$ and 5 years ago. None of these patients has had a return of their neuralgic pains. Krause finds it impossible to save the motor branch of the nerve. Among the post operative complications to be mentioned are, keratitis, especially in cases with an existing dacryocysto-blennorrhoea, or lagophthalmus following attempts at resection. Krause finds that these cases yield readily to suitable treatment: further, transitory paresis of the muscles of the eye, due to pressure upon the motor nerves during operation. Krause thinks that the results of this operation justify the risks of such a severe procedure. Heidenhain (Worms) presents two patients from whom he had successfully removed tumors of the brain, and reports two further operations. A man suffered from paralysis of the leg, Jacksonian epilepsy, later paranoia and choked disc. At operation the diagnosis of a tumor in the leg center was found correct, the tumor being a solitary tubercle about the size of a walnut. It is interesting to note that the paranoia disappeared after the operation. The patient still suffers from epileptic attacks and paresis of the leg. The second patient suffered since childhood from headache; later parasthenia and anesthesia appeared in the hand and arm. The diagnosis of cystic tumor in one arm center was found at the operation to be correct, the tumor being a cystic sarcoma of the size of a hen's egg. The headache and the choked disc disappeared immediately, and the patient has only slight sensory and motor disturbances in one arm. In the third case Heidenhain removed a melanotic carcinoma of the choroid plexus, and with the tumor the whole right temporal lobe. It is interesting to note in this case that the musical and the word sense supposed to be located in this region, were but slightly affected. In the fourth case with symptoms of tumor of the cerebellum, Heidenhain exposed the entire cerebellum, but failed to find the tumor; the autopsy showed a softened sarcoma of the cerebellum, situated exactly in the median line.

Barth (Danzig) "The Operative Treatment of Purulent Meningitis." Barth presented a boy who had received a knife wound in the region of the ninth dorsal vertebra. A week later the symptoms of meningitis appeared and lumbar puncture showed the presence of pus. Barth performed laminectomy and opened an extra-dural-abscess: fever continued high and he performed a second operation, this time opening the dorsal sac. Paralysis of both legs, the bladder and the rectum followed, but finally disappeared, so that the patient has recovered except for some slight sensory and motor disturbances and for a considerable gibbous condition which has developed at the site of operation in spite of a plaster cast.

THIRD SESSION.

The third session opened with a paper by Housell, of Tuebingen on "The Scientific Foundation of the Carbolic Acid Therapy of Septic Wounds." Housell has proven in his experiments that pure carbolic acid is entirely harmless when used in wounds or when injected into the tissues. The lethal dose by the mouth of the pure acid is 8 grs., of the dilute acid 2 to 3 grs. He has injected one-sixth gr. of carbolic acid into hydroceles with no unfavorable results, and places the maximal dose at 6 grs., for even the most extensive wound surfaces have in no case shown symptoms of poisoning. The time of application is one minute followed by a wash of absolute alcohol. Housell mentions this fact, long known, that absolute alcohol acts as an antidote to carbolic acid, probably by absorbing the acid more rapidly than does the fluid of the tissues. He believes that carbolic acid has a much more lasting antiseptic effect than sublimate. He emphasizes the value of thorough incision and would not recommend Phelps' method in any case of sepsis, yet he believes it to be a decided step in advance.

Haegler, of Basel, demonstrated microscopic sections of various kinds of ligatures which had caused pus formation.

Reinbach, of Breslau demonstrated drawings illustrating the histology of granulating wounds.

Blumberg, of Berlin, reported experiments on the value of the ethyldiamine of mercury as an antiseptic.

Kroenlein, of Zurich, "Contributions to the Surgery of the Brain," describes the case of a patient from whom he removed a tubercle of the brain: the patient has been in good health since the operation six years ago. In a second case Kroenlein diagnosed a tumor of the right gyrus centralis, but found no tumor at the operation one and one-half years later the patient died, and the autopsy showed a tumor at the site of operation. Kroenlein explains the case by assuming that the tumor was so small that he could not find it, but that grew later to the size of a hen's egg, as found at autopsy.

Merkens, of Berlin, described cases of "Encephalitis of the temporal lobe and other brain complications following Otitis."

Schjerning, of Berlin, gave a very complete paper, illustrated by numerous photographs and skiagraphs, on "The Shot Wounds Caused by Modern Firearms." He gave especial attention to the wounds caused by the field artillery projectiles. According to the author, it is impossible as yet to definitely answer the question whether one should operate immediately in cases of penetrating wounds of the abdomen. He considers operation indicated provided no further transport is necessary. He prophesies more serious wounds in the wars of the future, but believes that surgery is holding pace with the improvements in armament.

Kroenlein, of Zurich, showed true "copulated projectiles," bullets which had met at some period in their flight and had joined themselves firmly together.

Reger, of Danzig, discussed the experiments made by Kroenlein on the effects of bullets in the skull.

Ringel, of Hamburg, brings nothing new while relating his experiences with the Red Cross in South Africa.

Ziemssen, of Wiesbaden, advised the after-treatment of wounded soldiers and accident victims at the bathing resorts.

Bruns, of Tuebingen, read a paper on "Castration in Tuberculosis of the Testes." Bruns has collected 105 cases, 33 of which were castrations of both testes. In these cases he has observed that the epididymis is always first attacked, and that in almost all cases tuberculosis of the testes follows epididymectomy. The final results of operation were: 46% of cures following removal of one testis, cures lasting up to 34 years, 56% of cures following removal of both testes, lasting up to 30 years. No observer has reported psychological disturbances. Bruns arrives at the result that the statistics of castration is more favorable than that of conservative treatment.

Baumgarten, of Tuebingen, a guest of the society, reported the results of his experiments on tuberculosis of the testes. He concluded from his experiments on rabbits that the disease cannot advance against the excretory stream, i. e., that a tuberculosis of the prostate could never ascend the vas deferens to the testes; the bacilli are non-motile, and are further pure parasites, could not, therefore, advance by propagation in the secretion. In the same way he never observed tuberculosis of the kidneys

following tuberculosis of the urethra or of the bladder. He did succeed regularly, however, in obtaining tuberculosis of the vasa deferentia and of the prostate by causing tuberculosis of the testis.

Von Buengner, of Hannau, "On the Treatment of Tuberculosis of the Male Genital Organs," defends and strongly recommends his method, the so-called "high castration," carefully pulling on the vas deferens until it tears off. He succeeds in this way in removing four-fifths of the duct. He further describes experiments he has made in injecting the vas deferens with iodoform glycerine. By inserting the needle in the vas deferens he has succeeded, on the cadaver at least, in completely filling the canal. He recommends this method, believing that he has seen favorable results in the one method in which he has tried it.

Simon, of Heidelberg, reported on 107 cases of tuberculosis of the testis. Of these cases he has followed 92 and reports 66% cures. Of 29 removals of both testes 3 died, 21 remained cured up to 20 years. In one case he experienced psychical disturbances. He recommends castration.

Koenig, of Altona, on "The Technic of Castration for Tuberculosis of the Epididymis and of the Testes," recommends opening the entire inguinal canal. He operates after filling the bladder as in *Seccio alta* to avoid injuring the peritoneum. In the discussion Koenig, of Berlin, refused to give up his belief that tuberculosis can ascend along the vas deferens. According to his experience in the last ten years he has the impression that the vas deferens and the prostate are primarily diseased. He has tried injecting iodoform-glycerin into the epididymis, and has seen no results.

Gussenbauer, of Vienna, doubts the frequency of primary tuberculosis of some other organ; it can appear as primary tuberculosis of the testis or epididymis. In most cases it is continued with tuberculosis of some other organ; it can appear from the first to the seventieth year of age, in one or in both testes. Infection is brought by the blood current. He has seen cases with and without perforation, healed simply with a roborant diet. If operation be indicated we must operate as thoroughly as possible, but one must choose his cases.

Kramer (Caunstadt) believes the testis to be the seat of the primary affection, otherwise the diseased vas deferens and prostate would not heal after castration. He considers congenital impaction possible, thereby explaining the frequent cases of kidney and testis affection on the same side.

Henle (Breslau) reports that the clinic at Breslau has had negative results with the iodoform therapy.

Bier (Kiel) recommends hydrotherapeutic treatment with sea waters. He has seen one case of tuberculosis of the bladder and kidneys cured by sea waters(?)

Heidenhain (Worms) reports a case of "Resection of the Lung for purulent bronchiectasis and presented the patient."

A Case of Suprapubic Prostatectomy.—In the *Annales de la Polyclinique de Bordeaux* for April, 1901 Dr. E. Loumeau reports a case of suprapubic prostatectomy. A man of 72 had been forced to urinate two or three times nightly for some twenty years. After meals he had to evacuate his bladder at once. For two years he had noticed that effort was needed to begin urination. Suddenly hematuria appeared. He was pale, but suffered none. By rectal palpation the prostate was found as large as an orange. A catheter was left in place, yet the hematuria persisted. Hypogastric incision was made, and the median lobe of the prostate removed. The bladder was closed, drainage being left through the wound for a short time only. The hematuria disappeared. The bladder was washed out every few hours through the catheter left in place. Complete recovery followed in four weeks. The tumor of the prostate was a submucous adenofibroma. The diagnosis before operation rested between hypertrophy of the prostate with cystitis, and a tumor of the prostate. When complete extirpation of the prostate is not deemed necessary, partial operation, removal of the median lobe of the prostate by suprapubic incision will often be successful. [M. O.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

April 13, 1901.

1. A Clinical Lecture on Some Cases, Illustrating the Surgery of the Large Intestine. CHARLES A. MORTON.
2. Cholecystectomy. Partial Hepatectomy and Pylorectomy; Recovery. BERTRAM C. STEVENS.
3. A Case of Sarcoma of the Brain Removed by Operation; Subsequent Operation for Removal of a Second Tumor; Recovery. J. M. CLARKE and R. G. P. LANS-DOWN.
4. Case of Cavernous Angioma of the Orbit. A. L. WHITEHEAD.
5. The Saline Treatment of Dysentery; Based on 855 Cases with 9 Deaths. MAJOR W. J. BUCHANAN.
6. The Resistance of the Larval Mosquito to Cold. M. J. WRIGHT.
7. A Case of Recurrent Alcoholic Peripheral Neuritis. LESLIE H. JONES.
8. A Case of Neuritis Affecting the Optical and Cervical Nerves, Complicated by Carcinoma of the Breast. J. R. BENSON.
9. Case of Foreign Body in the Bronchus. Tracheotomy; Recovery. F. B. JUDGE BALDWIN.
10. A Note on Acute Dilatation of the Heart. H. OLIPHANT.
11. A Note on the Treatment of Genu Valgum. E. MUIRHEAD.
12. A Polypoid Excrescence of the Tonsil. E. S. YONGE.

1.—Charles A. Morton reports a case of **ventrofixation of the sigmoid flexure for prolapse of the rectum**. The patient was a married woman, aged 24, who had suffered from prolapse for two years, which she was not able to control by means of a T bandage. The whole thickness of the rectal wall protruded for three inches. An incision was made one inch above Poupart's ligament and parallel to it. The sigmoid flexure was brought up and the meso-sigmoid sutured with silk at the upper angle of the wound to the peritoneum. The opening through the abdomen was made by splitting the various muscular layers so as to avoid a subsequent hernia. The patient made a good recovery from the operation, and about a year later showed a prolapse equal in size to a medium sized internal hemorrhoid. From a study of the cases reported, particularly those by Bryant, Morton is lead to think that the mortality of the operation is practically nil. He thinks it better to attach the meso-sigmoid to the peritoneum then to pass the sutures into the intestinal wall or to bring any portion of the bowel or its mesentery between the muscular layers of the incision. The next case reported is one of **excision of the cecum for carcinoma**, in which the growth was so movable as to closely resemble a floating kidney. Two years after the operation the patient is in good health and has no sign of recurrence. The next case reported is one of **obstruction from malignant growth of the colon**. In this case the growth was brought outside the abdomen and fixed by silk sutures. The following day the bowel above the growth was opened and the obstruction relieved. A fortnight later the growth itself was removed, and two months later the divided bowel was anastomosed. A few months after operation the disease returned at the seat of operation, and in the liver, requiring the making of an artificial anus, and subsequently the patient died of the disease. [J. H. G.]

2.—Bertram C. Stevens reports a case of **gall stones complicated by a cancer of the gall bladder, liver and pylorus**, and a fistula between the gall bladder and the pylorus, in which Mr. Mayo Robson performed the operation of removing nearly the entire gall bladder, together with a V-shaped portion of the liver and the pyloric end of the stomach. The patient made an uneventful recovery, and 8 months after the operation showed no evidence of the re-

turn of the disease. The growth was a columnar-celled carcinoma. [J. H. G.]

3.—J. M. Clarke and R. G. P. Lansdown report an interesting case of tumor of the brain, in which there was a marked absence of all localizing symptoms. The only two points which would suggest the side of the brain affected were increased dullness over the left parieto-occipital region and palsy of the left external rectus. Optic neuritis was also more marked on the left side. The general symptoms from which the patient suffered were those commonly seen in brain tumor. The patient was trephined over the dull area, and a distinctly encapsulated tumor, which measured $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{2}$ inches, was found and removed. The cavity filled immediately with what appeared to be normal brain tissue. No palsy followed the operation. After a few weeks all of the former symptoms returned, and therefore a second operation was deemed advisable. Upon lifting the scalp a large tumor was found protruding through the opening in the skull, and no healthy brain substance was visible. The tumor was dense and was easily separated from the surrounding brain substance, being removed in three or four portions in order to avoid making the bony orifice larger. The growth weighed $6\frac{1}{2}$ ounces, and was the size of a large orange. Examination of this growth and of the former one showed them both to be spindle-celled sarcomata. The patient was palsied after this operation, but gradually recovered from it. Eight months after the operation there was no sign of any recurrence of the growth, the patient had recovered his mental faculties, speech was normal, memory good, and there was entire absence of pain. The vision, however, improved very little, but there was no oculo-motor palsy. [J. H. G.]

4.—A. L. Whitehead reports a case of cavernous angioma of the orbit in a man aged 51 years, which had first been noticed about 10 years previously. The eye was pushed so far outward that the lids could not be completely closed, and ulceration of the cornea had set in. The movements of the eyeball were almost lost, and the pupil was dilated. The tumor was bluish-black in color, and could be seen above the globe. No pulsation was present, and there was no variation in size from pressure or other causes. The growth was not attached to the walls of the orbit. The fundus was healthy and the vision 6-60. The patient was etherized, the external canthus was divided, the capsule was dissected up, and the external rectus was divided, the tumor being then exposed and removed *en masse* with some difficulty, but without injury to the eyeball. The growth was lobulated and nearly encircled the optic nerve. Hemorrhage was slight, requiring no ligatures. The recovery was uneventful, and the vision improved to 6-9, with almost complete range of movement of the eyeball. The growth measured 5.4-5 cm. \times 3.7-10 cm. Examination of the growth showed it to be cavernous angioma of the fibrous variety. [J. H. G.]

5.—Buchanan reports the result of 300 cases of dysentery treated with salines during the year 1900, with only 3 deaths, making with cases already reported, a total of 855 cases with 9 deaths, or a mortality of only a little over 1 per cent. There were 51 relapses out of 300 cases; one case relapsed 4 times, 13 cases relapsed twice and 37 cases had only a single relapse. Of the 3 fatal cases, 2 were extremely acute cases in which meat-washing stools were constantly passed, and a condition of acute gangrenous inflammation of the colon rapidly supervened. The third fatal case, after the salines had failed, made a wonderful rally after a large dose of ipecacuanha (30 grs.), but died some 7 weeks later with symptoms of chronic diarrhea. At the necropsy the small intestine was found thin and atrophied, and the large intestine was a mass of chronic inflammation from the cecum to the rectum. The patient was a feeble, old and toothless man, aged 55 years. The author uses a mixture of sodium sulphate one drachm to one ounce fennel water, which is given 4, 6 or 8 times a day as the case requires. The saline is continued until every trace of blood and mucus disappears. In the majority of cases the

inflammatory products had disappeared completely in 2 or 3 days; in others they returned on the third or fourth day, necessitating a repetition of the saline. This method of treating dysentery is advocated for acute cases only; the author does not consider it a safe method for chronic or relapsing cases with ulceration of the colon. In cases of the chronic or relapsing variety he only uses the saline for one or 2 doses during an exacerbation of the chronic state, and then continues to treat the case with soda and bismuth or with salol, with an occasional dose of castor oil. For stools containing scybala nothing is so good as a dose of castor oil guarded by 10 minims of laudanum. Unless the physician can see the stools daily he can never use the method to its best advantage. He would hesitate to apply it in a routine fashion in out-patient practice, on account of the possibility of many patients having had previous attacks, and having their bowels in a state of unhealed ulceration. The success which has this year attended the treatment of chronic cases is believed to be due to careful dieting on rice water, and boiled milk and tyre, the use of anthelmintics and the careful occasional use of the saline, with Dover's powder and the intestinal antiseptics. Not a single case of liver abscess was found among the 885 cases here referred to. [J. M. S.]

6.—From the observations made on the larval stage of the anopheles and culex to withstand low temperatures it seems reasonable to infer that it is really the larvae that provide for the continuation of the species through winter in northern countries. [J. M. S.]

7.—Jones reports the case of a woman who was suffering from absolute paralysis of the extensors of the hands and feet. At first sight the case looked like one of lead poisoning. Domestic duties of a most exhausting nature reduced the patient's strength and debilitated her constitution, for which she had recourse to whiskey in moderate quantities. The condition was considered to be a typical case of alcoholic neuritis. After total abstinence from alcohol for 4 years, during which electricity from both the continuous and interrupted currents, was used regularly, the patient was cured. Seven years later she had a second attack of neuritis, following shock and the assumption of domestic duties for which she again had recourse to stimulants. After 2 years total abstinence and the renewed use of electricity she has once more regained perfect power over her limbs and her usual health. The author concludes that alcohol is responsible for much that has occurred in the recent outbreak of neuritis, and that in a great measure the arsenic has acted on systems saturated with alcohol. [J. M. S.]

8.—Benson reports the case of a woman, aged 45 years, who suffered from carcinoma of the breast. She experienced a sudden, very severe attack of pain in both arms, she had also cramp in the soles of the feet and pain in the shoulders. Later she felt a "shivering" sensation in both arms and up the back of the neck and head, accompanied by dull aching pain over the same area. There were also cramps in the calves of the legs which came on especially at night, and could only be relieved by getting out of bed and walking about. Whiskey eased her sufferings. She was totally blind in the left eye. When the patient seemed well on the road to recovery she had a smart relapse of pain and the respiratory muscles were mostly affected. The carcinoma of the right breast, which had become more fixed to the pectoral muscle, was operated on. During the night before the operation an abundant crop of herpes appeared on the sternum opposite the third rib, mainly over the musculospiral area of both arms above and below the elbows. This had quite cleared up when the breast was dressed a week later. The blindness and the painful symptoms were considered to be due to neuritis of the optic and the cervical nerves. [J. M. S.]

9.—F. B. Judge Baldwin reports a case of a boy aged 5 years, who gave the history of having swallowed a beech nut. Upon examination an hour after the accident, the boy had a husky voice and rather rapid respiration; examination with the laryngoscope showed normal position of the soft palate but no food in body could be seen. There were

impaired respiratory sounds on the left side in the neighborhood of the third rib. The respiration on the opposite side was undoubtedly exaggerated. Two days after the accident the patient had so much difficulty in respiration, that tracheotomy was thought advisable. This was done, and an examination of the respiratory tract and exploration with forceps revealed no foreign body. The patient made a satisfactory recovery, and nine days later two small pieces of the husk of the nut were found at the opening of trachea. [J. H. G.]

10.—Nicholson has found that in certain grave states of cardiac dilation, and in advanced valvular disease, the actual blood pressure as tested by Hill's instrument may be enormously high. This fact can only be accounted for by admitting that the ventricle is called upon to work at its highest pressure. [J. M. S.]

11.—E. Muirhead Little shows an illustration of an apparatus used for genu-valgum, where no operation is advisable. The apparatus keeps the knee perfectly stiff and consists of an external straight splint extending from the hip to the shoe, to which the knee is drawn by a series of straps. [J. H. G.]

12.—Eugene S. Yonge reports a case of polyp of the tonsil, which was pedunculated and easily removed with the guillotine. [J. H. G.]

LANCET.

April 13.

1. Hunterian Lectures on the Topographical Anatomy of the Abdominal Viscera in Man. CHRISTOPHER ADDISON.
2. On the Importance of Early Diagnosis and Treatment in Surgical Diseases of the Abdomen. WILLIAM ROSE.
3. Post-Partum Hemorrhage. E. STANMORE.
4. Remarks on Enlargement of the Inguinal Glands Chiefly in Connection with the Diagnosis of Primary Syphilis. ARTHUR COOPER.
5. Remarks on the Holmgren Test. F. W. EDRIDGE-GREEN.
6. The Chemistry of Nerve Degeneration. F. W. MOTT.

1.—Christopher Addison begins his third and last lecture with the description of the peritoneal folds and pouches in the neighborhood of ileo-colic junction. Of the 40 cases examined 6 presented an ascending meso-colon, and 9 a descending meso-colon. The fact is emphasized that the sigmoid flexure of the colon has a very short mesenteric attachment. Seven cases showed the cecum wholly within the pelvis and 3 partly within the pelvis. It is thought that when the cecum is distended it is more likely to become enlarged into the pelvis rather than into the general abdominal cavity. In 22 cases there was a loop downwards of the transverse colon from the hepatic flexure. This loop is often firmly fixed and difficult to undo, being frequently adherent to the adjacent ascending colon. In 9 cases there was no such loop, but the transverse colon passed directly across the abdomen. There were six cases in which there was a prolapse of the transverse colon, this portion of bowel passing across the abdomen wholly below the umbilicus. The various positions of the liver, kidneys, pancreas, and spleen are next described. [J. H. G.]

2.—William Rose, in discussing the importance of early diagnosis and treatment of surgical diseases of the abdomen, speaks of those which arise from inflammation and those which may be classed as neoplasms. The diagnosis of perforating gastric ulcer is first taken up, and the great importance of early recognition of the condition urged upon the general practitioner. The importance of the early diagnosis of rupture of the intestine is next mentioned. Most stress is laid upon the fact that a diagnosis of perforation of the vermiform appendix is frequently made so late that operative interference is of little avail. Even in cases of localized abscess from appendicitis, the condition is too frequently submitted to the surgeon at a late day. The

prognosis of operations for cancer of the stomach and cancer of the pylorus is more influenced by an early diagnosis and prompt institution of surgical treatment than by any other factors. When a patient presents himself with a story of persistent vomiting which medicines do not relieve, together with fixed pain in the region of the stomach, and perhaps a feeling of resistance in the epigastrium, and still more if there be some history of preceding hematemesis, an exploratory laparotomy is indicated. The wonderful improvement in the mortality of pylorotomy is next mentioned. According to Barker's statistics, the mortality of this operation between the years 1882 and 1890 was 76.5 per cent., but between the years 1890 and 1898 the mortality was only 28.6 per cent., while in the hands of certain individual operators the mortality is much lower. The results of operations for intestinal cancer are not as satisfactory as in cancer of the stomach, the mortality here being about 35 per cent. Great stress is laid upon a careful investigation of both history and symptoms before arriving at a diagnosis, although this may be apparently easy in certain cases. Every avenue of information should be thoroughly investigated in every case. [J. H. G.]

3.—Bishop, in speaking of post-partum hemorrhage, remarks that in general there are two definite aims: 1. To obtain contraction of the uterus, and, second, to obtain local coagulation of the blood. He does not agree with most of the text-books, but believes that in many cases the uterus is utterly unable to contract, no matter what stimulus may be employed, and this inability increases with every ounce of blood which is lost. This inability to contract, he believes, is due to the physiological tire of the uterine muscle. In the treatment of such a condition, the uterus must be raised until it is higher than the heart, and that means that the foot of the bed must be lifted until it is much higher. The patient should be placed as quickly as possible in the Trendelenburg position, and the legs should be elevated and bandaged from below upwards. The venous loss is thus controlled, and it now becomes necessary to stop the arterial flow. This may be accomplished by direct pressure of the aorta, but as 5-6 of the blood supply to the uterus comes through the uterine arteries, pressure of these vessels will be preferable to compression of the aorta. This may be accomplished by placing the closed fist over its ulnar surface resting upon the aorta as it lies over the left side of the vertebral column and exerting sufficient pressure obliquely backwards and toward the right, so as to enable it to compress that vessel against the unyielding surface beneath. At the same time traction should be made upon the cervix firmly by means of a vulsellum forceps. This traction increases the angle in the uterine arteries, and thereby shuts off the flow of blood. The latter process Bishop considers most essential in the treatment of these grave cases of post-partum hemorrhage. [W. A. N. D.]

4.—Arthur Cooper, in speaking of enlargement of the inguinal glands, particularly as occurring in primary syphilis, calls attention to the fact that people vary in susceptibility, and that many persons who are apparently healthy have enlarged inguinal glands. He thinks that in most of these cases the condition is due to a mild form of balanoposthitis, which has not given the patient any discomfort. The diagnosis in a patient who had not noticed such enlargement of his glands might give rise to considerable trouble in the presence of a questionable sore. The glands which become enlarged from a chancre usually make their appearance in about ten days after the appearance of the sore, and the increase is gradual, as is also the decline of the condition. Not infrequently, however, the glandular enlargement is of an anomalous type, which may result in some confusion in making a diagnosis. The history of the previous condition of the groins is of the utmost importance in making a diagnosis, as well as the elimination of other causes. In fat people and those wearing trusses, Cooper has found inguinal adenitis frequently absent in primary syphilis. The application of irritants to the sore, he thinks, frequently results in suppuration of the glands. In

making an examination of the groins the patient should always be recumbent. [J. H. G.]

6.—Mott and Halliburton state that chlorine can be detected in the blood in various nervous diseases, such as combined sclerosis, disseminated sclerosis, alcoholic neuritis, and beri-beri. For the detection of chlorine, they either employ a chemical test or a physiological test. Chlorine has been found in the blood of animals in whom the sciatic nerve was irritated. Chlorine was always found in greatest amounts when nerve degeneration was at its height. [F. J. K.]

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 27th, 1901.

1. Notes on Adrenalin and Adrenalin Chloride. E. FLETCHER INGALS.
2. Hypospadias. C. H. MAYO.
3. The Pollution of Streams and the Purification of Public Water Supplies. Comparative Efficiency of Slow Sand and Mechanical Filters. GEORGE M. KOBER.
4. Floating Kidneys in Children. I. A. ABT.
5. Advance in Obstetrics During the Last Half Century. A. H. HALBERSTADT.
6. When should Patients be Advised to Eat Everything. BOARDMAN REED.
7. Poisoning from Auto-Intoxication. T. D. CROTHERS.
8. Proposed National Bureau of Materia Medica. F. E. STEWART.
9. Hospital Cars for Railway Service. W. L. ESTES.
10. A Rule for Combining Crossed Cylinders. HARRY S. PEARSE.

1.—Ingals emphasises the usefulness of adrenalin and adrenalin chloride, the active principle of the suprarenal gland in the treatment of some of the acute, sub-acute and chronic diseases of the nose and throat. He employs adrenalin and adrenalin chloride in solutions, the strength of which varies from 1 to 1000 to 10,000. [F. J. K.]

2.—C. H. Mayo speaks of the great frequency of hypospadias occurring, according to Rennes, Kaufman and others, once in every 350 males. The various operations for the relief of this condition are classified and described: many of the operations are illustrated. The operation which the author recommends is one in which the deficiency of the urethra is supplied by making a urethra from the skin of the prepuce and dorsum, which is carried over the front of the glans and attached to the distal portion of the urethra. A silk-worm-gut drain is used through the urethra and the bladder drained by a catheter through the perineum. The author reports 4 cases the last two of which were operated upon after this manner with good results. [J. H. G.]

3.—Kober writes that pollution of streams used for public water supplies, by individuals or communities, should be regarded as a grave offence. In order to prevent river contamination sewerage should be disposed of properly. Irrigation of the waste products on the so-called sewerage farms offers the most approved measure in preventing pollution of streams. In addition to this measure, water should be filtered in order to prevent the spread of the so-called water-borne diseases. The idea that rivers purify themselves, the author states, is erroneous, and that biologists have almost concluded that "no river is long enough to purify itself." [F. J. K.]

4.—After briefly reviewing the literature on the subject of floating kidney in children, Abt states that from an etiological standpoint congenital origin and congenital predisposition must be regarded as the most important factors. Acute and chronic trauma may be exciting causes. The symptoms of floating kidney are most often latent. In some cases there may be moderate pain, while in others the pain may be paroxysmal and colicky in character and accompanied by chill, fever, sweating, and vomiting. The attacks of acute pain are due probably to twisting of the kidney pedicle. The kidney is often tender upon palpation and the urinary secretions may be reduced; in some in-

stances hydro-nephrosis may develop. Gastro-intestinal symptoms are common. The author gives the report of five cases occurring in children, three in girls and two in boys. In four cases the right kidney was displaced. [F. J. K.]

5.—Halberstadt gives an interesting resume of the progress that has been made in obstetrics during the last half century. He remarks that beyond the introduction of asepsis, the use of anesthesia, and symphysiotomy in parturition there has been but little else that is new in obstetrics. On the other hand gynecology has claimed all the honor in the progress in this branch of medicine. Halberstadt in speaking of the use of anesthetics remarks that the parturient state is the only condition of the system in which anesthetics judiciously administered are entirely devoid of danger. In puerperal eclampsia chloroform is especially indicated because of its direct, rapid, and general action controlling nervous physiological irregularities, exciting secretion, relaxing the os and perineum, and, in short, preparing the parts so as to aid the accoucheur in his manipulations. Its application is universal; no disease of the heart or lungs should forbid its use. Owing to the fact that uterine contractions are sometimes lessened by the administration it may be regarded as important to precede it by an oxytocic in all labors and at any stage when the pains are slight, so as to increase their force, and also to guard against postpartum hemorrhage. In no instance has been seen narcosis of the child attributable to the anesthesia. [W. A. N. D.]

6.—Reed sums up his conclusions in regard to some of the principles relating to diatetics as follows: Not until we have cured our patient of their diseased digestive organ should we advise them to "eat everything." In addition to partaking of the proper articles of food—those that will nourish and strengthen in desired amounts,—the patient should take regular daily exercise. Even persons in good health should not be advised to "eat everything," for idiosyncrasies must always be carefully considered. [F. J. K.]

7.—Crothers concludes that alcohol, taken in any form as a beverage, is a poison or produces other poisons. It acts as an anesthetic and not as a so-called stimulant or tonic. It decreases elimination and increases waste products of the body. The clear indication of the auto-intoxication of alcohol is seen when functional and organic symptoms disappear by abstinence in those individuals who are accustomed to spirits. [F. J. K.]

8.—Stewart advocates the establishment of a national bureau of materia medica, the chief objects of which are: (1) To establish standards of materia medica preparations; (2) The bureau should act as a medium of communication between manufacturers and those engaged in marketing products and those engaged in scientific work in laboratories and hospitals; (3) To gather knowledge of materia medica products, establish a system of laws pertaining to this subject, and to publish for the benefit of science; (4) Those manufacturers who conform to the required standards should be aided by the bureau. [F. J. K.]

9.—Estes makes a plea for the establishment of hospital cars for railway service. He mentions the advantages that would be derived, not only to the patient, but to communities. Individuals suffering from infectious diseases not infrequently travel from place to place and spread disease. Careful disinfection could be practised with Hospital Cars and therefore reduce the risk of communicating diseases. [F. J. K.]

THE NEW YORK MEDICAL JOURNAL.

APRIL 27, 1901. (Vol. LXXIII, No. 17.)

1. On Tenonitis and Tenonothecitis Prolifera Calcarea. CARL BECK.
2. A Combined Intranasal and Extranasal Operation for the Correction of a Congenital and Acquired Lateral Deformity of the Nose with the Report of a Case. BURTON S. BOOTH.
3. Hospital Appointments. Are They Open to Women? MISS HELEN MacMURCHY.

4. A Contribution to the Explanation of the Nature of the So-called Predisposition to Infection with Staphylococci. F. W. GAERTNER.
5. Pneumonia, its Proper Management in Children; Hygienic, Drug and Dietetic Details. LOUIS FISHER.
6. Peripheral "Anesthesia Paralysis"—Report of an Unusual Case of Bilateral Brachial Paralysis occurring during Narcosis (for Appendicitis). WALTER M. BRICKNER.
- 7.—The Relation of Arterial Changes to the Heart. BEVERLY ROBINSON.

1.—Beck reports that the essential nature of this disease was a much degenerated (cheesy) tissue in the state of necrobiosis, which seemed to have a sort of magnetic effect on the dissolved calcareous salts, inducing them to amalgamate. Such petrifications are found in tuberculous (cheesy) foci of the lungs, and not infrequently in endocarditis and pericarditis, in old pleuritic bands, in uterine myomata, and in renal epithelium. In the walls of blood-vessels, as well as in degenerated thyroid glands, he states that he has had an opportunity to define the mode of petrification by means of the Roentgen rays. The tendons and their sheaths seem to be but seldom the seat of predilection for calcareous deposits. Still, with the increasing popularity of the Roentgen rays, more light may also be thrown upon the pathology and significance of this hitherto unknown disease. [T. M. T.]

2.—Booth recommends, instead of a general anesthetic, the combined use of cocaine and adrenal capsule in correcting deviation of the septum, for the following reasons:—(1) There is less immediate danger from heart failure or suspension of breathing, accidents not uncommon in chloroform and ether anesthesia; (2) The hemorrhage during the operation is nil, and he believes that the danger of secondary hemorrhage following the use of adrenal is offset by the danger of the suspension of animation following the use of a general anesthetic; (3) The operator can see what he is doing at every step during the operation; (4) The patient can sit upright and hold his head in place during the operation—an obvious advantage; (5) No special instruments are necessary; (6) The operation can be done as well in an office as in a hospital; (7) The pain is insignificant, and certainly less distressing than the nausea and vomiting following the use of ether. [T. M. T.]

6.—Brickner emphasizes the following important duties of the anesthetist for the prevention of anesthesia-paralysis:—(1) The arms should never be allowed to hang over the edge of the table. The position threatens the musculo-spiral nerves by pressure, and the entire plexus by stretching; (2) Rotation and superextension of the head should be exercised only while emergency required it; (3) Prolonged pressure of any kind should be avoided, be it that of an assistant's hand or body, or that of a harness; (4) The common practice of drawing the arms alongside the head, however much it may contribute to the convenience of the anesthetist and the comfort of the operator should not be tolerated. Avoid allowing either to remain for more than a few minutes in any one position, however innocent that position may appear to be [T. M. T.]

MEDICAL RECORD.

April 27th, 1904.

1. Experiences with Tracheotomy. JOHN ROGERS.
2. Recurrent Vomiting of Nervous Origin. LOUIS FISCHER.
3. Tobacco as a Factor in Glycosuria. HEINRICH STERN.
4. Pityriasis Versicolor of the Face. WM. S. GOTTHEIL.
5. An Extreme Case of Simple Anemia. ROLF FLOYD and WM. J. GIES.
6. Albuminuric Retinitis in Pregnancy; Premature Labor; Death in Utero of Twin Child; Puerperal Convulsions; Hemiplegia; Acute Mania: Death. JOSEPH N. STUDY.

1.—John Rogers, Jr., reports a series of 7 cases in which four laryngotomies and ten tracheotomies were performed without a death which could be ascribed to the operation. Great difficulty was found in administering an anesthetic. Cocaine was employed in his third case, and was a great

improvement. The author recommends that it be used when the patient is controllable, but in children, or nervous patients, chloroform is required. Laryngotomy, except for tumor, is absolutely useless. The high opening of the respiratory passages, however, has some distinct elements of safety in its favor. A low tracheotomy presents some of the doubtful advantages of a less probability of subsequent stricture above a long retained canula. On the other hand, there is serious risk of wounding some of the large veins at the upper border of the sternum. In general, and especially for emergencies, and for chronic stenosis, which must subsequently be treated by intubation, the high operation is safer and better than the low. The author has met with no difficulty on account of granulations, which are often heard of as serious dangers in cases of a long retained canula. It is not always possible to diagnose at once the locality of the obstruction, but if a short canule does not relieve the dyspnea, a long one should be used, and a stomach tube is a good substitute. [T. L. C.]

2.—Lewis Fischer reports a case of recurrent vomiting of nervous origin. The child came under observation when 8 years of age. There was no family history of any chronic nervous disease, or "neurotic" element. The child had suffered from a violent pertussis which lasted 9 months. After the cough subsided the vomiting remained, even to the present time (and she is now 14). She is a frequent sufferer from tonsillitis. She continually complains of pain in the stomach, which is not distinctly localized. The symptoms somewhat suggested ulcer. As to the frequency of vomiting, sometimes the child vomits a dozen times a day. Occasionally but once, and rarely a day passes with no vomiting at all. The urine shows the presence of acetone and indican. The former indicates a disturbance of metabolism, but it is well known that acetonuria does not of itself cause vomiting. The condition persists despite treatment. On several occasions a distinct hyperchlorhydria was determined; again the gastric juice was normal. [T. L. C.]

3.—Heinrich Stern has observed that the habitual, or excessive, use of tobacco may not only exaggerate an existing glycosuria, but it may be the causative factor of the glycosuric condition. He has found that tobacco may influence the pre-established pathological output of urinary glucose in the following ways: First, by protracting the duration of transitory glycosuria, and by imparting to alimentary melituria a certain degree of chronicity. 2. By increasing the quantity of dextrose in the 24 hours' urine in the transitory as well as the chronic forms of glycosuria. 3. By transforming the lighter degrees of chronic glycosuria into the graver forms. Four cases are cited to illustrate these points. The following experiment has been frequently made by the writer: He orders a patient with a tendency to alimentary glycosuria to ingest 150 gram. of dextrose (after the complete evacuation of the bladder). The dextrose is usually given after his mid-day meal, and the patient is ordered to abstain from any work for the rest of the day. The urine for the following 6, 8 or more hours is collected separately and examined for glucose. The latter probably appears in the urinary secretion until the sixth, or, more rarely, the eighth hour after its ingestion. The same experiment is repeated the next day, but the patient is ordered to smoke at least 3 or 4 strong cigars in the afternoon. On this day it will be found that the glycosuria frequently persists for 8, 10 or even more hours. [T. L. C.]

4.—William S. Gottheil some time ago reported a case of pityriasis versicolor occurring in the palm. This was unique, since authorities were agreed that it never appeared in that locality. It is almost the same with the face. The parasitic growth occasionally extends from the chest to the neck, and even to the jaw. He has recently met with a case of primary infection of the face, and of the face alone. He has been able to find no record of a similar primary involvement. [T. L. C.]

5.—Floyd and Gier report an extreme case of simple

anemia in a young mulatto of 19 years. It followed pregnancy. On admission, examination of the blood showed 12% of hemoglobin, 750,000 blood cells and 33,000 white cells. The blood was examined once a week during the patient's stay in the hospital, 2 months, and every two weeks, then after a month or two after her discharge. The hemoglobin was moderately unevenly distributed. "Ringing" and extreme pallor of the cells was not present, except in the small deformed cells. A few nucleated reds were found. There was an abnormally large percentage (over 30) of small mononuclear leukocytes. There was no excess of eosinophiles and no myelocytes were found. A progressive improvement followed under appropriate treatment, and at the eighth month the blood count showed hemoglobin, 80%, and 4,800,000 red blood cells. A number of progressive counts are included in the article, and the case is classed as one of simple anemia because of the rapidity and degree of the recovery. Analysis of the urine and feces were made daily during the first four weeks, and the case was subjected to a thorough clinical study. [T. L. C.]

6.—J.N. Study reports a case of **albuminuric retinitis** in pregnancy. At the third month of pregnancy 5% of albumin was found in the urine, which increased to 10% at the fourth month, when the patient was passing 400 grains of urea in 24 hours. She suffered from constant pain behind the eyes, and the vision was reduced to 40/80. Her condition did not improve at any time, and the symptoms gradually grew worse. Premature labor came on without warning at the eighth month. Within ten minutes a premature male child was born weighing four pounds, which now, at six months, is developing into a strong child. Within fifteen minutes of the birth of the first child a second undeveloped male child was born dead. It had probably been dead for two months. A temporary improvement followed labor, but very soon symptoms of **partial hemiplegia** appeared, and the patient, after remaining in a **maniacal state** for some four weeks, died about three months after the birth of the child. [T. L. C.]

MEDICAL NEWS.

April 27, 1901. (Vol. LXXVIII, No. 17).

1. The Study of Internal Medicine. WILLIAM OSLER.
2. The Relation of the Student of Medicine and the Recent Graduate to the Field of Surgery. GEORGE RYERSON FOWLER.
3. The Medical Man in the Navy. W. K. VAN REYPEN.
4. The Municipal Health Department System, and More Especially in Reference to Its Advantages and Disadvantages as an Opening for the Young Medical Graduate. ARTHUR H. GUERARD.
5. The Advantages of Examining for Life Insurance. BRANDRETH SYMONDS.
6. The Outlook for the Young Physician in State Hospital and Sanitarium Work. CARLOS F. MAC DONALD.
7. The Medical Man in the United States Marine-Hospital Service.

3.—Van Reypen, in his article on the **medical man in the navy**, gives the following order of examinations:—1st. Physical; 2d. Written; 3d. Oral; 4th. Clinical; 5th. Practical. 1. The physical examination is necessarily thorough, as the question involved is not simply one relating to probable length of life, but more especially to continued physical ability to perform duty, for the officer is paid when sick and, when permanently incapacitated for active naval service on account of physical disability, has the privileges of the Retired List, where, if his disability has been an incident of service, or his retirement is on account of age, he receives as much as seventy-five per cent. of the pay at sea. 2. In the written examination the candidate is required to address a letter to the Board of Examiners, stating the date and place of his birth, the school or college at which he received his general education, the medical school

or schools in which he received instruction, and if he is an alumnus, the date of his graduation, the time when he commenced the study of Medicine, also the titles of text-books studied; the opportunities he has had in engaging in the practice of his profession and whether he has or has not been a resident physician or interne in a hospital. His name in full and post-office address should be appended. He next prepares a thesis upon some professional subject indicated by the Board, and then makes written answers to questions on the usual professional subjects, including hygiene and quarantine. 3. The oral examination is upon general educational subjects and the usual professional branches, including hygiene and microscopy. 4. The clinical examination of the patients is made at a naval hospital, and includes the use of microscope, thermometer, laryngoscope and ophthalmoscope. 5. The practical examination comprises surgical operations on the cadaver, the application of splints, bandages and surgical dressings, the use of the microscope and chemical and pharmaceutical manipulations. He must have a good general education, but need not necessarily be a college graduate. [T. M. T.]

4.—Guerard gives the following duties of the **sanitary authorities** in connection with health department work: They must insure to the community and to each individual an abundant supply of pure air, light and water, and wholesome food. The preservation of the purity of the air and the furnishing of an abundance of light and ventilation, involves comprehensive measures relating to the character of the habitations, their construction, their cleanliness and the cleanliness of their surroundings; the provision of efficient plumbing; good sewerage; sufficient air-space, and the prevention of overcrowding; protection against noxious vapors or odors arising from offensive trades, slaughter-house, gas-works, decomposing animal and vegetable matter, and the purity of the atmosphere from suspended solid particles. It is also incumbent upon the sanitary authorities to prevent adulteration and to guarantee the wholesomeness of food—meat, milk, fish, fruit and general articles of consumption. The purity and quality of various drinks must be inquired into, and the relative food values of different products determined. Besides special inspection relating to plumbing, ventilation, overcrowding, inspections of food, etc., there are also general inspections relating to street excavations, wells, privies, stables, the conditions surrounding the removal of garbage and dead animals, the conditions of public places and places of assembly, the manner and place of burial, etc. Another special feature of the work relates to the restriction and prevention of infectious diseases, the inspection of reported cases, and the quarantine of patients affected with contagious affections and their removal to hospital when required; the disinfection of infected premises, clothing, etc. [T. M. T.]

7.—General information regarding the **medical man in the United States Marine-Hospital Service** may be summed up as follows: Examinations are usually held once a year, in the spring, sometimes more frequently. The boards meet either in Washington or in New York. All applicants must be graduates of reputable medical colleges. They are given, first, a physical examination, including a test of color vision. Absolute health is a prerequisite to appointment. Each applicant then writes a personal history of himself, giving his educational advantages, etc. A written examination is then conducted in the chief branches of medicine, including anatomy, physiology, chemistry, materia medica and therapeutics, practice of medicine, practice of surgery, obstetrics and diseases of women, hygiene, pathology and bacteriology. This is followed by a brief clinical examination in a hospital. Added to this is an oral examination in common school branches, also the collateral sciences and literature, sufficient to demonstrate the scope of each applicant's preliminary education. Each applicant reaching the grade of 80 is eligible for one year and appointments are made to vacancies as they occur in the relative order of merit. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 25, 1901. (Vol. CXLIV, No. 17.)

1. Remarks on Anesthesia—General, Local and Spinal. MAURICE H. RICHARDSON.
2. Experience in Search of a Cure for Asthma in the Far Southwest, with Observations on the Comparative Value of Different Sections in Respiratory Diseases. ROBERT BELL.
3. Cholera During Pregnancy. F. S. NEWELL.
4. The Economics of the X-Light Tube.—An X-Light Plate-holder.—Removing the Irritating Gases Produced by X-Light Generators. WILLIAM ROLLINS.

1.—Richardson believes that the dangers of etherization are trivial and that the subcutaneous use of cocaine, especially in extensive dissections will be found to be much more hazardous. The only justification for the use of extensive local and of spinal anesthesia lies in diminished risk to the patient. One of the dangers from general anesthesia is that real one of regurgitation into the throat from a distended stomach or intestine when the patient is unable to swallow. Another danger arises when the patient has extensive disease of the heart, lungs or kidneys. In such cases, it may be advisable to substitute local or spinal anesthesia for general anesthesia by ether. Local anesthesia is to be preferred for all trivial operations in regions where it can be thoroughly applied, but for operations like appendectomy, the radical cure of hernia, excision of the elbows and amputations of arm or leg, seem to the author to be very far from advantageous as compared with ether.

In some very feeble patients the effect of ether is beneficial; but the dangers, definite though they may be, are unlikely to be lessened by methods whose dangers are as yet unknown. In acute febrile diseases, it seems a question whether the dangers of general anesthesia will be avoided by local or by spinal cocaineization. The use of these doubtful methods in operations of emergency seems ultraradical, if not, with our present knowledge, unjustifiable. Another class of diseases inviting disaster under general anesthesia comprise operations upon deep cervical phlegmons, tumors close to and adherent to the trachea, inflammations and growths involving or pressing upon the recurrent laryngeal nerves and imperative operations upon the trachea and larynx. In these cases the value of local anesthesia is great, and it is the author's custom to use cocaine when possible. When ether is carefully given there is no distressing anxiety as to the outcome, and the author feels confident of the patient's safety and has that confidence shaken only when the anesthetic is in the hands of the careless and overconfident or when the patient's condition is desperate. He cannot believe that either spinal or local cocaineization, after 50 years of use as extensive and varied as that of ether, or even of chloroform has been, will show a safety to be compared with them. [J. M. S.]

2.—Arizona, in Bell's judgment, stands first as a climate of value for all respiratory diseases. He places Tucson at the head of the list of cities in Arizona to which to send such patients. Tucson has an elevation of about 4,000 feet; there is very little irrigation carried on near it; its annual rain-fall is from 8 to 10 inches; its mean average annual humidity is 36%. It is singularly free from wind, dust and sudden changes of temperature because it is nearly surrounded by high mountains. It has a maximum of sunshine and is a desirable place to live in. South California is frequently resorted to by tuberculous patients, but in the author's opinion there are many places that are much better for this class of invalids. Although the annual rain-fall is but 15 inches the dense fogs which prevail all over Southern California, except in the mountains, render the climate too moist for many tuberculous patients and for others suffering from such respiratory diseases as asthma and chronic bronchitis.

Physicians in sending patients to the far South-west should be careful to send them in the first stage of their disease. Second and third stage patients may have lite prolonged but rarely recover. On arriving at his destination the patient should spend the early months of his sojourn in resting and living as much as possible in the open air. Nervous patients and patients who are liable to hemorrhage should be sent to a moderate altitude. Pa-

tients who are too weak to endure the fatigue of a journey and those who are likely to become a tax on the people of the West should remain at home. Every patient should distinctly understand that he is to remain in the West after his cough has ceased until he has regained and held his weight, and under no consideration should he return East until he has received the sanction of a competent and experienced physician. [J. M. S.]

3.—Symptomatically the chorea that occurs in pregnant women is identical with infantile chorea. The special conditions under which it develops and the grave form it tends to assume in the large proportion of cases give it a special significance, so that it deserves to be considered by itself as a definite complication of pregnancy, rather than as a modification of the more common chorea of adolescence. An important factor in the etiology of this affection is the existence of a previous chorea during childhood. Heredity and nervous impressionability are also important etiological factors. Previous infectious diseases, probably, also have an etiological importance in relation with the disease, in that they prepare the ground for its development. Pregnancy alone is no more to be considered the direct cause of chorea than is active growth in children the cause of infantile chorea. The movements come on gradually in the majority of cases and become more violent as the time of delivery approaches. In mild cases, the fetus may live and be born at term; in severe cases it usually dies and causes abortion or premature labor. The chorea usually lasts the whole time of gestation and sometimes days or weeks after delivery. As a general rule the spasms become less violent after delivery, a fact which indicates the appropriate treatment in severe cases. The mortality in the published tables varies from one in every 17 to one in 3½ cases. Newell considers rest in bed and freedom from worry valuable adjuncts to the treatment by sedative drugs. The history of an illustrative cases is given. [J. M. S.]

4.—Rollins believes that the most important discovery to be made in X-light tubes is to find how to keep the character of the light constant. Meanwhile, the best way to excite an X-light tube is to use surges of millions of volts and many horse-power, each surge lasting for not more than a millionth of a second. No X-light should reach a plate except after it has passed through the patient being photographed. The author states several requisites for a satisfactory plate-holder for X-light photographs. Since a powerful X-light generator produces ozone and combinations of nitrogen and oxygen which are irritating to the respiratory mucous membranes, a fan should be placed within the case of a static machine to drive the gases into the nearest chimney. [J. M. S.]

AMERICAN MEDICINE.

April 27, 1901.

1. An Analysis of my Vaginal Ablations in 181 Cases of Pelvic Inflammation and Uterine Fibroid Degeneration. W. R. PRYOR.
2. The Good and Bad Effects Obtainable from Digitalis used as a Therapeutic Agent. WM. HENRY PORTER.
3. The Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl Secretion by Medical and Surgical Methods. JOHN C. HEMMETER.
4. Hyperplastic Colitis; Extirpation of the Entire Colon, the Upper Portion of the Sigmoid and Four Inches of the Ileum. HOWARD LILIENTHAL.
5. The Value of Intestinal Antiseptics with Simple Aseptic Pads in Obstetric Practice. HARRIET E. GARRISON.
6. Gastroptosis. ALEXANDER McPHERDAN.
7. Pneumonia. A Historical Review of its Treatment. WM. CRAWFORD JOHNSON.

2.—William Henry Porter concludes his paper on the good and bad effects obtainable of digitalis used as a therapeutic agent, with the following summary: The composition of digitalis is chemically speaking, very complex, and some of its active principles antagonize others. The different preparations differ widely in their composition and action. Its cumulative action is due to it contracting the arterioles thus shutting off nutrition. It is a useful but dangerous remedy and has but a limited range of use in lesions of the mitral valve and even then only for a short

time. It should only be employed when there is low arterial tension and marked venous engorgements, and as soon as these conditions are overcome its action should be suspended. As a diuretic it is only useful when there is low arterial tension, venous engorgement, and obstruction to the exit of blood from the kidney. Acting upon the normal, and in all diseased conditions, in which there is obstruction to blood from the exit of the kidney, it decreases the excretory activity of the renal glands and impairs a nutritive activity. Finally, if pushed to the fullest extent it may completely arrest the functional activity of the renal glands. [T. L. C.]

3.—Hemmeter concludes his article (partially abstracted in our last issue), upon the logic of hydrochloric acid therapy by recommending HCl for its efficacy in supplementing the digestive work of the stomach in bringing about the normal condition for duodenal digestion. He prescribes 20 drops of diluted HCl in 2 ounces of water every 15 or 20 minutes, beginning 15 minutes before the meal; then 20 drops are taken during the eating, and 20 drops half an hour after the meal. He recommends that the medicine should be taken through a glass tube and the mouth rinsed afterwards with a weak solution of sodium carbonate. [T. L. C.]

4.—Howard Lilienthal reports an extremely bad case of hyperplastic colitis accompanied by papillomatous growths throughout the entire colon and a small portion of the ileum, which was not improved by any form of medical treatment. In order to give the lower bowel a rest a left inguinal colostomy was done with marked relief of symptoms, the hemorrhages entirely ceasing. The patient improved so much after this operation that the artificial anus was closed. The symptoms all returned, however, and the patient came under Dr. Lilienthal's care very anemic and weak and having about 12 stools a day. On December 30, 1899 he established an artificial anus in the right inguinal region in order to give the entire colon a rest. At this time he used irrigations of silver solution, etc., without apparently improving the condition of the mucous membrane. The patient's general condition, however, greatly improved and the hemorrhages again nearly entirely ceased. On March 6th an end-to-end ileo-sigmoidostomy was performed the colic end of the ileum and the proximal end of the sigmoid being invaginated. A Murphy button was used in making the anastomosis, and was passed 13 days after the operation. The general condition of the patient improved but the stools were very frequent; these, however, were reduced to about 9 a day in a few weeks. Irrigation through the colostomy wound made appearance in the rectum which could only be explained by a fistulous opening at the divided portion of the sigmoid which was confined by subsequent operation. The patient was greatly inconvenienced by the fistula of the colon and insisted that something be done to relieve it. On June 15, 1900, the entire colon was removed beginning at the rectum. The patient developed pneumonia after this operation but recovered from it. On the fourth day there was a fecal discharge from the right iliac wound which could be explained. On June 27th an abscess ruptured at the site of the old left colostomy and there was discharged a portion of gangrenous meso-colon. On October 6th the right wound was explored to ascertain the cause of the fecal discharge and here was found a "single piece of intestine, not a loop, passing directly into the fistula." This was invaginated and the wound closed. The patient made a good recovery from this last operation and finally all of the wounds closed and the patient was exhibited on January 14, 1901 in excellent general health and was having only 2 stools a day. [J. H. G.]

5.—Garrison has made a study of intestinal antiseptics in its relation to the puerperium, with special reference to the use of simple aseptic pads in obstetric practice. When called to a case of obstetrics she sees that the intestinal tract is rendered aseptic as soon as possible. If this is not possible before delivery she begins to cleanse the bowels as soon as possible after. For this purpose the saline laxatives are preferable on account of their antiseptic action, and the best of these is the tartrate of potassium and sodium. She begins with dram doses within four hours of delivery and gives a dose every four hours. The laxative may be aided by enemata if the bowels do not act in twenty-four hours. If the bowels have moved during labor, she allows twelve hours to elapse before giving a saline, and if the bowels have not been acted upon freely or the tongue

is foul she gives a compound cathartic pill within twenty-four hours of the delivery. In addition to these precautions the gastro-intestinal tract is further rendered free from danger by giving other antiseptics as salol and quinine. A flow of pure blood is Nature's way of freeing the parturient canal of toxins. This is favored by means of a binder which holds the uterus up in the proper position and prevents obstruction at the cervix. Aseptic pads should then be applied to prevent the entrance of the germs of putrefaction. [W. A. N. D.]

6.—Alexander McPhedran reports 3 cases of gastropnoptosis. He offers the following conclusions: Gastropnoptosis frequently exists without symptoms as long as the functions of the stomach are performed efficiently. The symptoms of the condition arise from the retention and decomposition of food in the stomach with the local irritation and constitutional poisoning resulting therefrom. In the condition known as Glenard's disease the gastropnoptosis, or splanchnoptosis, plays often a minor part in the production of the symptoms. In not a few instances the splanchnoptosis is rather the result than the cause of the condition. [T. L. C.]

UNIV. OF PENNA. MEDICAL BULLETIN.

April, 1901.

1. A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. FRANCES R. PACKARD.
2. Notes on Fifty Operations for Otitic Extra-dural Abscess. B. ALEX. RANDALL.
3. Primary Sarcoma of the Spine. JAMES K. YOUNG.
4. A Critique of Certain Methods of Gastric Analysis. DAVID L. EDSALL.
5. Adrenalin, the Active Principle of Adrenal Extract, a Proposed Agent in Morphin and Opium Poisoning, etc. EDWARD T. REICHERT.

1.—Dr. Francis R. Packard continues his interesting series of articles on medical men prominent in civil and military affairs of the Revolutionary Times. In this paper he presents sketches of Dr. John Brooks and Dr. William Eustis, both Governors of Massachusetts, and both physicians of prominence, and Dr. Nathaniel Freeman, soldier and Judge. [T. L. C.]

2.—B. Alexander Randall contributes a paper in the nature of a critique on 50 operations for otitic extradural abscess. Post-mortem teachings have more and more emphasized the frequency of the aural causation of extradural abscess. Very frequently extradural collections of pus present only aural symptoms. The efficacy of the Wilde incision formerly practiced, a mere periosteal section over the inflamed mastoid is no longer believed in. External mastoid periostitis may primarily occur, but the belief is gaining that the reported cases have been largely errors of diagnosis. Randall believes that those cases which have apparently been much benefited by heat or cold to the aural region, hot douching in the canal, leeching or antiphlogistic measures, would have done equally well without such treatment. When pus is present on, or in the mastoid, delay is of very great danger. Pus upon the surface of the mastoid is rarely formed there. It may have burrowed out sub-periosteally along the canal or may have oozed through the apparently healthy cortex. Its exit through a large bone sinus may be so frank as to tempt us to believe that drainage is already adequate without operative attack on the bone. Experience shows this is fallacious. The healthiest looking bone may wall in a pus-collection which is not merely menacing local structures, and tending to general pyemic infection, but is burrowing between the dura and the skull and locally infecting the intracranial contents. In 50 cases of extradural abscess operated upon by the author he has been struck by the usual absence of symptoms suggesting intracranial mischief in even the worst cases. The subnormal temperature or slowed pulse was lacking wholly, although the bulk of the intracranial collection was often enough to pre-suppose decided pressure. The extent of the dura covered with villus granulations was at times markedly at variance with the normal temperature and apparent well-being. The eye grounds were almost invariably studied and in only one or two cases suggested involvement. The hearing was good, except as explained by peripheral conditions, and parietic or incoordinate symptoms were absent. Operation was invariably successful. The author includes notes of 5

very interesting cases. He believes that the antrum should be freely opened in acute cases, all of the tympanic cavities in the chronic, not only for drainage but for full inspection of the walls, and every portion of the decidedly suspicious bone should be curetted away. The operator need not fear reaching the inner table of the dura for the inspection of this part will frequently reveal further diseased conditions, and make the primary operation a success. [T. L. C.]

3.—James K. Young reports a case of **primary sarcoma of the spine**, in a Russian Hebrew child of 5 years who was first seen April 13, 1899, when a diagnosis of incipient Pott's disease was made. Under treatment great improvement followed in a fortnight. The patient was finally readmitted in February, 1900, and died in June of that year, of ashenia. No necropsy was permitted. From this case Young concludes that the characteristic symptoms are: **pain, paraplegia, grave constitutional involvement, rapid course and metastasis.** Metastatic growths occurred in the postorbital region of this child, but there were probably also growths in the liver and in all the abdominal organs. According to Edes the pain in sarcoma of the spine is not nearly so severe as in carcinoma, whether it be primary or secondary. It is increased on pressure, on standing or sitting up quickly or upon turning over in bed. The diagnosis may be made from a severe localized pain, the tenderness over the spine, and the rapid progress of the disease. An exhaustive study of the **differential diagnosis of primary sarcoma of the spine** from a host of other conditions is given. [T. L. C.]

4.—D. L. Edsall presents a critique of **certain methods of gastric analysis**, especially 4 of which may be used by clinicians for determining the total HCl of the gastric contents. These 4 are worthy of consideration are Leo's, Toepfer's, Hewes', and the one recently described by Cohnheim and Krieger. Leo's method is perfectly satisfactory in cases in which organic acids are absent, and if simply qualitative tests for lactic acids and for volatile organic acids are negative, it may be used clinically with entire confidence, remembering always that calcium chloride must be added to the stomach contents before the primary titration for total acidity is carried out. Edsall believes that **Toepfer's method** is of little value even for clinical purposes, because the color changes in the titrations are so difficult to recognize. One of the most serious errors in the employment of Hewes' test is the use of 3 indicators, thus multiplying the errors due to indicators. Cohnheim and Krieger's method depends upon the fact that phosphotungstic acid, and the salts of this acid, precipitate native albumins and the products of their digestion in combination with the phosphotungstic acid. This method in brief consists in the determination of the total acidity of the gastric contents, then adding to another portion of gastric contents a solution of phosphotungstate of calcium, which precipitates the albumin and albumoses and sets free the HCl in combination with them. The HCl combines with the calcium of the phosphotungstate and forms neutral calcium chloride. There occurs, therefore, a reduction of acidity corresponding to the amount of combined HCl present, and the combined HCl is at once indicated by titrating a second time after the precipitation and by determining the difference between the second and first titration. These authors report a series of results which they obtained with stomach contents controlling these results by **Sjoeqvist's method**, and also results obtained when working with known quantities of HCl in solutions containing Witte's peptone. Their results were strikingly accurate. Edsall believes that this method is more accurate than those which have been suggested with the possible exception of **Sjoeqvist's method**. [T. L. C.]

5.—Edward T. Reichert presents the results of **experimental work upon adrenalin**, the active principle of adrenal extract as a proposed agent in morphine and opium poisoning, in circulatory failure in the prevention of prolapse in anesthesia and in allied conditions. Reichert found while in normal dogs a dose of 0.00025 grams per kilo is without any decided effect upon general metabolism and body temperature, in morphinized dogs it is sufficient to prevent the profound decrease of general metabolism, and the marked fall of body temperature, caused by morphine. This marked difference is most interesting and adds evidence in favor of the view advanced as to the probable involvement in morphine poisoning of the processes contained in internal secretion, and the consequent import-

ant bearing of the action upon toxic phenomena. It suggests also that morphine acts as a direct depressant to the secretory processes of the adrenal glands, thus depriving the vital centers of the secretion with the resultant marked depression of both general and special forms of metabolism. In normal dogs very small doses are without effect, presumably because the quantity of adrenalin introduced is so minute as to be rapidly destroyed. The normal supply of adrenalin being sufficient, any quantity beyond this introduced into the blood and lymph being immediately destroyed, or compensated for, by an inhibition of the secretory activity of the glands; but in **morphinized dogs**, because of the blood lacking this proper constituent, **adrenalin is not destroyed** until it has been utilized in its normal work. The positive and prompt action of adrenalin upon the respiratory movement of the heart, arterial pressure, general metabolism and body temperature justify the belief that this substance will be found of value in opium and morphine poison and the conditions named in the title. It is probably owing to its powerful local action as a vasoconstrictor that abscess will be caused by subcutaneous injections. When administered by the stomach, in morphinized individuals, it should be given with alcohol in some form so as to increase the rapidity of absorption. [T. L. C.]

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

April, 1901.

1. Primary Splenomegaly. BRILL.
2. Enteoptosis. ARNEILL.
3. The Estimation of the Urinary Sulphates and of the Fecal Fat in the Diagnosis of Pancreatic Disease. EDSALL.
4. Premature Infants. ADRIANCE.
5. Contribution to the Study of Fatty Infiltration of the Heart Secondary to "Supercardial Over-Fatness. ANDERS.
6. Multiple Neuritis and Hematoporphyria Following the prolonged Ingestion of Trional. HART.

1.—The extraordinary interest of Brill's communication lies in the fact that 3 cases of an **exceedingly rare disease** occurred in the same family. The family history was absolutely negative; none of the parents, grandparents, or great-grandparents apparently had any similar condition. Six children were born in the family. The 1st and 4th are now in perfect health. The 2d died at the age of 3 years of chronic diarrhea; the 3d, 5th and 6th, all suffered from **enlargement of the spleen**. The youngest of these died at the age of 9 years; he had been sickly from his 3d year, and before death an enormous enlargement of the spleen was recognized. The oldest of these 3, now 34 years of age and married, at about the age of 22 noticed an enlargement of the abdomen under the ribs on the left side, which proved to be an enormous enlargement of the spleen. About seven years later she developed a tendency to sweating with development of sudamina. This, a year later became hemorrhagic, and the patient had numerous 'blood boils.' She also had 2 attacks of pleural effusion. The blood was always normal, in all respects. During an attack of typhoid fever the spleen became soft, but subsequently enlarged again. Later there appeared on the sclerae on the inner side of the cornea, a yellowish wedge-shaped patch. The organs of the thorax and the lower part of the abdomen are displaced by the enormous spleen, but the patient is otherwise comfortable and fairly energetic. There is also progressive emaciation. There have been no attacks of fever, no symptoms of renal disease, and the liver is apparently normal in size and consistency. The 3d patient, the 5th child, a man, discovered the existence of a slightly enlarged spleen at the age of 19. He was then suffering from sudamina; there were frequent attacks of epistaxis and an erythematous eruption about the nose. The blood was always normal. Drugs had no effect; the spleen enlarged progressively, and there have been hemorrhagic boils and some pigment patches on the skin. In neither patient has there been any enlargement of the lymphatic glands. There is moderate enlargement of the liver. The distinctive features of these two cases, both of which have been carefully studied by Brill are the enormous enlargement of the spleen, the moderate enlargement of the liver, the profuse perspiration, the sudamina, the hemorrhagic tendency, the peculiar brownish yellow coloration of the skin, and the absence of blood changes

for aperiod of more than 10 years. Both patients have the yellowish wedge-shaped patches to the inner side of the cornea on the sclera. The disease is evidently not due to malaria, syphilis, rachitis, nor tuberculous. It is not a form of amyloid disease, leukemia, Hodgkin's disease, or splenic anemia. Neither can it be due to abscess. The course has been too slow for malignant tumor; the absence of any condition that would give rise to possible congestion excludes this process, and the fact that the liver is not cirrhotic shows that the condition is not Banti's disease. It is therefore impossible to classify these cases at present. [J. S.]

2.—Arnell, discussing **enteroptosis**, states that Virchow first called attention to displacement of the intestines in 1853 [Morgagni preceded him by nearly a century.—J. S.] Glenard first suggested the relation existing between this displacement and certain complexes of clinical symptoms. In the examination of these patients the important points are: to determine the position of the stomach, the abnormal mobility of the 10th rib, and to palpate carefully the other organs. He prefers inflation for the determination of the stomach area, and usually employs tartaric acid and bicarbonate of soda taken separately. In 2004 cases of which he has records since 1892, he has found enteroptosis in 11 men and 69 women. In 24 cases both kidneys were dislocated; in 33 the right kidney alone; and in 4, the left kidney alone. Stiller's phenomenon was present completely in 8, and partially in 7 cases that were examined. The condition in the other cases was not recorded. In 69 of these cases the stomach was distended, and was more or less enlarged. The total acidity was apparently slightly decreased in some of the cases. In a few of them there was moderate chlorosis, and in several slight anemia. The majority of cases occurred between 20 and 50 years. The symptoms were chiefly those of neurasthenia, and in addition, poor appetite, coated tongue, nausea and vomiting, and chronic constipation. He reports a few cases, and in discussing treatment expresses his skepticism of the use of operation, but believes that nux vomica, hydrochloric acid and over-feeding are of great value. [J. S.]

3.—Edsall in a valuable paper upon **pancreatic disease**, reports 2 cases. The first, a man of 36, had pain above and to the right of the umbilicus, and subsequently rapid emaciation. There was absence of free HCl in the stomach contents, but none of the other chemical symptoms usually supposed to indicate carcinoma were present. There was slight tenderness on pressure in the epigastrium. Later he developed jaundice and very rapid emaciation. Estimation of the sulphates showed that the ethereal sulphates bore a relation of 1 to 20 or 30 to the proformed sulphates, showing that they were markedly diminished. An operation was performed and shortly afterward the man died. At the autopsy a carcinoma of the head of the pancreas was found completely occluding the biliary and pancreatic ducts. The author also reports another case of jaundice in which the ethereal sulphates bore a relation of 1 to 8 to the proformed sulphates, and pancreatic disease was therefore excluded. After discussing the literature, however, he reaches the conclusion that this sign is not of great value. It must be carefully considered in each individual case, and is only of importance when positive. In addition the fats were carefully estimated in the second case, and it was found that they constituted over 80% of the entire amount of the feces, and that a very small proportion of the amount of fats ingested, that is about 60%, has been absorbed. However, these fats have been split, that is to say, 78% was formed of fatty acid. It seems to show that mere absence of bile does not prevent the action of the fat-splitting ferments. Excessive amount of fat in the stools, however, does not of itself indicate pancreatic disease. [J. S.]

4.—Adrian discusses the **symptomatology and treatment of premature infants**. There is usually considerable disturbance of temperature, most commonly it is sub-normal, but occasionally irregular, or febrile. The children are very liable to attacks of cyanosis on account of the inefficiency of the respiratory centre and the partial atelectasis of the lungs. The kidneys sometimes do not act well, and there is often an excessive secretion of uric acid. There is a very marked tendency to the development of anemia. Weight is gained very slowly. The author has observed 40 cases in which the children were born anywhere from the 28th to the 38th week. Of these 24 died and 16 lived. All born before the 30th week died, although one of these lived to be 9 months of age. In fact 11 of the 24 deaths were due to complications and not to premature

birth, all of the 11 children surviving the period of full term. Of course the prognosis for life is graver the earlier the children are born. With regard to treatment the most important points are the temperature and the feeding period. The children should be placed in an incubator whose temperature is regulated according to their condition; lower if they have fever, and higher if their temperature is subnormal. The children should be left absolutely at rest and not even bathed, and the clothing should be readily removable. The feeding is a very important process. The milk obtained from a woman whose child is about a month old is most suitable for administration. It should be given with a dropper, remembering that the stomach capacity is not more than a dram or two. Attacks of cyanosis should be met by the administration of oxygen and whiskey. Constipation should be avoided by small doses of castor oil. [J. S.]

5.—Anders discusses **fatty infiltration of the heart**, and reports the following cases. A woman of 40, weighing 220 pounds, who had been in ill health for some time, and asthmatic, had delirium cordis. She was extremely nervous and from time to time had anginoid attacks that could only be relieved by morphia. She was evidently suffering from fatty infiltration of the heart. The second case, a woman of 50, weighing 310 pounds, suffered from extreme dyspnea, cyanosis and exhaustion on exertion. Appropriate treatment reduced the weight 125 pounds, and the patient recovered. It is possible that this was merely a case of fatty infiltration of the pericardium. He also reports several other cases in which reduction of weight caused very marked improvement in the cardiac symptoms. He has collected 7 cases from the literature in addition to his own. It is interesting that in many of these cases the fatal termination was due to rupture of the heart. [J. S.]

6.—A woman of 50 had suffered for 20 years from insomnia for which she took large quantities of trional. This treatment was interrupted, but subsequently she again commenced it. After a considerable interval during which she used the drug constantly, she developed pain in the abdomen, nausea, and vomiting. Later she passed red urine which gave the characteristic spectrum of haematoporphyria. There was then tingling in both arms, loss of both knee-jerks, hyperesthesia and reactions of degeneration in the extensor muscles of the arms. She had delirium with some hallucination, and subsequently extreme hyperesthesia of the skin of the body. The trional was stopped and she gradually improved, and subsequently recovered completely. It is important therefore to remember that trional can produce acute poisoning just as sulphonal does, that it has a cumulative action, and that while it is being given the kidneys and bowels should be kept active. [J. S.]

A Case of Ascites and Prolonged Fever as a Result of Syphilis.—A. K.

1901) reports the case of a man 34 years old who suffered from neurasthenia, ascites accompanied by marked enlargement of the abdominal veins, edema of the lower extremities, and an irregular fever characterized by chills, elevation of temperature and night-sweats. The paroxysms would last for two or more months, followed by an intermission. On examination both the liver and spleen were found enlarged. Altogether, this state of affairs existed for 4 years. Antimalarial as well as general treatment did not have the slightest effect, the patient getting progressively worse. Having obtained a history of syphilitic infection dating 10 years back, the author placed the patient on specific treatment. After the ninth injection of salicylate of mercury, the ascites the other symptoms promptly disappeared, except an obstinate periostitis of several bones. The author explains the ascites by the suppositio that the enlarged lymphatics of the hepato-duodenal ligament compressed the portal vein. [A. R.]

A Case of Malignant Syphilis.—Mironowitch (1901) had under his care a young man of 30 of good physique and family history who contracted syphilis, and despite vigorous and persistent specific treatment passed through practically the three stages of syphilis within seven months, his central nervous system becoming finally involved. The patient committed suicide while in a state of dependency. [A. R.]

Original Articles.

PUERPERAL POLYNEURITIS AND POLIO-MYELITIS

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of Montreal

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Neuritis, either localized or multiple, is a well recognized condition, occurring either during pregnancy or within a short period after labor. The following case is an interesting example of polyneuritis coming on during pregnancy, and in which also a poliomyelitis existed, as well as changes in the posterior and lateral columns of the cord. The patient first came under observation on the 23d of August, 1900, complaining of tremor and numbness below the knees and elbows. She was a farmer's wife, 33 years of age, and the mother of five children. She was uncertain as to the exact time when she first experienced the numb feelings in her limbs, but is almost certain that they were present about two months before her labor, which was on the first of July. On the 23d of August, in addition to the numb feeling, she had a fine tremor of both hands, which eventually disappeared. At this time no distinct paralysis was evident, but the movements were slow. The tremor was increased on movement. On the 11th of September she was admitted into the Royal Victoria Hospital. In her past the most noteworthy medical events were: (1) Severe vomiting after the first and last pregnancies; this necessitated her remaining in bed 6 weeks on each occasion. (2) During the 2nd, 3rd and 4th pregnancies, vomiting, although severe and long continued, did not prostrate her to that degree that she was compelled to keep her bed. (3) During her childhood she had measles, chicken pox and scarlet fever. She lived always on the farm, and since her marriage, about nine years ago, her work has been heavy and prolonged. She also had much anxiety as to whether her husband and herself would be able to retain the farm. Her father and mother are living and in good health. Four sisters living, and all said to be in good health. One is hysterical. A brother died of pneumonia, and a maternal aunt of cancer. There is no history of tuberculosis in the family.

State on Admission, Sept. 11th, 1900.—She was a well nourished woman, of a neurotic temperament. Her weight was 114 pounds. She assumed the dorsal decubitus, but was able with considerable effort, to turn to either side. There was no gastrointestinal disturbance, except a slight tendency to constipation.

Nervous System. Sensorium.—Although emotional, the mental state was normal, and remained so up to the end. At no time was there complaint of headache.

Motion.—There was considerable loss of power in the muscles of both lower limbs, but in no single muscle, or group of muscles, did it reach an absolute degree. It was distinctly more marked in the most peripherally situated muscles, but not sufficient to produce a foot drop. The patient was able to walk the length of the ward, but with considerable effort. In both upper limbs a similar but less

marked paralysis was present, being, as in the case of the lower limbs, more marked in the distal parts. The extensors, although weaker than the flexors, were not paralyzed to the extent of causing a wrist drop. There was, however, no single muscle or muscular group in a normal state as far as voluntary power is concerned.

Sensation.—She complained of a constant and disagreeable sensation of numbness in the lower limbs and lower part of the abdomen up to about the region of the eleventh thoracic segment. There was no girdle sensation. The same abnormal sensations were complained of in the upper limbs to about midway between the elbow and shoulder joints. Sensation to touch was slightly lessened over both lower limbs, and on the trunk to nearly the level of the umbilicus. There was only a slight diminution over the upper extremities. The reaction to painful and thermic stimuli appeared to be unimpaired. The calf muscles were very tender on pressure, while the remaining muscles were only slightly so. There was no disturbance of the muscular sense in any of its varieties. Both knee jerks were normal. The plantar and pharyngeal reflexes were lessened. The abdominal reflex was normal. The organic reflexes of swallowing, micturition and defecation were not interfered with. The electrical reactions were not disturbed.

Sight.—The vision was normal, and no change was found in the fundi. The pupils were equal and active to both light and accommodation. The movements of the eyeballs in all directions were not interfered with. There was neither nystagmus or jerking on voluntary movements of the eyeballs. The other special sense organs did not present any sign or symptom of disease.

The pulse was persistently rapid throughout the course of her illness, ranging from 90 to 120. The respirations were also increased, ranging between 24 and 30, till within a few days of death, when, in consequence of the terminal pneumonia, they became still more rapid (45 to 50). The temperature throughout the course of the disease remained subnormal till the advent of the pneumonia, when it reached from 100. to 102°. The urine at all times was free from abnormal ingredients.

A Summary of the Course of the Disease, from her Admission, on Sept. 11th, till Death, on the 21st of November.—When admitted, she was able to both stand and walk, but with some difficulty. There was a slow but irregular, increase in the depth of the muscular weakness during the first month of her stay in the hospital. About the 15th of October, the paralysis in the lower limbs was absolute and general. In the upper limbs it was absolute in the distal parts, and approaching so in the more proximal areas. There was complete wrist and foot drop. Ten days after admission, both knee jerks had entirely disappeared. The great nerve trunks of both the upper and lower extremities were at this period very tender on pressure, as were also the muscles. The tenderness in the calf muscles was especially marked. She did not complain of spontaneous pain when quiet. About the first of October there were signs of intercostal weakness, but it was not till later that the diaphragm showed signs of beginning failure. About the middle of October, wasting of the muscles of the

extremities was observed, being particularly distinct in the calf muscles. Towards the end of October, for a few days there was apparent improvement, not only in the motor, but also in the sensory disturbances. On several occasions throughout the course of the disease, a similar but less marked amelioration in the symptoms led to a hope of a favorable termination. Such hope, however, proved to be false. There was on the whole soon after such changes, a deeper degree of disability, both motor and sensory, and nearly always evidence of extension upwards of the paralysis. On the 17th of November the diaphragm showed signs of failing, and the following day a pneumonia was detected, which proved fatal on the 21st. The onset, course and termination of this interesting case will be made clearer by a short epitome of the leading events.

A woman, aged 33, after suffering severely from vomiting, began to complain about the seventh or eighth month of her pregnancy of a sensation of numbness in the lower limbs, and shortly afterwards in the upper limbs. This was followed after a period of two months by a slowly increasing motor paralysis of all four extremities, which progressed to practical total disability. The paralysis was of the ascending type, and finally involved the respiratory muscles. The sensation to touch was diminished, but not lost, while the reaction to painful and thermic stimuli was retained. The knee jerks were lost, as well as the plantar reaction. The abdominal reflex was retained. There was considerable muscular atrophy, but no disturbance of the organic reflexes. At first the electrical reactions were normal, but afterwards there was lessening of the Faradic reaction, showing the middle form of the reaction of degeneration. (A full examination of the electric irritability was not carried out, owing to the pain induced.) A pneumonia, chiefly owing to the previous parietic state of the respiratory muscles, ended the scene two and one-half days after its onset.

Autopsy One Hour and a Half after Death: by Dr. Adami.—Body of a middle aged female, fair size, rigidity just beginning, lividity moderate in dependent parts; body still warm, nutrition fair, pupils equal and moderate in size; orifices of body normal; breasts normal; some roughening of the skin over the front of abdomen. There was a slight, smooth scar on the anterior and inner surface of the left thigh. Feet in position of complete ankle drop, skin over the dorsum of feet puffy in appearance and slightly desquamating, probably an atrophic change. Muscles everywhere extremely flabby, especially those of the arms and legs.

Thorax.—Both lungs free from adhesions; left lung 290 grms., only slightly pigmented; apex showed some compensatory emphysema, lowest lobe completely collapsed, pleural surface near great fissure in both lobes somewhat raised and granular looking and covered with a thin layer of fibrinous lymph. The anterior edge of the lowest lobe, near fissure, was consolidated and somewhat friable. The upper lobe, a long, narrow strip extending almost the whole length of the great fissure, was consolidated, airless and friable, on section of a greyish granular appearance. Condition of diffuse pneumo-

nia in grey hepatization stage; condition found to be somewhat patchy; possibly it started as a bronchopneumonia. Bronchi somewhat reddened, contained somewhat sticky mucus; pulmonary vessels free.

Right lung, 340 grms.; slight compensatory emphysema of the upper and middle lobes; pleural surface of the lowest lobe, somewhat granular, covered with flaky lymph; upper third of lowest lobe swollen and firm, on section rather dry, consolidated, in a state of grey hepatization, condition more uniform than in other lung. Lowest third of lowest lobe completely collapsed; bronchi and pulmonary arteries as before.

Smears from consolidated area showed numerous bacilli of unknown form and an occasional micrococcus lanceolatus.

The other organs of the body showed nothing markedly abnormal, but showed a marked tendency to congestion.

The Microscopical Appearance of the Lungs.—The parts which are not so much consolidated are much congested, the bronchi show marked acute bronchitis, the lumen being filled with exudate, the alveoli of the lung are for the most part filled with an inflammatory exudate, consisting of leukocytes with occasional red cells and fibrin. The inflammatory exudate is irregular in intensity and somewhat patchy; certain other of the alveoli contain relatively few leukocytes, but a great deal of fibrin and some again filled for the most part with red cells; one or two small hemorrhages were noticed.

Examination of the Nervous Structures.

By Dr. Shirres.

The brain, spinal cord and ganglia were removed for examination, also both sciatics, musculo-spirals, anterior crurals, peroneals, anterior tibials and their end ramifications, pneumogastrics and phrenics. The peripheral nerves, certain parts of the brain and of the cord at different levels, were placed in Mul-

Figure 1.



Transverse section of the Anterior Tibial Nerve showing the endoneurium and separation of the connective tissue by the third extension.

ler's fluid, while the remaining sections were at once placed in alcohol for Nissl's stain.

Peripheral Nerves, Cord, etc.—Naked eye changes.—All the peripheral nerves were found markedly swollen and of a reddish yellow color, especially so the sciatics and anterior tibials, which were at least twice their normal size and seemed to be very edematous. The internal plantar was about the ordinary size of a normal sciatic nerve. Cord and spinal ganglion cells appeared normal. After thorough fixation and hardening of the different parts, sections of the cord and peripheral nerves and spinal ganglia were imbedded in celloidin or paraffin.

The methods employed were (1) Weigert-Pals' hematoxylin, (2) Van Gieson's hematoxylin and eosin, (4) Marchi's osmic acid, (5) Nissl's methylene blue method.

Peripheral Nerves.—Longitudinal and transverse sections were made, the latter being by far the most instructive. The changes found may be summarized as follows: Marchi's method of investigation showed the distinctive signs of a true parenchymatous degeneration. Under a low magnifying power the nerves are seen to be studded with black granular spots, with the higher power the dark spots are seen to be sections of degenerated nerve fibres, in some places two or more being blended into large masses. Scattered irregularly among those degenerated fibres, in every bundle more or less, are to be found normal healthy fibres.

Hematoxylin and Van Gieson's method revealed that along with the parenchymatous degeneration there was also marked interstitial inflammation, the blood vessels being distinctly distended, thickened, and with numerous small hemorrhages in the epineurium and endoneurium; also a distinct sero-fibrinous exudate and leukocyte-like corpuscles and spherical cells surrounding the vessels and infiltrating the sheaths and interstitial tissue between the fasciculi and a few in the substance of the fasciculi between the nerve fibres. The lymph spaces between the laminae of the perineurium were markedly distended. The nuclei of the cells of the endoneurium were very evident on longitudinal section and were in greatly abnormal numbers. All the nerves examined showed the changes above described, more or less; it was noticed that the further away from the cord, the condition of a simple parenchymatous degeneration was more marked. The pneumogastrics and phrenics, like the above, did not suffer so much from interstitial changes, but showed more of the parenchymatous condition, the degenerated fibres being clearly demonstrated by Marchi's method.

Cord Changes.—White Matter: Sections of the cord that were hardened in Muller's fluid and treated by Marchi's method showed a scattered degeneration in the position of the posterior columns, involving both Goll and Burdach's tracts in the lumbar region. In the cervical region the degeneration was confined to Burdach's column. Degenerated fibres could also be seen in the lateral region of the cord (direct cerebellar tract) in the upper dorsal and cervical regions. Upon examination of the posterior roots, along the whole length of the cord, degenerated fibres could be seen—Lissauer's column being dis-

tinctly affected. No changes could be detected in the anterior roots.

Van Gieson's or the hematoxylin method did not reveal anything like a condition of lepto-meningitis or myelitis of the cord or membranes. Sections of the cord that were fixed and hardened in alcohol and stained by Nissl's methylene blue method, revealed marked and advanced chromolytic changes of the peripheral central and perinuclear varieties, in the ganglionic cells of the grey matter, more especially in the anterior horns and Clark's columns. The most advanced changes, even on to complete atrophy and disappearance of cells, were to be noted in the cervical cord in the region of the 5th, 6th, and 7th

Figure II.



Ganglionic Cells of the Anterior Horns in the Lumbar Cord, showing displacement, etc., of the Nucleus and Chromatolysis.

cervical segments. Here, as above stated, there was a marked numerical lessening in the number of cells compared to the normal condition in those situations; also, there was a marked difference between the right and left anterior horns, the right containing hardly any ganglionic cells at all, the few that were present were simply atrophied shreds. The other ganglionic cells of the grey matter did not present such a picture of atrophy, but all more or less showed marked chromolytic changes. The lumbar and lower dorsal regions were affected in a minor degree compared with the cervical. The changes were essentially polymorphous, every grade of chromatolysis was seen from where the cells were swollen or spherical with the protoplasm undergoing alterations, and showing chromatic bodies normal in amount and situation, to stages in which these were distinctly granular or gave a condition of a diffuse stain, and finally to a condition in which the cell body was very pale and did not present any chromatic particles, or protoplasmic processes and the nucleus was absent or eccentric.

Spinal Ganglion Cells—Nissl's Method.—The spinal ganglion cells did not show any marked alteration, but there was present a marked increase and

proliferation of the cells (which looked like an inflammatory reaction) of the capsule surrounding the individual ganglionic cells.

The clinical course makes it highly probable that we had to deal, first, with a neuritis, and later with a localized myelitis (poliomyelitis). The symptoms were, for several months, those of a neuritis, rather than a poliomyelitis. In fact, at no time were there sufficiently distinctive symptoms present to enable one to say definitely that the spinal cord was involved. It was only the gradual ascending character of the paralysis (Landry type) that some three or four weeks before death gave a clue as to a probable spinal involvement. The development of the symptoms and the appearances met with in the nerves makes it clear that we had to do in the first place with a parenchymatous neuritis. The prolonged primary stage of numbness in all the four extremities, together with a prolonged period of simple weakness of the peripheral muscles pointing to a distal parenchymatous multiple neuritis as the primary lesion. Dr. Shirres refers to the fact that with the Pal-Weigert stain he was able to obtain a much clearer view of the degenerated fibers. The axis cylinders seem to have in many places disappeared when this stain was used, while with the Marchi stain a much less degree of degeneration was noticeable. He explains this by referring to the established fact that the Marchi stain gives more clear results if the degeneration is recent (6 to 10 weeks), while the Pal-Weigert shows more definite changes in older cases. The disease was probably upwards of 6 months' standing, and therefore the changes showed more clearly with the Pal-Weigert stain. The ultimate cause of the neuritis is not clear. The bacteriological examination of the nervous structures was, unfortunately, neglected, although cultures were taken at the time of the post-mortem examination. All the common causes of neuritis were absent, as lead, alcohol, acute and chronic infectious diseases, septicemia, etc., etc. What, if any, relation existed between the severe vomiting (pregnancy) and the neuritis, I have no evidence to show. A number of cases of puerperal neuritis have been reported, in which vomiting had been very severe, and the only marked feature present. Dr. Whitfield, in the *Lancet* (March 30, 1889), gives an account of such a case. Dr. E. S. Reynolds (*British Medical Journal*, vol. 2, 1897, p. 1080), narrates a case of paraplegia after labor, which he attributes to a peripheral neuritis, and in which abortion was performed on account of vomiting. He refers to a view held by Clifford Allbutt, who looks upon the vomiting of pregnancy as due to a toxin, and that the same toxin may induce a neuritis. In the considerable number of cases of multiple neuritis of puerperal origin, very few have been reported in which the onset occurred during pregnancy, nearly all being instances of post partum neuritis, which usually is attributed to sepsis. It is worthy of note that the changes in the spinal cord are not limited to the cells of the ventral horns, but that we have also a similar breaking down in the cells of Clarke's columns, and, as a result, a degeneration in the cerebellar tracts in the lateral cord. Although no degenerative changes were found in the proper structure

of the spinal ganglion cells, the posterior columns show considerable areas of degeneration (see Fig. III). In using the term "ascending paralysis," it should be understood that it is meant purely in a clinical sense, and not as signifying that the degeneration spread gradually up the cord from the peripheral nerves. It is much more probable that the poison affected the cord and peripheral nerves separately, and not that the peripheral changes caused the spinal changes by extension

Figure III.



of the spinal cord, showing the extent of the degenerative changes in the posterior columns and lateral columns.

from the periphery to the center. Further, it is still less likely that the central changes were the direct cause of the peripheral degeneration. The fact that the anterior-intra-medullary nerve roots did not show any signs of degeneration is evidence in favor of there being no direct causative relation between the central and peripheral changes.

I am indebted to Dr. Adami and Dr. A. G. Nicholls for the report on the general post-mortem examination, and to Dr. D. A. Shirres for the care and time he has taken in making a full and thorough examination of the spinal cord and peripheral nerves; and also to Dr. Hugh Patrick for the care he has taken in developing the photographs.

Literature on Puerperal Polyneuritis.—To anyone especially interested in this subject, the following articles will prove to be very valuable: 1st, J. Hendrie Lloyd, in the *Twentieth Century Practice of Medicine* (Vol. XI.), has a very exhaustive article on the whole subject of neuritis, and much attention is directed to both the local and generalized neuritides connected with the puerperal state. 2d, Professor Eulenburg (*Deutsche Med. Woch.*, 1895, Nos. 8 and 9), has a valuable paper on 38 collected cases of puerperal neuritis, being chiefly instances of the local (traumatic) form of the disease. A synopsis of the chief symptoms in all the cases is given. 3rd, Mobins (*Neurologische Beiträge*, Heft. 4, p. 24), who was the first to give a description of puerperal neuritis, gives details of his own cases (chiefly local form) and others. 4th, C. K. Mills (*Univ. Medical Magazine*, Vol. 5, p. 508). A valuable article. 5th, E. S. Reynolds (*British Medical Journal*, Oct. 10th, 1897), reports two cases, both paraplegic in distribution. He was able to collect 17 cases, not including any reported on by Eulenburg. 6th, H. M. Thomas (*Johns Hopkins Hospital Bulletin*, Nov., 1900). Chiefly dealing with the localized forms of puerperal neuritis.

LOCALIZATION OF SOUND AND ITS BEARING ON HEARING—ESPECIALLY IN UNILATERAL DEAFNESS.

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The attempt has been made to map the field of hearing in a manner analogous to that of vision; but the essential difference must not be lost sight of, that sound-waves are not like light-waves propagated only in straight lines. The eye can take cognizance only of that which lies in front of the plane of the iris, and is further restricted by the prominence of the nose and the orbital margins. Its field, therefore, is sharply defined. The relative field of good hearing has some comparable limitations, as has been worked out by Ogston (*Med. Press and Circ.*, June 18, 1890); but it is probable that great individual variations exist, and that for different sounds the fields may vary even more markedly than the color fields of the eye. The absolute field of hearing is hardly definable, however, for not only can both ears hear sounds in the sagittal plane of the head, but, to a considerable extent, in each other's fields. Hence the great difficulty of excluding one ear from cognizance of tests directed to the other, and the need for such differential tests as have from time to time been brought forward. With all of this otologists are familiar, and they generally take these matters into practical account; but the effect upon the good ear of deafness of the other is not fully, if at all, considered. To have a deaf side is generally recognized as awkward, even when the other ear is perfect and suggests no likelihood of sharing the same fate. We meet many reports also of cases in which successful treatment of the worse ear has given notable gain of the other, which had no share in the intervention; but the rationale of this has rarely been explained with any plausibility or fulness. A brief note upon the matter seems in place, therefore, if only as a means of directing attention to a neglected but important series of phenomena.

In hearing, with both ears good, there should be little difficulty in localizing many, at least, of the sounds that come to us. Not only are they lateralized, but the other factors as to their direction can generally be sub-consciously determined. This is a matter of differential impression and analysis, for which an appreciable time is requisite; and very brief sounds may greatly puzzle us both as to their localization and interpretation. Ordinarily, we have sufficient continuity of impression to be able to follow intelligently one or more series of sounds, ignoring those interruptions which often intrude, since we can so readily recognize them as irrelevant. We form our mental concept of them from their quality, loudness and direction, aided generally in large measure by our concomitant visual impressions, but also in no slight degree by some subtle appreciation of their reflection from adjacent surfaces. This is much as we can locate a distant conflagration by a sort of triangulation in noting the direction and distance of buildings from which its light is reflected. Our drumheads can respond to and convey a vast number of coincident sound-

waves to a deeper acoustic apparatus, which then takes cognizance of their pitch and volume, the latter having probably some slight dependence upon the form and position of the external ear. The rest of the analysis and appreciation is solely a function of the sensorium. Cognizant of such differences in the sounds assailing us, we may be able to hold the attention concentrated upon those which we wish to hear amid a babel of irrelevant noises, undisturbed unless we permit our thoughts to wander. One ear is often given to the sounds engrossing us while the other merely keeps guard-hearing, yet giving no heed to the sounds upon that side and even almost automatically side-tracking those on the busy side, which might confuse its task.

The condition is very different when one ear must act alone, unaided by its fellow. The physical problem is little changed, and the auditory apparatus receives and transmits to the percipient centers the same range of sounds coming from practically all directions; but the psychic task is far more complex. One side of the brain to a much greater extent than usual, has to receive and analyze all the impressions, and these lack that element of double yet diverse character which in vision we call stereoscopic. Yet all acknowledge the huge importance for many purposes of this factor in the everyday use of our sight, in which, as we have seen, the problem is far simpler. With the eyes we recognize the apparent increase of illumination afforded by the superposed images of binocular vision and work with far less fatigue when the eyes thus supplement each other and distance, direction and object are practically unchangingly simple. With the ears we have no strain of accommodation or convergence (which should be no burden to healthy eyes), but the absence of these functions leaves us devoid of any such ready means of determining the distance, and hence many other characteristics of the objects of our attention, and throws the more work upon the interpreting faculties. Few persons make any success of fixing by a brief glance, any considerable number of articles, so that they can later enumerate or describe them; yet this, with a presumed "sense of the context" as our only aid, is what is continuously demanded of the hearing. Rotation and other movements of the head can, as in binocular vision, furnish some localizing factors; yet the problem remains too largely a mental one, and the "fatigue of the deaf," of which Dr. Blake so well speaks in the Introduction to Gorham Bacon's Manual, is by no means absent in those who, with one perfectly good ear, are often unrecognized by their companions as having any lack. Some of them are themselves as surprisingly unconscious of the defect, as are some who have grown up in ignorance that one eye is virtually sightless; but this is usually rather a matter of unilateral deafness for certain sounds only, such as the tick of a watch, which are often very unequally heard by ears supposedly normal. Yet it is full time that the value and importance of "binaural hearing" should be more fully recognized, and that due care be exercised to retain or secure it in those who are really, if unconsciously, suffering for the lack of it.

THE GERMAN CLINICS OF TO-DAY.

By JOHN C. HEMMETER, Phil. D., M. D., Etc.

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About thirty years ago the methods of scientific diagnostic investigation which had been inaugurated in Vienna by Rokitsansky and Skoda, had taken root firmly in Berlin, and had been further developed by Virchow and Traube. Pathological anatomy not only led the advance and assigned the guiding line for clinical diagnosis, but the deductions for therapeutics were also based upon the evidences furnished by this science. Experimental physiology and experimental pathology were also sciences influencing the tendencies of clinical medicine. This was a glorious and epoch-making period in the history of clinical diagnosis. Unfortunately, however, some of the skepticism and nihilism of the Vienna school had gone along with the advancement, the diagnosis was held up as the main object of the clinician; but the actual therapeutics, what could be done to control, check and remove the disease, was passed over and neglected. Expectant therapeutics, to observe, not to injure, those were the motives.

The treatment of disease was not entirely neglected, but the therapeutists placed their hope in the future, and had no confidence in the methods of the present. There were many ironical allusions to the helplessness of internal medicine when it was put to the test of relieving suffering or healing a disease. Among the practitioners there prevailed a spirit of pessimism. Such must inevitably be the case when the practical therapeutic duties of clinicians are subjected to too rigid a scientific criticism, based upon the ideals of pathological anatomy. The objects of therapeutics could not be accomplished; our methods to help and to heal could not be improved, if we were to be guided exclusively from the lessons of autopsies. Therapeutics must reckon with the result of approved experience, also, and must help and heal according to the measures which are at their disposal at any one time. We cannot console the suffering patient with promises of remedial discoveries of the future. This truth, once recognized, therapeutics was freed from the spell under which too rigid a scientific criticism had placed it to the disadvantage of practical results for the patient. Up to that time the motto was "to cure diseases." This was transformed to the devise, "To make the diseased well," or "To heal the patient." These two mottoes do not represent a "distinction without a difference," for by saying "To cure diseases" we refer by the name "Disease" to whatever abstract conception of a morbid condition may prevail in the medical mind at any given time. Such conceptions have differed greatly concerning the same disease at various times; and accordingly the treatment necessarily differed also. It was greatly to the merit of Von Leyden to emphasize the difference between attempting to cure a disease and attempting to heal a patient. By healing a patient we mean relieving him of his suffering, healing his morbid condition, independently of what

our conception of the disease may be. In the one case we are dealing with the abstract formulation of symptoms known as a "disease," and based upon the alterations pointed out by pathological anatomists, too apt to be manipulated categorically and dogmatically. In the other case we are dealing with the many varieties of human individuality as they are influenced by abnormal states. Modern therapeutists are not satisfied to study the disease process and its course; the physician must also familiarize himself with the special manner in which disease manifests itself in, and influences the individuality of each and every patient. The personality of the patient is put in the foreground of treatment, not the conception of the disease. This is one of the predominant features of the therapeutics in the German clinics of to-day. It probably had its origin in the great discovery of Lister, and the impulse it has given to modern surgery. Then came the suggestion to the internal clinicians: "You must become surgical also," and as much as possible internal therapeutics has attempted to follow out this suggestion. Under the direction of that scholarly medical philosopher, Naunyn, a journal is published on the border districts of disease lying between internal medicine and surgery, much to the advantage of both these branches.

Another feature of the German clinics is the tendency to make use of a large variety and many methods for the relief of suffering and to cure disease. Pharmacy, i. e., medicines and the improvement. These two mottoes do not represent a "distinction without a difference," for by saying "To cure diseases" we refer by the name "Disease" to whatever abstract conception of a morbid condition may prevail in the medical mind at any given time. Such conceptions have differed greatly concerning the same disease at various times; and accordingly the treatment necessarily differed also. It was greatly to the merit of Von Leyden to emphasize the difference between attempting to cure a disease and attempting to heal a patient. By healing a patient we mean relieving him of his suffering, healing his morbid condition, independently of what

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First came the evolution of so-called specific remedies, based and inspired by the cure of hydrophobia by Pasteur; Koch brought out his tuberculin; Behring the diphtheria anti-toxic serum. Then followed similar serums for the treatment of tetanus, the plague, cholera, and the pneumonia antistreptococcic serum. But even where there are no specific remedies, the efforts are persistently made to restore health to the patients. The therapeutics of the disease, of the localized pathological process, may, in some cases, have to continue to be expectant, but the treatment of the diseased individual must, nevertheless, be active and systematic. Frequently a sick individual may be aided in overcoming the disease by the thoughtful and logical application of a number of apparently insignificant means and methods. The patient is helped through the danger of the disease. As Thos. Clifford Allbutt puts it, "The physician learns to play a winning game against the disease." Next to the actual treatment by drugs, medicines, etc., the German clinic has wonderfully evolved the method of treatment by diet. In no other civilized nation in the world are diet treatment or nutritional therapeutics made the objects of thorough scientific investigation as in Germany. There are two journals which make the dietetic treatment one of the chief reasons for their publication. Boas' "*Archiv für Verdauungs-krankheiten*" (Archives for Digestive Diseases), and Leyden's "*Zeitschrift für Diätetische und Physikalische Therapie*," and a third journal exclusively devoted to methods and means that add to the comfort of the sick (*Die Therapie der Gegenwart*). Right here I desire to emphasize the necessity of such a journal in our country. We need

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a journal of high scientific standard, which will be the depository for all investigations and observations, clinical, experimental and pathological, concerning the treatment of disease by diet and physical methods. It will be a poor consolation to suggest to us to utilize the already existing German journals for that purpose. In the first place, very few of our American practitioners understand German sufficiently to derive any benefit from these journals, and in the second place, our American digestive organs are sufficiently different from the German, our diet a more manifold and peculiar one, our habits greatly at variance with those of the Teuton, to make such a journal edited from the American standpoint a great desideratum. Moreover, many of our foods are unknown in Germany. Our beverages have an entirely different chemical composition. Even the amount of proteid, carbohydrate and fats in the more commonly used solid foods differ from those used in Germany.

Among other newer tendencies issuing from the German clinics is the participation of internal medicine in the humanitarian and social duties of our present age. This is the sphere where prophylaxis becomes active. This tendency found its expression in the International Congress for combating tuberculosis, as a collective disease. I would urge upon the profession the expediency of a Congress to design methods and means for the study and relief of malignant diseases in this country, which are alarmingly on the increase. Large expositions have been held in Berlin exhibiting everything that is employed for the cure of disease, but more particularly for the care and comfort of the sick. I could not mention all the practical little devices seeking to improve the condition of patients, improved bed clothes, practical devices in dishes, cups, feeding tumblers and tables to be extended over the sick bed, both for feeding and entertainment, improvements in the construction of the bed itself, in bandages, urinals, thermometers, expectoration cups, gastric, rectal, colon and vesical irrigation, etc.

Great interest is manifested in hydro-therapeutics, also in aero-therapeutics, the treatment by hot and cold air, by gymnastics and massage. The representative German internal clinic of to-day is no longer under the ban of pathological anatomy, but its highest aim is the perfection of treatment, to help and to heal. Naturally, an exact diagnosis is essential to correct treatment; it is not now equally harmless and insignificant, whether we are right or wrong; since we are no longer supinely and helplessly carried down the stream of pathological events, but feel ourselves capable of buffeting at least with its waves, or perhaps of riding triumphantly over them; for why should we despair that the reason which has enabled us to subdue all nature to our purpose, should (if permitted and assisted by providence), achieve a more difficult conquest, and ultimately find some means of enabling the collective wisdom of medicine to bear down those obstacles which individual shortsightedness, selfishness and passion, oppose to all sanitary and prophylactic improvements, and by which

the highest hopes are continually blighted, and the fairest prospects marred?

After all that can be said of the benefits the human race derives from other sciences, medicine remains the most blessed of them all. Its theories and lessons may, it is true, occasionally baffle the medical mind in the sphere of conduct, as part of an order of things, too vast to be more than partly understood. Medicine, indeed, presents some difficulties which perplex the intellect, and a few, also, it cannot be denied, which wring the heart. But on the whole, the progress in medical science is in harmonious relation with the human spirit, and it shows at the present day a more enduring progress than any other science. Different from these, medicine has not passed its zenith; it does not point centuries back to the life and work of its great men; they are here, living with us at the present day, our contemporaries, and the prospects are that the future will produce medical men equally as great who will solve for us the riddles of the nature of syphilis, the cause and cure of cancer, the biology of the bacteria, and why it is that they cause certain diseases. From out the dim future these problems to be solved and our suffering fellow-men call to us. "Work and despair not."

1734 Linden Ave.

VOLVULUS AND INTUSSUSCEPTION OF MECKEL'S DIVERTICULUM.

By JOSEPH McFARLAND, M. D.

of Philadelphia

Professor of Pathology in the Medico-Chirurgical College, Pathologist to the Philadelphia and Medico-Chirurgical Hospital, etc.

The patient in whom the following case occurred, died in the wards of Blockley Hospital, with symptoms partly attributable to intestinal obstruction, partly to uremia, and became of interest only at the subsequent pathological examination:

Necropsy.—Body of a somewhat emaciated middle-sized man of about 60-65 years of age. Nothing of interest upon the exterior of the body except a lipoma the size of a pea upon the inner aspect of the left foot just below the inner malleolus. From the mouth a discharge of frothy, bloody fluid has occurred. Death 12 hours ago, rigor mortis well marked. Body cold. Usual incisions made to reach the organs. Costal cartilages not calcified. As the parietes were turned back, the abdominal cavity was found to contain about a liter of purulent fluid. The surface of the intestines was dulled, and there were numerous deposits of fibrinous lymph by which the different links of intestine were glued together in places, and on the left side to the abdominal wall. The great omentum, which was congested, was drawn up like a fringe along the transverse colon. There was an incomplete external inguinal hernia on each side, that on the right being larger than that on the left. Both contained a single knuckle of small intestine, which drew out with ease. The vermiform appendix was small in size and short. It was normal except that it had a peculiar acute angle at about its middle. It contained no enterolith, and was not adherent to the neighboring parts. As the bowel was examined, it was found that an obstruction occurred in the ileum about two feet above the cecum, where a peculiar

knotty twist was observed. This will be considered under the head of "intestines."

Thorax.—The left side of the chest contained about 500 cc. of blood-stained fluid. There were no pleuritic adhesions. The pericardium was normal, and contained a normal amount of normal fluid.

Heart.—The heart was of normal size. The right side and its valves were normal, the auricle probably somewhat dilated. The left chambers were probably slightly dilated. The endocardium of the left ventricle was thickened and opaque and obscured the muscular substance below. The mitral valve showed thickening of both leaflets and the chorda tendinae were thickened. The valve contained a few yellowish atheromatous patches and was dotted with red areas as if blood had irregularly infiltrated into the tissue. The aortic valves were slightly thickened. The coronary arteries were not sclerotic. In the aorta a small amount of atheroma was present, but the ascending aorta was widely dilated and seemed thinner than normal.

Lungs.—Both lungs showed inflation of the upper lobes and congestive edema of the lower lobes.

Abdomen.—The *spleen* was of normal size. Its substance was very soft and flabby, and the organ was so lacerated as to be torn in removal. The capsule was thickened, and there were several deep scars upon the surface resembling those left by old injuries. Section showed the substance of the organ transformed to a reddish pulp. *Adrenals.*—Normal.

Kidneys.—*Right.*—Considerably larger than normal, pale yellowish in color, flabby in consistence. The capsule strips readily. Upon the surface there are several deep depressions suggesting the loss of tissue seen in anemic infants, but not accompanied by fibroid changes. The pelvis and ureter are dilated. There were a few superficial cysts. *Left.*—This kidney is much larger than the right, and is also in the advanced stages of chronic parenchymatous nephritis, with fatty change. The pelvis and ureter are both dilated. *Bladder.*—The organ is contracted. Its shape is pyriform, the fundus forming the narrow part of the pear. The walls feel so thick, and the organ so filled with solid matter that a neoplasm was suspected. When opened, however, it was found that there was an enlargement of the middle lobe of the prostate, and chronic cystitis. The obstruction of the urethra by the prostate probably explains the hydronephrosis that existed. *Duodenum and Gall-Ducts.*—

Normal; the ducts patulous. *Gall-Bladder.*—Contained three ordinary calculi the size of small cherries. There was no cholecystitis. *Liver.*—Normal. *Pancreas.*—Normal. *Stomach.*—Normal. *Large Intestine.*—Normal except for the inflammation of the serous surface. *Small Intestine.*—This organ was the seat of the interesting observation already mentioned. When this was torn loose from the numerous plastic adhesions found about it, it was found that a Meckel's diverticulum about 4 centimeters in length was rotated upon its long axis about one quarter of a circle, and then invaginated for about two centimeters into the ileum, producing an obstruction that reduced the lumen of the intestine to about one-third or less. The intestine was quite empty, so that it is probable that the obstruction

has at no time been complete. By what force the Meckel's diverticulum ever became so twisted and invaginated, is difficult to conceive. The intestinal obstruction observed before death and the peritonitis with purulent exudate to which death was in part due, depended upon the intussusception. The deeply congested and swollen state of the invaginated tissue indicate that had death occurred a little later, gangrene of the bowel would have occurred. This case adds one more to the already long list in which Meckel's diverticulum has been responsible for intestinal obstruction. In addition to the obstruction, the intestine presented at about the junction of ileum and jejunum a lipoma the size of a peach stone attached by a short peduncle. There was also a single small body the size of a pea, loosely attached to the peritoneal surface of the small intestine. It was dark in color, matted in appearance, and more closely resembled one of the scattered peritoneal nodules seen in abdominal neoplasms than anything else. It was, unfortunately, lost before microscopic study could be made. As there was no primary neoplasm elsewhere, it may have been a primary neoplasm of the peritoneum, possibly an endothelioma. Unless the condition of the kidneys precluded the possibility of operation and spinal anesthesia was out of the question for some reason, the case could easily have been relieved by surgical operation. Probably, however, the symptoms presented were so vague that a correct diagnosis was impossible, and had the symptoms of intestinal obstruction been complete, the existence of two hernias might have further confused the surgical diagnosis.

DEATHS FROM ANESTHETICS.

By D. H. GALLOWAY, M. D.

CHICAGO.

Three deaths from anesthetics have occurred recently in Chicago, all within a period of ten days. This statement is both startling and disquieting to any one who makes much use of anesthetics, either as an operator or as an anesthetizer. The daily press has noticed two of these cases, but I have seen no mention of them in any medical journal. The profession regards them with an apathy which seems borne of a belief that they are inevitable, and that there are no means at hand for lessening the numbers of such deaths. A prominent surgeon said to me the other day: "A few years ago the dread of the surgeon was sepsis, and that caused most of the deaths; but now the anesthetic has taken the place once occupied by sepsis." I hardly think the majority of physicians or surgeons will entirely agree with him, yet there is some foundation for the opinion. Sepsis can now be almost absolutely avoided, but the danger from anesthetics does not seem to be in the least diminished. It seems that in our present state of knowledge no human foresight or skill can prevent occasional fatal results from anesthetics. It may be that these three cases were all of the unpreventable kind; but most of us know that of all surgical procedures the administration of anesthetics receives the least amount of attention and skill. Thousands of patients are

anesthetized every year in Chicago by persons wholly devoid of skill in the use of these agents, who are unable or unwilling to give to the work the amount of attention that is given to every other surgical procedure by every one making any pretensions to surgical skill.

A few weeks ago I was in an operating room, as a spectator, and saw chloroform given in a careless, off-hand manner; I turned to the surgeon, who was waiting in another part of the room, and said to him that if I should administer chloroform as it is being administered there, I was sure I should kill every patient I tried it on. While we were talking, the patient stopped breathing, and we were obliged to spend several anxious minutes in bringing him back to life. On another occasion I was present to assist at an operation, and advised two or three times that the chloroform be stopped to prevent what I believed was going to be a collapse of the patient from the anesthetic. The anesthetizer afterwards made some very caustic remarks about what he considered officious interference. A few days later, while assisting at another operation at which everybody but the operator was wholly unknown to me, I saw the anesthetizer giving chloroform and talking to nurses and others standing about, apparently only looking at the patient occasionally. We had scarcely begun the operation when I noticed the patient's condition was bad. I hesitated to interfere, but I could not refrain from calling the anesthetizer's attention to the patient's condition, and advising the removal of the chloroform; he removed the mask, and after watching the child for a few moments, said: "Why, he's all right," which was true. After a few inspirations of fresh air, he revived, and the mask, chloroform, inattention, and conversation were resumed. In less than five minutes I saw that the child was again being overwhelmed by the chloroform. I again suggested to the anesthetizer that he stop the chloroform for a little while. He did so, and after watching the patient while he took half a dozen more inspirations, he said with a scowl and in an impatient tone: "The child is all right." The chloroform was reapplied, and in two or three minutes more the child stopped breathing. I noticed this, though the anesthetizer did not. I called the surgeon's attention to the patient's condition, and he asked the anesthetizer whether the child was breathing. The anesthetizer slowly removed the mask, and after watching the patient for a time which seemed to me interminable, slowly said: "Why—I—don't—believe—he—is." After another apparently long time, and without moving, he said, with great deliberation: "Ought we to do something?" With this I took the child from the table, and standing on one foot, with the patient hanging head down on the other leg, did artificial respiration for six or eight minutes before there were any signs of life. Then putting the patient back on the table we prepared to resume the operation. The anesthetizer, who had not moved from his stool, put the mask over the patient's face and resumed the chloroform. I told him to take the mask off and give no more chloroform until he had to. We finished the operation, which required twenty or twenty-five minutes, without another drop of chloroform being given, and during that whole time the child was

as limp as a rag. That anesthetizer afterwards told me that he had not given more than a dozen anesthetics, that he had never received any instruction at all, but had never had any trouble before. A surgeon once told me that he did not care who gave his anesthetics, that he believed they were just as safe in the hands of one person as another. He acknowledged having had a number of deaths from anesthetics. If his opinion is correct, this is the only instance on earth where knowledge and skill are of no advantage in carrying on a complicated process. I believe few surgeons would have the hardihood to make public such an opinion if they held it; yet the majority of them in practice act as if this were their opinion. They are perfectly willing that medical students or recent graduates without any skill or instruction; or, even persons making no pretense to medical knowledge, should administer anesthetics to their patients. In remote districts, where doctors are few, and emergencies are urgent, this is justifiable. In a city like Chicago such emergencies almost never arise. There is another opinion among the profession at large which might be called a superstition; it is that if a patient is taken off the table alive the anesthesia has been entirely successful, even though the patient lies in a stupor for hours afterward. There can scarcely be a greater mistake than this. The patient should have enough anesthetic to allow the operation to proceed without consciousness on his part or interference with the work of the surgeon. The ideal anesthesia would be one in which this was attained with the use of the smallest possible amount of the anesthetic and not one drop more. It is, of course, impossible to attain this condition exactly, but it may be approximated by skillful administration and by continuous, and the closest, attention to the condition of the patient every moment of the time. While in most cases, unless the patient is very feeble, or there has been great shock from the operation, he should revive and become conscious within a very few minutes after the anesthetic is discontinued; but if he has been drowned in the vapor of the anesthetic, he may lie relaxed for an hour or two afterwards; such a condition certainly adds greatly to the gravity of the operation. *Many operations are practically devoid of danger, but no anesthetic is ever administered without jeopardizing the life of the patient.* If a surgeon takes a hundred dollar watch into a jewelry store and asks to have it repaired or cleaned, and the jeweler hands it over to a wholly inexperienced apprentice who ruins it, the surgeon would consider the act of the jeweler unjustifiable. If this same jeweler comes to the surgeon for an operation, he is sent to a hospital, and very likely an inexperienced interne is called upon to administer the anesthetic. Every surgeon realizes that this is the state of affairs which exists; but very few make the slightest effort to remedy it. The responsibility for this condition of things lies not wholly with the surgeons, but partly with those who are in authority in the medical colleges. The subject is scarcely ever mentioned to the students; no effort is made to interest them in the subject of anesthetics, and the facilities at hand are not used, or are inadequately used for purposes of instruction. A few of the students appreciate their responsibilities

when called upon to administer an anesthetic and are anxious for instruction. A few days ago in one of the college clinics, a student was assigned by the man in charge of the clinic to administer an anesthetic to a little girl. I was attending this clinic for the purpose of instructing students in the use of anesthetics, and told this one that I would put the little girl to sleep; that he should watch carefully how it was done; I would then turn the case over to him, and give him what instruction I could. When I had the child anesthetized, I looked around for the student, and he was gone. I saw him in the next room talking and laughing with other students; he was keeping one eye on me, and when he saw me look he hastened in and asked whether I was ready for him. I said to him: "I thought you were going to stay and learn how to give chloroform?" He replied, airily: "Oh, I am not afraid of chloroform; I never have any trouble with it; I have given it twice." I turned the patient over to his care, or carelessness, and left the room, believing that any effort toward instructing him would be wasted. One in every two or three thousand anesthetics result fatally. How many of these might be prevented if all anesthetizers were careful and skillful, it is, of course, impossible to say; but surely many of them. Do you suppose a surgeon would be looking about him and laughing and talking while opening the abdominal cavity, if one in two or three thousand, or one in ten thousand, were accidentally killed by him at the very beginning of that operation? I rather think he would be very seriously intent on his work, and acutely alert to every indication which might enable him to minimize the chances of a fatal result; yet I have often seen an anesthetizer holding an ether cone over the face of a patient, while he was engaged in flippant conversation with some one, and not looking at the patient at all.

The number of times a man has administered anesthetics is no criterion of his skill, though he may acquire skill by practice and without instruction, he will do so at an wholly unknown expense to the unfortunate patients who come under his care. I have resuscitated, or helped to resuscitate, when artificial respiration was necessary, seventeen patients from an overdose of an anesthetic. I have not had a case of my own for nearly six years until within a few weeks. This one case illustrates so well the power of chloroform, as well as the dreadful suddenness of its action, that I shall describe it. The patient was a woman, and the operation was for the removal of a calculus from the common duct. The patient was in a very weakened condition, and the surgeon warned me that he feared trouble from the anesthetic. Chloroform was the anesthetic selected. The patient was anesthetized, placed upon the table, and the operation begun. She had taken the anesthetic without the slightest untoward symptom; all reflexes were abolished; the pupils contracted; ears, cheeks and lips pink; circulation and respiration perfect; but the abdominal muscles were rigid. A little more chloroform was given, and although the patient's condition remained as before, I felt that the anesthesia was as deep as was safe. The surgeon again remarked that the abdominal muscles were unrelaxed; the other conditions remained perfect. I picked up the chlo-

roform bottle with some misgivings. I was using a small piece of gauze bunched over the patient's mouth and nose as an inhaler; I put on *three* drops of chloroform, and before I could set the bottle down the pupils dilated widely and respiration ceased. I instantly removed the inhaler, raised the patient's jaw, inserted my finger in her mouth, and raised the epiglottis. The change was so sudden that I believed respiration would be resumed spontaneously. The color of the patient's face, and the appearance of the eyes soon dispelled that illusion. The operation was suspended, artificial respiration resorted to and continued for about one minute before natural breathing was re-established. The operation was resumed, and, strange enough, though the patient was never again so completely anesthetized (the surgeon insisted on changing to ether), the abdominal muscles were completely relaxed. The anesthesia had been produced so quickly, and the surgeon had worked so rapidly, that a very short time had elapsed from the beginning of the anesthesia to the time of the accident, so that I believe that had the anesthesia been maintained at the same safe degree a little longer time, the abdominal muscles would have relaxed. If unnecessary deaths occur from anesthetics, the responsibility extends beyond the anesthetizer and includes the managers of medical colleges who ignore its importance; who make no effort to teach it properly, if at all, and who confer diplomas which the people accept as evidence of a training which the student has not received.

ESOPHORIA, OR LATENT SQUINT.*

By FRANCIS VALK, M. D.

of New York.

Professor of the Diseases of the Eye, New York Post Graduate School and Hospital, etc., etc.

Ophthalmology, as well as other branches of our profession, has been advancing during the past decade, and to-day the methods of diagnosis and the treatment of the conditions of errors of refraction and the motility of the eye, are almost complete, so much so, that we may and can complete our diagnosis of these conditions simply by the objective examinations. It is to this advance that I would suggest to you the consideration of latent squint. I remember, not so many years ago, at the time I read my first paper on refraction, before this Society, that nearly all my cases were reported as simply hypermetropic and we gave little thought to the muscular equilibrium or balance of the eyes. Hence, many of our cases failed to find the relief from the use of their glasses, as might have been expected. This was no doubt due to the imperfect methods of examinations in use at that time, as now the results would be far different. But all ophthalmologists have not agreed upon the exact methods of examinations that we should pursue, nor are the results of our final work the same in all cases, even though we may be so much more exact in the estimation of the refractive condition of the dioptric apparatus, particularly so in the methods of testing the motility of the eyes, in other words, the power of the eyes to move in

*Read upon the Medical Society of the State of New York, Albany, January, 1901.

the field of fixation and in that of fusion. May I not also suggest that there is the same difference of opinion in the other branches of our profession, of which you are more interested than this one, as I believe it is not fully settled yet whether antitoxin is a true and positive specific for that dreaded disease, diphtheria, and as to the right and proper time to operate in all cases of appendicitis? Some will advance one method, and yet we will find others who will take the opposite side just as strongly. Medicine has not yet reached that stage—nor do I think it ever will—when we can make the conditions of all our cases an exact science, by which we can tell just what will be the final result, as in all we must deal with the personal equation of our patients, an extremely varying quantity. If others may have diverse opinions, so do the ophthalmologists hold the same in reference to the subject I propose to present to you, and while some may tell you that latent squint does not exist, or simply requires the use of glasses; others will tell you that nearly all cases of asthenopia present this condition, and that the majority will require one or more operations.

For my own views, I must say that I am inclined to take a conservative course, simply endeavoring to correct the refractive error, whatever that may be, and then to place the muscular apparatus, if necessary, in that condition of equilibrium that Nature obviously intended it should have. Having done this, and the patient finding no relief, I can justly feel that the eyes are not at fault. My methods of examination may not be correct—as they are not approved of by all—but they have at least the advantage of having been used for many years, and so, as to their reliability, and to the advisability of operations, I must leave to your own conclusions. If not correct, they will not stand the test of time and will soon pass into innocuous desuetude. There is much diversity of opinion in reference to the condition of the muscular equilibrium of the eyes. When there is an absence of this condition, the writers state that the fundamental cause is hypermetropia, and then proceed to explain the relation between cause and effect, or, we may say, the physiological connection between accommodation and convergence, to account for it. But they fail to point out why this condition may and does exist when the refraction of the eye is found to be myopic. So we find this latent tendency, with myopia, described in "vague terms" as ciliary spasm—a rare condition in myopia—or we find no explanation at all; or, again, it is so described that the reader cannot decide what is the chief or primal cause of the symptoms, and is completely at sea as to what procedure he shall adopt when he fails to correct his cases by the use of glasses or by the method of exercising the muscles, so frequently suggested. It is for these reasons that I shall attempt to give some suggestions, based on the treatment of my own cases, which has invariably given relief. At one time I also held the opinion that hyperopia was the cause of this condition, but I noticed the vast number of hyperopes that had no tendency to latent or fixed squint, and that the greater the hypermetropia, the less did I find this inability to keep the visual lines fixed, then I began to doubt my former opinions. When I also found

this condition associated with myopia, and even emmetropia, I felt compelled to discard the theory of the connection between accommodation and convergence as the true cause of the squint, and naturally to look for other reasons that would meet all the indications. This, I think, can be found in the field of fusion or the desire for single vision existing in the human eye. This desire for single vision, or fusion, must be controlled by a different center of the brain than that which controls the movements of the eyes in the field of fixation.

The power of an eye muscle to act according to its physiological function is shown, first, by the ability of the individual to do certain acts by the process of muscular contraction, stimulated by the innervation and controlled by the will power, and secondly, the power to turn the eyes, one independent of the other, under the stimulation of the desire for single or binocular vision. This latter power is the fusion force, and is not under the control of the will power of the individual. Under these conditions, we find that the eyes can turn to all parts of the field of fixation in nearly the same degrees of the arc of a circle, while on the other hand the eye will also move to a certain extent and within a certain field (*fusion*), not by the will power, but by that of the muscular apparatus, under the stimulation of the center for fusion, from the desire for single images, or that the images may be on corresponding parts of the retina. This power of the muscular apparatus seems to be limited within a certain field, and we find this fusion force acting in the same way when the eyes are directed to the different parts of the field of fixation. Hence the ability to fuse these images must be controlled by a special center, and the extent to which the eyes can be turned to produce this fusion must represent the power of the muscles to turn the eyes. I can see no other way to consider the action of the ocular muscles than as their individual power to turn the eyes under certain conditions; moreover, I cannot consider this force as innervation, nor that there should be more stimulation to one muscle than to the other, since the size and the insertion of all the straight muscles seem to point to the fact that one muscle must have more power than the other, or, in other words, exert a greater power to turn the eye under the stimulation of the fusion force.

The physiological act of turning the eyes in all directions within certain limits requires very little force, as is well shown by the action of the interni and the superior recti muscles, for the eyes will turn upward as well as inward; and yet the size and the insertion of the interni clearly indicate that these muscles must have been intended to exert a greater power in some way. May we not also accept the supposition that Nature arranged this muscular force, not only to perform the simple act of turning the eyes, but that they might also conform to all the requirements of the more important functions, namely, that of binocular vision and convergence, as controlled by the fusion force of the eyes? Do not the daily needs of vision confirm all this? It is in the act of single vision, both for the distant and near points, that we find the eyes constantly called upon to keep the visual lines fixed on an object, while at the same time the eyes are moved to different parts

of the field of fixation. Upon this supposition I cannot see what influence innervation, the position of rest, or the natural elasticity of the externi, have to do with the fusion of the images on the retina. If we accept this reasoning, and believe that certain muscles have a greater power to turn the eyes under certain stimulation, then we should have some test, sufficiently reliable and exact, which will meet the requirements, and indicate to us what is the actual power of these muscles to turn the eyes under certain conditions. I have used and tried faithfully all the various tests as suggested for this purpose, such as the phorometer, Maddox rods, etc., but I can find no one so reliable and so clearly indicative of the power of these muscles as the old and simple prism test. We turn the eyes in the field of fixation under the stimulation of the will, simply because we wish to see in certain directions. This is the conscious part of the action of the eye-muscle; but having performed this act, we now call into action the unconscious part, in which the eyes must adjust the visual line according to the direction of the rays of light as they pass through the dioptric media. If these rays of light are deviated from their natural path, the eyes will turn on the center of rotation to meet the deviated rays until the visual line will be parallel with them and the principal axial ray falls upon the macula. If I deviate the rays passing into one eye 20° from a direct line, then to have single vision there must be sufficient muscular power to turn the eye in the direction of the deviated ray, namely 20° of the arc, and if we cannot fuse the images then, we do not have sufficient muscular power in the muscle so tested. Therefore, the strongest prism that will deviate the rays and yet have single vision remain must indicate the power of that muscle to turn the eye. Now if the deviation by a prism represents the power of the eyes to turn on the center of rotation under the stimulation of the fusion force (duction), what do we find is the relative force or power of these straight muscles? Evidently we may have some standard comparison, in the same way and for the same reason, that we have the standard for the acuity of the vision. First, the power of the externi to turn the eyeball outward must be considered. Let me state at once that I do not consider this power as acting from the position of extreme convergence or any point midway between that of extreme convergence and divergence, as has been suggested by some writers, but as starting from the usual first position of the eyes, in which they are directed toward a point about twenty feet distant and about 15° below the horizon. Secondly, the power of the eyes to move under the stimulation of that unconscious force, or duction, as shown by the prism test must be measured. We should find the outward movement or abduction about 6° ; any decided variation from this may indicate some latent squint. The inward movement or adduction is about 24° ; the upward movement or sursumduction, about 2° , and the downward movement, or dorsumduction, about 3° , or somewhat greater than the upward power. These movements are indicated by the relative size and insertion of the straight muscles, and very beautifully represent the power of the muscles to turn the eyes under the desire for single vision, while the slightest failure

of this muscular power may result in diplopia. Now, in the above standard we shall find a certain relation in the power of these muscles, one to the other, as the interni are the most powerful, next, the externi; then the inferior, and lastly the superior, each one having a certain ratio to the other. When this is constant—no matter what the actual power may be—we will not, as a rule, find much, if any, muscular asthenopia or tendency to latent squint. Having then this standard by which to compare the results of our tests of the muscular balance as found in our patients, what will be the indications of the condition that is the title of this paper? At once we note that the power of the interni is far greater than that indicated by our standard; or vice versa, that the power of the externi is too low, so that under the stimulation of the fusion force the power of abduction is not great enough to control the position of the eyes except by the excessive stimulation of the externi to keep the visual lines fixed. These patients present the usual train of symptoms, chiefly pain in the head, radiating backward toward the neck, and a pulling sensation about the eyes. Latent squint of the convergent class is sometimes described as spasmodic action of the interni, and in some cases our tests show this condition; but even if it is spasmodic action of that muscle, it still indicates too much power and should and can be controlled by proper and suitable means. Some of my best cases have shown this condition, as I have noticed a peculiar change in the response of the externi to the prism test, in which there seems to be a decided loss of power after we have tested the adduction. This is shown by our test as well as by the phorometer or the Maddox rod. If we test the power of abduction we find a certain ability to turn the eye outward under the stimulation of the fusion force, that, as measured by the prisms, may be as high as 8° . Now testing the adduction in the same way, we have 20° or more, showing a fairly good balance between adduction and abduction; but if we go back and again test the power of abduction, we will find that it has become reduced to 1° or 2° , or possibly we will have homonymous diplopia—particularly if we place a red glass before one eye, which may persist for some time before the balance again adjusts itself, and we have single vision. I have considered this a very valuable test to develop the tendency of the eyes to turn inward and while it may be due to some spasmodic action of the interni, yet I consider it one of the best indications for the operation I shall propose. Having found the conditions of latent convergent squint, our methods of treatment for its correction are, first, the use of suitable glasses to correct any existing refractive errors; these failing, the combination of prisms with the glasses may be tried; then, possibly, tenotomy of the interni; but best of all, in my opinion, is the operation for shortening the externus with the catgut suture, thereby increasing its power to turn the visual line outward and at the same time avoiding all danger of an over-correction. It is to show the results of this operation of shortening the ocular muscles for the correction of this condition that I present these cases from my private case-book, and also to demonstrate the utility of this standard test:

Case, 1484. Hy. with Ah. glasses for four years, V.-20 20 Ad. 20°, Ab. 2°, (Ratio 1 to 10). Operation shortening Ext. Rect. Result, Ad. 15° Ab. 4°, (Ratio 1 to 4).

Case, 1755. Hy. with Ah. glasses several years, no relief. V.-20 15, Ad. 25°, Ab. 2°; after testing interni, Ab. 0°. Was told by another oculist that operation would do no good. Operation was shortening left externus, result, Ad. 15°, Ab. 5°. Two years later reports: Can use the eyes all that is needed with comfort.

Case, 1829. Ah. glasses, V.-20 15, Ad. 30°, Ab. 4°. Operation, shortening left Ext. Rect. One year after, is so much improved that she returns and asks for an operation on the other eye and I shortening the R. Ext. Rect. in the same way with this final result, Ad. 20°, Ab. 5°. Can now use the eyes with comfort.

Case, 1839. Hy. with Ah. using glasses, no improvement. V.-20 15. Ad. 15°, Ab. 0°. Operation shortening L. Ext. Rect. result, Ad. 16°, Ab. 3°.

Case, 1909. My. with Am. using glasses, V.-20 15. Ad. 20°. Ab. 4°. after testing Interni, Ab. 0°, operation shortening left Ext. Rect. Final result. Ad. 15°, Ab. 6°. Two years later reports no pain or asthenopia.

Case, 1492. Hy. with Ah. using glasses, V.-20 20, Ad. 10°. Ab. 1°, Operation shortening left Ext. Rect. One year after has Ad. 12°, Ab. 4°.

Case 1977. Hy. using glasses, V.-20 15. Ad. 25°, Ab. 0°. Operation, left Ext. Rect. Final result, Ad. 20°, Ab. 6°.

Case, 2051. Ah. using glasses, V.-20 15, Ad. 30°, Ab. 6°. After testing interni, Ab. falls to 0°. Operation on Ext. Rect. Final result, Ad. 20°, Ab. 6°. six months after operation.

Case, 2065. My. using glasses, V.-20 15. Ad. 30°, Ab. 3°. Operation Ext. Rect. Final result, Ad. 24, Ab. 6°.

Case, 2292. Hy. with Ah. using glasses, D.-20 20, O.S.-20 40. Ad. 30°, Ab. 3. Operation, Final result, Ad. 20°, Ab. 6°.

Case, 2371. Hy. with Ah. using glasses, V.-20 20. Ad. 25°, Ab. 6°. after testing interni, Ab. 0°. Operation shortening Rt. Ext. Rect. One year after, Ad. 25°. Ab. 6°, permanent.

Case, 2385. Ah. ax. 180°. using glasses, V.-20 15. Ad. 20°, Ab. 4°. after testing interni, Ab. 0°. Operation shortening. Four months after, Ad. 15°, Ab. 4°.

Case 2088. Ah. using glasses, V.-20 15. better with glasses, but not relieved. Ad. 20°, Ab. 1°. and homonymous diplopia after testing interni. Operation shortening. Ab. 4°. much better.

Case, 2459. Ah. using glasses, V.-20 15. Ad. 25°, Ab. 2°. falls to 0°, with homonymous diplopia after testing interni. Operation shortening. Six months after, Ad. 15°, Ab. 5°.

Case, 2621. Ah. V.-20 15. Glasses do not stop asthenopia. Ad. 20°, Ab. 1°. Operation shortening. Result, Ad. 15°, Ab. 4°.

Case, 2571. Ah. ax. 180°, V.-20 15. Glasses relieve at first, then fail. Ad. 15°, Ab. homonymous diplopia with red glass. Operation shortening, result, Ad. 15°, Ab. 5°, complete relief.

These cases usually present the history that the patients cannot read; the eyes are painful; headaches, frontal and usually extending backward, are experienced; and there are car sickness, nausea, etc., etc. I have presented the histories of these cases of esophoria, or latent convergent squint, in the simplest condensed form possible, noting the refraction; glasses worn without relief; acuity of vision; the muscle imbalance; the muscle operated upon, and the final result. They all seem to show a want of power in the externi recti muscles, a tendency for the eyes to turn inward, and finally show an improvement in that power, by the muscle balance after the operation. Now, I would state that the same operation was performed in each case, namely, that of shortening the muscle by the insertion of the catgut suture with a single needle so as to form a "tuck" at the insertion of the tendon into

the sclera, and allowing the suture to be absorbed. The operation was described in the *PostGraduate Journal* for May, 1896, and it seems to me to more fully meet the indications than any other procedure, such as graduated or partial tenotomy of the interni, since we have a want of power in the externi recti muscles. To counteract this imbalance, I have found the operation for shortening the straight muscles the best in my experience. Some of you must be familiar with this simple method of mine, by which I shorten the ocular muscles in their long axis, thereby increasing its natural power to turn the eyeball under the stimulation of single binocular vision, but in a few words I would state that I use a single, sterilized catgut suture, and after the muscle has been exposed, dissected from its sheath in Tenon's capsule and held away from the eyeball by these little twin strabismus hooks, the needle is passed through the tendon very close to the sclerotic, then under the muscle and as far backward as we propose to make the "tuck," and then through the belly of the muscle. Now crossing the muscle with the suture, the needle is again passed through and under the tendon, at a point above or below the place at which we started. You can now see that as we tie the suture over the insertion of the tendon, we must bring the middle part of the muscle forward, so taking the "tuck," and shortening the muscle very materially in its long axis. There is very little if any reaction after the insertion of this suture; it does not require a second operation for its removal, and the prominence remaining gradually flattens out and disappears in from six to eight weeks. The operation has never failed in my hands, and I am glad to say that in the hands of my friends it has shown the same measure of success and may be used in cases of true squint, of both the convergent and other varieties, as in that of the subject of this paper. In closing, let me say I am trying to follow Nature in the movements of the eye, and to quote from Prof. Tyndale, "In dealing with Nature, the mind must be on the alert to seize all her conditions; otherwise we soon learn that our thoughts are not in accord with her facts."

STRANGULATED HERNIA.

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The great importance of this subject, and the comparatively frequent occurrence of the trouble, are my chief reasons for bringing it before you this evening.

These cases, as a rule, first come under the care of the general practitioner, and on his judgment and skill much of the result of the case depends, for very often the preliminary treatment, or handling, of the hernia, determines the result, as regards reduction, and certainly the life of the gut, to say nothing of the mortality.

I shall say nothing about the anatomy of hernia, but will speak of the subject in a general way. The clinical varieties leading up to strangulation are the irreducible, incarcerated, inflamed, and, lastly, strangulated. In the irreducible form, we have the circulation and function of the bowel or omentum,

unimpaired, but the contents of the sac cannot be returned or reduced.

This condition occurs often in umbilical hernia, but may be present in any variety. The contents of the sac are usually omentum, though a coil of intestine may also be present.

The symptoms are few in these cases, being usually shown by colicky pains and constipation. Often rest alone will cause the symptoms to disappear, and the hernia may be returned easily.

Local inflammation calls for antiphlogistic treatment, cold applications, and absolute rest.

An incarcerated hernia is an irreducible one, in which the contents of the bowel are held back, or obstructed, and yet the circulation is unimpaired. The symptoms develop slowly, owing to the slow accumulation of feces in the loop of gut, and the gradual filling up of same; constipation is present, and usually a sense of weight, and dragging is experienced. There may be nausea, and even vomiting, but it is not the rule, except in late stages of the trouble. There is pain, often radiating about the abdomen. Examination reveals a tumor quite tense and painful. There is impulse on coughing, but not marked. The symptoms may subside gradually, or increase, and go on to strangulation.

Failure to obtain relief after giving enemas and using all medical means, would lead one to suspect strangulation. In these cases it is positively injurious to resort to force in attempting reduction, and by this I mean the use of taxis, of which I will speak later on. High enemas may be given, and if any result follows, should be repeated, and purgatives given also; rest is imperative; applications to the hernia are essential and useful. These may be hot or cold, but better hot. The salines in small and repeated doses may be used, *after* the enemas have partially reduced the swelling.

If these means fail, then operation is indicated. Inflamed hernia would most naturally occur in an irreducible hernia, where there has been any prolonged irritation, such as taxis (repeated and severe), a blow or fall, an ill-fitting truss, etc. We have in these cases a serous exudation, and a peritonitis, in which the sac and its contents are involved. These cases may be quite severe when the tumor is an entero-epiplocele, but otherwise they tend to recovery. Ice may be used in these cases, and opium may be given if pain is severe; enemas should be used also. No cathartic, or laxatives should be given until pains and tenderness have subsided.

We now come to the most important condition of all, namely, strangulated hernia, which to my mind is one of the most satisfactory of all surgical affections, if attended to at the proper time, and a most unsatisfactory and dangerous one if neglected, or its seriousness overlooked.

Strangulation in a hernia is present when, in addition to being incarcerated, the blood supply is cut off. It is apt to occur in middle and old age, and usually in an old hernia, for which a truss has been worn, often for years; but I have had one case in which the strangulation was apparently spontaneous with the rupture: The man was working in the mines, and on attempting to lift a large piece of coal felt something "give way," as he expressed it, and

from a short time after that till his admission to the hospital (24 hours later), he presented the typical symptoms of strangulation, and the operation proved it to be so.

The chief causes of this trouble are: straining, lifting, vomiting, sometimes coughing, absence of truss, after wearing for a time, or any severe muscular action. It may also follow in irreducible or incarcerated hernia, after manipulation has been prolonged. It is said to occur oftener in femoral than in inguinal hernia, though I have not yet seen one of the femoral variety.

As to the mechanism of strangulation, many theories have been advanced, and it is probable that there is some truth in all of them; suffice to say, that venous congestion, and interference with the blood supply is a chief factor.

We have the compression of the ring itself; we have frequently fecal impaction, and paralysis of the muscular coat of the gut. Congestion is increased, serous exudate thrown out, and thus the volume beyond the neck is increased, and reduction rendered impossible. The pathology of this condition is well described by Coley. The seat of most marked pathological changes is, in most cases, at the neck of the sac, not because the neck is an active agent of constriction, but on account of its being the narrowest portion of the sac, and the tissues being densest, and most resisting immediately about it. In some instances the lesions may be most marked in the sac, owing to its own constricting effect. The first abnormal phenomena are those of venous obstruction. The color of the intestine becomes dark red, blue, or mahogany. The wall is thickened from edema, and its surface becomes dull, instead of glistening. This is followed by exudation into the sac, the fluid being first clear, then bloody or turbid. This is followed by coldness of the bowel, a deep furrow at the neck, becoming later on gray or yellowish in color, but first hemorrhagic. The whole loop may become gangrenous, and separation of the slough may occur at the neck, the sac being converted into an abscess cavity. There may be lesions of general suppurative peritonitis before this occurs, or local peritonitis and adhesions about the neck, may prevent infection of the general peritoneal cavity.

Symptoms.—These are, as a rule, well marked, and should not be overlooked in making a diagnosis, between strangulation and simple irreducible hernia, though the latter may become strangulated if not relieved. The general symptoms are those of intestinal obstruction. The local are usually pain, tenderness on pressure, irreducibility, and loss of impulse.

Where the hernia has been reducible, the symptoms are shown after straining at stool, or a sudden effort, such as a heavy lift, vomiting, or violent coughing will sometimes produce it.

The pain is often referred to the umbilicus, or to neck of the tumor. There is no impulse on coughing, and a dull sound on percussion. The general symptoms are usually well defined; there is nausea, vomiting and severe pain. The vomit changes in character from the contents of stomach to watery substances, bile, and later on to fecal matter. Constipation is absolute, the only movement of bowels

being below the seat of trouble, which might follow the use of enemas. The temperature is not elevated, as a rule, but the pulse is increased, slightly at first, and soon becomes rapid, as the trouble progresses. Nourishment is refused, from the fact of persistent vomiting. The prostration becomes greater and the countenance assumes an anxious look. The abdomen may be swollen, and tympanitic. The extremities grow cold, cyanosis is present; and then hiccough occurs, and dissolution is the outcome, after a period of from four to eight days. *This is a case in which operation is not performed.* The diagnosis would be shown by the symptoms of intestinal obstruction, vomiting, constipation, and pain with a tumor at the site of the hernia.

The prognosis depends on the length of time the strangulation has progressed. The mortality is greater, the longer the time of operation is delayed.

The complications may be several, such as peritonitis from sloughing of returned gut, and consequent infection. Local peritonitis may be present for a time, but is not serious; shock may cause death in old patients, and in late operations.

It is said that the mortality is from 10% to 12% in cases operated upon within 36 hours, or less, while 50% die after delaying three days. It is said to be greater in umbilical hernias, than in femoral, or inguinal.

Treatment.—We have two things before us in these cases: first, to return the contents of the sac to the abdomen by what is known as taxis, and second, to do the operation of herniotomy. It is wise before doing either of these things to try the effect of rest, opiates (hypodermically), and cold applications to the tumor. In very large hernias, or in old persons, hot applications are best; always keep the thighs flexed, and pelvis elevated.

These procedures being unavailing, the next thing is to try reduction by taxis; and right here let me state that after a fair experience with these cases (40), I believe taxis is decidedly *harmful*, and personally, I am opposed to trying it. If used at all, it should not be longer than *three to five minutes*. It is all right to try in *emergencies*, or when operation is refused, or some time must elapse before surgical aid can be procured. Again, some diseases may contraindicate operation, such as serious kidney lesions, but even in these cases local anesthesia can be used, and the strangulation relieved, thus rendering prolonged manipulation or taxis entirely unnecessary. Some of the dangers of taxis are, if too severe, or prolonged, rupture of bowel or production of subsequent peritonitis. There may result an apparent reduction, yet the symptoms reappear after a few hours, owing to the sac being reduced, and yet the constriction at its neck not being relieved. Aspiration of the fluid in the sac has been recommended, but is of little value.

If reduction should follow taxis, the after treatment should be rest in bed, until the bowels move, replacement of truss if opening be small, and *best of all*, the radical treatment of the case. It is not necessary to remind you of the contra-indications to performing taxis, but in general it should never be attempted *after twenty-four (24) hours*.

The next consideration is relief by operation. I believe the mortality recorded against operations for strangulated hernia is due largely to *injudicious*

and *prolonged taxis*, and postponement of operation till late stages of strangulation.

If performed *early*, I believe the operation of herniotomy to be practically safe, and the result almost certain.

Under anesthesia, a free incision should be made down to the sac, then proceeding carefully, the sac is opened, and the constriction sought for and then divided. The bowel should now be inspected, and will be found in nearly every case to be dark and hemorrhagic, and frequently will require some thinking to determine its vitality; hot saline solution should be used freely and warm gauze sponges applied to the intestine. Returning circulation will be shown after a few minutes, by the change of color, from dark brown to reddish, and then to a fairly healthy look, though congested.

It may now be replaced, and a radical cure be performed if the patient's condition warrants it, and I have not yet failed to do the complete operation. Cushing, of Johns Hopkins, advocates the use of local anesthesia in these cases, and has reported a number of operations. He uses infiltration anesthesia, and has had good success. It is certainly adapted to aged patients, and those in whom serious kidney complications are to be feared. Several New York surgeons also use eucaine B. in some of their cases; I have had no experience with eucaine, but mean to try it as soon as I have the opportunity; but believe I shall prefer general anesthesia. I had recently an interesting case of strangulated inguinal hernia in a woman, five months pregnant. The tumor was large and hard. The operation was performed one hour after her admission, and showed a large enterocele, the ring of constriction being exceedingly tight, and the mass of intestine large, and very suspicious in appearance. The constriction was relieved, the intestine covered with gauze wet with saline solution, and after a few minutes the color improved, and I returned it to the abdomen, ligated the sac, and did a radical operation. Her recovery was rapid and uneventful.

In February I had another case of interest, this, also, in a woman pregnant, and presenting a large strangulated umbilical hernia. She had been ill four days, was vomiting continuously, and had absolute obstruction of bowels. Taxis had been practised until the surface of the tumor looked like a large inflamed area over an abscess. Her condition was anything but favorable, but I determined to operate at once, and had her prepared rapidly, and etherized. A free incision showed a mass of omentum, in the centre of which was a large knuckle of gut, very dark and forbidding in appearance. I found a very tight ring of constriction, which was divided, and the usual treatment of the bowel begun. After probably eight or ten minutes the color began to improve, though very slowly, several large hemorrhagic spots persisting, leading me to fear perforation; but I determined to replace the bowel, and trust to nature, as the woman was in a very critical condition. I closed the opening completely, with three rows of chromicized gut, and to be brief, her recovery was uneventful, and she went home in twenty (20) days, none the worse for her very narrow escape.

I have little to add to this article, but I would like

to impress the importance of early interference in these cases, and my belief in the safety of operation when taken in time, and even when gotten late, we should not despair, but resect the gut if gangrenous, though careful applications of hot saline should be thoroughly tried beforehand. I believe a radical cure should be done in every case where possible, and there is practically no added danger in doing it. To sum up then, I would say:

- 1.—The mortality in these cases is due to delay in operation, and to unnecessary taxis.
- 2.—Taxis is never free from danger, and its use should be discouraged, save in emergencies.
- 3.—Strangulated hernia is invariably fatal, unless relieved, and early operation will nearly always succeed, and life will be saved.

AMMONIUM PERSULPHATE SOLUTION. A NEW DECOLORIZING FLUID FOR STAINING SPORES AND SPUTUM.

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The following method of staining spores is introduced as new because of the original formula for a new decoloring agent which is used in the process. The decolorizing of anything by acids means oxidization. This method of decolorization depends also upon oxidization. The active ingredient of the reagent is the persulphate of ammonium. This salt of ammonium decomposes in the presence of water and oxygen is evolved. To demonstrate spores, prepare a cover slip as usual, spreading it very lightly, fix in flame and then stain with boiling carbol-fuchsin or Ehrlich's aniline water, gentian violet or fuchsin. The cover slip should be in boiling stain for at least a minute. Wash and run on the following:

Ammonium Persulphate	5 grams
Alcohol, 95 per cent.	50 c.c.
Water.	10 c.c.

At the end of a half minute wash in water and counter stain. The preparation will show red or violet spores and bacilli stained with contrast stain. In case the spores are not stained repeat the staining and decolorize for a shorter period and then counter stain.

The decolorizing solution will keep for several months. After making it, it will be observed that some of the ammonium persulphate is not dissolved. This is unimportant and keeps the solution charged with oxygen for several days as it slowly decomposes.

This solution is slightly acid, but its properties do not depend upon the reaction. The addition of soda, potash, or ammonia to neutralization does not detract from its decolorizing powers.

This stain will decolorize all of the basic dyes in solution. It apparently does not affect eosin, methyl-green or their tinctorial properties. Glycerine causes an amorphous precipitate and destroys the action of the reagent. Sputum may be stained in this way, but there are disadvantages. The stain can decolorize the tubercle bacillus if pushed too far.

The tubercle bacillus resists the decolorizing action of this reagent, and the preparation is clean and free from all precipitates. But the reagent must be kept a day before using, since a fine crystalline deposit forms on the preparation after using a fresh solution.

Histological Study of the Cerebrospinal Fluid in the Course of Herpes Zoster.—BRISSAUD and SICARD. (*Gaz. Heb. de Med. et de Chir.*, March 21, 1901, 48, pp. 400-402, No. 12). At a meeting of the Société Médicale des Hôpitaux, held March 15, 1901, Brissaud and Sicard reported the results of the histological study of the cerebrospinal fluid from 2 patients suffering from herpes zoster. The eruption had a longitudinal distribution. Lymphocytes were present in large numbers. The cells took the stain in a variable way, and were associated in pairs and in chains; more rarely they were actually attached to each other. These cases show that leukocytes may appear in the cerebrospinal fluid, even in such a benign disease as herpes zoster, in which the meninges are only slightly affected. It is probable that lumbar puncture will in the future permit a study, in this disease which is so rapidly curable, of the final disposition of the leukocytes in the cerebrospinal fluid. In the discussion that followed the reading of the paper Vidal said that the interesting studies showed the importance of histological study of the cerebrospinal fluid in the course of nervous diseases. In chronic meningeal processes, such as follow general paralysis, tabes or meningo-myelitis, large mononuclear leukocytes are found as well as lymphocytes. It is difficult in such a case to say whether these large mononuclear cells are leukocytes or endothelial cells. Ch. Achard and M. Loeper said that they had made lumbar puncture in 2 cases of herpes zoster of the lumbocentral region. Cultures from the cerebrospinal fluid in these 2 cases resulted in the growth of micro-organisms that presented the characteristics of certain varieties of the bacillus coli communis, with this peculiarity that inoculated milk was not coagulated at the temperature of the incubator, but became coagulated by boiling. The result seems to add evidence to the opinion that herpes zoster is of an infectious origin. It also confirms the theory that accounts for the cutaneous eruption in a large number of cases by making it dependent upon a spinal or meningeal change that involves either the nerve roots or the nerve centers themselves. Finally, the question arises whether herpes zoster may not be produced by different micro-organisms and whether cerebrospinal meningitis may not be set up by different infections? [J. M. S.]

Recurrent Gastric Ulcer.—Professor Hayem, in *L'Indicateur Médical* (April 1, 1901, No. 14), reports the case of a man of 41, in whom gastric troubles had existed for five years. At first there were symptoms of dyspepsia, then suddenly hematemesis occurred. With treatment he improved. Then the symptoms recurred, again improving with treatment. This was repeated once more. Now he has his fourth attack. There is pain under the xiphoid cartilage, with fecal masses palpable in the intestines, to account for the constipation. He is thin, very pale, and functional murmurs are audible. Hematemesis persists. Hayem diagnosed recurring gastric ulcer. The cause of recurrent gastric ulcer with hemorrhage is unknown. In a case of this sort, it is always possible for cancer to develop, and hemorrhage or perforation may cause death at any time. The stomach must be kept at rest long enough to allow the ulcer to heal well, only small amounts of water being given by mouth, and alimentation per rectum. Should abundant hematemesis occur, gastro-enterostomy may be necessary. [M. O.]

A Rare Idiosyncrasy Toward Quinine.—Gorbatsheff reported before the Moscow Therapeutic Society (*Medicinskoje Obozreniye*, March, 1901), a case of a man in whom even small doses of quinine produced chills, considerable elevation of temperature, delirium, dryness in the throat, thirst, vomiting and a severe dermatitis accompanied by a scarlatiniform eruption. [A. R.]

The Philadelphia Medical Journal

THE LATEST LITERATURE

ANNALS OF SURGERY.

February, 1901.

1. Gunshot Wounds in the Philippino-American War. E. F. ROBINSON, M. D.
2. Sarcoma of the Uterus. VAN BUREN KNOTT, M. D.
3. Contribution to the Surgery of Multilocular Renal Cyst. CARL BECK, M. D.
4. Cicatricial Stricture of Pharynx Cured by Plastic Operation. B. FARQUHAR CURTIS, M. D.
5. The Improved Technique in the Operative Surgery of Carcinoma of the Stomach. WILLIS G. MACDONALD, M. D.
6. Cases of Compound or Complicated Fracture Illustrating the Value of Operative Interference in the Treatment of these Injuries. HENRY R. WHARTON, M.D.
7. A Method of Performing Anastomosis of Hollow Viscera by a New Instrument. M. O'HARA, Jr., M. D.
8. 1. An Improved Brace for Head Extension. 2. A Hard Rubber Spring Brace for Lateral Curvature. JOSEPH M. SPELLISSY, M. D.

1.—Out of 22,181 patients received at the First Reserve Hospital in Manila, from August 1st, 1898, to May 1st, 1900, only 7 per cent. had gunshot wounds. There were 59 cases of intentional self-inflicted gunshot wounds, a number of these being wounds of the forefinger. At one time there seemed to threaten an epidemic of these wounds. Of the total number of gunshot injuries received 223 were brought in dead, or died within 24 hours, leaving the total number treated as 1373. The mortality of this latter number was 4.2 per cent. Robinson found the "explosive effect" to be rare, occurring in only 24 cases out of 462. When it did occur it was usually in gunshot wounds of the long bones or of the calvarium. In no instance was it noted in muscles alone, and in but 2 instances was it observed in wounds of solid organs. The old Remington bullet produces a wound which is nearly always infected, and the same is true of the "soft-nosed," or Dumdum Mauser bullet. The modern high-velocity projectile produces a wound which is seldom infected. This is due to its hardness and smoothness, which produces little bruising of the tissues, and to the fact that probably its high velocity produces sterility. Also the early application of antiseptic dressing on the field must be considered one of the greatest means of preventing infection from gunshot injuries in modern warfare. Many of the gunshot wounds of bone, even where comminution takes place, if produced by the modern bullet, will heal without suppuration or necrosis. In a number of cases where the bullet has not been extracted it has produced little trouble. It is thought advisable, however, always to remove the bullet of a Remington or a revolver. In 63 cases of high-velocity gunshot wounds of long bones there were but 12 infected, while out of 27 Remington wounds of the bones 23 were infected. Almost 50 per cent of the low-velocity gunshot wounds of the chest became infected, while only 12 per cent. of those due to the new modern projectile gave serious trouble. Primary hemorrhage from gunshot wounds produced by the modern bullet was very uncommon. Three cases of aneurism are recorded as a result of gunshot wounds. Gunshot wounds of the knee joint are usually aseptic, but if infected, Robinson thinks demand immediate amputation to save life. As the direct result of gunshot wounds there were only 12 major amputations performed, and only 3 of these were primary. A number of interesting cases are recorded of injuries to bones requiring resection: also several cases of interesting gunshot wounds of the face. Three cases are recorded of severe penetrating gunshot wounds of the brain which recovered. Every case but one of gunshot wounds of the spinal cord died of cerebrospinal meningitis in from 3 to

5 days. Robinson is strongly of the opinion that gunshot wounds of the abdomen, when produced with a modern high-velocity projectile, should not be operated upon. Of 30 cases treated without operation 20 recovered. Of 4 cases operated upon 3 died and only 1 recovered. Death from hemorrhage usually followed gunshot wounds of the spleen. Among these patients there were 2 factors which Robinson thinks militated against aseptic surgery, the greater tendency here to infection and the general poor health of the patient. [J. H. G.]

2.—Knott gives his conclusions from a study of 118 cases of sarcoma of the uterus, which he has collected from the literature of the past ten years. Of the 118 cases, 33 were reported as affecting the mucosa of the fundus uteri. Forty-six cases of sarcoma of the parenchyma were found. Circumscribed sarcoma of the muscular wall of the uterus microscopically closely resembles a fibro-myoma. Knott reports an interesting case of diffuse sarcoma of the uterine wall which he considers an extremely rare condition. Sarcoma of the grape-like variety was found in 29 of the 118 cases. These growths usually arise from the mucous membrane of the cervical canal. Sarcoma beginning in the chorionic villi is the most malignant type of uterine sarcoma, and pulmonary metastasis is frequent. Out of the 118 cases there were 10 of sarcoma deciduo-cellulare. The ages of the patients ranged all the way from 7 months to 67 years. As sarcoma of the mucous membrane so closely resembles a simple polypus, microscopic examination of all such growths becomes of very great importance. The most frequent form of metastasis in the cases collected was pulmonary. The only thing which promises anything in the way of treatment in uterine sarcoma is an early and complete hysterectomy. [J. H. G.]

3.—Cystic degeneration of the kidney in adults is rare, occurring more frequently in the male. In most instances both kidneys are involved, one usually being much in advance of the other. The disease may last for a long time without producing any trouble and not become known until the tumor is large enough to be palpated. Albumin is not found in the urine until late in the disease. The condition may be suspected in the presence of a renal tumor with a sudden uremia or anuria in a patient who has heretofore shown no signs of renal disease. The presence of tumor on both sides renders the diagnosis much more likely. The difficulty in treatment arises from the inadequate knowledge of the exact condition of the less diseased kidney, and this can only be told by exploratory incision and inspection. Beck reports a case of a woman 55 years of age who gave an interesting family history, two sisters having died of cystic degeneration of both kidneys. The patient had a tumor in the left abdomen which reached from the iliac crest to the costal arch, and which was nodular and movable. A diagnosis of cystic kidney was made. In operating, the trans-peritoneal route was chosen in order to give an opportunity for examining the right kidney. This kidney was found slightly enlarged and gave evidence of the presence of cysts at its lower pole only. The left kidney was removed in its entirety; it weighed three (3) pounds and was made up of a number of cysts varying in size, the largest being three inches in diameter. The patient reacted well from the operation, and in the first 24 hours passed 17 ounces of urine. Eight days after the operation the urine became scant and renal cells were increased. Uremia set in and the patient died on the 11th day from interstitial nephritis. Beck doubts the advisability of removing a cystic kidney even when the other organ appears to be normal. He thinks that probably a better treatment would be puncture followed by an injection of a drop of a saturated solution of iodoform in ether, for the smaller cysts, and in the larger ones he advised their excision. [J. H. G.]

4.—Curtis reports a case of a girl 20 years of age suffer-

ing from cicatricial contraction of the pharynx and posterior naris following ulceration due to inherited syphilis. The opening from the mouth to the nose was less than $\frac{1}{2}$ inch in diameter. The opening downwards into the esophagus and larynx was only $\frac{1}{4}$ inch in diameter. Her diet was restricted to fluids and semi-solids. Breathing was noisy and difficult, and dyspnea came on with slight exertion. Chloroform was administered, tracheotomy performed and the anesthesia kept up through the tracheotomy tube. The patient's head was drawn over the end of the table and allowed to hang down. A transverse incision was made above the hyoid bone on the left side and deepened until the pharynx was opened between the epiglottis and the tongue. The lower pharynx was found shut off from the upper by a membranous septum extending from the posterior pillar of the fauces and left side of the pharynx across to the base of the tongue. The right side was nearly free from cicatricial tissue and the opening was on that side. The septum was divided with the knife while the finger made pressure from the wound below. The division was continued until three fingers could be passed through into the mouth. A flap of skin was then cut from the left side of the neck near the angle of the jaw and was carried in and sutured over the raw surface in the pharynx, its base being still attached. The upper pharynx was then packed with gauze so as to firmly press the flap into position. Rectal feeding was kept up for 7 days. No infection occurred. The flap healed nicely in its new position. After the first week she was fed through a stomach tube. On the 10th day, under local anesthesia, the skin flap was divided transversely where it joined the mucous membrane of the pharynx. On the 14th day the patient was out of bed. Twenty-four days after the first operation chloroform was again administered and the opening in the pharynx closed by suture. The wound healed rapidly. The tracheotomy tube was removed several days after this operation. The patient was given a soft rubber rectal bougie, No. 4, about $\frac{3}{4}$ inch in diameter, and instructed to pass it at frequent intervals. In spite of the fact that the patient did not do this there has been very little contraction, and the instrument passed with but little difficulty. The transplanted skin in the pharynx has assumed the appearance of mucous membrane. [J. H. G.]

5.—Macdonald thinks that lymphatic involvement in carcinoma of the stomach comes on later than in other organs, and that when the disease is situated at the pylorus the patient is apt to die from stenosis before any very extensive lymphatic involvement occurs. These facts would tend to make a prognosis of pylorotomy more favorable than is generally supposed. Of course the earlier the operation is done the more favorable will be the prognosis, and Macdonald thinks that many cases may be operated upon earlier than is now the custom. He thinks a combination of the following symptoms may be taken as an indication for an exploratory operation: First, a chronic gastritis progressive in spite of proper dietetic medicinal and physical treatment; second, a loss of gastric motility; third, progressive diminution of gastric peristalsis; fourth, a diminution of free hydrochloric acid, progressive in character; fifth, emaciation of patient under forced diet; sixth, reduction of the hemoglobin in the blood progressive to 65 per cent. or under, and a moderate leukocytosis. Hematemesis, lactic acid, the Oppler-Boas bacillus, and epigastric tumor are symptoms which occur too late to permit of radical surgical intervention. When the cardia is involved the esophagus is much more apt to become infected than is the duodenum when the pylorus is the seat of the cancer. In a complete pylorotomy it is very desirable to remove the lymphatics along both curvatures of the stomach as well as those lying behind the pylorus. The line of excision should be at least three centimetres from the line of palpable infiltration. Macdonald thinks Kocher's recent clamps to be the best adapted for this work. It is his custom to close the stomach and duodenum after doing the resection then to anastomose the jejunum with the posterior gastric wall and then to unite the duodenum and jejunum below. During the past year he has employed this method 8 times with 7 recoveries. In making the anastomosis between the stomach and bowel he uses the suture, but in making the anastomosis between the jejunum and duodenum a Murphy button is employed. When a case of carcinoma of the stomach is too far advanced to permit of a radical operation Macdonald has found an amelioration of symptoms to follow a gastroenterostomy. [J. H. G.]

6.—Wharton reports first a case of compound dislocation and fracture of the lower end of the tibia with fracture of the fibula in which a good result was obtained after the immediate resection of a portion of the tibia and astragalus. The next case is one of a compound comminuted fracture of the tibia and fibula in which a loose fragment of the tibia was wired between the distal and the proximal portions of the bone. The patient made a good recovery. His next case was one of fracture of the fibula with marked displacement due to a portion of muscle lying between the fragments. His fourth case was one of Pott's fracture where reduction was only accomplished after a division of the tendo-Achilles. His fifth case was one of comminuted fracture of the upper extremity of the humerus in which an excellent result was obtained from an excision of the shoulder joint. His last case was one of extensive gunshot injury of the shoulder joint in which excision was done with a good result. [J. H. G.]

7.—O'Hara describes an original forceps for making intestinal and visceral anastomoses and illustrates his article by a number of photographs showing the use of the forceps. The instrument is a small one and possesses the advantage of requiring no additional instrument or even the hands of an assistant to prevent contamination of the wound surfaces with fecal matter during the anastomosis. [J. H. G.]

8.—Spellissy describes an improved brace for head extension which is applicable to all cases of Pott's disease in the cervical and upper dorsal regions. He also presents photographs and describes a hard rubber spring brace for lateral curvature. [J. H. G.]

THE JOURNAL OF EXPERIMENTAL MEDICINE.

Month 5, 1911. (Vol. V, No. 5.)

1. Malarial Parasitology. JAMES EWING.
2. The Nerves of the Capillaries with Remarks on Nerve Endings in Muscle. A New Theory of Lymph-Formation and of Glandular Secretion. CHR. SIHLER.
3. The Influence of Bile on Metabolism. ELLIOTT P. JOSLIN.
4. The Relation of Diabetes Mellitus to Lesions of the Pancreas. Hyaline Degenerations of the Islands of Langerhans. EUGENE L. OPIE.

1.—Ewing begins his study of the malarial microorganism by a consideration of the staining methods employed to demonstrate it. He then considers the general morphology of the parasites. He believes that the rings form of the tertian parasite does not represent a vesicular nucleus. The study of this form by Nocht's method indicates that the nucleus of this protozoon is one of the distributed type which does not exhibit a vesicular nor possess a nuclear membrane. The ring form of the tertian parasite may be fully distinguished from the ring form of the estivo-autumnal parasite even in early stages by the following characteristics: (1) The nuclear body and the chromatin mass of the young tertian parasite is achromatic to methylene blue, which densely stains the nucleus of the estivo-autumnal organism. (2) The tertian ring is usually coarse and irregular, but the estivo-autumnal ring is geometrically circular and more delicate. (3) One or two grains of pigment are nearly always invariably found in the early tertian ring but are absent from the estivo-autumnal ring. (4) The tertian ring is usually pigmented before the chromatin becomes subdivided, while the chromatin of the estivo-autumnal ring is always subdivided before the appearance of pigment. (5) The infected cell is usually swollen from the moment of infection by the tertian spore and commonly shrunken when harboring the estivo-autumnal ring. The author interprets the larger forms of the tertian ring which are devoid of chromatin as sterile forms, and cannot accept the view that the chromatin entirely disappears at any stage of the fertile parasite. In specimens stained by methylene blue, the first demonstrable indications of the division of the parasite are seen in deeper staining capacity and tendency toward reticulation. After considering the arguments for and against plurality of species in the estivo-autumnal group of parasites, the author concludes that the evidence secured fails to establish any clinical or morphologic grounds on which to separate the parasites of pernicious malarial fever into 2 or more groups, and he further considers that the grounds are insufficient to warrant the classification of *Hemameba*

immaculata as a separate species of parasite. Furthermore, the arguments so far advanced seem, at best, merely to justify the opinion of other observers that pigment-free rosettes, as seen in the human subject, are an occasional form of the estivo-autumnal parasite. He finds that the nucleus of the malarial parasite belongs to the "distributed type" of protozoan nucleus, consisting of granules of chromatin, and, certainly in the older and possibly in all stages, of an achromatic substance in which the granules are imbedded. While the claim of Bastianelli and Bignami that the parasite possesses no "true nucleus," in the meta-zoan sense must be admitted, it exhibits, nevertheless, all the nuclear structures required in some protozoa. In specimens derived from fresh malarial blood, chromatin was never seen in the form of a filament, all elongated masses being invariably of granular structure. On the other hand, when exflagellation occurs with the human parasite, the chromatin becomes filamentous, figures representing monaster are produced and the chromasomes are extended as active flagella. It appears, therefore, that in the further cycle of the malarial parasite, division occurs by a very simple process which may be likened to amitosis, the only visible changes in the chromatin being subdivision and fusion. In another cycle of development, adapted for the extracorporeal growth of the parasite, division occurs by a modified form of karyokinesis, the chromasomes leaving the parent cell to fertilize other individuals. The full significance of crescentic bodies, even in the coccidia, has not yet been demonstrated, although the position of these bodies in the development cycle has been determined. There is evidence in the coccidia that some of the crescentic bodies represent the female element and require fecundation by the flagellum or male element in order to become fertile. Of the mode of origin of the crescents in man there is still nothing definitely known. With Nocht's method, however, the author has been able to demonstrate chromatin granules in the vast majority of crescents in all stages. That the young parasite during its passage from the parent rosette to the new red cell is sometimes caught in the plasma in both fresh and dry specimens is evident from the reports of various observers. The possibility of identifying such young forms in the fresh condition may, however, be doubted. The young parasites probably swim in the plasma for a very short time, and soon become attached to red cells. They remain attached to the cell for a while, but soon penetrate within, where their further development is completed, as has already been explained by Mannaberg. In 4 cases of tertian infection the author has encountered appearances in the blood that seem to admit of no other explanation than that of conjugation of malarial parasites has been accepted probably by a majority of clinical observers residing in temperate climates; but seems never to have gained uniform support from those who have studied largely in tropical climates, nor from comparative biologists. The strongest evidence in favor of plurality of species is found in the results of experiments on the inoculation of malaria, which, when properly controlled, have invariably produced the type of organism found in the specimen of blood used in the inoculation. Whatever may be the final outcome of the discussion it cannot be doubted that the 3 groups of parasites, quartan, tertian and estivo-autumnal, exhibited morphologic characters that are to a large extent immutable. Yet the 2 widely different forms—the estivo-autumnal rings and the crescents—are regarded as belonging to the same species, and the whole ground-work of a morphologic classification is found to be insecure on account of an extreme polymorphism observed throughout the entire group of protozoa. [J. M. S.]

2.—After tracing the fibers of the chorda tympani nerve in the submaxillary gland, Sihler came to the conclusion that the gland cells themselves are not supplied with nerve fibers, but that the terminal fibers are found on the capillary vessels just as in the case of the capillaries of muscular tissue, and that, therefore, those nerves of muscle that are analogous to the glandular nerves are not the motor nerves proper, but are those going to the capillaries. The author's histologic studies lead him to the conclusion that there is a vast peripheral network of fine nerves, co-extensive with the capillaries of the muscles and glands, which has connection with sensory nerves and into which motor nerve trunks also enter, and which he therefore looks upon as being both sensory and motor. These nerves,

so intimately connected with the capillaries, influence the protoplasm of their walls in such a way, that, according to the activity of the nerves, the transudation of lymph is increased or diminished. Further, they take cognizance of disturbances of a local or mechanical nature, and, in response to local causes of irritation, influence the capillaries of a part to pour out more fluid and act in the interest of the organ in question. As increase of lymph formation and vasodilation must, in the long run, go hand in hand, it would seem reasonable to suppose that the nerve fibers going from the capillaries to the arteries and veins may exert an inhibitory influence on the vaso-constrictors, or a stimulating one on the vasodilators, thereby a larger supply of blood is furnished to the irritated part. The author's investigations have led him to conclude that the motor nerve-endings of the muscles remain on the outside of the sarcolemma, and except that the surfaces where muscle and nerve come into contact are covered with a strong sheath of Schwann which has its own nuclei. What may be the exact condition of things at the points where muscle and nerve fibers are in actual contact whether the sarcolemma and neurolemma are wanting there, or perforations exist, or whether electrical phenomena observed in nervous activity can be used to explain the processes going on there—cannot at present be stated. The precise relation of muscle to nerve here is an unsolved and difficult histologic problem. [J. M. S.]

3.—In the case of a married woman, aged 54 years, who for the past 3 years had suffered from attacks of gall stone, operation was undertaken for the relief of the condition. The patient's condition became so critical while on the operating table that the gall bladder alone was emptied of stones and a biliary fistula made, the duct being left untouched. After the operation the discharge of bile from the wound was constant, the stools remained colorless and repeated tests failed to show bile acids in them. Joslin then instituted a series of experiments to determine the influence of bile on metabolism. The experiments were divided into 3 periods which were similar in all respects except that in the middle period the patient received 30 grams of dried ox bile daily. As a result of his experiments the author concludes: (1) That bile increases the digestion of fat when given by the mouth in pill form. The percentage of fat lost in the stools of the patient with complete biliary fistula was 63% in the first period and 57% in the third. Under bile medication the stools contained 23% less fat than in the first period and 17% less than in the third. In other words, bile increased the digestion of fat relatively by 50%. (2) That the digestion of nitrogenous food is improved by bile pills, when the amount of fat in the stools is large. Instead of an average of 15% being lost in the feces, but 7% escaped digestion during the 4 days the patient took bile. (3) That ox bile is a cholagogue. (4) That the effect of the bile on the bowels in this case was not remarkable, although they moved more satisfactorily during the bile period. (5) That urea and nitrogen were excreted in greater amount in the bile period than in either of the other periods. No definite conclusion as to the general effect of bile on body metabolism can be drawn from this fact that because more nitrogen was ingested during the bile period. (6) That the amount of urine was increased more than 50% during the bile period. Although the bile pills were coated with salol, the amount of that drug administered was not enough to produce this effect. On the other hand, in taking 30 pills daily the patient drank several extra glasses of water, and in the second experiment her general condition was naturally better than at any other time. [J. M. S.]

4.—Opie reports the case of a negress, aged 54 years, who died from diabetes mellitus. At the autopsy it was found that the pancreas weighed 80 grams, was soft in consistence and on section was of a gray-yellow color. Microscopically, it was found that the islands of Langerhans were the seat of a very remarkable change. In varying amount within almost every island there was a homogeneous material that stained with eosin. This hyalin substance at times lay in the midst of groups of cells, but was usually in contact with the walls of the capillaries penetrating the island, or next the peripheral fibrous tissue, and was therefore usually between the remaining cells and the capillary walls. The cells of the island were in large part replaced, so that between the hyaline particles only an occasional compressed fusiform or irregular nucleus

could be seen. The hyaline metamorphosis was strictly limited to the islands of Langerhans, the glandular acini remaining intact. In this pancreas, therefore, a lesion of obscure etiology has destroyed the cells of the islands of Langerhans, while those of the secreting acini, as well as those of other organs, are unaffected. The association of diabetes mellitus, the author believes, affords convincing proof that the islands of Langerhans are intimately connected with the glycogenic metabolism.—[J. M. S.]

THE PRACTITIONER.

March, 1901.

1. Etiology, Prophylaxis and Treatment of Malaria. PATRICK MANSON.
2. Malaria—Its Parasitology: with a Description of Methods for Demonstrating the Organism in Man and Mosquito. D. C. REES.
3. The Intermittant Fevers and Blackwater Fever. LOUIS W. SAMBON.
4. The Genus Anopheles. ERNEST E. AUSTIN.

1.—Patrick Manson discusses the etiology, prophylaxis and treatment of malaria from two points of view. First, the circumstances bearing on the introduction of the parasite into man; and second, the circumstances affecting the development of the clinical manifestations of malarial infection. Under the first head, he remarks that the knowledge that certain species of mosquito are the necessary media for malarial infection, has enabled us to completely and satisfactorily explain many facts which hitherto eluded us, such, for instance, as the long recognized association of malaria with high atmospheric temperature and paludal conditions. The danger of being out of doors at night in malarial countries is explained by the habits of mosquitos, which are mainly nocturnal. The value of the mosquito net and similar contrivances, of smoke, and of fire, as protections from malaria are explained by the circumstances that these things keep the blood-sucking insect at a distance. The etiology of malaria therefore, resolves itself in a great measure into the study of the natural history of certain species of mosquito. Especially the genus anopheles, which so far has been the only variety definitely proven to serve for the transmission for the parasite. The leading facts in the life of a mosquito are as follows: The egg deposited on still water floats on the surface or becomes attached to vegetation at the margin of the pool. In about two days a minute larva is hatched out and at once proceeds to feed greedily upon the organic materials suspended in the water. It grows rapidly and finally assumes the pupa form from which the perfect insect presently emerges. The duration of aquatic life varies with different species and is affected by the temperature of the water. In cold weather the development is entirely suspended. This hibernation of the larva is one of the ways by which the cold season is bridged across and the species carried over from summer to summer. The insect remains quiet during the day, feeding at night. The male is in most instances purely phytophagous. The female anopheles even in confinement will accept a meal of blood every 2 or 3 days. About 20 days after birth she deposits some 150 or 200 eggs, an operation repeated every few days so long as conditions are favorable. The entire cycle from egg to egg occupies about 50 days. It is calculated that a single female will give rise in four generations to a progeny of two hundred million. In confinement the mosquito has been kept alive for 2 months. Man is the great source from which the mosquito obtains the parasite. Under his second head, dealing with the circumstances affecting the development of the clinical manifestations of malarial infection, Manson mentions the important consideration of age, the young being especially susceptible, individual susceptibility innate or acquired, and such accidental occurrences as make for physiological depressions. Very few individuals are absolutely immune to the disease. Discussing the prophylaxis of malaria, Manson takes up the question of: first, suppression of mosquitos; second prevention of infection by mosquitos; and third, prevention of infection of mosquitos. Under the first head he discusses the abolition or, the prevention of, the formation of the special type of pool in which these insects breed. Subsoil drainage should be practiced wherever possible. The painting of stagnant water with petroleum is also mentioned. The prevention of infection of mosquitos should be secured by insisting that all malarial patients should

use mosquito net, at the same time endeavoring by the vigorous and persistent use of quinine, to remove the malarial gametes from the blood. Lastly, he discusses the value of preventing mosquito bites, and details the various experiments of Sambon and Low, Celli, Grassi and the Red Cross of Italy. These show very much can be done to prevent malaria in individuals living in notoriously malarious counties. He does not believe that Koch's method by drugging an entire community with quinine is feasible. As to treatment, quinine is the only reliable drug. He seems favorably impressed with the value of equinine. [T. L. C.]

2.—D. C. Rees has made a careful study of the parasitology of malaria, and presents an historical account of the development of our knowledge. The malarial parasite is now regarded as belonging to the class sporozoa, and closely connected with the coccididae. English observers have grouped the malarial parasites of man with those of birds into a separate sub-order, the hemamebidae. He presents a clever schematic illustration of the phases of development of the endogenous and exogenous life cycles of the malaria parasite. A convenient table is included in the article, showing the nomenclature employed by various writers for describing the stages of development of the malaria parasite. The technique of the demonstration of the malaria parasite in the blood is also given in great detail, and the author describes his method of breeding, transporting and infecting mosquitos. [T. L. C.]

3.—Lewis W. Sambon contributes a paper upon the intermittant fevers, and black-water fever. Under the phenomena of the paroxysm he describes the three distinct stages, the cold, hot and sweating stage, and presents a detailed account of the correlation of the parasites and the course of intermittant fevers. Especially interesting in that part of his paper devoted to multiple and mixed infections, in which he considers: 1, infection with several groups of the same species of parasites; 2, mixed infection, with a parasite of two or more types of intermittant fever; 3, complications with other diseases. Under this latter head he states that we now know positively that there is no such thing as a true "malarial pneumonia," but a pneumococcus pneumonia may occur in the course of a mild tertian or quartan infection. Siriasis may become a very grave complication of intermittant fever, and multiple neuritis may develop after an attack of intermittant fever. Black-water fever is described by Sambon as an acute infectious disease characterized by a sudden and intense hemolysis and clinically marked by irregular paroxysmal fever accompanied by rigors, bilious vomiting, jaundice and hemoglobinuria. In considering the etiology of black water fever Sambon concludes that the symptoms, the postmortem findings and the epidemiological features of animal fevers (referring to a hemoglobinuric fever found in sheep and other animals, in which an exceedingly minute parasite is present) are exactly like those of the hemoglobinuric fever of man. It is therefore quite reasonable to infer that black-water fever may be due to a protozoal organism akin to that of cattle red-water fever. We have as yet no remedy known to be of the slightest value in black-water fever. Sambon recommends a moderate dose of calomel followed by irrigations of the colon. He places more dependence upon the irrigations. Plenty of water may be allowed. In general the treatment is symptomatic. [T. L. C.]

ARCHIVES OF PEDIATRICS.

April, 1901. 18th Year, No. 4.

1. The Blood in Infancy and Childhood. ALFRED STENGEL and C. Y. WHITE.
2. Enteric Fever in Childhood. Wm. L. STOWELL.
3. An Unusual Case of Erythema Multiforme. FLOYD M. CRANDALL.
4. Decubital Ulcer in an Infant of Ten Months. VAN DERPOEL ADRIANCE.
5. Apparent Cure of a Case of Frequent Convulsions. Probably Epilepsy. ANNA R. LAPHAM.
6. A Case of Head-Nodding Associated with Spasmodic Torticollis. JOHN H. JOPSON.

2.—William L. Stowell reports 24 cases occurring in 19 family groups. Sixty-one cases of typhoid fever in children, of which the author believes that in many cases carelessness in the home caused the spread of the disease rather than an identity of origin. The youngest patient was 9

years old. The convulsions were not frequent, nor was delirium a constant symptom. Apathy and mental dullness are common in children, even the very young. Headache was often present, perhaps more in those with high temperature than in those without. Epistaxis is very common, usually during the first week. It is sometimes one of the very first symptoms and relieves the early headache. In 2 cases there was an almost universal eruption, which appeared about the time the temperature had reached its height. Beside the rose spots there may be other eruptions, such as erythema, herpes or sudamina. The compressibility and non-resistant qualities of the pulses are diagnostic. Both leukocytes and erythrocytes are diminished in number. If pneumonia sets in as a complication there is usually a great increase in leukocytes. The hemoglobin is greatly reduced, ranging from 25% to 60%. In 95% of cases the serum reaction is positive. Tympanites is less common in children than in adults. Gurgling at the iliocecal valve cannot be counted a diagnostic point. Excessive tympany is usually a precursor of death. If it develops very suddenly the possibility of perforation should be borne in mind. The author has not had a case of perforation in a young child, and from his experience he would infer that the hemorrhages are more common and more likely to be fatal in adults. Children are prone to be constipated during the first week, and usually have from 1 to 3 loose stools daily during the second week. Diarrhea was noted in 32.6% of the cases. A majority of these cases presented tender and enlarged spleens. Albumin was absent as a rule, but the diazo-reaction was found to be a helpful diagnostic test. Complications of typhoid fever in children include varicella, parotitis, pneumonia, intestinal hemorrhage and perforation of the bowel. Three of 77 cases, 16 of which were adults, had relapses. The average duration of the disease was 23½ days. The mortality in 61 children was nil. Milk diluted with vichy, seltzer or lime water and, if the fever is high, partly peptonized, is the best diet. Lemonade, iced coffee and iced cocoa may be used freely; ice cream is also allowed. Intestinal antiseptics is of prime importance. Salol is the author's favorite drug; but he has also had good results from the use of the well-known tablets of podophyllin, calomel, guaiacol, menthol, etc. He has never aborted a case thereby. During the third week, the soft compressible pulse of a flagging heart needs help; strychnine, digitalis, camphor and ammonia may be used for this purpose. He does not give alcohol to children; although he uses liquid peptonoids freely. Occasional doses of antipyretics may be given in certain cases and be very helpful; but their effect on the circulation should be watched. Children do not show the same benefit or even tolerance of tubing that adults do, and the author relies on sponging. [J. M. S.]

3.—Floyd M. Crandall reports the case of a boy, aged 8½ years, who had been healthy, but who became ill with fever and sore throat. On the fourth day of the disease a **multiform erythematous rash** had developed that involved the entire body. A culture made from the throat was contaminated but contained no diphtheria bacilli. Recovery was complete and there has been no recurrence. [J. M. S.]

4.—Vanderpoel Adriance reports a case of duodenal ulcer in an infant, 10 months of age. The diagnosis was confirmed at autopsy. [J. M. S.]

5.—Anna R. Lapham reports the case of a girl, aged 2 years and 4 months, who had **frequent convulsions**. During a 3 weeks' residence in hospital 387 attacks are recorded. The child's father was nervous and her mother was a neurasthenic. The mother, in addition, had convulsions when a child of 3, which were followed by paralysis. Treatment by bromides, tincture of *passiflora incarnata*, trional and codeine had reduced the number of the convulsions, when the mother took the child away. The convulsions immediately returned and a paresis developed. Later, the child was sent to the country and all medication was abandoned, and under the care of a trained nurse who regulated the patient's diet the convulsions and the paresis disappeared and the child has been well for months. The author believes that the etiology of the condition is traceable to a **toxemia due to intestinal ptomaines**, although there was a history of a fall. Of course, heredity must have played some part in the development of the condition. [J. M. S.]

6.—John H. Jopson reports the case of a female infant, aged 11 months, who presented **spasmodic torticollis** due to right-sided contraction of the sternomastoid muscle, ac-

companied by **head-nodding**. One month before the patient was seen, she had fallen down stairs and the following day developed a bronchitis. The torticollis and head-nodding were noted after recovery from the attack of bronchitis. The condition improved under treatment by small doses of tincture of belladonna. [J. M. S.]

JOURNAL OF NERVOUS AND MENTAL DISEASE.

March, 1901. [No. 3.]

No. 1. The Amelioration of Paralysis Agitans and Other Forms of Tremor by Systematic Exercise.—JOHN MADISON TAYLOR.

No. 2. A Case with Symptoms of Cerebro-spinal Meningitis, with Intense and General Alteration of the Nerve-Cell Bodies, but with Little Evidence of Inflammation. WILLIAM J. SPILLER.

No. 3. A case of Muscular Dystrophy. CHAS. GILBERT CHADDOCK.

1.—Taylor has studied the effects of systematic exercises and massage in various cases of **paralysis agitans**. He reports in detail one case. A man of 52 had been afflicted with the disease for about 7 years. The rigidity gradually became so extreme that the only voluntary motion preserved was the festinating gait. There were pronounced contractures in the tissues of the trunk and neck, and exaggerated cervical and dorsal curvatures of the spine; even the power of articulate speech was lost. The exercises were continued for six months, and consisted of massage of the thickened rigid skin, passive extension of the contracted muscles, and gradually increased voluntary movements. There was at first considerable pain, then tingling, and finally a pleasurable sensation after the exercises. The patient was able to write and to speak, and was also capable of performing light tasks. Taylor believes that the points to be observed in this form of treatment are the re-establishment of the largest degree of elasticity in the tissues which have suffered contractures, which should be obtained by passive extensions and flexions followed by active movements. As far as possible the normal attitude and carriage should be restored. [J. S.]

2.—The patient, a boy of 8, an idiot with spastic gait, was suddenly attacked with fever, pain and diarrhea. He developed photophobia, hyperesthesia of the skin, sluggish reaction of the pupils, which gradually gave way to immobility of the pupils and retraction of the head. He developed coma and died, 6 days after the appearance of the first symptoms. At the autopsy a petechial eruption was observed on the thighs; there was edema of the brain, no distinct evidences of inflammation of the membranes, and miliary tubercles. The internal organs were apparently normal. Microscopically no evidence of inflammation of the nerve tissue was discovered, but extensive degeneration of the nerve cells in the entire central nervous system. There was a slight round celled infiltration of the pia mater of the spinal cord. This condition has been reported in two other cases; one published by Spiller and McCarthy, was a case of internal hemorrhagic pachymeningitis in an idiotic child, and the other by Hirsch and Sachs, a case of amaurotic family idiocy. Numerous bacteria were found in the nervous tissue, which were probably present before death. It is not certain that this is a case of intoxication. [J. S.]

3.—The patient, a man of 39, without a significant family history, had never been able to whistle. At the age of 15 he first noticed that he was not able to close his eye-lids completely. At the age of 24 there was distinct weakness of the right arm, which gradually extended to the left arm. Nevertheless, he was able to continue his occupation of machinist. Finally, however, increasing feebleness compelled him to give up that occupation. His present condition is one of muscular wasting, involving the muscles of the face, with the exception of the muscles of mastication, the shoulder, the arms and the thighs. The fore-arms, legs and abdomen are fairly well preserved. The weakness on the right side is greater than that on the left side. There is very marked emaciation, and the muscles that are still normal in size have a curious wooden-like consistency. The patient has evidences of senility, that is to say, there is an arcus senilis, and he has suffered from presbyopia for several years. [J. S.]

EDINBURG MEDICAL JOURNAL.

March, 1901. [Vol. LI., No. 549.]

1. Psychoses following Pelvic-Abdominal Operations. J. HALLIDAY CROOM.
2. On the Formation of Crystals, Dendrites, and Spiral Structures, in relation to Growth and Movement, especially Rhythmic Movements. J. PETTIGREW BELL.
3. On the Prognosis of Acute Disease. R. HINGSTON FOX.
4. Some Recent Researches on Alcohol; their Bearing on Treatment. J. MACKIE WHYTE.
5. Pernicious Anemia—With an Analysis of Eighty-seven published Cases, and an Inquiry into the After-History of Twenty-two reported Cures. HORACE C. COLMAN.

1.—Croom reports several cases in which mental disturbances occurred after gynecologic operations, which were uncomplicated and simple, and in which the operation *per se* was entirely successful. In another group of cases major operations were performed. The cases developed in women who, so far as could be traced, had no hereditary tendency to insanity. Undoubtedly the first factor in the production of post operative insanity is heredity; the second, is sepsis; and the third group of causes, such as loss of blood and defective action of the kidneys. It seems probable that the essential prerequisite for the development of postoperative insanity must be a neurotic organization predisposed, either from hereditary taint or acquired nervous weakness and instability, to take on diseased or perverted action in consequence of any disturbing influence. Under no circumstances ought any insane woman to be operated upon unless for some distinct condition that is compromising life. [J. M. S.]

3.—A benign acute disease is one in which the natural tendency is towards recovery and in which our efforts are directed to keep the patient alive until the disease has subsided. In such cases the nutritive condition and the state of the blood and the tissues are the really dominant factors in the maintenance of life. On the other hand, there are cases of acute disease that do badly from the outset and progress steadily until life is destroyed. As simple examples of this class, we may take acute tuberculosis and the acute form of ulcerative endocarditis. Such acute diseases are malignant by their very nature. There are other disorders which, although benign in some subjects, are malignant in others, such as erysipelas in the old and feeble and acute catarrhal pneumonia in debilitated persons. The diagnosis between the benign and the malignant forms of the same acute disease is then of great importance. The malignancy may depend in some cases upon the varying virulence of an infective disorder in different outbreaks, such a disease as scarlatina, or even measles appearing sometimes in a severe form, and proving fatal to the healthy. But more commonly in the case of an ordinarily benign disorder, the malignancy is due to bad reaction on the part of the subject. A true diagnosis is the first condition of prognosis. Inheritance has much bearing on prognosis. Some families show a poor vitality, and when an epidemic disease attacks the children, they die off rapidly. In other stocks the physique may be far from robust, and yet the members are tough and pull through illness successfully. The history of the patient has an obvious bearing, for example, alcoholism hinders recovery from every kind of acute disorder. Other factors that Fox considers as having a bearing on prognosis are, general physique and habits, temperament, the condition of the circulatory organs, the respiratory organs, the digestive organs, the skin and the kidneys. [J. M. S.]

4.—Whyte believes that recent researches show that the stimulant effect of alcohol on the brain, the heart, and the muscles, if existing at all, is very brief, lasting probably only a few minutes. The apparent effect of the drug in stimulating respiration needs further investigation as to its mode of causation. On the tissues, alcohol acts as a protoplasmic poison, and this must be borne in mind if we are to use alcohol for its nutritive value. Clinical observation has been, on the whole, moving along parallel lines with the researches in the laboratory, and there has been a marked tendency in recent years to restrict the administration of alcohol as a medicine. As regards the whole class of diseases of the nervous system, there are few who would

expect any benefit from alcohol except of a sedative or narcotic character. The great mixed mass of mental diseases, as found in asylums, are best treated without alcohol, whatever the cause or nature of the case. In some cases of simple dyspepsia a little alcohol with a meal, well diluted, is found to give relief often, no doubt, through its sedative action on the nerves or it may be by increasing the secretion of gastric juice and thus aiding digestion. Other gastric conditions, such as catarrh and ulcers, as well as all intestinal disorders, are better treated without alcohol. Liver disorders are probably in all cases prejudicially influenced by alcoholic beverages. In kidney diseases of all kinds alcohol should be rigidly withheld. In no class of diseases is alcohol more generally considered indispensable than in septic cases, puerperal fever particularly its value is questioned. Alcohol is recommended in croupous pneumonia as a food and as a stimulant. The brief stimulating effect of alcohol, such as it is, is to be measured by about 15 minutes, after which comes a prolonged period of depression. The food value of alcohol in pneumonia need hardly be taken into account. These facts should give pause to the employment of alcohol in this disease. The complication of pneumonia with inebriety is very grave, and it has been a widely accepted dictum that alcohol must be given in such cases; but it has been proved best in cases of delirium tremens or habitual alcoholism to stop the alcohol at once and completely, therefore why should it be continued where an infectious disease is engrafted on an intoxication. [J. M. S.]

5.—Will be abstracted when concluded.

BRITISH GYNECOLOGICAL JOURNAL

February, 1901.

Inflammation of the Fallopian Tubes.

E. STANMORE BISHOP.

1.—Bishop gives a comprehensive paper on inflammation of the Fallopian tubes with illustrative cases. He remarks that ever since it became possible to diagnose salpingitis as distinct from inflammations of the pelvic connective tissue it has been recognized that in certain cases suppuration occurs; that the pus thus formed distended the closed tube; and that the tube thus became converted into an abscess-sac of which the ovary might or might not be a part, the presence of which was a continuous menace to the life of the patient. For the removal of this pus-cavity operators have been divided as to which operation is the best, the vaginal or the abdominal. Those in favor of the vaginal route claim that the tube tends to sag downward from its own weight into Douglas' pouch, and can most easily be reached by a posterior kolpotomy. An opening thus made gives vent to the purulent accumulation and permits of its free escape without interfering with the contents of the abdominal cavity. Bishop, however, claims that various improvements in the abdominal operation have rendered that the operation of choice. Especially is this true of the Trendelenberg position. The increased view of the field enables the operator to proceed more cautiously and more correctly. Also, the doing away with the drainage-tube has removed the most potent cause of subsequent ventral hernia. His illustrative cases are of the severe type, and show the conditions for which the surgeons should be prepared who propose to attack a case of pyosalpinx by the abdominal route. [W. A. N. D.]

ARCHIV. FUER EXPER. PATH. UND PHARM.

[Band XLV., Heft 3 und 4.]

1. Investigations concerning Nuclein Metabolism. By LOEWI.
2. Concerning Compensation in Mitral Lesions. By GEKHARDT.
3. Concerning Diuresis. Third Communication Concerning the Relations Between Plethora and Diuresis. By MAGNUS.
4. Concerning Diuresis. Fourth Communication Concerning the Relations Between the Renal Circulation and Diuresis. By GOTTLIEB and MAGNUS.
5. Concerning Diuresis. Fifth Communication. The Relation Between the Ureteral Pressure and Diuresis. By GOTTLIEB and MAGNUS.
6. The Behavior of Theobromin in the Organism of Man. By KRUGER and SCHMIDT.

7. A Case of Protozoan (Coccidian?) Disease of the Intestine. By GRUNNO.

8. Investigations Concerning the Depressing Effects upon the Temperature of some Convulsive Poisons. By HARNACK, assisted by H. DANNIAR and J. STARKE.

1.—Loewi presents a series of investigations concerning nuclein metabolism. His conclusions are that the nucleins of the food are partly broken up in the intestine, the phosphoric acid of the separated portion being excreted in the feces while the nitrogenous portion is absorbed. The major portion of the nuclein is, however, absorbed in toto, the phosphoric acid remaining in organic combination. It is possible by feeding nucleins to cause a nitrogen and phosphoric acid retention in the same ratio in which these substances are contained in the ingested nucleins. The addition of nucleins to the food, under some circumstances, increased the retention of nitrogenous substances and also of phosphoric acid. With the exception of uric acid no specific nitrogenous or phosphorous-containing end products of nuclein destruction appear in the human urine in recognizable amounts. The ingestion of guanin, combined with nuclein, results in marked increase of the uric acid excretion. The uric acid excretion is normally purely dependent upon the food taken. The observation concerning the influence of nucleins in causing a nitrogen and phosphoric acid retention is a very notable one, and one that is very difficult to explain. It is an observation that is supported, however, by the work of other observers referred to, the only contrary results being found in the work by Milroy and Malcolm, who found a loss of nitrogen and of PO. The preparation they used was, however, probably toxic in its effect, and the condition was therefore not caused by the nuclein itself. The statement that uric acid is the only end product of nuclein disintegration found in the urine is based upon coincident observations of the nitrogen, uric acid, and P O. excretion. There were no determinations of the amount of xanthin bases, and it is quite possible that these bases may have been present in considerably larger amounts than normal. The final conclusion that the uric acid excretion is normally dependent purely upon the food is in direct opposition to the recent statement of Burian and Schur, who insist that there are in normal persons decided differences in the amount of uric acid excreted; that there is, in other words, an individual disposition observable in relation to the uric acid excretion. Loewi criticises the statements made by Burian and Schur, which are certainly contradictory in many particulars, and are rather strongly fenced about with conditions. Loewi's own statement is based upon his observation of three persons who were excreting practically the same amount of nitrogen and the same amount of PO. The uric acid in these persons was directly proportionate to the nitrogen ingestion. He insists, therefore, that if normal persons are put under exactly the same conditions of metabolism, the excretion of uric acid will be practically exactly the same in all normal individuals. [D. L. E.]

2.—Gerhardt's article refers to the question whether in cases of mitral lesion the enlargement of the right heart is really a compensatory change, or whether it is purely a result of the extra work thrown upon the right heart. Basch and his students claim that the right heart does not compensate for the mitral lesion, but that it merely hypertrophies in order to carry out properly the extra work which has been thrown upon it and to keep from failing in its own work. The three questions which Gerhardt attempts to answer in this connection are: First, Whether, as Basch states, swelling and rigidity of the lungs constitute the chief unfavorable results of the mitral lesion or whether the most important unfavorable influence is really imperfect flow of blood into the left ventricle; second, What means are there for increasing the flow of blood into the left ventricle; third, can increased labor on the part of the right ventricle actually increase to the normal point the blood pressure in the larger circulation, which in mitral cases is below the normal. Gerhardt has carried out experiments which he details at length, and which convince him that while there is some actual reduction of the amount of air inspired when the pulmonary vessels are over-full, this is so slight that it is by no means sufficient to explain the severe respiratory disturbance which is seen in cases of mitral disease. The real cause of the disturbance of respiration, and of the other main symptoms in mitral lesions, he thinks must be considered to be imperfect supply of

blood to the various organs. Compensation of the mitral lesions would therefore be furnished if the disturbance of the blood flow through the mitral orifice were in any way improved. The only way in which the blood flow could be improved would be through increasing the pressure in the auricle as compared with that in the ventricle. Gerhardt thought that it was possible that the suction action in the left ventricle was sufficiently increased in cases of mitral stenosis to succeed in some degree in compensating for the lesion. Were this the case, one would expect some degree of hypertrophy of the left ventricle, even in pure mitral stenosis. This he was unable to show. It is well known, however, that the auricle itself does hypertrophy, and this furnishes some compensation; it is only an imperfect compensation, however, particularly in stenosis with regurgitation, and the auricle soon fails in carrying out the work put upon it. He reports another series of experiments in which he largely increased the pressure on the right side of the heart, and consequently in the pulmonary vessels, and determined the pressure in the larger circulation (in the carotid). He found that the carotid pressure could be distinctly increased by increasing the work of the right ventricle, though the increase in the carotid pressure was much less than the increase in the pressure of the pulmonary arteries; he decides that increased work on the part of the right ventricle can to some extent compensate for a mitral stenosis, and he believes that the hypertrophy of the right ventricle seen in these cases is a real phenomenon of compensation. Another way, and this is evidently purposeful, in which the flow of blood through the mitral orifice is made more complete, is by slowing the heart beats. One may frequently observe in mitral stenosis that the pulse is unusually slow. As a general conclusion, he states in which the flow of blood through the mitral orifice is made more complete, is by slowing the heart beats. One may frequently observe in mitral stenosis that the pulse is evidently purposeful. As a general conclusion, he states that one may consider the changes seen in the right ventricle to be actual compensatory changes, and although there are certain unfortunate collateral results connected with these compensatory changes, he does not believe that the most important alterations seen in mitral lesions are swelling and rigidity of the lungs, and the consequent interference with respiration. The changes in the lungs are rather due to changes in the vessel walls resulting from the constant high pressure in these vessels. [D. L. E.]

3.—Magnus refers to the work that has already been done, particularly by Starling. The latter author attributes the diuresis seen after injection of salt solutions to the plethora supposed to be produced by these injections. Magnus believes, on the contrary, that his experiments do not justify this conclusion, and that the diuresis is rather due to a change in the constitution of blood after the injection; that the diuresis is due, in other words, not really to the injection of fluid, but to the amount of salts introduced into the blood. In order to study this question further he made transfusions of blood itself, of the same species, without defibrinating. He found that transfusing from 33 per cent. to 70 per cent. of the entire quantity of blood contained in one dog into another, resulted in no serious symptoms. Urine was excreted in just about the same amount after the transfusion as before; in only one instance was there any notable increase in the urine. Hence he decides that transfusion causes either no increase in the urine or an extremely slight increase that is not worthy of any attention. He then raises the question as to whether there was really an increase in the total quantity of blood after the transfusion, or whether a good deal of the fluid passed into the tissues. He answers this question by reporting hemoglobin estimations which he made before and after transfusion. The total amount of blood in the animal was taken to be 7 per cent. of the body weight, and reckoning the total amount of blood before and after the transfusion, and taking the hemoglobin contained in the blood before and after, he decided that there was a decided increase in the amount of blood, though this was not fully equal to the quantity injected. The increase in the amount of blood varied: the smallest increase was from 100 up to 117, the largest from 100 up to 195. He believes, however, that the tables presented show that there was an actual increase in the amount of blood, in other words a plethora and that this did not increase the excretion from the kidneys. He believes that the explanation of the apparent passage

of a portion of the fluid into the tissues must be found in filtration. The blood was the same as that of the animal injected, and diffusion or osmosis can therefore not be made answerable for the phenomenon. There is no reason for considering that there is any such thing as an increased secretory power of the capillary cells, consequently filtration is the only explanation. It was remarkable how rapidly this filtration took place. The effect of the transfusion was to raise the blood pressure greatly, the arterial pressure going from 100 to 150, and the venous pressure showing as marked a change as from 60 to 160 within 10 minutes. The question as to whether the capillary pressure in the kidneys was raised in this general increase of pressure was investigated by means of the onkometer. There was a distinct increase in the volume of the kidneys which gradually increased to the normal. This does not demonstrate definitely, however, that there was an increase in the capillary pressure, but it does demonstrate a general increase of pressure, and shows that there is no vaso-constriction of the kidneys in transfusion. To demonstrate that change in the composition of the blood will cause increased diuresis after injections of salt solutions, animals were given first an injection, a solution of Glauber's salts, and directly afterward a transfusion of blood. In these cases there was a marked increase in the urine excretion. The general conclusions reached were that transfusion, without changing the constitution of the blood, causes a marked plethora with increase of the arterial, venous and capillary pressure, and in the general volume of the kidneys. This is associated with the passage of fluid into the tissues, but not with diuresis; while with a change in the character of the blood diuresis follows. Plethora cannot be considered to be the cause of the diuresis after injection of salt solution; the diuresis is rather due to change in the constitution of the blood. [D. L. E.]

4.—Gottlieb and Magnus conclude that in some cases there is no very marked parallelism between diuresis and changes in the kidney circulation. This is chiefly seen when the diuretic acts rapidly and temporarily, while if the action be prolonged or frequently repeated, this relation between circulatory changes and diuresis is not observed. Diuresis may occur without any increase in the blood flow. In some animals after a single dose of the diuretic the excretion of urine and the amount of blood flowing through the kidney were not parallel. This was chiefly the case in chloralized animals, and was perhaps due to the influence of the chloral. They observed, on the contrary, that increased readings of the onkometer were seen without a coincident diuresis. They therefore conclude that there are very complicated relations between the activity of the kidneys and the circulation through these organs, and that their experiments do not allow them to conclude that there is any casual relation of increased circulation to increased diuresis, and the changes in the circulation cannot be considered to be *primum movens* for the diuresis. The conclusion, which they believe is justified, is that rapid circulation through the kidneys is as a rule an accompaniment of active functioning of these organs, and a free circulation is usually associated with free diuresis, but a large amount of blood in the kidneys does not always mean a very marked activity of these organs. They conclude that the diuretic effect of caffeine is due to the influence of this drug upon the secreting apparatus of the kidney, and not due to its influence upon the circulation and the kidney. Finally, they state that the cause of diuresis is really in the first place in the increase of one or more of the blood components above a certain point. This occurrence results in the active secretion by the kidneys of the excess, and this is accompanied by the excretion of considerable portion of water carrying these portions in solution. They think that it is possible that the diuresis in such instances occurs merely passively without any special cell action, and that the kidneys really act as a filter which works only when the concentration of the blood goes above a certain point. This is, however, very improbable. It is much more probable that there is a marked selective activity of the kidney cells, which is greatly increased in normal subjects by any increase in the blood concentration. [D. L. E.]

5. After detailing their experiments, the authors discuss their results, and state that during diuresis there is very frequently to be observed a decided increase in the ureteral pressure and this is certainly due to the diuresis when it occurs, but exactly in what way it is caused is not

clear. The fact that increase of the ureteral pressure does not occur regularly with diuresis indicates that there are complicated relations between the two. It is certainly not due directly to changes in the blood pressure. It is more probably dependent upon the excretory activity of the kidneys and the suction filtering action of the organ, and therefore dependent upon two variable factors. They think it is very probable that there is a relation between pressure in the ureters and the activity of the secretory elements of the kidneys. [D. L. E.]

6.—The authors refer to the fact that 3-methylxanthin has not previously been found in human urine, even when Krueger and Salomon determined the xanthin bases present in 10,000 liters of urine. Hence they decided that theobromin did not produce 3-methylxanthin in man as it does in animals, or that in the hospitals from which the 10,000 liters of urine were obtained the patients were receiving food that either contained no theobromin, or contained so little that it had no influence upon the constitution of the xanthin bases found. The investigations reported here showed, however, that after taking 9.3 grams of theobromin, 1.513 grams of heteroxanthin were obtained, and 0.796 grams of 3-methylxanthin; in other words, that theobromin in man furnishes for each 100 parts about 8.56 grams of 3-methylxanthin, and probably even more; hence the human organism behaves in the same way toward theobromin as do the organisms of lower animals. [D. L. E.]

7.—The case reported was that of a man of 61 who had emphysema, bronchitis, arteriosclerosis, with diarrheal attacks and associated with marked distension of the abdomen, but unassociated with either tenesmus or the passage of mucus and blood. Microscopic examination showed great numbers of coccidia-like bodies. The patient's condition was somewhat improved by giving him yeast, but he was made worse by calomel. No further special medication was undertaken in connection with his intestinal trouble, as his general condition would not allow of active intervention. Death soon occurred. The post mortem showed some injection of the mucous membrane of the intestine with occasional ecchymoses, and slight swelling of some of the follicles. The patient died of edema of the brain and encephalomalacia. The bodies described are very attractively pictured in an accompanying illustration. They were usually from 6 to 8 micrometers in diameter, the largest being 12 or 13 micrometers in diameter. There was a slightly greenish shining homogeneous body with a delicate capsule; the body was round, and occasionally seemed vacuolated. Some of the bodies showed nuclei and some did not. Occasionally two nuclei could be seen. At times there were two bright points seen on the periphery diametrically opposite to each other. These strongly resembled the polar bodies seen in karyokinesis. Lugol's solution had no effect, and the bodies took stains in general, badly. Methylene blue gave a poor stain, but a much better stain was obtained with carbolfuchsin. Hematoxylin gave imperfect results. Sections from the intestine showed the bodies to be present in the lumen and in the mucosa, but only near the surface of the latter. The bodies seemed to be coccidia, but this could not be definitely determined. They were thought to be most probably, however, coccidia *blumina* because of their general appearance and the position in which they were found. Their pathogenicity was doubtful, but it was thought that they were pathogenic because of the fact that some histological changes were nearly always found in the areas where they were present in considerable numbers. This chiefly consisted in loss of epithelium, flattening of the cells, and frequently marked infiltration with leukocytes. [D. L. E.]

8.—Harnack contributes an extensive report that is of general interest only in so far as it shows that santonin reduces the rectal temperature through increasing the heat loss, and that the latter is due to dilatation of the peripheral vessels. The alteration of the vessels is constant, and coincides with the depression of temperature. The fall of temperature does not occur if increase of the blood loss is prevented, and if the heat loss is not increased. The fall of temperature is not occurred if the vaso-dilating effect of santonin is antidoted by the administration of atropine. The action of santonin is more complicated when doses are given of such a size that they produce convulsions, as in such cases much more heat is produced. The result then depends upon individual factors, such as age, size, and the species of animal. In young or small animals, in spite of protracted convulsions subnormal temperature, is found to be persistent. The effect of santonin is much more dangerous when increased

loss of heat is rendered impossible by keeping the animal in a high temperature. It therefore seems probable that the increased heat loss is a method of protecting the organism against the effect of the convulsive poison. [D. L. E.]

DEUTESCHES ARCHIV. FUER KLINISCHE MEDICIN.

December 21, 1900. (Vol. 69, Heft 2).

1. Intermittent Biliary Fever. PICK.
2. Gas-formation in the Liver. KERSCHENSTEINER.
3. The Examination of Methylene Blue. ELSNER.
4. Clinical Investigations Upon the Circulatory Organs in The Early Stages of Syphilis. GRASSMANN.
5. A Case of Progressive Muscular Dystrophy Complicated by a Neuritic Affection of the Serratus Together with a Contribution to the Analysis of the Paralysis of the Shoulder, according to the Method of Mollier. KAUFMANN.
6. A Case of Acne Telangiectodes (Kaposi). JESIONEK.
7. Experimental Studies upon Contusion of the Breast. REINEBOTH.
8. Experimental Investigations upon the Origin of Gouty Tophi. STRUPPLER.

1.—Pick reports the following cases. The first, a woman of 29, who had been sick for a year with slight jaundice, had chills followed by fever, sometimes with, sometimes without pains in the abdomen, and appearing at regular intervals. In a period of 6 months 46 of these attacks occurred. Subsequently there was apparently complete obstruction of the bile ducts, ascites and death. A gallstone was found that had been impacted in the common duct, and had broken through into the duodenum. There was biliary cirrhosis of the liver. The second patient, a woman of 53, had an attack of typhoid fever in 1892, then had severe pains in the abdomen followed by the passage of numerous faceted gallstones. The liver was slightly enlarged, and at intervals of 2 or 3 days she had attacks of chills followed by fever, and usually accompanied by abdominal pain. The liver was enlarged, and there was slight jaundice. Subsequently she improved, and became entirely well. Careful investigations of the urea in this case showed that during these attacks it was diminished, apparently as a result of diminished formation, although according to the present status of the ammonia theory this could not be positively proved, because neither the ammonia nor the total nitrogen was diminished. It seems therefore reasonable to conclude that the products of the albuminous metabolism are not conveyed to the liver in the form of ammonia salts but in some other form which cannot be excreted by the urine. In regard to the diagnosis of intermittent biliary fever Pick gives the following points. The regular intermittent fever; the prolonged course; the absence of any signs of acute inflammation; particularly the absence of leukocytosis during the attacks, and the very marked reduction in the elimination of urea in the urine, which is contrary to the usual marked increase during febrile conditions. The prognosis is rendered very grave by the occurrence of this form of fever, but not hopeless. The most unfavorable complication is the development of biliary cirrhosis. [J. S.]

2.—The patient, a woman of 74, had suffered for 15 years with pain in the right hypochondrium. Nevertheless she had remained in good health. One morning she awoke with nausea, and vomiting of blood. This was repeated; the patient rapidly became weak, and died in the course of the day. The autopsy was made 32 hours later, and there was found bilateral lobular pneumonia, parenchymatous nephritis, hemorrhagic and biliary cirrhosis of the liver, and marked cystitis. In addition the liver was spongy, crepitant, contained numerous fine bubbles of gas and showed the characteristic changes of cirrhosis; microscopical examinations revealed numerous short rod-shaped bacteria that upon cultivation proved to be the bacteria coli communis, proving that gas-formation can be produced by various microorganisms. [J. S.]

3.—Elsner has performed a very elaborate series of experiments in order to determine the amount of methylene blue that is excreted from the body. The blue was administered and then the amount excreted in the urine and intestines determined by colorimetric methods. These are necessarily somewhat inexact, but control showed that they were accurate enough to determine within a few per cent. In 4 cases it was found that the total quantity excreted averaged about 68% of the quantity ingested. The

remaining methylene blue is probably either decomposed by bacteria or retained in the body. This is particularly likely to be the case if there is any dead tissue near, as for example, in a case of general amyloid disease, in a case with gangrenous ulcers, and a very low per cent. of excretion was found in a case of severe gastro-intestinal atony which improved as the latter was benefited. [J. S.]

4.—Grassmann in continuation of his article, reports 2 cases in which pericardial murmurs appeared in the course of syphilis, in one, heard best over the apex and disappearing when the patient lay down, and in the other, best heard over the pulmonic area. He also reports 96 cases in which there was alteration in the outline of the heart. In 79 of these there was dilation of the right ventricle; in 8, dilation of the left ventricle; and in 9 cases, of both ventricles. He gives the histories of a number of these cases. In many of them symptoms of relative mitral insufficiency developed in the course of the disease. In some cases these are possibly due to the alteration that takes place in the blood in the secondary stage of syphilis. Nevertheless, this cannot be always true, because in some cases in which relative insufficiency exists, the hemoglobin may be present in great quantities, or only slightly reduced. It is interesting to note that from time to time the outline of the heart may change considerably. (The paper is still unfinished.) [J. S.]

5.—Kaufmann reports the case of a man 30 years of age, who had convulsions at the age of 3 years, and subsequently suffered from a slowly progressive paralysis. There were no disturbances of sensation, or of the functions of the sphincters. The reflexes persisted, and there was no degeneration in the muscles, but greatly diminished response to electric stimulation, and indications of fibrillary contractions. There was a luetic infection, after which the right arm became paralyzed; there was tenderness along the surface, and slight fever. This was improved by anti-luetic treatment but not completely cured. The case therefore presents a progressive muscular dystrophy associated with paralysis of the serratus muscle as a result of syphilitic neuritis. Kaufmann has undertaken a series of exact measurements upon this, and upon 3 other cases according to the method of Mollier, in order to determine the various combinations of paralysis that occur in the muscles of the shoulder girdle. It is impossible to go into the details of these, but the results show paralysis in the right shoulder, of the pectoralis, of the rhomboidei of the serratus, and of the serratus in the left shoulder. The elevators of the clavicle and the scapula, and the upper trapezius were approximately implicated on both sides. In conclusion he mentions a fifth case in which the right shoulder was very much higher than the left, and the scapulae occupied a curious oblique position. Measurements showed that this was probably due to paralysis of the rhomboidei. [J. S.]

6.—Jesionek reports the case of a woman 56 years of age, who developed an eruption of reddish spots upon the body associated with swelling of the knees and ankles. The joint symptoms rapidly disappeared but the eruption remained in the form of pea-sized spots of brownish color slightly depressed, that gradually disappeared to be replaced by a new group in the course of 5 or 6 weeks. The spots were not painful nor irritating in any way. The fact that they appeared on the face caused such discomfort of mind that she could not sleep and rapidly emaciated. When examined it was found that the head, neck and mucous membranes of the throat were all involved, whilst only some old spots, indicating a previous eruption, could be distinguished below the waist. Three types of eruption were detected, the first, pea- or cherry-sized, sharply circumscribed and projecting from the surface. These had a brownish-red color; the surface was glistening, their consistency was somewhat like that of putty, and they were slightly translucent. Another type were flat papular brownish-red bodies, round or oval; these were somewhat softer than the others, and also glistening. Finally there was a group of small irregular nodules about the size of a pin-head, pink in color, slightly projecting, and closely resembling the eruption of acne. Numerous intermediary forms were also observed. Microscopically these bodies showed a tumor-like infiltration starting from the middle of the corium and extending into the center of the bodies. Most of the cells apparently resembled lymphoid cells, others however, were large and oval and resembled epithelioid cells. Numerous giant cells were also present. How-

ever, nothing resembling tuberculous growth was found. Treatment consisted in the careful curettement of all the diseased bodies, and then touching the raw surface lightly with the actual cautery. Perfect recovery ensued with very small scars. The case evidently resembled *acne telangiectodes* as described by Kaposi, and apparently represented a degenerative process of the epithelium of the hair follicles. [J. S.]

7.—Reineboth has performed a number of experiments in order to determine the macroscopic results of *contusion of the lungs and pleura*. When the pleura was exposed and bullets of various weights dropped through glass tubes 50 cm. long, it was found that even if weights of 2 grams were employed no microscopic effect occurred in either the lung or the pleura, proving that the pulmonary tissue is not very vulnerable. Similarly it was impossible by striking upon the pleximeter laid upon the exposed ribs, to produce a suggillation of the pleura. Weights of 20 grams or more were also dropped upon the exposed thoracic wall from a height of 60 cm.. It was found that suggillation rarely occurred if the first, second, or third ribs were struck; never when the 3rd to 5th ribs were struck, and not infrequently when the 5th to the 8th rib was struck, proving that the thin edge of the lung was more vulnerable. When a hammer was used it was found that suggillations could be produced in any part of the lung. They were diffuse and particularly severe in the lower portions. When the movable ribs were struck it required considerable force to produce the suggillations. When the blows were made upon the back either upon or near the spinal column suggillations were sometimes but not frequently produced. These occupied the apex of the lung and sometimes extended along the course of the ribs. Contusion of the lung could not be produced by blows, however severe, upon the epigastrium, and the effect of the period of the respiration rhythm was not observed. Reineboth considers that the results cannot be applied directly to human pathology, but hopes that they will stimulate more careful observations of the results of contusion in man. [J. S.]

8.—Freudweiler has performed an elaborate series of experiments in continuation of those abstracted for the *Phila. Medical Journal* from the previous number of the *Archives*. In that paper he studied particularly the histology of artificial topi produced by the injection of biurate of sodium into the tissue. A number of questions were, however, raised regarding the cause of spontaneous topi. Among these he mentions particularly the idea that they are produced by some local alteration in the tissue that is associated with general defect in the chemistry of the body. This local effect upon the tissue may be produced by the trophic influence of the nervous system, and this influence upon the tissue may be produced by an action upon the central nervous system of the defective blood (the so-called neurogenic theory), or the local alteration may be produced by local congestions. The predisposing causes are of course the familiar ones of alteration in the alkalinity of the body juices. Finally the local alteration may be produced by some injury or disease of the part, or gout may be an infectious process. In order to elucidate these points Freudweiler has performed a number of experiments in which he has attempted to saturate the body juices with uric acid, chiefly by the ligation of both ureters, and then to promote the deposit of urates by local injury, or by alterations of the chemical reaction of the tissues. In a series of preliminary experiments he found that the tissues of the hen do not react as vigorously to uric acid as do those of the rabbit. He also experimented with the xanthin and hypoxanthin bodies and found that they were both more poisonous than uric acid. Various of the preliminary bodies formed in the synthetic production in uric acid, particularly ammonium lactate and glycol, also produced considerable local irritation, and the same was true of hipuric acid, kreatine and kreatinine, and uric acid. All these experiments seem to prove that the formation of uric acid from various other substances was not possible, but that the topi were composed of uric acid deposited as such. Neither uric acid nor any of these other bodies apparently were capable of producing an additional deposit, even if the uric acid contents of the blood was increased, and the same was true of increased alkalinity, or local necrosis caused by the actual cautery. When, however, there is a great excess of uric acid in the juice it was found that it was deposited in the following organs named in the order of frequency: The pericardium, the pleura, the periton-

eum, the kidneys, the liver, the stomach, the heart,, the fatty tissue of the abdomen, and the muscles. It is rarely deposited in the joints or tendon sheaths. The serous membranes are much more frequently affected than the others, and usually there is some inflammatory change in the neighborhood of this infiltration. It seems likely, however, that acute inflammatory processes have a tendency to promote a deposit of uric acid crystals, and the fact that the synovial membrane of the great toe is commonly injured in these days, may explain the greater frequency with which this place is affected in gouty attacks. Freudweiler, however, particularly avoids suggesting any new theories, but he believes as a result of his experiments that we may reasonably assume that gout is a constitutional disease characterized by an increase in the uric acid in the body juices. This has a tendency to promote the occurrence of local infections, and when these occur coincidentally with the maximum proportion of uric acid in the blood there is a local deposit of crystals. These deposits relieve the tissues for awhile, until there is again a local infection with maximum proportion of uric acid. [J. S.]

9.—Strupler calls attention to the great difficulty of diagnosis in disease of the pancreas associated with septic processes. He reports two cases, one a man of 44, who was brought to the hospital unconscious with the history that he had suffered for some months with a feeling of discomfort in the abdomen and thorax and had suddenly fallen unconscious on that day. There was bilateral tuberculosis, endocarditis and embolism in the left cerebral hemisphere, there was some distension in the abdomen, and a trace of albumen in the urine, but neither blood nor sugar. He died 6 days after admission. In addition to the conditions recognized clinically, there was fat-necrosis of the pancreas. In another case the patient, a very obese woman, had suffered for 25 years with pain in the abdomen just beneath the ribs. She was slightly edematous, had extreme tenderness in the epigastric region; the urine contained a trace of albumen and of sugar. She gradually developed a sense of resistance in the abdomen, had a septic temperature and died. The feces did not contain an excess of fat. At the autopsy there was necrosis of the pancreas going on to gangrene and internal pachymeningitis. Broncho-pneumonic areas were found in the lungs.

ARCHIV FUER KLINISCHE CHIRURGIE.

1900. (Volume 62, No. 3.)

- XXIII. The Occurrence of Ganglions in the Triceps Tendon. M. BORCHARDT.
- XXIV. A New Procedure for Extirpating the Seminal and Vasa Deferentia. H. H. YOUNG.
- XXV. Pyonephrosis Occurring in Kidneys with Double Pelvis and Two Ureters. K. G. LENNANDER.
- XXVI. Clinical Observations upon Osteomyelitis of the Long Bones. E. REISS.
- XXVII. Conservative Operations for Renal Retention Following Stricture or Valve formation of the Ureter. CHRISTIAN FENGER.
- XXVIII. A Study of "Joint-Bodies." V. SCHMIEDEN.
- XXIX. A Method of Ascertaining the Virulence of Bacteria. H. MARX and F. WOITHE.
- XXX. The Lance, a Historical Study in Military Surgery. F. SCHAEFER.

XXIII.—Until a few years ago, ganglions were commonly believed to be due to synovial fluid from a nearby joint, which had escaped along a tendon. After reviewing the literature of the subject, Borchardt reports the case of a Russian dentist, with a firm, spindle-shaped tumor, 6 cm. long, on the inner side of her arm. The skin was not adherent over it. As it was increasing in size, she had it excised. On incision, a bluish cyst was found in the tendon of the long head of the triceps, containing a mass of jelly. It was a typical ganglion, both macroscopically and microscopically, characterized by a specific, widespread degeneration of the connective tissue, leading to the cyst formation. Its etiology was unknown. Only two analogous cases have been found in literature. They are quoted. From the minute study of these cases, Borchardt concludes that a ganglion can be compared with other softening cysts. He believes that most ganglions are par-articular, a true arthrogenous ganglion being very rare. The case above described is an example of a tendogenous ganglion, due to degeneration of the tendon; while those

ganglions which follow softening in the periosteum should be called periosteal ganglions. [M. O.]

XXIV.—Young reports the case of a man of 48, who had his right testicle removed nine months ago for tuberculosis. Since then he has had great pain at the end of urination, with an evening elevation of temperature. The urine contained tubercle bacilli. From a cystoscopic examination, under chloroform, the posterior wall at the upper end of the bladder seemed diseased. There were hard nodular masses about the right seminal vesicle and vas deferens. Suprapubic cystotomy was performed, and another cystoscopic examination was then made. The vertex and posterior wall of the bladder were found affected. The peritoneum was stripped from the bladder and rectum, and the seminal vesicles and vasa deferentia excised. Then the upper, posterior part of the bladder was excised, and the bladder closed, a catheter being left in the urethra, with drainage through the suprapubic wound. He recovered very slowly. The second case was in a man of 62, in whom the same operation was performed, with the excision, also, of the upper part of the prostate, and of both testicles. A tubercular ulcer in the bladder was also removed. He is now recovering nicely. Young describes the technique of the operations in full. [M. O.]

XXV.—Lennander reports the case of a woman, aged 29, from whose right kidney a swelling had been growing for 8 years. Six years ago she had an attack of pain and tenderness over the tumor, with fever, all of which symptoms disappeared suddenly, with the appearance of pus and blood in the urine. The tumor did not diminish appreciably in size. Percussion over the large tumor now elicited absolute flatness, and causes the patient much pain. On opening the abdomen, it was seen that the tumor had pushed up the peritoneum before it, and on incision, at first a clear fluid escaped, which later became thick and purulent. As the patient's general condition was very poor, the pyonephrotic sac was stitched to the abdominal wall, and packed. The tumor was no longer palpable, region of the kidney was tender, yet the patient's general condition was very poor. From the pus, a pure culture of the bacterium *coli commune* was obtained. Ten days later, acute appendicitis occurred, lasting about 5 days. Two months later, as the fistula had not healed, Lennander operated again, removing the appendix, and the pyonephrotic sac, after which he performed nephropexy upon the rest of the right kidney in which one pelvis was still sound. The kidney had a double pelvis and two ureters, and had probably been movable for at least 8 years. This might have caused pyonephrosis. In two months the patient was well. Lennander quotes three similar cases already reported, and then adds a description of a preparation, from a boy of 6, in whom the left kidney had a double pelvis and two ureters. In this case pyonephrosis had followed cystitis from phimosis. [M. O.]

XXVI.—While osteomyelitis is primarily a disease of childhood and youth, it sometimes occurs also after the age of 25 years. The oldest patient among the cases Reiss reports was aged 54. Occasionally a healed osteomyelitis will break out again years later. Following the infectious diseases, osteomyelitis may occur at the site of a former fracture, rheumatism, or bone disease. Osteomyelitis generally occurs in the diaphysis of the long bones, near the epiphyseal junction. Suppuration leads down to marrow, and necrosis follows. Lengthening often follows necrosis. Fracture may occur spontaneously. The result of these processes depends upon the cartilage groove; when this remains intact, growth continues; if this be destroyed, even partially, shortening will result, and no epiphyseal line will be seen in Roentgen photographs. Reiss reports, in all, 16 cases of osteomyelitis, with discussion of their course and main complication, disease of the neighboring joint. He concludes that when the cartilage groove is partially destroyed, recovery, with normal growth following, is possible; but that in most cases, even when a part of the cartilage groove is macroscopically normal, bony callus will take its place; that after separation of the epiphysis, in osteomyelitis of the epiphysis, no regeneration of the epiphyseal cartilage can occur, since bony callus holds them together; that when osteomyelitis occurs primarily in the epiphysis, it in no way affects normal growth; and that should this process extend from the epiphysis to the diaphysis, thus destroying the cartilage groove, further growth will stop. The article is well illustrated with Roentgen photographs. [M. O.]

XXVII.—Fenger reviews the literature of the renal retention, dividing the cases into those in which the site of obstruction is in the kidney itself, in the pelvis of the kidney or outlet of the ureter, and in the ureter itself. A table of 30 cases collected follows, 10 of which Fenger had himself. The extra-pelvic operation gives the best results. But when a large cystonephrotic sac exists, the trans-pelvic method must be followed. There is little danger to life in these operations. In 5 cases the result was negative, nephrectomy following in four of them. Good functional results were obtained in 22 of the cases. In a few of these, fistulae remained. Only two of the cases have recurred, in both of which nephrectomy was necessary. [M. O.]

XXVIII.—Schmieden studied 49 cases in which "joint-bodies" occurred, and removed all but 5 of them by operation. He considers only cartilaginous or bony bodies true joint-bodies, excluding foreign bodies, blood-clots, tumors, etc. They frequently follow traumatism, especially in tubercular subjects. A few showed connection with the interarticular cartilage. One was found outside of the joint-capsule. These true joint-bodies are composed of connective tissue, cartilage, and bone, being broken off bits of the bones which enter into the formation of the joint. They may in fact increase in size, being set free in the joint. Schmieden divides them into those caused by arthritis deformans, which are not microscopically part of the normal joint surfaces, and those not due to arthritis deformans, which contain parts of normal joints. Nine cases were due to arthritis deformans. Those not caused by arthritis deformans may be traumatic. Fourteen cases were due to direct traumatism, 6 cases to indirect traumatism. In three cases the joint-bodies certainly contained part of the joint surfaces, yet no traumatism or inflammation had ever effected the joint. Perhaps a slight, hardly noticeable traumatism, in childhood, might have caused these joint bodies. In simple cases, the joint-bodies can be removed. In severe cases, resection of the joint will be necessary. [M. O.]

XXIX.—Marx and Woithe believe that all methods in use for ascertaining the virulence of bacteria are faulty. Neither animal inoculation nor serum reactions have overcome these faults. They estimate the functional worth, i. e., the virulence, of a pathogenic micro-organism, not from its effect upon any animal, under unknown conditions (immunity, or disposition), but from certain morphologic peculiarities of the bacterial cells, which stand in the closest relation to the creation of specific functions (chemical, biological, etc.), easily and surely recognizable microscopically, with judicious handling of material. Their process, which depends upon the formation of "Babes-Ernst" metachromatic bodies when the bacteria have reached the point of greatest virulence, passes through four stages of morphologic differentiation. To do this successfully, the following technical points must be carefully carried out. No water must be allowed on the cover-glass; the culture material must be thickly spread; it must be well dried and fixed; it must be cooled before adding the methylen-blue; and it must be examined microscopically at once. Their method is for bacteria without spores, which do not belong to the tuberculosis group. To ascertain the grade of virulence of pathogenic bacteria found in a body, the bacteria must be examined directly with the body juices in which they were found. For cultures will not show how virulent the fresh micro-organism was. They have experimented mainly with staphylococci. After the virulence has been discovered, inoculation in animals will show its pathogenicity. [M. O.]

XXX.—Schaefer gives a detailed history of the lance as an implement of war, with an account of the character of the wounds caused by it in the different parts of the human body. He concludes that from statistics of military surgery, lance wounds, in the overwhelming majority of cases, have been slight. The literature shows a series of severe lance wounds which have run a surprisingly favorable course. This is due to the shape of the lance, as its blunt, swollen point pushes the organs out of the way. Therefore it is a humane implement. Finally, by making its point sharper, it would become a very dangerous weapon. [M. O.]

1901. (Volume 62, No. 4.)

31. Retrograde Sounding in Cicatricial Stricture of the Esophagus. H. ADAPY.
32. The Treatment of Complicated Fractures. P. FRANK.
33. Corcinoma Occurring in a Dermoid Cyst. H. WOLF.

34. Mechanical Appliances in Gastro-entero-anastomosis. G. KELLING.
35. Ileo-cecal Resection in Tuberculosis of the Intestines. K. HUGEL.
36. Congenital Bone Defects. U. GROSSE.
37. Upon Grafting the Facial Nerve upon the Accessories. P. MANASSE.

31.—In those cases of narrow stricture, situated low down in the esophagus, in which gastrostomy must be performed, much depends upon whether even a small instrument will then pass through the stricture. If this first effort meet with success, all will probably go well. Alapy reports the case of a boy of 7, with two strictures of the esophagus following the ingestion of lye. The upper stricture could be passed, but the lower, just above the cardia, would not let even a filiform bougie by. Gastrostomy was performed. A week later, an elastic bougie was introduced through the stomach up to the site of the stricture, and a silk catheter was passed over it. Then the bougie was withdrawn, and a filiform inserted, which easily passed through the stricture and out to the mouth. After that, dilatation was accomplished quickly, and the child recovered. Alapy devised this method to overcome two difficulties: Finding the cardia, and passing the stricture. As ordinary filiform bougies are not long enough, he advises the use of the Phillips bougies. [M. O.]

32.—Franke divides his researches in the treatment of complicated fractures into two parts, those of the extremities, and those of the skull. Modern aseptic treatment has made these wounds much less dangerous than they formerly were. In every case he tried to keep the wound aseptic, to put the fragments in good position, to keep up absolute rest, followed, after healing, by regulated movements. The region of the wound was disinfected, and if the wound was small, and contained a foreign body, it was removed, the wound dried out with sterile gauze, and a sterile dressing applied. In large wounds, counterincisions, drainage, removal of splinters of bone, etc., followed, but washing out with antiseptics was never done. Large pieces of bone were saved, sharp edges being sawed off first, to prevent pressure on the blood vessels, and gangrene. When dislocation seemed imminent, bones were sutured together with silver wire. Attempts were made to cover the bone with soft parts. The injection of a little iodoform ether, and drying with sterile gauze, completed the treatment. With this many limbs escaped amputation. Even when gangrene was feared, conservative treatment was carried out. Yet some cases had to be amputated. Immobilization was secured by plaster bandages, extension, or splints. Roentgen photographs were taken regularly. The fractures of the skull were treated in the same way. Wounds were generally enlarged, to see the amount of damage done. Even a greater attempt was made here, to make the surface smooth. Many blood vessels of the dura and pia were ligated. Where parts of the brain were badly injured, they were removed, as were foreign bodies, splinters, etc. If possible, clefts in the dura were sutured. Great care was taken to prevent bone defects. The bone was replaced, after being washed in a boric acid solution, and the skin closed over it. Osteoplastic resection was necessary in some cases. The histories of 73 complicated fractures of the extremities, and of 24 complicated fractures of the skull are given in detail. [M. O.]

33.—Wolff reports the rare case of a carcinoma occurring in the wall of a closed dermoid cyst. He could find no similar case in literature. A Russian, aged 21, had always had a small tumor over the inner canthus of his left eye. This had increased in size during the past two years, but never caused any symptoms. It was elastic, but did not decrease on pressure. A typical dermoid cyst was removed with difficulty, on account of its attachment to the periosteum. Some of the surrounding connective tissue was removed with it. Microscopical examination showed carcinomatous degeneration of the cyst wall. He reports a similar case following the removal of a dermoid cyst of the sacrum. In both cases carcinomatous changes occurred in dermoid cysts, in one, closed and intact, in the other, upon the remaining wall left after excision of the cyst. [M. O.]

34.—Kelling speaks of the prejudices against the use of the Murphy button in gastro-entero-anastomosis. Yet he considers that a good anastomosis button will resemble the Murphy button, for it must remain unchanged until the

necrotic intestinal wall has been thrown off, and then be wholly digested in the stomach or intestines. Kelling has constructed a button from ivory that has been deprived of its calcium. It is in one piece, a cylinder with funnel-shaped ends, covered with rubber as a protection against the digestive juices. This covering is absent in the deep outside groove where the stitches will be placed. It is fixed in place by two sutures. Its application is fully described, with attention to every detail. A number of experiments upon animals follow to show its usefulness. For operations on the colon. Kelling has devised a wooden button, which he has used in dogs. Kelling has also employed absorbable plates of bone or ivory from which the calcium has been removed. [M. O.]

35.—Hugel reports three cases of colon tuberculosis in which operation was necessary. In the first the mass was in the ileocecal region; in the second, in the ileocecal region, ascending and transverse colon; and in the third, in the right colic flexure. Resection of the affected part of the intestine, with anastomosis, was performed. Two of the patients recovered while the other died. Microscopic examination confirmed the diagnosis of all three cases. Hugel believes that the whole part affected should be removed. Should phthisis also exist, he thinks that the intestine should be stripped for its entire length, and the exposed ends of the intestine opened. With an iodoform gauze compress the stripped intestine can be cut off from the peritoneum, and resection can be formed later, when the strength of the patient permits, without a second laparotomy. But he believes that by lighting off the mesenteric vessels leading to the exposed section of the intestine, certain involution of the tubercular process will follow, and perhaps save later resection. [M. O.]

36.—Grosse reports the case of a girl of 5, whose right leg, especially below the knee, was markedly smaller than the left, even at birth. Nor did the right leg grow below the knee. Various different supports had been used without effect. Roentgen photographs showed the absence of the tibia, the fibula being alone. Professor von Bramann operated, bringing the fibula into the knee joint, taking great care that the epiphyseal cartilage was not injured. Foot and leg were then put in plaster. With a support down the leg, about the waist, and a block under the foot, she soon could run. In six weeks femur and fibula had grown together, and her leg has developed well in the two and a half years since. The former shortening of 5½ cm. has been decreased 2 cm. She can now support herself without any splint, walking with a slight limp. Grosse reports another case of von Bramann's, with similar results, no splint now being needed. M. O.

37. Manasse reviews the experimental operations upon nerves, before telling of his work in grafting one nerve upon the other. For a successful result, in investigations of this kind, he believes that function must be restored throughout the region supplied by the paralyzed nerve, the peripheral end of which has been grafted upon a neighboring nerve; that electric excitability must return; that the two nerves must grow together anatomically, which will be seen, histologically, by the continuity of the nerve-fibres. On account of its simplicity, Manasse decided to graft the facial nerve upon the accessories, as treatment for traumatic paralysis of the facial nerve. He performed experiments upon 11 dogs 5 of which were carried to a conclusion. Their histories follow in detail. A description of the different methods of operating is given. Manasse's results were not at all satisfactory, nor does he consider the operation an easy one. [M. O.]

DEUTSCHE ZEITSCHRIFT FUER CHIRURGIE.

Leipzig, 1901. (Volume 18, Nos. 7 and 8.)

38. Injuries Following Intubation. VON BOKAY.
39. Spontaneous Gangrene in Young Individuals. P. WULFF.
40. Fractures of the Heel. HELBING.
41. The History of Esophagoscopy and Gastroscopy. KILLIAN.
42. Protracted Appendicitis and its Results. E. ROSE.
43. Ostomyelites of the Vertebrae. M. SCHMIDT.
44. Leontiasis with Generalized Fibroma Molluscum. O. LANZ.
45. Sarcoma of the Penis. PUPOVAC.

31. Isolated Fracture of the Smaller Tuberosity of the Humerus. H. LORENZ.

32. Hemorrhagic Proctitis. R. STIERLIN.

23.—During 10 years' experience, von Bokay has intubated 1203 times. He divides the injuries from intubation into those occurring during intubation; those occurring while the tube remains in the larynx; those occurring during extubation; and those occurring later, cicatricial stricture, stenosis, etc. During intubation the mucous membrane is apt to be scraped off, or false passages may be made. Both occur as a rule above the vocal cleft, and it may be possible to fracture the cricoid cartilage. The slight abrasions of the mucous membrane occur often, and heal rapidly. The histories of 5 cases of false passages are given, with photographs from the autopsies. The diagnosis is easily made, for the symptoms do not ameliorate, and hemorrhage may occur following intubation. The prognosis is unfavorable. Von Bokay thinks that these accidents are due mainly to unskilled intubation. Tracheotomy will often be necessary, yet life may not even then be saved. While the tube is in place, ulcers can easily form. The mucous membrane becomes irritated by the pressure of the tube, inflammation follows, and the cartilage is laid bare 72 hours after intubation. Such ulceration was found in 13% of von Bokay's cases at autopsy. In 5% only were deep ulcers seen. In his experience, the ulcers were seen on the anterior wall of the larynx, trachea, thyroid and cricoid cartilages. Experiments show that ulceration is not due to frequent intubation, but to tubes that have been left in place some time. Sixteen cases of ulceration, out of 1203 cases, healed after tracheotomy. Most ulcers occurred in the first and second year; a tube was perhaps used that did not suit the child; or the diphtheritic process may itself have caused ulceration. The histories of 18 such cases follow. Expectoration will be blood-streaked, the ulcer is sensitive to pressure, a dark spot will be noted upon the tube, or laryngeal examination may locate the ulcer. When the ulcers are slight and superficial, they will heal easily. The use of well-modeled and well-graduated tubes correctly put in place, left there as short a time as possible, with serum given, will prevent, as far as possible, the occurrence of deep ulceration in cases intubated. Tracheotomy is only indicated when the presence of a deep ulcer is positively known. The danger of injury during extubation is least when the tube is extracted by the thread or by hand; while it is most possible when instruments are used for extraction. Slight abrasions heal easily, but hemorrhage may occur. Some degree of hoarseness results. If this persists over a week after the removal of the tube, post-diphtheritic paralysis has occurred. It is but seldom that cicatricial stricture, stenosis, or atresia of the larynx follows intubation, and then only in cases of laryngeal diphtheria. It has always occurred in children under six years of age. The histories of two cases of stricture with stenosis, and three cases of atresia follow. Renewed dyspnea, a hindrance to, or the impossibility of withdrawing or introducing the tube, with laryngoscopic examination, will show a stricture. The prognosis is favorable for permeable strictures, but not for complete atresia. Slow healing about a properly fitting tube is the best method of treatment for these cases. The treatment will be incision of the cicatrix, followed by methodic intubation; widening by bougies; transplantation of epithelium; or resection of the scar completely, followed by suturing the ends of the respiratory passages together. Methodic intubation has been most successfully performed, in four out of six cases; neither the use of the bougies nor the transplantation of epithelium has been a success. The one operated case, complete resection of the cicatrix with the ends of the larynx and trachea sutured afterward, has been wholly cured. Thus methodic intubation should always be attempted, the more severe operations being left as the last resort. [M. O.]

24.—Wulff reports two cases of spontaneous gangrene. The first patient, a Pole, aged 38, had noted pain, with feelings of cold and "pins and needles" in his left leg for three years. Two years ago, an ulcer appeared on the inner side of the leg. Though syphilis was denied, anti-syphilitic treatment somewhat improved the condition, but not the ulcer. The pulse was still felt under Poupart's ligament, but not in the popliteal space. The next year his condition grew worse, and the ulcer increased in size, with widespread necrosis of the tibia. The entire bone grew cold, and the pain excruciating. There was no longer any pulsa-

tion palpable at Poupart's ligament. The leg was disarticulated at the knee, since which operation some necrosis of the skin of the inner flap has persisted. The arteries in the leg were found with a very narrow lumen and thick walls, easily distinguished from the veins macroscopically. Thrombi existed in the veins, but not in the arteries. The nerves were normal. The other patient was also a Pole, aged 28. He had never contracted syphilis. Pain first appeared in the left leg four years ago, upon walking for a long time. He was treated for rheumatism until gangrene of the little toe developed, a year later. First the foot, then the thigh, was amputated, with quick recovery following. Two years later the same condition began in the right foot. As in the former case, the heart and kidneys were normal. The toes were black, the rest of the foot cold and pale. A Pirogoff amputation was done, but the flaps became necrotic. Resection of the tibia was necessary, followed later by disarticulation at the knee, since which proceeding, he has kept well. Here, also, the nerves were found normal and the arteries and veins very small. After a full review of the literature, Wulff, who observed five cases, considers it a general dyscrasia, often found in the people of Poland, generally in men free from lues, diabetes, or nephritis, but who smoke 30 cigarettes or more daily. He concludes that the process is probably a primary endarteritis with secondary thrombosis, due to an abnormal vasomotor contraction, analogous to Raynaud's disease. [M. O.]

25.—Helbing divides the fracture of the calcaneum into those which are broken apart, leaving a cleft between the fragments, and those which are crushed into pieces. He discusses the former variety only, and reports the case of a woman of 57, who, on putting her foot backward while standing upon a chair, came down heavily, her foot striking the floor. There was great pain, yet she has been able to walk since. There was slight foot-drop, with a large tumor above the insertion of the tendo-Achilles. Below this a straight furrow was noticeable. A Roentgen photograph showed that the calcaneum had been fractured, the upper fragment being pulled up by the tendo-Achilles, which, with some exudate, caused the tumor. The furrow below it showed the cleft of the fracture. She was well in four weeks. But on being examined six months later, the upper fragment had again risen, from the tension of the tendo-Achilles, without causing any pain. Helbing concludes that this fracture is not like the ordinary fractures of the calcaneum in which the cleft is vertical; that the prognosis of this sort of fracture is very unfavorable; and that while the ordinary vertical fracture is due to a fall from a height of two meters or more, this results from a fall of one meter or less. The cause of the fracture, the power of the tendo-Achilles, is also the cause of the unfavorable result. [M. O.]

26.—In 1807 Bozzini first attempted esophagoscopy. But not until Kuessmaul, in 1868 was any practical method of esophagoscopy or gastroscopy discovered. In this, Kuessmaul followed the "sword-swallower" idea. Then came the Desormeaux endoscope, in 1853. Killian describes the many methods invented, many of them practically useless, with a detailed review of the subject. [M. O.]

27.—When appendicitis is protracted, a fecal fistula often results. Rose reports three fatal cases of perforation of the cecum following appendicitis. In the first case fecal matter escaped and formed a circumscribed peritoneal abscess, between the folds of the small intestine. In the other two cases, perforation occurred in the cecum, circumscribed abscesses being also found. The autopsy reports are given. Rose advances four theories to account for the occurrence of the rectal fistulae in appendicitis, (1) from injuries during operation; (2) softening of the intestinal walls from long standing disease, old age, etc.; (3) a stitch abscess following operation; and (4) secondary inflammation of the cecum. A fistula generally arises in the small intestine, from perforation of the cecum with or without operation, following atrophy or ulceration of the intestinal walls from the pressure of a quantity of pus. Secondary inflammation of the cecum with fistulae, adhesions, and much lymph formation needs speedy operation. Should fecal matter appear in the wound after operation, it will be due to perforation probably from the long pressure of an abscess. A case of true appendicular fistula is described, which was cured by removing the appendix. The histories of 10 other cases follow, with rectal fistula, artificial anus, peritonitis, empyema, urinary fistula is described, which was cured by removing the appendix. The histories of 10 other cases follow, with fecal fistula, arti-

ficial anus, peritonitis, empyema, urinary fistula, etc. When appendicitis is protracted, the mesenteric glands will swell, and peritonitis may follow. But the main danger in this form of appendicitis is that fecal matter may enter the peritoneum, to prevent which, an early laparotomy will be necessary. If the appendicitis has lasted over two weeks, laparotomy should be done at once. If an abscess, or free pus is found, it will be better to leave in drainage than to close the wound again. [M. O.]

23.—Schmidt reports the case of a girl of 13, who knocked her right internal malleolus. An abscess followed, which was incised. She then complained of stiff neck, with tenderness along the cervical vertebrae. Paralysis of the right arm occurred suddenly, followed by paralysis of the three remaining extremities. Then pain appeared in both legs. Next involuntary evacuation of bladder and rectum was noted. On operating, an abscess was found in the cervical vertebrae, from which a large quantity of pus flowed. The left arm and leg improved at once, and the pain disappeared. Next the left hip became affected, but recovered without forming another abscess. Both malleolar and cervical wounds healed. Her neck can now be moved well. The left arm recovered rapidly, the right very slowly. Schmidt calls it an undoubted case of outspoken multiple osteomyelitis, affecting the right ankle, cervical vertebrae, and the left hip in turn. He discusses in full the nervous symptoms from the pressure of the pus contained in the cervical abscess, and quotes 16 more cases of osteomyelitis of the vertebrae. [M. O.]

29.—Lanz reports a rare case of leontiasis with generalized fibroma molluscum, in a man of 55. His left eye was always larger than the right. At the age of 9, his left upper eyelid began to swell, increasing in size gradually. At 20, it so deformed his face as to prevent all idea of military service. He believes that the left eye was already blind at 9 years, when the skin eruption first appeared. There has never been any pain. Over the left side of the face hangs a huge sac of skin, rising from the nose and forehead, extending to the left angle of the mouth. It hangs in five folds, and is well shown in the photographs accompanying the article. There is very little hair on the mass, in which an empty cavity is seen for the left eye, the lids swollen and edematous, the eyeball invisible. The left eyebrow and lashes are absent. When he closes his eye forcibly, the mass rises 2 cm. Over the entire body is a widespread fibroma molluscum. He will not permit any surgical interference, unfortunately. [M. O.]

30.—Pupovac reports a rare case of sarcoma of the penis, occurring in a man aged 47 years. A swelling on the right side of the penis was first noticed 6 months before admission to the hospital. This gradually increased in size in spite of potassium iodide administered internally and externally. Otherwise he was perfectly healthy. The inguinal glands swelled gradually. Sarcoma was diagnosed, and the penis amputated. The inguinal, iliac, and abdominal lymph glands, along the descending aorta, were found affected and were extirpated. Two days later he died with diffuse peritonitis. The tumor was a round celled sarcoma of the corpora cavernosa, with metastasis of the lymph glands. The urethra and the blood vessels were not affected. [M. O.]

31.—The great rarity of isolated fractures of the lesser tuberosity of the humerus caused Lorenz to report this case. A man aged 45, was struck by a falling marble pillar, which, striking his hand, rolled his right arm outward forcibly, causing great pain in the shoulder. After the swelling disappeared, he was able to use the arm. It could be rotated outward to an abnormal extent. On palpation a jagged surface was felt in the place of the lesser tuberosity. This is tender, and crepitus is audible on rotating the arm. The arm cannot be rotated inwardly at all. A review of the literature follows, with the quotation of a few cases. It is probably caused by forcible contraction of the subscapularis muscle. The treatment should consist in incision with suturing or nailing the fragment into place. His patient would not permit operation. [M. O.]

32.—While the diagnosis of malignant tumors of the rectum is not as a rule difficult, it is impossible to find the cause of some cases of hemorrhagic proctitis. Stierlin reports such a case in a man of 40. For four years he has lost blood, off and on, when his bowels moved. This often was lost in quantities, with attacks of diarrhea. He was treated for hemorrhoids for three years. On admission to the hospital, he was having 5 to 6 bowel movements

daily, mixed with bright red blood. He was very thirsty and weak. The mucous membrane was easily injured, followed by bleeding. Otherwise the rectum was normal. The sphincter was dilated, the entire mucous membrane being found a mass of soft folds, like a bloody sponge. There were no hemorrhoids, ulcers, or tumors. After three weeks' treatment with bismuth, tannic acid, etc., he began to improve, and recovered. Other cases are quoted from the literature. The cause of the hemorrhage is unknown. The diagnosis of hemorrhagic proctitis is made only by inspection. [M. O.]

CENTRALBLATT FUER GYNECOLOGIE.

January 12, 1901. No. 2.

1. Discussion on Gersuny's Method of Paraffine-Injection in Incontinence of Urine. JOHANNES PFANNENSTIEL.
2. On Subcutaneous Division of the Sphincter in Restoration of the Peritoneum. HEINRICH FRITSCH.
3. A Case of Uterine Myoma Complicated by Diabetes. DR. JAHREISS.

1.—Pfannenstiel, in writing on the question of Gersuny's method of injections of paraffine in incontinence of urine, reports the following case: A woman, 39 years old, with a strong constitution and free from organic disease, suffered from incontinence following extirpation of the urethra for carcinoma of the uterus which had involved the vaginal walls. The entire urethral canal had to be extirpated together with the connective tissue up to the pubic arch. A fistulous tract admitting of the index finger resulted, and in order to cure this it was resolved to practice injections of paraffine ointment as recommended by Gersuny. By means of a sharp pointed canula an injection into the connective tissue of the vaginal submucosa was made. The patient stood the operation well, but shortly after the injection suffered from nausea, chills, severe headache, shortness of breath and dyspnea. The respirations reached 36 per minute. Examination of the lungs showed no pathologic condition, but on the following day the patient complained of pain in the left side. The respirations had increased to 40 per minute, and there was a slight cyanosis of the face. The temperature was 39 degrees C. and the pulse 104. Still there were no objective signs to be found on examination of the lungs. On the following day examination showed some consolidation of the lung on the left side, and a diagnosis was made of a paraffine embolus into the lung. After a slightly prolonged convalescence the patient made a good recovery. Pfannenstiel speaks of the possibility of lung-embolism and also of embolism of the brain as sequelae of this method of treatment. [W. A. N. D.]

2.—Fritsch remarks that in performing perineorrhaphy there are two important principles to observe: 1. To cut nothing away, to sacrifice no tissue, and not in the old sense to freshen the edges, but merely to split the tissues, restore the old relations, and then to suture together the perineum; and secondly, to recognize the value of the function of the sphincter. After the operation has been performed, however, in this manner in certain cases the sphincter is so tight that the introduction of the finger into the anus is almost impossible. The tension is so strong that flatus can hardly escape, and as a result there not infrequently follows a distension of the ampulla of the rectum in which there accumulates both gas and fecal matter. To overcome this condition Simon suggested subcutaneous division of the sphincter. This can be accomplished, the finger in the rectum, by means of a sharp tenotome, the action of the knife being controlled by the finger in the rectum. It is best to make two incisions, one to the right, the other to the left about one-and-one-half cm apart. The small incisions may then be closed by means of iodoform-gauze. Fritsch has also employed a sagittal incision whereby the hemorrhage is not so severe and healing is just as sure, although the pain is more severe than by the subcutaneous division. The after-results of the subcutaneous division of the sphincter are so good that he is inclined hereafter to employ this method as a regular procedure. [W. A. N. D.]

3.—Jahreiss, of Augsburg, reports an interesting case of uterine myoma, complicated by diabetes, the patient being a woman 48 years of age who had for four years suffered from severe menorrhagia and for one month had complained of a severe thirst, together with pallor of the heart and slight swelling of the feet. Examination showed her to be somewhat anemic, and there was a certain amount

of lividity of the mucous membranes. The pulse was frequent, small and irregular, and both feet up to the ankles were edematous. The uterus presented a myomatous tumor which reached up to the umbilicus. The urine was quite sugary. On account of the marked anemia and the irregularity of the heart, operative interference for the relief of the myoma seemed contraindicated. Instead the patient was placed in absolute rest in bed and administered iron and tonics. After four weeks the general condition was better and the pulse was less frequent. There was but slight change, however, in the amount of sugar in the urine. The patient ultimately suffered from neuralgic attacks, especially in the right iliac fossa. The constituents of the urine remained the same until the death of the woman. The etiology of the diabetes is not plain; there was no hereditary history, nor was there the history of syphilis; the nervous system was also intact. The cause might have been found in the excessive hemorrhage. [W. A. N. D.]

January 19, 1901.

1. Gynecological Massage. R. OLSHAUSEN.
2. A Case of Extensive Radical Operation for Pregnancy Complicated by Uterine Cancer. TH. MICHO-
LITSCH.

1.—In discussing the question of gynecological massage Olshausen concludes as follows: Pelvic massage is of value in cellular-tissue exudates which show a tendency to become torpid and in all inflammatory conditions which persist for a long time. Also in all cases of exudate which can be grasped by the external hand and compressed between the fingers of this hand and that introduced through the pelvis. Only such tubal tumors as are high up in the pelvis are open to this method of treatment, as hydrosalpinx in which the fluid accumulations can be caused to escape through the uterine canal. In tubes with thickened wall, but without fluid contents, massage may be employed to favor removal of the infiltration. Peritoneal adhesions, hematoceles, and anomalies of position of the vagina and uterus are not suitable for massage unless accompanied by exudates which are the direct cause of the displacement: the massage then, by removing the exudate, will improve the local condition. [W. A. N. D.]

2.—Micholitsch states that the question arises as to what is the proper treatment for carcinoma of the uterus in pregnancy, whether by vaginal or abdominal operation. He reports a case of radical operation performed upon a woman in the eighth month of her pregnancy. The history of the case is as follows: The patient, a woman 41 years of age, was in her tenth pregnancy, and advanced to the eighth month. For three months she had suffered from irregular hemorrhages. Examination showed her to be somewhat cachectic with wasting of the panniculus adiposus. She was in a generally run down condition, and over both lungs there were marked bronchitis rales. The fundus of the uterus reached to the xiphoid cartilage. The fetal heart-sounds could be plainly detected. On the anterior cervical lip was found a small circumscribed cancerous ulcer of the size of a walnut. The vaginal mucous membrane was intact; the parametrium was free, and it was impossible to find any large lymph-glands. The operation on the following day consisted in a median Cesarean section, removal of the child, the introduction of a gauze-tampon into the uterine cavity and closure of the uterine wound by deep sutures. The ureters were difficult to locate on account of the enlargement of the parts, but they were finally freed from their relations to the uterus, as was also the bladder. The round ligaments, the infundibulo-pelvic ligaments, and the sacro-uterine ligaments were ligated and divided. An examination was then made for infiltrated glands with the object of their removal, should they be found. The vaginal wall was divided 4 cm. below the portio vaginalis, and iodoform gauze drainage was established through the vagina. The peritoneum was sutured above the gauze drainage and the abdominal wound closed in two layers. The duration of the operation was one hour. The child was a male, 44 cm. long and weighing 2250 drams. The patient made an uninterrupted recovery. [W. A. N. D.]

January 26, 1901.

1. Information Concerning the Traces of the Volsellum Forceps in the Cervix Uteri. R. CHROBAK.
2. On the Suprasmphyseal Cross-section after Kuester. F. KUEHNE.

2. Puerperal Gangrene of the Lower Extremities. E. WORMSER.

1. Chrobak has made an interesting study as to the amount of injury caused by volsellum forceps in the cervix uteri and also the length of time that the traces of these forceps remain in the uterine tissue. His attention was first called to this subject by a case of uterine rupture, the tear lying near the fundus, the question arising as to whether there was any relationship between the uterine tear and the use of the instruments. He has been assisted in his labors by Peham, who gathered statistics for him. He has been able to find 20 cases of abortion in which the cervix was grasped by the forceps, in all of which slight cervical lacerations existed, the result of traction by the forceps. He found that in most of the cases within five days no sign of the teeth of the forceps could be detected. This rapid disappearance was due to the quick regeneration of the epithelial tissue which is peculiar to the puerperal uterus [W. A. N. D.]

2.—Kuehne saw the first case of cross abdominal incision performed by his chief, Kuester, in 1896. Ahfeld also shortly afterwards performed the operation in suitable cases, and Frantzen in 1897 slightly modified Kuester's operation and employed it for ventral fixation of the uterus for the cure of the prolapse. Kahn and others followed in their footsteps. Mikucki has employed the Kuester incision twice, once in a case of ovariectomy and once in ventral fixation for complete prolapse, with falling of the anterior vaginal wall. Pfannenstiel more recently has modified the method so that he not only incises the skin transversely, but also the fascia, and then opens the peritoneum through an incision lengthwise between the recti muscles. He has done this in order to avoid the subsequent development of hernia. He employed this incision in 51 cases. Kuehne reports 12 cases in his clinic operated upon by this method for retroflexion and slight vaginal prolapse. In five of the cases the operation was performed for movable retroflexion, in one of which there was also a prolapse of the anterior wall. The other cases include the following: One case of prolapse with hypertrophy of the anterior cervical lip, one of complete prolapse with falling of the anterior vaginal wall, the uterus lying in the middle position, and five cases of complete procidentia. In the first case there was also performed for the correction of the uterine prolapse an anterior kolporrhaphy; twice was a one-sided salpingo-oophorectomy performed. The ligament was also fastened to the abdominal wall. The indications for the operation are certain conditions of the uterine displacement, tubal pregnancy, small sized uterine myomata, and for the performance of ventral fixation. The contraindications of the transverse incision are large solid ovarian tumors, or those which require total extirpation of the uterine appendage. [W. A. N. D.]

3.—Wormser refers to the article by Burckhard in No. 51, 1900, of this journal, in which he reported two cases of gangrene of the lower extremities occurring during the puerperium. Miller also quotes a case of this complication occurring in the practice of Duflocq, the patient being a woman 38 years old, in her fifth pregnancy, who at the end of the pregnancy suddenly experienced severe pains in the right foot with anesthesia of the part. In spite of this condition a normal birth followed. Four weeks after the labor the foot presented the appearance of marked gangrene with a well-defined line of demarcation. Glycosuria ensued and the patient died on the 29th day after the disease manifested itself. Autopsy showed a slight thickening of the mitral valve with a thrombosis of the right femoral artery. Another case, according to Wormser, is reported by J. B. Swayne of a woman 34 years of age in her first pregnancy. She likewise suffered from pain in the right leg followed by the development of a gangrenous spot in the foot and ankle, which also necessitated operation. Section showed a slight thrombosis in the muscular veins, but no thrombosis in the larger veins. [W. A. N. D.]

CENTRALBLATT FUER CHIRURGIE.

January 5, 1901. (28 Jahrgang, No. 1.)

1. The Treatment of the Shortening in Fractures of Both Bones of the Leg. N. KAEFER.
2. The Treatment of the Fractures of the Patella. ALEX. WIENER.

1.—When both bones of the leg are broken, some shortening follows. The fractured bones should be reduced, un-

der anesthesia, placed in a plaster of Paris bandage, and left 8 to 10 days. Weight extension seems of doubtful benefit in treating these fractures. Von Eiselsberg used elastic traction in the plaster bandage. Kaefer has made an **apparatus**, with screws, which is fitted into the plaster bandages at some little distance from the site of the fracture. Some space is left between the upper and lower bandages, only bridged over by the screws of the apparatus. By taking in a half screw daily, this distance is increased, and shortening is thus prevented. Kaefer reports a case treated in this manner with excellent result. [M. O.]

2.—**Fractures of the patella** only heal with difficulty. The ideal treatment, cutting down upon the fragments, suturing them together, and then closing the incision, is attended with great danger of infection, and a few patients will submit to it. Wiener treats them by wrapping the knee in **elastic bandages**, over much wadding, and the patient walks home. This is left on 4 or 5 days. All exudate is then absorbed, and the fragments of the patella are in opposition. The elastic bandages are then replaced, tighter this time. Wiener reports two cases treated thus. Pain is spared the patient and time saved for the surgeon. Wiener believes that fracture of the patella is a new indication for this old treatment. [M. O.]

January 12, 1901. (28 Jahrgang, No. 2.)

1. The Treatment of Luxation of the Peroneus Tendons. H. REERINK.
2. A Simple Method of Plastic Achillotomies. C. BAYER.
3. A New Hand Operating-Table. RATHMANN.

1.—Reerink reports a case of **luxation of the peroneus tendons** of the left foot, upon the external malleolus, with great pain and swelling. There was foot-drop, with adduction of the toes. The foot was placed in a splint, and ice applied. Six days later the tendons were replaced in position, and kept there by strips of zinc oxide adhesive plaster. Four days later a plaster of Paris bandage was applied. Two weeks afterward, this was removed, and another put on for three weeks longer. Then massage was given daily for a few weeks. Since then the foot has been in excellent condition. A Roentgen photograph showed the malleolus intact. Reerink cites the literature of the subject. [M. O.]

2.—Bayer reports a case in which he performed **tenotomy** upon the **tendo Achillis**, dividing the operation into halves. One half of the tendon he slit subcutaneously, in the muscle itself; the other, down near the calcaneum, in the tendo Achillis proper. Thus no scar resulted, and the foot-drop was easily corrected. A week later, on removing the splint, the tenotomy openings had completely healed, and the foot was in normal position. There was no visible difference between the two sides of the divided tendo Achillis. After another week, the patient walked well. [M. O.]

3.—Rathmann describes a **stand** which can be clamped upon any table, to be used for **operations upon the hand**. It is made of glass, held in metal, and can be raised to any height desired. Rathmann advises its use for all operations upon the hand. [M. O.]

January 19, 1901. (28 Jahrgang, No. 3.)

1. How is Regular, Deep, Quiet Breathing Obtained, in Administering Anesthetics? C. HOFMANN.
2. A New Plastic Operation on the Cheek, with Double Flaps. F. NEUGEBAUER.
3. The Sterilization of Silk Catheters. M. W. HERMAN.

1.—It is now generally understood that the best method of administering anesthetics is to allow plenty of air. Holmann believes that **quiet talking**, and **counting aloud** will keep some individuals still while taking an anesthetic. But to make them **begin counting at 200**, and **count backward** will cause them to breathe quietly and regularly. Patients take more easily to this than to ordinary counting. He lets the counting begin a minute before a drop of the anesthetic is used, and then this is added drop by drop, gradually, so that enough air enters the lungs to prevent coughing, etc. Hypodermic injections of $\frac{1}{4}$ to $\frac{1}{2}$ of a grain of morphine, before the anesthetic is given, will also help to cause regular, deep, quiet breathing throughout the entire operation. [M. O.]

2.—Neugebauer operated upon a child, 5 years old, part of whose cheek, near the angle of the mouth, had been

destroyed by **noma**. He employed **Krause's method**, making **two skin flaps**, without pedicles, from the neck. In two weeks the double flaps had grown together, and cicatricial contraction was not noticeable. The results of the Krause double flap method, without pedicles, cannot be distinguished functionally from the operations with pedicled flaps. [M. O.]

3.—While metal catheters are easily sterilized by boiling, the **sterilization of silk catheters** has always been difficult. Hermann has experimented with an **ammonio-sulphuric solution**, concluding that silk catheters become more elastic, and are in no wise harmed by being boiled 5 hours, frequently, in this solution; that very dirty catheters will be sterilized after boiling from 3 to 5 minutes in this solution; that they can be used straight from the solution, without injury to the urethra; and that metal and elastic catheters, sounds, and bougies can be sterilized in this solution also. Herman believes that this is the simplest and best method for sterilizing silk catheters. [M. O.]

January 26, 1901. (28 Jahrgang, No. 4.)

1. Chirol.—R. SCHAEFFER.
2. Two Technical Propositions in Gastro-enteric Surgery. M. SCHMIDT.

1.—In reply to Kossmann's last article defending the use of **chirol** upon the hands in vaginal examinations, (of midwives especially), Schaeffer repeats his objections to chirol, and details six experiments with the bacillus pyocaneus and the bacillus prodigiosus, in all of which the chirol showed its inefficiency. Schaeffer strongly deprecates its use. [M. O.]

2.—Schmidt suggests **gastro-duodenostomy**, after separation of the duodenum from the pylorus, and occlusion of the pylorus. This can take the place of resection of the pylorus, or of gastro-enterostomy, especially when the pylorus is badly affected, and the duodenum is healthy. He also suggests a **plan to avoid the purse-string suture** when using the Murphy button. For this, he advises pushing and rolling the half of the button into place in the intestine, until it reaches the spot where it is wanted. Schmidt would be glad to hear of results of either of these propositions in practice. [M. O.]

February 2, 1901. (28 Jahrgang, No. 5.)

1. A Divided Ureter Treated by Direct Suturing. VON GUBAROFF.
2. The Treatment of Oblique Fractures of Both Bones of the Leg by Bardenheuer's Weight Extension. O. WOLFF.

1.—When it is impossible to stitch the torn end of a **divided ureter** into the bladder, the **two ends can be sutured together**. Von Gubaroff reports an operation for the removal of an enormous fibrosarcoma, during which a bit of the right ureter was carried away. As Van Hook's typical method of joining the ends would have taken too much time, von Gubaroff divided the lower end lengthwise, and invaginated the upper into the lower end, putting in sutures running lengthwise. A sound was first introduced. The technique is shown in several drawings. The operation was quite successful. Laying the ureter free, as was done in this case over 4 cm., seems to have had no bad effect upon recovery. As the patient died a month later, the autopsy showed the **excellent result of operation**. [M. O.]

2.—Wolff, in reply to Kaefer's recent criticism of **Bardenheuer's weight extension** believes that it is only when the technique is faulty that this method of treating **oblique fractures of both bones of the leg** is unsuccessful. He mentions the details of the technique as it should be, the large weight required, (30 to 35 lbs.) and that extension must be constant, day and night. In his experience this treatment has not been followed by shortening. [M. O.]

February 9, 1901. (28 Jahrgang, No. 6.)

1. A Consideration of the Injuries of the Soft Parts and the Origin of the Hemorrhage in Hemarthrosis Genui. C. LAUENSTEIN.
2. A New Procedure in Treating Fractures of the Patella. POPPER.
3. The Treatment and the Prevention of Arthrogenous Contractures in the Knee-joint. C. BURNS.

1.—A **bloody effusion into the knee-joint** is treated in

three different ways: (1) by compression, massage, movements, etc.; (2) absolute rest, with ice, elevation, etc.; and (3) puncture, with rest following the withdrawal of the effusion. The last method has been commonly employed in Hamburg, where Lauenstein operated mainly upon sailors. It removes the effusion more quickly than any other way. Besides, it will permit observation upon the origin of the hemorrhage, especially when the soft parts have been injured. For this, Lauenstein used a long probe, passed through the canula, with which he found injuries of the capsula and ligaments. After cleaning out the joint, it is put at rest with a tight bandage. [M. O.]

2.—Popper has described his method of treating fractures of the patella. He places pieces of adhesive plaster above the upper fragment and below the lower fragment. Then pulls them together, passing one through the other. Another strip of adhesive plaster passes over them. Plaster of Paris bandages are applied below and above the knee, over the ends of the adhesive strips. The next day massage is begun, even while the plaster casts are on. After 2 or 3 weeks, the plaster bandages are removed and massage continued. [M. O.]

3.—Burns reports the case of a girl of 8, with a contracture of her right knee following septic arthritis in infancy. Resection of the knee-joint was performed, but the contracture again appeared. The flexor muscles had contracted, especially the biceps. In another case, a boy with the same contracture following fungus of the knee, the biceps tendons were transplanted into the quadriceps tendons, and left bandaged for three weeks. Since then he walks perfectly. The parents of the little girl would not permit operation. Two more cases were operated upon with excellent results. Resection may become necessary later in some of these cases. But transplantation of the tendons gives good functional results. [M. O.]

February 16, 1901. (28 Jahrgang, No. 7.)

1. An Original Mechanical Treatment for Inguinal and Femoral Hernia. W. WOLFERMANN.

1.—Wolfermann believes that a number of the operations for the radical cure of hernia are performed because of the trouble caused by uncomfortable, incorrectly applied trusses. The pressure of the spring used must not be too great. Constant correctly applied pressure will cause inflammation in the inguinal canal with some adhesion of the opposing walls, and eventual cure of the hernia. Yet the truss should be worn for some months longer. His truss has a long, oval cushion, with its convex surface so applied to the abdominal wall that its highest point covers the abdominal opening of the inguinal canal. Details of the manufacture of his patented truss, of its usefulness, and of how it should be applied, are given, with some of its good results. [M. O.]

March 16, 1901. (28 Jahrgang, No. 11.)

1. An Aid in the Demonstration and Study of Roentgen Negatives. K. LUDKOFF.
2. An Additional Hint in Ether Narcosis. W. REINHARD.
3. Benzin in Surgery. F. FRANKE.

1.—The Roentgen negative has been used for demonstration in Koenigsburg, with the Hirschmann apparatus, a closed box containing an electric light, with the negative fixed before it, in a darkened room. Ludkoff has found that by using an ordinary opera-glass, the details of the negative will come out wonderfully clear. A window may be substituted, though the light will not be as strong. [M. O.]

2. On account of the accumulation of mucus in the throat, so common when ether is employed as an anesthetic, Reinhard uses atropin, with morphin or codein, hypodermically, before operation. Beside drying up the secretion, atropin acts as a stimulant. [M. O.]

3.—As a substitute for ether in removing fat, dirt, adhesive plaster, etc., from the skin before operation, Franke uses benzin. It is cheaper than ether, does not have such a frigid effect, nor does it burn, like ether, upon open wounds. Franke has used benzin for ether for years, since many consider the odor less objectionable than the ether. [M. O.]

March 23, 1901. (28 Jahrgang, No. 12.)

1. The Application of Bandages in Fractures. F. BAEHR.

1.—The main cause of failure to secure union of the

bones after a fracture is the poor or loose application of bandages. Baehr applies pressure by loops about either end, in oblique fractures especially, pulling the two ends into place while the plaster bandages are applied. This secures excellent apposition. Baehr reports two cases treated thus. The loops pull in opposite directions. Both cases healed in three weeks. This simple method is especially serviceable in fractures of both bones of the forearm or leg. [M. O.]

March 29, 1901. (28 Jahrgang, No. 13.)

1. The Technique for Radical Cure of Large Ventral Hernia. SALISTSCHIEFF.

1.—Saltstschiff reports two cases of large ventral hernia in which he operated. The first patient was a man of 30, who, three months before, had cut across his left rectus muscle in the upper abdomen, in an attempt at suicide. This had not been stitched, and a hernia had formed. The sac was replaced in the abdominal cavity, the peritoneum closed, and two flaps cut from the rectus, 8 cm. above and below the cut. These were then turned back and united. Fascia and skin were closed afterward, and he recovered. The second patient was a man of 39, with a hernia through the external oblique muscle. After closing the peritoneum, he cut a long flap from the rectus, and drew it over the opening. This also healed well. No degeneration of the muscle has occurred, and the radical cure in both cases was accomplished. [M. O.]

CENTRALBLATT FUER INNERE MEDIZIN.

February 16, 1901.

Concerning the Demonstration of the Presence of Bilirubin in the Urine by Means of the Ehrlich-Diazo Reaction.

F. PROESCHER.

Proescher has previously reported that he has isolated azobilirubin in chemically pure form. He considers that the diazo reaction is specific for bilirubin, and is extremely delicate. Biliverdin and bilihumin either do not give the reaction or give it in only the slightest degree, and this is even more markedly true of bilifuscin and bilifrasin. The reaction, he states, is an extremely striking color change, and is carried out by saturating 10 c. c. of urine with ammonium sulphate, separating the pigmented precipitate on a small filter, and extracting the pigment with 95 per cent alcohol. The alcoholic extract is acidulated strongly with HCl, and the diazo test, using the ordinary solutions, is carried out. If bilirubin is present the fluid takes a striking blue color. If caustic potash solution is added it becomes red at the neutral point, and when the mixtures becomes alkaline it takes a marked green color. It is best to precipitate with ammonium sulphate and then extract, rather than test the urine directly, as other substances in the urine interfere with the reaction. He states that one can in this way determine the presence of one part of bilirubin in 60,000 parts of fluid. [D. L. E.]

March 16, 1901.

On Reflex Excitation of the Pulse.

M. HEITLER.

Heitler refers to some observations previously reported (which were abstracted in the Philadelphia Medical Journal from the *Wien. Klin. Woch.*, 1899, No. 52). These consisted of a note of increase in the volume of the pulse in a neurasthenic man after percussing the region over the liver and a similar observation when the precordia was percussed. As the pulse grew larger in size the cardiac dulness grew smaller. He has investigated this phenomenon further in a series of persons, chiefly convalescent from slight illnesses, and finds that the phenomenon occurs in the minority of cases only after irritation of the region of the heart and liver; in most cases it occurs after irritation of the heart and liver region, but also after irritation of the skin, the bones, the muscles, the mucous membranes, and the arteries, and after flexing and extending the extremities. Those persons who show the phenomenon after irritation of various regions exhibit a marked variety in the manner in which the phenomenon is produced. With some the reflex is produced only by irritation of the skin in definite regions; in others irritation of the whole skin surface, and in still others by irritation of other tissues, or by irritation of any

of the body tissues. The phenomenon is much more pronounced as a rule after irritation of the sternum than after irritation of the surrounding regions, though the surface over the ribs near the sternum and over the inner end of the clavicles apparently reacts readily, and a particularly irritable region is that over the 5th rib between the parasternal and mammary lines. The reflex after percussion of the liver region is produced only when this percussion is undertaken directly over the liver, not as a result of percussion of surrounding regions. The phenomenon varies in the same individual on the same day or different days, sometimes being produced by irritation of the same regions, and at other times not by the methods first used, but by irritation of other areas or tissues. Irritation of one region of the body produces a reflex which gradually decreases in intensity. It is notable, however, that if the pulse is excited by irritating one region, although irritation of this region will soon lose its effect, irritation of another region will then cause a much more active reflex than if there had been no previous excitation of the pulse. Also, if irritation of the skin causes no reflex, percussion of the liver and subsequent irritation of the skin will frequently produce a reflex. The appearance of the reflex is sometimes very rapid and sometimes slow; it sometimes persists for a considerable period and sometimes rapidly vanishes. The reflex from irritation of the skin is much more marked than that from irritation of the muscles or from irritation of the bones. A change in the pulse after stroking a large area of the skin is not greater than that after stroking a small area; it is sometimes even less. [D. L. E.]

NEUROLOGISCHES CENTRALBLATT.

March 1st, [No. 5.]

No. 1. A Little-Known Tract of Fibres in the Periphery of the Anterolateral Portion of the Cervical Cord. By v. BECHTEREW.

No. 2. Intermittant Claudication. By GOLDFLAM.

No. 3. Amyotactic Dysphagia. By ROSSOLIMO.

No. 4. The Histology of the Changes Produced by the Compression of the Spinal Cord by Vertebral Tumors.—By BIELSCHOWSKI.

No. 1.—Von Bechterew refers to the band of fibres that he described in 1894 under the name of the "Olivary Tract." In regard to the direction in which these fibres pass, he believes that they invariably convey impulses downward, and of course, degenerate in the same direction, although Pick is of a contrary opinion. They probably have some relation to the lower olive, although there is not at present sufficient evidence to prove this point. It is not certain that they are similar to other tracts in this region. They have been described by various writers. J. S.

No. 2.—Goldflam has observed altogether the considerable number of 24 cases of intermittant claudication. The symptoms of this condition are the development of pain or paraesthesia in the legs after more or less prolonged effort at walking, which disappears after a brief period of rest, and reappears upon renewed exertion. During these attacks it has been observed that the pulse in the artery of the foot has disappeared, and the pathology therefore consists in more or less complete occlusion of the arteries of the lower extremity. The feet as a result are cold, cyanosed and slightly swollen and the muscles often slightly wasted. In the 24 cases observed by Goldflam pulsation in the dorsalis pedis artery was absent in 13 cases on both sides; in 10 cases on one side; and in 1 case it was very weak but palpable on both sides. The posterior tibial artery could not be felt on either side in 7 cases, and on only one side in 8 cases. In the remaining 9 cases the pulse was present. The symptoms of this disease may last for many years, but as the vascular condition is progressive they usually increase in severity, and from time to time there will be spontaneous attacks of pain. In addition there are often vasomotor disturbances that contribute to the symptoms. In some cases the paraesthesia exceeds the pains, as in the case of a man 30 years of age, exposed to severe weather in his occupation of forester. He suffered from a feeling of cold in the toes, particularly in the great toe, and the 4th toe. In this case pulsation was absent from the artery of the foot and there were evidences of

occlusion of the veins. He also reports the case of a man 40 years of age in whom the symptoms appeared on only one side, whilst on the other the artery pulsated freely and there were no pains. Another case in which the artery could not be felt in either foot, but the vasomotor symptoms were present in only one foot, and in that the pains occurred. The author also reports a case occurring in a man of 23, and involving only the left leg. In regard to the etiology of this condition it occurs naturally among older men. Twenty-one cases were over 30 years of age. In only one case was diabetes present, and in this the sugar appeared long after the claudication. Many of the patients were smokers, but some had never used tobacco, and the withdrawal of the weed had no beneficial effect. As 2 cases have occasionally been observed in the same family, it is possible that there is a family predisposition, and neuropathic disposition is also of influence. Syphilis and alcohol appear to be without any influence. Some of the cases closely resemble Raynaud's disease, as for example the following, occurring in a woman of 30 who had had a severe persistent pain in the ring finger of the right hand, that had failed to yield to any treatment, even operative interference. She also suffered from migraine, the attacks occurring from one to several times a month. Her parents were first cousins. Two sisters had distinct neurotic manifestations. The ring finger of the right hand was bluish at the extremity, and the whole hand was colder than the left. There were evidences of nephritis and weakness of the heart. The finger was finally amputated, but the patient died of heart disease a few months later. There was some thickening in the artery of the amputated finger. Goldflam believes that the purely functional Raynaud's disease may, in time, produce vascular changes in the peripheral arteries. In regard to the treatment of intermittant claudication, it should be directed partly to the prevention of the most serious complication, gangrene, and partly to the relief of the symptoms. The patient should be directed not to make any tours on foot. The feet should be kept warm, and should be protected against the wet. Alcohol and tobacco should be forbidden, and only milder forms of food consumed. No drugs are of value, not even the iodides, or nitrites. In a few cases a transient improvement may be obtained from electrical treatment. [J. S.]

No. 3.—Rossolimo reports 3 additional cases of difficulty in swallowing. The first, a woman of 38, with a bad hereditary history, who had suffered a great variety of forms of anxiety, developed fear of swallowing at the age of 36. This lasted about 3 months, and disappeared after the administration of sodium bromide and static electricity. The next patient, also a degenerate, a woman of 31, as a result of emotional disturbances had difficulty in swallowing, at first solids and later liquid foods. She was not improved by treatment. The third patient, a man of 26, without neuropathic heredity, had had a variety of infectious diseases. As a result of a severe cold he employed large quantities of snuff, causing dryness of the throat and difficulty in swallowing. This was relieved by local treatment. Renewed indulgence in snuff caused complete inability to swallow. These symptoms continued for 11 years. [J. S.]

No. 4.—Bielschowski reports the case of a woman who had had a tumor of the breast followed by metastasis to the spinal column, involving the bodies of the vertebrae from the 6th to the 8th dorsal, and causing pressure upon the spinal cord, without invasion of the membranes. Sections of the spinal cord from this region showed by Van Gieson's stain a peculiar sieve-like condition of the white substance, as a result of the degeneration of the nerve fibres. There were also numerous compound granular cells, some normal fibres, and various colloid bodies. The neuroglia was not markedly changed except in the posterior columns, where it was somewhat hyperplastic. The cells showed extreme degeneration, both by this and Nissl's method; the pia mater was normal. Microscopically a few black bodies were found, and a considerable number of fat granules in the small vessels. There was secondary degeneration in the pyramidal columns below the lesion and in the posterior column above the lesion. Schultze's comma degeneration was present in the posterior column below the lesion. Flechsig's oval area was not, however, involved. [J. S.]

ZEITSCHRIFT FUER ORTHOPAEDISCHE CHIRURGIE.

1901. [Volume 8, Nos. 3 and 4.]

16. The Etiology of Deviations of the Trunk. P. LORZEN.
17. The Origin and Treatment of Club-Toes. C. HOFMAN.
18. Hysterical Scoliosis of the Wertheim-Salomonsen Type. J. SHOEMAKER.
19. Inexpensive Bandages. W. SENDER.
20. The Funnel Breast. CHLUMSKY.
21. The Orthopedic Work of the late Professor Albert. A. LORENZ.

16.—An uncomplicated lateral curvature of the spine is rare, as there is generally some asymmetry of the body. The physician must first decide whether a *true deformity* (scoliosis, kyphosis, etc.) is present, or whether there is merely an *anomaly of position*. From long study, Lorenz believes that every deviation in the shape of the trunk is the result of habitual position, assumed for rest or comfort. That this habit becomes a true deformity depends upon a diseased condition, either general, or localized to the vertebral column. Rarely a position which has been a habit for years may of itself become a deformity. Or an attitude, formerly assumed only on walking or standing, may, during illness, become permanent. This occurs more often among girls than boys. In early life, rachitis predisposes to deformity later. Deformity may occur from long standing, depressing disease or during convalescence from any illness. Chronic rheumatism may predispose to deformity, especially in those who habitually return to a position of rest. Pleurisy and sciatica act in the same way. The deformity following rheumatic myositis generally appears in the upper half of the trunk, with torticollis. Lumbago may cause a similar anomalous condition of the lumbar vertebrae. In such cases an infiltration appears in the affected muscle-fibres, which then remain distended, producing the deformity. In some of these cases, the spinal column is undoubtedly affected. In treating these cases, any existing local affection must first be cured. Apparatus will do harm in children in whom faulty position causes apparent deformity. Exercise is then needed. If true deformity exist, immobilization, with general and local treatment, is necessary. In all cases, the cause of the deformity must be sought, and removed. Finally, in cases which at first seem hopeless, bandages and systematic movements may be the means of discovering a local curable condition. [M. O.]

17.—Club-toes (hammer-toes) is the name given by Hofman to that deformity in which the toes are held in a position of plantar flexion and median adduction. With this exists some grade of flat-foot. Hofman describes two such feet, found accidentally in a cadaver. As in hallux valgus, there can be no suspicion of arthritic process. Hofman reports the case of a man who hurt his knee a year ago, since when he has voluntarily assumed the position in which the knee hurts least. This is the club-toe position, described above. The deformity is not fixed, and he can walk normally, but with pain in the knee. Hofmann concludes that club-toes, when not congenital, may exist whenever the toes assume an acquired position, due to some painful condition, and that this position may in time become a true deformity. Therefore the cause of the condition must be sought, and treated if possible. Tenotomy may be necessary, after immobilization. Finally resection of the first phalanx, or of the head of the metatarsal bone of the great toe may be performed. [M. O.]

18.—Shoemaker gives the details of two cases of hysterical scoliosis already reported by Wertheim-Salomonsen, and reports another case. All three were easily cured. The position assumed is the following: the patient stands on one leg, which is straight, extended, and somewhat adducted, the pelvis and shoulders are oblique, the pelvis higher and the shoulder lower upon that side on which the leg is extended, and there is a compensatory scoliosis. Shoemaker believes that the scoliosis is purely secondary, and that the condition should be termed the "hysterical hip position." The patients describe a feeling as if something had broken in the hip, upon flexing the extended leg. Salomonson believed this to be a physiological subluxation of the femur. But Shoemaker shows that anyone can produce it upon himself, and that it is due simply to the extended fascia lata slipping over the femur. The difference in the length of the legs is due to the different func-

tional activity of the two legs. Nothing abnormal can be found in either. Hysteria is undoubtedly the cause of this position. [M. O.]

19.—Sender describes Professor Turner's inexpensive substitute for plaster of Paris dressings, consisting of cellulose-wadding (lignin), ordinary glue, and gauze bandages. He describes its application. It is as good as Plaster of Paris, and much cheaper. When good glue is employed, the odor only remains a day. [M. O.]

20.—In 1860 an unknown Frenchman described that deformity of the anterior chest wall known as "funnel breast. The deepest point of the funnel lies in the sternum near the xyphoid process. The cartilages of the ribs rise convexly to either side of this median cavity. The depression is either oval or round; its depth varies, the deepest point lying below the intermammary line. The sternum shows backward kyphosis, either throughout its entire length, or at the lower end. The sternum may also show slight lateral curvature. The outward convexity of the ribs may be equal on both sides, or one side may project less than the other. Different grades of scoliosis or kyphosis are generally found with the deformity. It does not affect the rest of the thorax in any way. It is generally congenital, and may be hereditary. It is probably due to a defect of development, in individuals with a tainted family history. Rarely it is acquired, following rachitis, mediastinal tumors, etc. In its treatment, respiratory gymnastics should be used with trumpet blowing and local applications tending to decrease the atmospheric pressure, that the internal pressure may help to push out the deformity. Chlumsky reports in full five cases of funnel breast in children, with histories, and excellent photographs. [M. O.]

21.—Lorenz describes the varied and valuable work of the late Professor Edward Albert in the field of orthopedic surgery. The article is practically a review of the subjects and operations of interest to orthopedists during the past 50 years, with a detailed account of Professor Albert's opinions and operative procedures. [M. O.]

DEUTSCHE MED. WOCHENSCHRIFT.

March 21.

1. The Epidemic of Typhoid Fever in Goettingen in the Summer of 1900. P. FRAENCKEL.
2. The Surgical Treatment of Gastric Ulcer and Its Sequelae. W. KOERTE.
3. Experimental Investigations Concerning Compensation in Sensory Ataxia. A. BICKEL.
4. Indifferent Dyes as Stains for Fat. L. MICHAELIS.
5. Concerning the Reputed Immunity of the Hedge Hog to Cantharidin. L. LEWIN.
6. On Trigeminal Symptoms as Initial Signs of Tabes. V. FRAGSTEIN.

1.—Goettingen is usually completely or almost completely free from typhoid since the water supply has been a satisfactory one. Suddenly an epidemic, which altogether produced 51 cases, broke out during the early part of the summer of 1900. The cases were divided into three groups. Twenty-six were evidently from the same source; these occurred first. Seventeen others were from various parts of the city, and 8 cases were from the surrounding regions. All the first 26 cases occurred in persons who frequent one special inn; the source of the disease in this group of cases seemed to be definitely determined to be a well from which they had all frequently drunk, and which might readily have been contaminated with urine. The water of the well, however, apparently did not contain typhoid bacilli, and chemical analysis showed but slight increase of the organic matter. The second group of cases began to appear three or four weeks after the first group, and this second outbreak was probably started by the case of a servant who had washed for one of those first taken ill. The source of the third group could not be determined definitely. The cases occurred chiefly in young persons. The clinical picture was that of a severe infection, particularly in the first group. Seven of the 26 cases in this group resulted in death, while the general mortality in the Goettingen Clinic has for some years been about 8%. Of the remaining cases, those of the second and third group, but 2 were fatal. An interesting observation was the fact that bronchitis was unusually rare, only 11.5% of the cases showing it. The disease in the cases which were not fatal was usually prolonged, the average duration of treatment in the first series being 57 days, and there were 6 in this group who were treated for from 70 to

109 days. Six of the fatalities were due to severe general infection, 3 to complications. In 1 case there was a violent delirium shortly before death, the latter occurred from heart weakness. One case is noted in which there was an anomaly of some interest; the left coronary artery was absent. This anomaly has frequently been noticed, and is one which Fraenkel is inclined to believe is of some importance. The patient, a student, had shown no signs of heart weakness under ordinary circumstances of living, but there was a history that if he indulged in any very active exercise he had attacks of heart weakness. This Fraenkel believes was due to the fact that the single coronary artery was just about sufficient to maintain proper nutrition of the heart muscle under ordinary circumstances but did not suffice when special strain occurred. This patient showed marked degenerative changes in the heart, and Fraenkel believes that it is quite possible that the anomaly made the heart less resistant to the influence of the typhoid toxin. One case showed a wide-spread petechial eruption shortly before death, evidently a septic eruption. Bacteriological study of this case is not given. (To be concluded). [D. L. E.]

3.—Bickel discusses the source of the compensation which occurs in many cases of ataxia, particularly under treatment, and which may be observed in animals after cutting through the posterior nerve roots. He has made a series of investigations, in association with Jacob, and states that after compensation for the ataxia has been reached in animals, subsequent to cutting the posterior nerve roots, extirpation of the labyrinth causes a new onset of ataxic phenomena which are not followed by such marked compensation as was present previously. He also found that cutting off the sense-motor zones of the cerebral cortex in animals who had gained some compensation for ataxia, in the manner previously mentioned, would cause a new onset of marked atactic phenomena which were not compensated to nearly the same degree as had been the case after the preliminary lesion of the nerve roots. He also observed in one animal that division of the nerve roots was followed by the usual ataxia which was compensated largely. The subsequent removal of a small piece from each of the four cortical zones was followed by ataxia which again was largely compensated, but the removal of the remainder of the senso-motor zones was followed by a third onset of outspoken ataxia. Bickel decides that there is no doubt that the labyrinth has some relation to the production of compensation in ataxia. This is also certainly due in part to the motor-zones in the cortex, and probably other regions will be found to be important in this connection, particularly the optic thalamus, the corpora quadrigemina, and, in especial the cerebellum. [D. L. E.]

4.—Michaelis first gives a technical definition of indifferent stains. Acid stains are produced by the entrance into the molecule of an electro negative group, the basic stains by the entrance into the molecule of an electro positive group, while those which Michaelis terms indifferent stains are produced by the entrance into an azobenzol molecule of an indifferent group. He has found that these stains have a peculiar affinity for fats. A stain which is to be considered a stain for fats must have such affinity for fats as to diffuse spontaneously into fat from a 70% alcoholic solution of the stain. Michaelis particularly recommends scarlet R. He considers this even better than Sudan III. It does not stain cholesterin crystals, but it always stains fats of any kinds and stains nothing but fats. The staining is best carried out by using a saturated solution of the dye in 70% alcohol. [D. L. E.]

6.—While trigeminal symptoms are not uncommon in the later stages of tabes they are extremely rare as initial signs, and very few cases have been reported. In the case described, a man of 38, who had had syphilis 13 years previously, complained of a trigeminal neuralgia involving all the branches of the nerve, the pain being of a peculiarly sudden, lightning-like character which suggested a possible tabetic process. There was, however, an entire absence of other signs of tabes. Antisyphilitic treatment caused no improvement. A year and a half afterward the man was found to have a complete sensory paralysis of the trigeminal, with the exception of taste sense. He presented at that time very distinct signs of tabes. The seat of the lesion of the trigeminal must have been between the nucleus and the ascending root, or in both regions, because of the absence of disturbance of taste and of any trophic or vaso-motor symptoms. [D. L. E.]

MUENCHENER MEDICINISCHE WOCHENSCHRIFT.

March 12, 1901. (Jahrg. 48, No. 11.)

1. Subcutaneous Injections of Paraffine. By Meyer.
2. A Case of Cerebral Pressure Produced by a Rupture of the Sinus, Cured by Operation. By Bertelsmann.
3. Chronic Inflammation of the Spinal Cord with Ankylosis. By Bender.
4. A Case of Polyneuritis. By Zahn.
5. The Arsenic Question. By Stich.
6. A Case of Paralysis of the Point of Insertion of the Placenta. By Gerlach.
7. The Treatment of Panarthrititis. By Schulze.
9. Spring Mydriasis. By Gessner.

1.—Meyer, in view of Gersuny's suggestion that hypodermic injections of paraffin could be used with advantage for cosmetic or mechanical effects, because they remain indefinitely in the tissue without causing any reaction or being absorbed, has injected animals with various quantities of this substance, and has found that as a matter of fact, a considerable portion was gradually removed from the original mass and could be found in the lymph glands. Other animals had definite quantities injected into their bodies, and a very careful analysis was made to determine how much remained. It was found that one rabbit in 4 weeks lost 20% of the injected mass, and another in 8 weeks more than 50%. [T. S.]

2.—The patient, a woman of 40, had been violently thrown upon the pavement, and received a severe blow upon the back of the head. She immediately became unconscious, then partially regained consciousness for a short time, after which she had general convulsions, vomiting, and slight paralysis of the face. As the patient's condition grew worse, and she was apparently moribund, an operation was performed. At the seat of injury the brain showed all the symptoms of compression, and as the dura was lightly dissected away from the skull, a considerable quantity of dark blood gushed forth. There was also blood beneath the dura, and this was accordingly opened and pressure relieved. The bleeding apparently came from the torn sinuses at the torcula. It was arrested by tampons, and the patient subsequently had an uninterrupted but slow recovery. It is possible that in this case the injury had not completely torn the sinuses, but that the subsequent vomiting had so increased the cerebral pressure that it had ruptured. Subsequently further hemorrhage was caused by the convulsions. [J. S.]

3.—Bender reports the case of a girl 24 years of age who had been obliged to work 9 or 10 hours a day in one position for 9 years. Four years ago she began to have pain in the back, especially in the morning. This extended to the neck, and gradually she perceived stiffness of the spinal column. Her present condition is as follows: She has total ankylosis of the spinal column, with slight kyphosis of the cervical region, and extension of the thoracic region. Slight tenderness of the first dorsal and first lumbar vertebrae, fixation of the thorax, so that the respiration is purely abdominal; some atrophy of the muscles of the back and shoulders, but absolutely no involvement of any of the other joints. Otherwise the patient is apparently healthy. The case corresponds to the rhizomelic spondylosis of the type of Von Bechterew, with the exception that there is no hereditary factor. Bender believes that this case is best explained by assuming an ossification of the intervertebral disks. [J. S.]

4.—Zahn reports a case of polyneuritis occurring in a woman 32 years of age, who had had no infectious disease, who was not exposed to any intoxication, and had not received any injury. The first symptoms were rapid fatigue in the legs after walking, then difficulty in moving the arms, and finally severe pains in the limbs. There was marked impairment of memory. She became irritable and moody, and was brought to the hospital, where it was found that the symptoms of chronic multiple neuritis were present, with slight contracture of the left knee. The paralyzed muscles showed the reactions of degeneration.

The patient was treated with electricity, rest and massage, and rapidly improved. She died, however, of another disease. Microscopical examination of the crural nerve in the spinal cord was entirely negative. The interesting features of the case are the distribution of the lesions, that is to say, chiefly the extensors of the legs, and the absolute impossibility of discovering any cause. [J. S.]

5.—Stich reports some interesting cases; one in which arsenic was obtained from the stomach contents of a woman who had been poisoned by placing a large quantity of arsenic in the vagina. This was evidently a form of excretion with the gastric juice. In another case, a girl of 21 showed the presence of arsenic in the stomach contents and feces, and arsenic was also discovered in the organs of her 3 months' fetus. In a third case, a man who had taken enormous quantities of arsenic for the cure of a skin disease, showed the presence of a perceptible quantity in the urine. Snails were then poisoned with arsenic, and it was found that there was a general dilation of the lymph vessels, increase in the quantity of pigment, fatty degeneration of the protoplasm of the parenchymatous cells without any symptoms of inflammation. Plants were also poisoned, and it was found upon analysis that they absorbed very little of the poison. [J. S.]

6.—Gerlach reports a case of persistent hemorrhage resulting from paralysis at the insertion of the placenta. After all other methods of stanching had failed, he packed the uterus with gauze soaked in a solution of ferric chloride. The patient recovered. [J. S.]

7.—Schulze having had occasion to treat a case of pan-arthritis of the thumb in which operation was refused, observed that after the expulsion of the necrotic distal phalanx, the callus that had formed about it took its place and was capable of performing all its functions, the only defect being that it was slightly wider. He subsequently treated other cases expectantly with like results. [J. S.]

DEUTSCHE MEDICINISCHE WOCHENSCHRIFT. . .

March 14, 1901. (Vol. 27, No. 11.)

1. A Biological Proof that the Albumin in the Urine of Nephritis is Derived from the Blood. V. E. MERTENS.
2. Concerning the Question of the Destruction of Tubercle Bacilli in Fatty Foods. A. GOTTSTEIN and H. MICHAELS.
3. Concerning Lipochrome of the Ganglion Cells. M. ROTHMANN.
4. Erythema Exsudativum Multiforme Following Chemical Irritation of the Urethra. J. HELLER.

1.—Treated editorially.

2.—The authors have further investigated the question of the degree of heat to kill tubercle bacilli in fats, and the time of exposure needed for this purpose. They took a mixture of fats which became fluid between 40° and 50° C., and afterwards solidified at about 25° C. They then gradually brought the oily mass to a temperature of 87° C. and injected animals at once after it had reached this temperature, as well as after five, fifteen, thirty, forty-five and sixty minutes. The 13 animals which were injected with the mass after it reached 87° C. escaped tuberculosis without exception. They decide, therefore, that heating for five minutes or longer to a temperature of 87° C. is quite sufficient to sterilize oil infected with virulent tubercle bacilli. This is contrary to the statement of Rabinowitsch. [D. L. E.]

3.—Rothmann directs attention to the fact that the pigment found in the ganglion cells is of fatty nature. He then reports his results from the study of a number of animals which had advanced to what was for their species an old age. Horses over fifteen years of age contained large numbers of these granules in the ganglion cells, as did the cells of an old dog, and he decides that the presence of this pigment in the ganglion cells is proportionate to the age of the nervous organs examined, and he thinks that it may be possible by this means to tell fairly closely the age of the animal. [D. L. E.]

4.—The case reported was that of a man of 33 who had had chronic gonorrhea in '92, who had had an acute exacer-

bation in '93, and a similar occurrence in '97. He had married two years later and infected his wife, but under treatment seemed to become entirely well. In October, 1899, after bathing the penis in 20% creolin he had marked swelling of the organ, afterward followed by swelling of the right wrist and fingers and back of the hand, with a free secretion of sero-purulent fluid from the urethra, which contained no gonococci and very little diplococci, but a large number of other cocci, together with a number of pus cells. Soon after he had a general eruption of erythema multiforme which persisted for over a month with occasional exacerbations. Soon after this, however, he recovered entirely. This is said to be the first case in which chemical irritation of the urethra caused such an outbreak. The skin affection has been observed with gonorrhea or other inflammation of the urethra, but not as a result of the irritation may be considered an auto-intoxication, and in this case he thinks that it was an auto-intoxication from the serum secreted in the urethra and into the skin following the irritation of the creolin. [D. L. E.]

JOURNAL DES PRATICIENS.

March 23, 1901. (XVme. Annee, No. 12.)

1. Electrical Treatment in Spasmodic Stricture of the Esophagus. H. BORDIER.
2. Pyramidon. M. DEGUY.
3. Worms in Appendicitis. L. METCHNIKOFF.
4. Antidiphtheritic Serumtherapy at Present. H. GILLET.

1.—Spasmodic stricture of the esophagus is a neurosis which may be idiopathic, with emotion; symptomatic, with irritants, poisons, etc.; or sympathetic, with pregnancy. Its main symptom is dysphagia, either complete or incomplete. It may occur during a meal, in a healthy individual, with pain, some dyspnea, and anxiety. Its duration varies from a few moments to days, or even weeks. It is often intermittent, and then persists for years. The point of the stricture can be found by passing an esophageal bougie, which, when left in place, will often cause a gradual relaxation of the muscle-fibres in spasm. Many methods of dilation have also been tried. But electricity acts in a far superior manner. It may be applied directly or indirectly. In the indirect method, both sides of the neck are treated daily with galvanism, to affect the vagus and pneumogastric nerves. Directly, electricity is given in three ways. In all, an esophageal bougie with electrical attachment is introduced to the point of the stricture. Static electricity, the faradic, and the galvanic current are employed. Bordier advises the indirect method first. If this fail, faradization, and finally galvanization should be employed. [M. O.]

2.—After reviewing the literature of pyramidon, Deguy believes that it can be used in headaches, neuralgia, sciatica, and febrile tuberculosis; that it does not nauseate; and that it acts quicker, in smaller doses, than antipyrin. Its use is especially indicated in influenza, where it will reduce a rapid pulse, decrease a high temperature, and cause profuse sweating with the disappearance of all pain. In influenza one grain can be given every two hours; in migraine, etc., 5 to 7 grains should be given immediately. [M. O.]

3.—Four years ago, Metchnikoff, believing that intestinal worms could cause appendicitis, found ova of the ascaris lumbricoides and trichocephalus dispar in fecal matter from a young girl, aged 19, who had already had six attacks of appendicitis. Santonin was given, and repeated several times. She has been well since, over four years. Lemoine reported two similar cases, in a child of 12, and a man of 23. Both have been well ever since. He also quotes another case, a boy of 10, who recovered after passing two ascarides. It is impossible to state the exact condition of the appendix, as the four cases recovered without operation. But the clinical symptoms were typical of appendicitis. Other cases have been discovered in the literature, of worms found in the appendix, or in the peritoneal cavity after perforative appendicitis. The action of intestinal worms is both direct and indirect. The former is either mechanical or chemical, from their presence alone; the latter is the opening of a lesion which is an excellent field for the action of bacteria. After reporting some other cases, Metchnikoff concludes that in all cases of

appendicitis, the stools should be examined for worms or their ova; that when possible, santonin and thymol should be given, for the expulsion of the *ascaris lumbricoides* or the *trichocephalus dispar* respectively; that raw vegetables, such as salads, strawberries, etc., and unboiled or unfiltered water should be prohibited those with appendicitis, or subject to it; and that the stools of such people, especially of children, should be examined from time to time, or vermifuge given. [M. O.]

4.—Gillet advises small doses of diphtheria antitoxin for the initial injection. At 5 weeks he gives 5 c.c.; up to 2 years, 10 c.c.; after 2 years, 20 to 30 c.c., in simple cases. When more injections seem necessary, 10 c.c. are given. Only rarely does a child receive as much as 90 or 100 c.c. But when the attack is grave, 1500 to 2000 units may be given at once, repeated when necessary. Serum that has been heated to 58 degrees before being injected will be followed by fever eruptions, etc. In hospitals every suspected case should have an injection of 20 c.c. of serum at once, before the result of bacteriologic examination is known. In private practice, while not necessary, such an injection will always be safer. Should dyspnea be noted, the injection is needed. Should the bacteriologic examination be negative, yet the clinical signs typical, give the serum. For if the serum does no good, it at least does no harm. If the general condition remain low, if the membrane increase, or the temperature remain elevated, repeat the injection. Albuminuria is not a contraindication to the use of serum. Nor is the presence of other bacteria, associated with the diphtheria bacilli, a contraindication. The causes which prevent the success of the antidiphtheritic serum are the rapid toxicity of the bacilli, secondary infection, asphyxia from obstruction of the smaller bronchi, and failure of the organism to react. This lack of reaction decreases as the age advances. The serum should be used prophylactically whenever diphtheria bacilli are found in healthy throats, and when an epidemic exists. It seems impossible to obtain immunity to diphtheria. It recurs frequently. [M. O.]

ANNALES DE MEDICINE ET CHIRURGIE INFANTILES.

Februari 1st, 1901.

1. Instruction and Hygiene. E. PERIER.
2. Vegetative Rheumatic Endocarditis with Multiple Emboli; the Presence of a Bacillus analogous to the "Bacillus of Rheumatism," without Associated Microbic Infection. H. BARBIER and L. TOLLEMER.
3. Physical Education in Japan. M. YAMANE.

1.—E. Perier mentions the fact so often noted that school instruction for children is carried on quite regardless of the mental capacity of the growing child. In spite of the cry of alarm so often raised by medical men as to the dangers arising from faulty methods in the subsequent development of the child, those in authority have done nothing, in France, to make the school course more rational and the school hours less arduous. The course of study is quite out of all proportion to the ages of the pupils and the strain upon the nervous system of the children kept in enforced silence and in repressed nervous strain for long periods of time has been too little taken into account. The cry of reform should be heeded. [T. L. C.]

2.—Barbier and Tollemer discuss the gravity of the sequelae of acute vegetative endocarditis in childhood occurring at the mitral and aortic orifices, sometimes effecting the aorta itself and even the cardiac plexus. Very frequently pericarditis occurs with a formation of pericardial adhesions, and to this fact is due the greater part of the gravity of the pathological conditions which arise subsequent to the acute attack. One of the authors has previously published an account of the breaking up of vegetations from the mitral valve and the subsequent production of multiple emboli which seemed in particular to have obliterated almost totally the arteries of the left hemisphere. The history of the case is given. It began as a benign one. On the fourth day, however, without any apoplectic seizure, motor aphasia appeared suddenly, and later a progressive right hemiplegia, particularly affecting the face. Toward the end of the disease there were seen to develop the phenomena of meningo-encephalitis, and at the same time a bed-sore appeared over the right side of the sacrum and purpura developed. The authors call es-

pecial attention in this case to the number of emboli which penetrated the brain and produced areas of necrosis of varying intensity. The trunk of the sylvian artery was totally obliterated and the arteries of the internal striate and lenticule-optic bodies were also obliterated. The anterior cerebral arteries of the left side were not spared nor were certain arteries of the right hemisphere. These authors now present an interesting case of subacute articular rheumatism in a girl of eleven years, in which vegetative endocarditis occurred followed by multiple emboli, aphasia, extensive cerebral softening and death. Two thorough bacteriological examinations of the spinal fluid were made but were all negative save in one on milk in which evidently there had been accidental contamination. Careful notes of the autopsy are given, and thorough examinations were made of the vegetations on the mitral valve. A great number of bacilli were discovered which were extremely difficult to determine. They stained by Gram's method. The bacillus is slightly larger than the *b. typhosus* and a little longer. This bacillus was found only in the mitral vegetations, and they believe that it is identical with that described by Achalmé and Thierloir. [T. L. C.]

3.—Yamane of Tokio contributes a very interesting paper upon the wide-spread interest which has been aroused in physical culture throughout Japan. In all parts of the Empire large organizations with well equipped gymnasiums are flourishing and the course of instruction is fully systematized and carefully carried out. The writer believes that the health of both sexes will be greatly benefited under this system. Already a decided betterment of the moral tone has been observed.—[T. L. C.]

Irreducible Dislocations of the Shoulder.—Legueu, in *L'Independance Medicale* (April 10, 1901, No. 15), reports a case operated for old, irreducible luxation of the shoulder. In such cases two things must be considered, the lesions which prevent reduction, and the lesions which prevent reduction, and the lesions caused by the failure of reduction. The cause of the inability to reduce the dislocation may be a fragment of the tuberosity which has been broken off, with muscles attached; part of the joint capsule, or the tendon of the biceps, has interposed, or the head of the humerus is caught between muscles and tendons. None of these may be present, yet an unreduced or poorly reduced dislocation will become irreducible in time, generally after two months. Retraction of the fibrous tissue of the capsule occurs with sclerosis; bone will probably fill up the joint cavity; and the muscles near the point are altered. To overcome these three elements, three methods of treatment exist, gentle reduction, forcible reduction, and operation. The first are applied after an anesthetic, the former by Kocher's method, the latter with apparatus. Even when the dislocation is reduced by the gentle method, the joint cavity may be obliterated, and good functional use cannot result. The forcible method rarely achieves results. Operation then alone remains. Legueu prefers an antero-external incision, in the line of the deltoid fibers. This was done in the case reported, the head of the humerus being found under the coracoid process which it was necessary to cut. A partial fracture was found in the anatomic head, which had worked into the glenoid, and so prevented reduction. The glenoid cavity was deformed, the muscles and fibrous tissue altered. Resection was then performed at the level of the anatomic neck, the bone left being well rounded off to fit the glenoid cavity. With massage later, Legueu expects a good result. [M. O.]

Success Following Talma's Operation.—Scherwincky reported before the Moscow Therapeutic Society, *Meditsinskoje Obozrenie*, March, 1901) the further progress of his case of hepatic cirrhosis in which he performed Talma's operation about a year ago. The liver and spleen remained in the same condition; the circulation improved markedly; the collateral circulation was well established; digestion was also satisfactory, and the ascites did not recur. The patient, a woman, gained 14 pounds and became pregnant. [A. R.]

ARCHIVES DE MEDECINE DES ENFANTS.

March, 1901. (Volume 4, No. 3).

1. Congenital Cerebral Hemiplegia. WEILL and GALAVARDIN.
2. Diabetes Mellitus in an Infant Six Months Old. BAUMEL.
3. Subacute Diabetes at 22 Months. LE GENDRE.
4. Diabetes due to Hereditary Syphilis. LEMONNIER.

1.—The patient, a girl of 13, entered the hospital a month before death. Rightsided hemiplegia was first noted at the age of two months. She learned to walk later. Her right arm and leg are weaker than the left, and there is marked atrophy and shortening, with pes equinus. The heart is greatly hypertrophied, with a mitral systolic murmur. The liver is enlarged. Edema appeared, and rapidly increased. There was albumin in the urine, and the dyspnea became intense. A few rales were heard. She died suddenly. The autopsy showed a very large heart, with the mitral valve but little affected. Liver and kidney were congested and sclerotic. The left hemisphere, when the dura was removed, was but a cavity, filled with clear fluid. The upper anterior convolutions had disappeared, so that the left hemisphere weighed about half the right. The left crus, and the left side of the pons and medulla showed some atrophy. The walls of the cavity contained no nervous cells; the cord showed the left side smaller than the right; with marked neuroglial sclerosis, and a few motor cells, on the right side below the point of decussation. A diffuse interstitial myocarditis was found. There was no doubt that the hemiplegia was congenital. After a discussion upon the difference between true and false porencephalia, Weill and Galavardin conclude that this is a case of **pseudo-porencephalia**, because there was no idiocy, or other trouble of the intellect. Nor was there any cranial asymmetry [M. O.]

2.—Baumel, who believes that the pancreas is always the cause of glycosuria, reports a case of **diabetes mellitus in an infant of six months**. A general skin eruption appeared upon fourth day after birth. Two weeks before coming to the hospital, her lips, hands, and legs became swollen. She nursed constantly, and urinated frequently. The edema increased, there was meteorism, and the urine contained 1.5 grams of glucose to the liter. This gradually decreased, upon using calcium lactophosphate, and disappeared a month later. After a long discussion, Baumel concludes that the diabetes was caused by the nervous effect of teething upon the pancreas. Thus the calcium given, by helping the evolution of the teeth, cured the glycosuria. [M. O.]

3.—Le Gendre reports a case of **diabetes** occurring in a Jewish boy, aged 22 months, whose grandfather, who had diabetes, died of cirrhosis of the liver. Both his parents were extremely nervous before he was born. He was a precocious infant, ceasing to urinate in bed when 18 months old. He never had convulsions or night-terrors. It was first noted that he was growing thin about six weeks before his death. Next thirst was noticed. There were no signs of rachitis or tuberculosis. He urinated frequently, and again wet the bed. Sugar was found in urine in large quantity. Diet was instituted, and sodium arseniate and phosphate given. The liver was somewhat enlarged. The sugar in the urine increased in amount, and acetone was found. Extract of liver was given by rectal injection. Edema appeared, followed by coma and death. [M. O.]

4. A girl of seven and a half years had grown very thin during the past 3 months, drank 4 to 5 liters daily, and passed great quantities of urine. Lemonnier found her very thin, sallow in color, her skin dry. There was constipation with vomiting. The liver was enlarged, and sugar was found in the urine. Her father had acquired syphilis three years before marriage. This had never been treated. Her mother had had two miscarriages, with one premature still-born child. At birth the patient had coryza, a widespread papular eruption, and ulcers at the commissures of the lips. Mercurial inunctions were employed for a long time. A year later another syphilitic child was born. When Lemonnier had diagnosed diabetes, he ordered 25 grains of potassium iodide, and 30 grains of mercurial ointment daily. Two months later, the liver

had decreased in size, but the urine, though reduced to about half as much in amount, still contained sugar. The inunctions and iodide were given for three weeks at a time, alternately, over four months, after which polyuria and glucosuria had disappeared. Since that time she has had 20 inunctions every three months, and has not had a recurrence for over a year. She now eats everything. Lemonnier concludes that diabetes may be due to nervous lesions of the liver or pancreas, syphilitic in origin, cured by specific treatment; that diabetes may appear as a manifestation of syphilitic diathesis, without the occurrence of the above mentioned lesions; and that, finally, syphilis may create in children of syphilitics, a tendency to diabetes, in which specific treatment will do no good. [M. O.]

JOURNAL DE MEDECINE DE BORDEAUX.

March 24, 1901. (31me. Annee, No. 12.)

1. A Case of Cerebral Tumor Treated by Lumbar Puncture. ABADIE.
2. A Foreign Body in the Trachea. BRINDEL.
3. Influenza in a Child of Three Years and a Half. CORIVEAUD.

1.—Abadie reports a case shown by Professor Pitres, a woman of 42, who had constant violent headache. Since the age of 15, she always had severe headaches during menstruation. At 25, she had a slight sunstroke. The headaches then disappeared for a few years, but returned again. For the past few weeks they have been more violent, extended over the entire head, and continued night and day. The right eye seemed somewhat larger than the left, and the left pupil was dilated. Both pupils failed to react, and the visual field was retracted. **Diplopia** existed; also **left optic neuritis**. There was no vertigo or ataxia, and reflexes were normal. She vomited frequently and had no appetite. Mercurial treatment had no effect, nor had any other drug. Lumbar puncture was performed, 25 c.c. being withdrawn, followed by disappearance of the headache, with no recurrence since. Four days later she began to pick up, her eye-sight was again excellent, and she recovered. Yet she continued thin. The diagnosis of cerebral tumor seems certain. The headache and the optic neuritis were evidently due to increased intracranial pressure, after the removal of which, by lumbar puncture, they disappeared. [M. O.]

2.—Will be abstracted when completed.

3.—Coriveaud reports the case of a boy of three and a half years of age, who had just had whooping cough. He had been out of doors all day, though it was damp and cold, had no appetite, and had not slept well. Physical examination revealed nothing abnormal. The next day he coughed, complained of headache, and had a few moist rales in the bronchi. The cough becomes incessant, he vomited, and broncho-pneumonia developed. Counter-irritants were applied, and he was placed upon milk diet. The fever continued with changes in the resonance and rales. Baths were given to control the fever, which reached 106° F. Beside the baths, a little quinine was given. The cough resembled that of pertussis. He recovered quickly. Coriveaud believes that this was a case of influenza. [M. O.]

RUSSKI ARCHIV PATOLOGII, KLINITSCHESKOI MEDICINI I BAKTERIOLOGII.

January 31, 1901. (Vol. XI, No. 1.)

1. Absorption by the Blood of Minimum Quantities of Carbonic Oxide. S. I. KOSTIN.
2. Miliary Tuberculosis of the Mammary Gland. N. N. MICHAILOW.
3. On the Decomposition of Iodide of Potash in the Digestive Tract. A. STEPANOW.
4. Bacteriolysis of the Plague Bacillus. SH. MALIFITANO.
5. On the Study of Diffuse Congenital Hyperkeratosis. M. SNIESAREW.

1.—S. I. Kostin finds that the present methods of detecting small quantities of carbonic oxide in the air are either inaccurate or so complicated as to be inapplicable for ordinary sanitary analysis. By a series of elaborate experiments he found that blood serves as the best agent for absorbing small quantities of CO, providing the oxygen from the air is previously removed. He devised a simple and ingenious apparatus by which the air is first passed through a solution of cupric sulphate in ammonia which absorbs the oxygen. The blood saturated with the CO is then tested by Kunkel's tannin-test. The author believes with Kobert that small quantities of CO produced a slow form of poisoning which is responsible for many an obscure ailment. [A. R.]

2.—N. N. Michailow reports a very interesting case of primary tuberculosis of the breast. A woman, 33 years old, married and a mother of 4 children. During her last period of nursing the left breast became very painful, necessitating the removal of the child. On examination the right breast was found atrophied with practically no subcutaneous fat. On the skin a few small ulcers (tubercular) were scattered. The left breast was greatly enlarged, firm and heavy; the skin was edematous; the lymphatic glands along the lower border of the pectoralis major were considerably enlarged and some of them adherent to the skin and ulcerated. All the other organs were found normal, and the general condition good. For cosmetic reasons it was determined to remove only the mammary gland, leaving the skin intact. Under chloroform the gland as well as the lymphatics, including those of the axilla which were found diseased, were removed. On examination, both macro- and microscopical, the diseased tissue presented a characteristic picture of miliary tuberculosis. The author notes the strange fact that the affected glands showed coagulation necrosis but in none was cheesy degeneration found. The patient made an uneventful recovery. In connection with this case the author recalls another which came under his observation several years back. That was one of chronic mastitis developing in a woman of 30 at the end of lactation. The breast was enormously enlarged and infiltrated. During a seance of massage at one time there was a sudden discharge from the nipple of a large quantity of a gray fluid which resembled tubercular pus. Lack of experience at that time prevented a correct diagnosis, but now, recollecting the symptoms of the case, the author is positive that he had to deal with a primary tubercular abscess. [A. R.]

3.—A. Stepanow believes on the ground of his own observations as well as those of others that iodide of potash may become decomposed in the stomach under the influence of the acid contents of the latter and the nitrites of the saliva. This explains the gastric disturbances frequently observed after the administration of iodide of potash. This, however, is not constant. Usually decomposition takes place in the small intestine, the nitrites in this case being derived from the pancreas. [A. R.]

4.—Sh. Malfitano advances a number of arguments based on experiments which prove that bacteria possess proteolytic ferments which digest the bacteria,—a process of auto-digestion called by him "autobacteriolysis." These diastatic ferments are released from the bodies of the bacteria when the latter are placed in an environment unfavorable to their growth. Such an environment may be produced by adding various antiseptics, especially chloroform, xylol and thymol, to the culture-media, or by adding the diastatic ferments produced by other bacteria. The observations of Emmerich and Low would then be explained not by attributing specific bacteriolytic properties to the bacillus pyocyaneus, but the fact that the ferments of the latter, when added to a culture of the plague bacillus, act in the same manner as antiseptics do, namely, causing autobacteriolysis. [A. R.]

5.—M. Sniesarew describes a museum specimen of diffuse congenital hyperkeratosis in a fetus miscarried at the

seventh month. The pathological characteristics which distinguish it from Wassmuth's case are as follows: 1. The stratum corneum is greatly increased; 2. the stratum lucidum and stratum granulosum are still present; 3. the Malpighian layer is diminished; 4. the papillae are increased both in size and number; 5. the blood vessels are dilated; 6. the sweat glands are well developed; 7. hyaline degeneration of the connective tissue is present; 8. the reticular layer is diminished. [A. R.]

RUSSKI ARCHIV PATOLOGII, KLINITSHESKOJ MEDICINY I BAKTERIOLOGII.

February, 1901. (Vol. II, No. 2).

1. Cellular Posions (cytotoxins). I. I. METCHNIKOFF.
2. On the So-called Lipoma Arborescens. N. N. MICHAILOFF.
3. On Glycosolvol. S. W. LEVACHEFF.
4. A Method of Quantitative Determination of Urea in the Urine. A. P. BRAUNSTEIN.

1.—Considered editorially.

2.—Michailoff defines lipoma arborescens as a rare and extremely peculiar disease of the synovial membranes of the large joints and the sheaths of tendons characterized by the development on the surface of masses of newly-formed tissue. On account of the latter entering into the formation of these growths, the author does not agree with the nomenclature. He considers them as chronic inflammatory hyperplasia and believes that they are of tubercular origin, being produced by the toxins of the tubercle bacilli. He has seen several cases and describes one in which the growth appeared on the sheath of the extensor carpi radialis longior et brevior of the right hand. The tumor was removed and the patient recovered. [A. R.]

3.—Levacheff quotes the observation of Daehne, Martin Wiessenthal and Schedler on the remarkable curative effects of glycosolvol in diabetes mellitus. This substance was invented by a Dresden druggist Otto Lindner. It is made by the action of oxypropionic acid ($C^3H^5O^3$) on chemically pure pepsin and sodium theobrominate on trypsin. The product is claimed to possess the power of dissolving carbohydrates and is therefore indicated in diabetes. To facilitate the absorption of the drug the originator combines it either with powdered jambol seeds and aromatics or compound fluid extract of myrtle. The most extravagant claims made by Lindner incited the author to try his preparation in two typical cases of diabetes. The results obtained were greatly at variance with the statements of those who have used the drug before him. The liquid preparation exerted no beneficial effect whatever; the powder did reduce the amount of sugar in the urine but only when very large doses, far in excess of those recommended, were employed. The conclusion, therefore, is reached that the virtues of this preparation reside not in the glycosolvol but in the jambol which is a well known and apparently quite a potent remedy. [A. R.]

4.—Braunstein points out the inaccuracies in the various methods employed for quantitative determination of urea. For accurate work he suggests the following: 5 c. c. of urine are precipitated by 5 c. c. of a mixture of barium chloride and barium hydrate (250 grms. of barium chloride and 50 grms. of barium hydrate to the liter of water) and 100 c. c. of alcohol and ether (2:1) added. On the following day the mixture is filtered and the filter washed 6-7 times with ether and alcohol. The filtrate is evaporated at a temperature not higher than 55 C. until 10 c. c. remain. Just before this point is reached a little distilled water with a small amount of MgO is added. The 10 c. c. of the filtrate are then put into a small Erlenmeyer flask containing 10 grms. of crystalline phosphoric acid and 7 c. c. of liquid phosphoric acid. The whole is heated in an airbath at 140-145 C. for 4-12 hours. When cool, the nitrogen is determined by Kjeldahl's method. [A. R.]

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See Advertising Page 8.

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The Therapeutic Monthly.—The Philadelphia Medical Journal wishes to call the attention of its subscribers to the fact that each full paid subscription entitles its holder to a free copy of *The Therapeutic Monthly* until its expiration. It is only necessary for the subscriber to send a postal card to The Philadelphia Medical Journal, expressing his wish to receive the Monthly. We repeat this notice, which will not add one cent to the income, but, on the contrary, a considerable amount to the expense of this journal,—because we want all our subscribers who care for a first-class Therapeutic paper, to make the fullest use of their opportunities. The Philadelphia Medical Journal has secured a large number of copies of *The Therapeutic Monthly*, but a great many have been ordered already, and after the number secured has been exhausted, this offer will be withdrawn.

Dr. Gaylord's Paper on the Cause of Cancer.—In another column of the present issue we give a full abstract of the eagerly awaited article on the parasite of cancer, by Gaylord. The author's claim to have determined the true parasite of cancer rests apparently upon the following facts: First, the discovery of a peculiar organism in the peritoneal fluid of a patient suffering with adenocarcinoma of the peritoneal cavity. Second, the discovery of similar bodies in a large number of tumors (carcinomas and sarcomas and even syphilitic gummas) which he has examined. Third, the identification of these bodies with Plimmer's bodies, and the determination of their relationship to Russell's fuchsin bodies. Fourth, a certain peculiar series of changes that take place in the bodies when the fluid in which they are contained is kept in a thermostat. (These are analogous to sporulation.) Fifth, the production of small white nodules in the lungs of animals injected with this fluid, that resemble adenocarcinoma and originate in the columnar epithelium of the bronchi. Sixth, the discovery of the parasites in the epithelial cells of these growths.

We must confess that we feel greatly disappointed in this paper, and this is not altogether justified, because Dr. Gaylord does not publish it as a finished presentation of his views, but promises in the

near future a second article in which he expects to deal with the really serious part of the subject, the cultivation and inoculation of this organism. For the present he is content with a description of the various observations and experiments, the results of which we have given above. One of the most interesting features, and one that will require a very careful explanation, is the analogy of this organism to the vaccine bodies of Gorini and Funk, and the statement that they belong to the protozoa and not to the blastomycetes. Gaylord admits that the cultures made by Plimmer, which the latter regards as cultures of his own organism, are true blastomycetes, and the only inference that we can draw is that Plimmer has been guilty of gross inaccuracy in his work, and has mistaken a contamination for a growth of his bodies. It is interesting in this connection to recall the statement of Schaudinn, a zoologist, working especially with the protozoa, that the so-called cancer bodies—and he was familiar with preparations stained by Plimmer's method—have no resemblance whatever to the protozoa or coccidia. It is very curious also, that such a vast number of experiments (Fischel, Duplay and Cazin, Plimmer, Senn, etc.) made under conditions very similar to those of Gaylord—that is to say, intraperitoneally and intravenously—have been fruitless. It is unfortunate, perhaps, when we read of the forms of peritonitis produced by intraperitoneal injections, which are apparently inflammatory in nature, that we are irresistibly reminded of the work of Adamkiewicz, who obtained such remarkable results by the intra-cerebral implantation of fragments of carcinoma, results that could not be confirmed by other observers.

But when all is said and done, we must take personal prejudice into account. Gaylord admits that his feeling toward Sanfelice's results was somewhat modified by his acquaintance with that gentleman, and by the recognition of his honesty and earnestness; and our acquaintance with Dr. Gaylord has made exactly the same impression upon us. If his paper is at present incomplete and unsatisfactory, it is because his results, although clear enough to himself, are not capable of the accurate scientific

demonstration that is insisted upon before the scientific world is ready to accept them. How often has it occurred that important discoveries have been placed before the world in such form as to create considerable skepticism regarding their truth, and if Dr. Gaylord refuses to publish a series of experiments that have not yet been conducted to completion, he deserves rather to be congratulated than condemned, and we should endeavor to curb our natural impatience.

It is interesting in this connection to note that Musser and Sailer have recently reported a case of infectious pseudo-leukemia, in which they were able to produce tumors resembling lymphoma in the lung of a rabbit, into which they had injected intravenously some of the patient's blood. Although Lengemann has been unsuccessful with his experiments undertaken by this method, there is much reason to believe that by it the question of malignant tumors, and perhaps other diseases, is on the verge of solution. It would be curious, and yet perhaps not altogether to be regarded as a cause for surprise, if the suggestion of Smith and Washburn, that there are many forms of infectious granulomas hitherto not recognized as such, should turn out to be true, and if some of these forms proved to be the types of malignant tumor that can be conveyed to certain of the lower animals.

A Noteworthy Meeting.—It is seldom that a more important or more instructive meeting of a medical society is held than was that of the Association of American Physicians, at Washington last week, under the presidency of Professor Welch, a report of the proceedings of which is published in another part of the current issue of the *Philadelphia Medical Journal*. In addition to important clinical papers on the first day a very interesting and suggestive one was read by Dr. Herter, of New York City, on "The Acid Intoxication of Diabetes and its Relation to Prognosis," with valuable additions by Drs. Pfaff and Jocelyn, of Boston. The recent work of these men and others seems to indicate that the day is not distant when a new light is to be thrown on this obscure subject. In the evening most instructive micrographic demonstrations were given by Dr. Bond and Dr. Ernst, of bacteriological subjects, and by Dr. Councilman, of the lesions of interstitial nephritis in diphtheria. Rare morbid specimens were exhibited by Dr. Welch. On the second day two contributions of great importance were made, that by Drs. Flexner, Barker, and Novy, reporting their studies of the plague in San Francisco. It will be remembered these physicians constituted a commission appointed by the United States Government to investi-

gate the cases of plague in San Francisco. Even of greater importance to us in America was the report of Drs. Reed and Carroll, of the U. S. Army, of their researches, which have gone so far to prove the mosquito theory of the origin of yellow fever. An account of their work was reported at the Pan-American Congress at Havana in February, and has been made known to us through the columns of the *Journal of the American Medical Association*, and commented upon editorially in a previous number of *The Philadelphia Medical Journal*; but it was a great privilege to hear these facts presented so clearly and impressively by Dr. Reed. In the remainder of the day many valuable papers were read, notably one by Dr. Osler, on the Spinal Form of Arthritis Deformans, and another by Drs. John K. Mitchell, Flexner and Edsall, on the Chemical and Microscopical Results of the Examination of three cases of Family Periodic Paralysis. On both the first and third days other papers of clinical interest were presented, conspicuous among which was that of Dr. Thayer, on "The Presystolic Murmur," and that of Dr. Biggs, of New York, on "The Relative Prevalence of Bright's Disease in New York, London and Berlin."

Puerperal Septicemia Among Italians in This City.—We have seen certificates proving that four women have recently died of puerperal fever in the section of this city known as "Little Italy," and we are credibly informed by a reputable Italian physician that these four cases all occurred in the practice of one particular Italian midwife. This physician has taken pains to trace these cases, and also to make himself familiar with the methods of this woman. He informs us that her "practice" is careless and dirty to the last degree, and that these four cases are entirely due to her negligence. It can readily be imagined that the environment of her patients is not conducive to the most scrupulous asepsis, but it certainly does seem that there should be some way to stop the career of a slovenly midwife, who is thus strewing death in her path. It is not to the credit of any large American city at the present date that such a thing should be allowed to proceed without some official notice and some prompt corrective. In this period of preventive medicine and antiseptic midwifery, such a harvest of death in the practice of one midwife is scandalous. We imagine it would be within the province of the coroner to investigate this slaughter and bring the perpetrator to a speedy reckoning with the law. Any physician or midwife who has one case of puerperal fever faces a grave responsibility, but by the time he or she has four cases in rapid succession, that practitioner owes it to the public to purify and explain.

The Sesquicentennial of the Pennsylvania Hospital.—When in 1750 Dr. Thomas Bond (who seems to have been the real founder) solicited the aid of his friend, Benjamin Franklin, to further his scheme for founding a hospital in Philadelphia, he builded better than he probably knew or imagined. When the Provincial Assembly approved the act establishing the Pennsylvania Hospital (7th February, 1751), it met with some opposition from the country members, who said that the cost of medical attendance would alone be enough to consume all the money that could be raised—an objection which nowadays would not have much weight, and which at that time was met by Drs. Thomas and Phineas Bond and Dr. Lloyd Zachary, who offered to give gratuitous services for three years. This was probably the first occasion when the now familiar cry of "hospital abuse" was or could have been raised in Philadelphia. Dr. Zachary and the brothers Bond may possibly have had to face some such prejudice when they quieted the fears of the country members by promising that the Pennsylvania Hospital should be free. And free it has been, and widely benevolent, for one hundred and fifty years. It is a pioneer hospital, not only of a city and a province, but of a nation and a continent. The country members who demand, when they vote an appropriation, that the hospital which gets it shall be free (especially to the country members and their friends) are still with us, and we need not celebrate their sesquicentennial—but the old hospital with its traditions, its architecture, its noble record, is with us, too, and the opportunity is here for the celebration of its foundation in accord with its dignity and its usefulness. The managers have decided upon the 11th and 18th of this month as special fête days.

Electricity and Nerve Force.—The statement is not infrequently made that nerve force is identical with electricity, but there is little scientific ground for such a claim. The two forces are distinguished in a variety of ways. Thus, the speed at which they travel is very unequal; the nerve impulse travels at the rate of only about one hundred to one hundred and twenty feet per second, while the rate of electricity is vastly greater. But while the two forces are apparently not identical, it is true that the generation of nerve force seems to be accompanied by electrical phenomena. This may be merely in accord with the fact that all chemical changes are thus accompanied; as, for instance, the reactions between the elements in a Leclanché jar. Vito-chemical reactions in a neuron-body probably in the same way generate electrical force, but this is not necessarily the same thing as the nerve force itself. Another, and still more potent, argument is

based on the fact that nerve force is variously differentiated until in its psychic manifestations it reaches its highest display. This would be quite inconceivable of such a force as electricity, for certainly no one would say that thought and consciousness are merely electrical phenomena.

M. August Charpentiere has recently made observations which tend still further to prove that the two forces are distinct. He found that an electric stimulation of the nerve trunk causes a double transmission. (1) An almost instantaneous transmission just as in an ordinary conductor. This is evidently the electric current. (2) A current, also with electrical phenomena, transmitted at the very moderate speed of the nerve-impulse (65 to 100 feet). That this true nerve-impulse is accompanied, however, by electrical energy is proved by the fact that it can send a stimulus over a wire to a nerve in another animal and thus cause a response. But Charpentiere found that a second, third, and even fourth impulse or wave is carried over this wire, the inference being that the nerve-impulses are "oscillatory." This latter display is probably simply in accord with the idea of Schaefer and Horsley, that neurons have a rhythmical discharge. M. Charpentiere's observations are discussed in the *Revue Scientifique*.

The Death Rate from Influenza.—In the Monthly Bulletin of the Chicago Health Department for March, 1901, the leading article is devoted to the discussion of the effect of influenza upon the morbidity of the city. After calling attention to the rapid increase in the death rate from pneumonia, and to a less extent from other pulmonary conditions, they discuss the clinical manifestations of this disease, and the great importance of its recognition at the very incipency of the epidemic. This can only be accomplished by careful bacteriological examinations which the Chicago Board of Health is now prepared to undertake, systematically. With the "culture tube and microscope," they believe that the epidemic can be, to a certain extent, controlled. However, they admit that the disease spreads with extreme rapidity, and affects the clean (hygienically) as severely as the unclean.

The great difficulty in all these epidemic diseases is to educate the public. It is astonishing how hopelessly ignorant the medically uneducated are; how ready they are to grasp at cure-all straws; to believe blindly the alleged efficiency of drugs; to expect their physicians to keep them well, just as Torquata Tasso expected of his physician, without disturbing the reckless tenor of his life, or obliging him to do anything that was essentially disagreeable. Persons intelligent enough in their own line are often entirely unwilling to put themselves to

any serious inconvenience in order to prevent the ravages of an epidemic of which they are not as yet personally the victims. We have frequently been impressed by the curious indifference on the part of the people to these things. By this we do not mean that they foolishly expose themselves to the presence of patients suffering with well-known contagious disease; indeed, in some cases, such as leprosy, they are panic-stricken if a single case of this nature appears in the community; but we allude to their unwillingness to adopt even mild measures to prevent the spread of fatal epidemics.

Therefore, articles such as this of the Chicago Health Board, in which stress is laid upon the terrifying aspects of the disease, are to be strongly commended, for they should serve to some extent to arouse the public, not so much from its sense of false security, as from its indolence and indifference.

Hydrophobia.—Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Washington, D. C., has just issued in pamphlet form his study of rabies. Dr. Salmon relates the circumstances which led a few years ago to the discovery of the fact that hydrophobia was much more prevalent in the District of Columbia than any one had supposed. The disease, in fact, was not believed at the time to have occurred there with any frequency, but as a result of investigation quite a large number of cases were discovered in animals of various kinds. Thus in 1893 it was found that 11 dogs and 1 horse had the disease. In 1895, 4 dogs and 2 foxes; in 1896, 5 dogs; in 1897, 2 dogs, 1 cow; 1898, 7 dogs; 1899, 19 dogs, 1 cow and 1 cat, and in 1890, up to August, 32 dogs, 3 cows, 1 horse and 1 cat. Therefore, the total number of animals, nearly all of which were domestic animals, which had been found to be suffering from rabies, was 91. Twenty-eight persons were reported to have been bitten by these rabid animals. Dr. Salmon says that these developments were quite unexpected. It was not supposed at that time that rabies existed to this extent anywhere in the United States, and this discovery in the District of Columbia led to quite extensive inquiries as to the prevalence of the disease in the country at large. It was found that hydrophobia is more prevalent than is generally supposed, as the following figures for some of our larger cities clearly prove. In the decade from 1890 to 1899 there were 230 deaths from this disease in 73 cities. In Greater New York there were 27 deaths; in Chicago, 68; in Philadelphia only 8; but we desire to say here distinctly, with reference to these reports in Philadelphia, that we do not consider them reliable. It is a well-known fact in this city that the officials in the coroner's office have declared openly their unbelief in the existence of such a disease as hydrophobia.

and that they have deliberately returned such deaths, in which all the scientific evidence was clear, as due to other causes. One coroner of this town is even reported to have refused to accept certificates of death from hydrophobia, and required that certificates be made ascribing death to other diseases. This high-handed proceeding, both against the public weal and the teachings of science, goes far, perhaps, to justify the opinion, given by Judge Yerkes, of Bucks County, that the coroner's office should be abolished.

We have not space, of course, to review the whole of Dr. Salmon's interesting pamphlet. The author gives both historical and scientific data of great interest and value. The disease is probably of great antiquity, for Homer is supposed to have referred to it when he mentions Sirius, the dog-star, or Orion's dog, as exerting a malignant influence upon the health of mankind. One great value of such publications as this of Dr. Salmon's, especially when they issue under the auspices of the Government of the United States, is that they tend to enlighten public intelligence, for this is needed in two directions. First, to disabuse the minds of the public of the almost superstitious fear with which hydrophobia is regarded. While it is undoubtedly one of the most serious affections, it is well that people should know that it is amenable to both prophylactic and curative treatment. This is one of the triumphs of modern science, which should never be allowed to be forgotten. Secondly, such a publication is much needed to counteract the influence of a certain skepticism, now somewhat prevalent, to the effect that there is no such disease as hydrophobia. These two extreme views of the disease are erroneous and, therefore, mischievous, and the only safe course is the medium course, to regard the disease not only as a reality and at the same time a grave affection, but one fortunately which is now often cured.

The Physiology and Chemistry of the Internal Secretions.—With the revival of organo-therapy in medicine, this time upon a truly scientific basis, physiologists and chemists have given increased attention to the study of the ductless glands. The April number of *The Practitioner* is devoted to the subject of organo-therapy and contains, among others, an excellent article by Dr. John Rose Bradford upon the physiology of these glands. Their activity depends upon what Brown-Sequard has called their "internal secretions," the term, external excretion, being reserved for the products of the glandular activity which are subsequently carried to the surface by means of a duct. Glands besides secreting, may excrete, and the distinction between these two terms lies in the fact that the

products of secretion are not elaborated by the activity of the gland protoplasm, but are withdrawn by it from the circulating blood. Glands, besides possessing an internal and external secretion, may elaborate an excretion. Some glands are restricted in function to the production of an external secretion, as, for instance, the salivary glands. The thyroid and suprarenal glands probably produce only an internal secretion, as far as our knowledge goes at present. The pancreas and the liver have the double function, and in the kidney we have an example of a gland in which the excretory function is well developed, although it is by no means settled that the kidney does not possess also an internal secretion. It is interesting to observe the ability of interchange of these functions in certain glands. For instance, the salivary glands, normally secretory, will excrete iodide of potassium when this is present in the circulatory stream; and the liver will excrete a large number of toxic substances from the alimentary tract, and we must not lose sight of the fact that in uremia the stomach will excrete urea in appreciable amounts. It would seem that the internal secretions are elaborated in response to the physiological needs of certain tissues of the body. The thyroïdin of the thyroid gland may be necessary for the performance of the normal activities of the central nervous system, and the internal secretion of the suprarenals seems to have an important function in maintaining the activity of the muscular coats of the blood vessels. The essential nature of the external secretions is that of a ferment with exceptions, as, for instance, the secretion of bile salts by the liver. This material is used over and over again, being poured into the intestine, then reabsorbed and carried back to the liver. We are ignorant whether this is true in case of the internal secretions, but we know that they are used in the metabolism of the various tissues of the body, and in the case of the pancreas, there is evidence of the formation of a body allied to a ferment. This seems to be exceptional. A very great deal remains to be explained in this field, as, for instance, the fact that the removal of all parathyroid tissue, although its actual bulk is small, is followed by the same effects as is the complete removal of all thyroidal tissue. This is in spite of the fact that the parathyroidal tissue seems to contain no colloid material, which is the essential product of thyroid activity. In 1895 Baumann discovered the presence of iodine in the thyroid gland, and this served to arouse renewed interest in the study of its chemistry. The thyroid seems to possess a peculiar affinity for iodine, but it has been proven that iodine is not invariably present in the thyroids of young infants. It is generally accepted that iodothyryn is the only physiological active constituent

of the gland, but Robert Hutchison states that if the presence of iodine in iodothyryn is essential to the activity of this substance, it is not so in virtue of its being iodine, but owing to the form of organic combination in which it occurs. Gley has recently declared, as the result of his research work, that the normal thyroid gland contains approximately ten times as much iodine as the hypertrophied glands of patients suffering from exophthalmic goiter. Regarding the function of the parathyroids, it is probable that they are concerned in removing something from the blood rather than adding anything to it. We know that the administration of the gland by the mouth will not ameliorate the symptoms which result from their removal.

The Value of Adrenalin as an Antidote in Morphin and Opium Poisoning.—Dr. Edward T. Reichert, in an article in this journal in the issue of March 9th, showed that morphin administered in minute doses to dogs profoundly depressed general metabolism, and stated that this depression is so wide spread as to probably involve the processes which are concerned in internal secretion. As a consequence of this fact, the intensification of the toxic effects of the drug is in part explained. Reichert has experimented recently with adrenalin, the active principle of adrenal extract, for the purpose of observing its action upon the internal secretions both in healthy and morphinized dogs. Dr. Reichert has reported the results of his investigations in the April number of the *University of Pennsylvania Medical Bulletin*. When given by the stomach or administered in any form, adrenalin is a decided circulatory and respiratory stimulant, and increases metabolic activity. Possessing these properties, Reichert claims that it should be pre-eminently useful in antagonizing the lethal influences of opium and its derivatives. He has found that a dose of 0.00025 gram per kilo exerts no distinct influence in a normal dog, but in the morphinized dog it is sufficient to prevent the profound decrease of general metabolism, and the fall of temperature caused by the morphin. This fact indicates that in morphin poisoning there is an involvement of the processes concerned in internal secretion. The drug seems to act as a depressant to the secretory processes of the adrenal gland, thus depriving the vital centers of their secretions. In making these observations, Reichert mentions the fact that very small doses of adrenalin seem to exert no effect in the healthy animal, for the reason that the quantity introduced is minute, and the normal supply being sufficient, the excess is destroyed, or there is a temporary inhibition of the secretory processes of the glands, but in the morphinized animal it is probable that the blood

lacks this normal constituent, and that the adrenalin introduced is not destroyed until its function has been performed. This theory seems to be borne out experimentally, in that when larger doses are given to normal dogs, effects are noted comparable to those in morphinized animals after much smaller doses. Reichert explains this by stating that the quantity being in excess of what can be immediately destroyed, or compensated for, the effects are comparable to a hypernormal state of the activity of the adrenal glands. From his studies of the action of adrenalin upon the respiratory movements, the heart, arterial pressure, general metabolism and body temperature, Reichert believes that this drug will be found of great value in opium and morphin poisoning, in failure of the circulation, and in the prevention of collapse in anesthesia. Minkowsky, among others, has also recommended adrenalin in the latter condition. The careful work of Dr. Reichert in this field makes the preliminary report, and his conclusions of great interest. Very minute doses of the drug only are required. Thus it is stated that 1-200,000 of a gram injected intravenously produces distinctive effects in man. Reichert observes that owing to the powerful vasoconstrictor local action of adrenalin, abscesses will likely follow its subcutaneous injection, and he recommends that if given by the stomach, it should be administered with alcohol in some form so as to increase the rapidity of absorption.

Reviews.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Prof. Dr. O. Haab, Director of the Eye Clinic in Zurich. *From the Third Revised and Enlarged German Edition.* Edited by Geo. E. De Schweinitz, Professor of Ophthalmology, Jefferson Medical College, Philadelphia; Consulting Ophthalmologist to the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital and to the Orthopedic Hospital and Infirmary for Nervous Diseases. With 152 colored lithographic illustrations and 85 pages of text. Philadelphia and London: W. B. Saunders & Co., 1901. Price, \$3.00 net.

The names on the title page are sufficient guarantee for the excellence of this work. Closer examination, however, will at once reveal features which could only be brought to the perfection they possess by careful selections and extensive clinical material. The beautifully executed lithographic illustrations show some of the hidden changes of the eyeball that are unlocked by the ophthalmoscope. Of no little value to the student of ophthalmoscopy are the illustrations representing the non-pathological changes in the normal eye-ground which so often mislead and confuse him. The plates showing the microscopical changes are characterized tinctorially by wealth of color and correctness of demarcation. To those general practitioners who value ophthalmoscopy as a means of accessory diagnosis this book will be of material assistance. Even the specialist will find careful reproductions of such conditions as "Retinitis Circinata," "Glioma of the Retina" and microscopical sections of "Hyaline Bodies (Drusen) in the Vitreous Layer of the Choroid." The text is con-

cise, free from typographical errors and admirably translated. Especially free is it from the "Germanicisms" so frequently observed in English translations, and so difficult to overcome. The publishers have placed the book on the market in such a manner, that it forms a valuable adjunct to the other atlases. [M. R. D.]

The Technique of Surgical Gynecology.—By Augustin H. Goelet, M. D., Professor of Gynecology in the New York School of Clinical Medicine; Consulting Professor of Gynecological Electro-Therapeutics, International Correspondence Schools, Scranton, Pa.; Fellow of the New York Academy of Medicine, and of the New York Obstetrical Society; Member of the American Medical Association; New York County Medical Association; Fellow of the Societe Francais d'Electrotherapie, etc. International Journal of Surgery Co. New York, 1900. Pp. 331.

This work is devoted entirely to operative technique, as its title implies, and no space is given to diagnosis, pathology or forms of treatment other than operative. In this respect it supplements many works on gynecology, which give only general directions. There is no hesitation, therefore, in devoting abundant attention to minor points which are of great importance to those unfamiliar with a given operation. The writer has the power, not possessed by all, of making clear that which he is trying to describe. In general he gives but one method of operating, the one which he considers best. This detracts somewhat from the value of the work, as the reader might care less to know what method was used by this author, than to find in a work on technique clear descriptions of those methods which have wide acceptance among the best operators. For example, the only method of shortening the round ligaments given is that of cutting down on the ligament within the inguinal canal, as practiced by Dr. Kellogg. The method is a good one, but many operators of very large experience prefer to reach the ligaments at the external ring, or to lay open the canal, and these methods merit description in a work on technique. So with lacerations of the perineum. To be sure, it might be said that the operations are too numerous to describe; but to confine the description to a simple triangular method with the apex in the centre above, layer sutures of catgut, or two purse string silver sutures for hurried work, is not doing justice to the subject. One might infer that the writer seldom does combined plastic operations at a single sitting, for if the peritoneum and anterior vaginal wall be properly sutured, the removal of silver sutures from the cervix is difficult, and such treatment of the canal as daily subsequent packing with iodoform gauze is out of the question. Seldom indeed will the operation of cervical repair be the only one done at a sitting in most hands. He uses stick sponges rather than continuous irrigation. He does not advocate the self-retaining vaginal speculum. He would carry conservatism in tubal surgery so far as in some cases to wash out and leave a tube in which ectopic pregnancy had occurred. How this can be reconciled with the very common history of repeated hemorrhage attacks after rupture, is not stated. He advocates the mass ligature only for tumor pedicles, and in vaginal ovariectomy sews in the ligature to prevent slipping. He believes that the ligation per vaginam of uterine arteries has a field in the case of tumors low down, but advises cutting the artery. The chapter on curettage and after-treatment as modified by conditions is very good. Many practical and suggestive points are to be found in the work, which will find appreciative readers. [G. E. S.]

A Case of a 7 months Extrauterine Pregnancy Operated on through the Vagina. A. Ph. Kablukoff (*Medicinskoje Obozrenie*, February, 1901,) reports a case of extrauterine pregnancy in a nullipara 30 years old. A well formed dead fetus of 7 months was removed through the posterior vaginal wall. Owing to adhesion, the placenta was left in situ. The post-operative period progressed without any complications, except for an elevation of temperature accompanying the gradual discharge of the placental tissue. [A. R.]

American News and Notes.

PHILADELPHIA NEWS.

Jefferson Medical College.—The annual commencement exercises of the Jefferson Medical College will be held at the Academy of Music on May 15th at noon. 142 graduates will receive their diplomas. Professor W. W. Keen will hold the commencement address. The alumni meeting will be held on May 14th, 7 P. M., at the Stratford Hotel, and the alumni dinner at 8 P. M. of the same evening.

Philadelphia School for Backward Children.—The Philadelphia School for Backward Children is asking the Board of Education to undertake the supervision of the school and to locate it in the Hollingsworth public school building, Locust above Fifteenth street. Medical School Inspectors and Hospital Physicians would do well to refer to this School all such children coming to their notice that are in need of individual instruction. The Board of Education and Councils no doubt will readily see the efficacy of this movement and they cannot give too much support to it.

For an Obstetrical Amphitheatre.—The University of Pennsylvania has received a gift of \$25,000 from Mrs. C. B. Newbold, of Philadelphia, for the erection of an obstetrical amphitheatre as an addition to the maternity department of the university hospital. The gift was made in honor of her mother, Mrs. Thomas A. Scott.

Whooping Cough Among Contagious Diseases.—The Hygienic Committee of the Board of Education decided to add whooping cough to the list of contagious, and considers it a cause for exclusion from the public schools.

Removal of Alms House and Insane Hospital.—Efforts are being made for urging the speedy removal of the Alms-house and Insane Department of the Philadelphia Hospital, (Blockley), to a more suitable location. The sum of \$200,000 has been made available for the erection of new buildings, through the action of Congress. ad Continental Europe—

Obituary.—Dr. Samuel Kuypers Lyon, at New York, on May 4, aged 60 years.—Dr. Harold Snowden, at Alexandria, Va., on May 5, aged 65 years.—Dr. Abraham Deyo, at Gardiner, N. Y., on May 5, aged 71 years.

Obituary.—Dr. Roy Ingliss, at Denver, Col., on April 23.—Dr. Henry Byron McKellops, at St. Louis, Mo., on April 24, aged 78 years.—Dr. Charles A. Eisenhart, at York, Pa., on April 23, aged 56 years.—Dr. George Dale, at Chicago, Ill., on April 25.—Dr. William H. Draper, at New York City, on April 26, aged 71 years.—Dr. J. A. Someville, at Marinette, Wis., on April 27, aged 59 years.—Dr. Joseph W. Benton, at Indianapolis, Ind., on April 28, aged 77 years.—Dr. James H. Woodburn, at Indianapolis, Ind., on April 28.—Dr. Jacob A. Sherman, at Plainfield, N. J., on April 29, aged 81 years.—Dr. M. B. Baldwin, at Wardencliffe, Mass., on April 30.—Dr. F. G. Brown, at Hutchinson, Kan., on April 29, aged 57 years.—Dr. Richard C. Baker, at Otego, N. Y., on April 24, aged 47 years.—Dr. William F. Creighton, at Alexandria, Va., on May 2.—Dr. Irving C. Rosse, at Washington, D. C., on May 3, aged 54 years.—Dr. David H. Bartine, at Merchantville, N. J., on May 3, aged 60 years.—Dr. M. Albert Rhoads, at Reading, Pa., on May 4, aged 53 years.—Dr. Orlando Mitchell, at Marshall, Mo., on May 3.

Vital Statistics of Philadelphia for the week ending May 4, 1901:

Total mortality	494	Cases	Deaths
Inflammation of the appendix 1, bladder 1, brain 21, bronchi 8, heart 1, kidneys 28, larynx 1, liver 5, lungs 55, pericardium 3, peritoneum 4, pleura 3, stomach and bowels 19, spine 3 ..	153		
Marasmus 15, debility 4, inanition 11 ..	30		

Cases. Deaths.

Tuberculosis of the lungs	72	
Apoplexy 14, paralysis 6	20	
Heart-disease of 32, fatty degeneration of 5, neuralgias of 3	40	
Uremia 9, diabetes 1, Bright's disease 12	22	
Carcinoma of the breast 1, stomach 8, uterus 5, jaw 2, leg 1, liver 1, pancreas 1	19	
Convulsions 14, convulsions, puerperal 1, Diphtheria	66	10
Brain-disease of 3, softening of 1		4
Typhoid fever	71	5
Old age		11
Cyanosis		3
Scarlet fever	113	6
Influenza 2, abscess of breast 1, abdominal 1, alcoholism 1, asthma 1, anemia 1, atheroma 2, burns and scalds 4, casualties 11, cerebro-spinal meningitis 1, congestion of lungs 3, cirrhosis of the liver 1, diarrhea 2, drowned 1, dropsy, kidneys 1, dysentery 1, extra uterine pregnancy 2, epilepsy 2, erysipelas 2, fever, malarial 1, puerperal 1, gangrene 2, hemorrhage from uterus 2, indigestion 1, locomotor ataxia 1, measles 2, edema of lungs 3, rheumatism 1, sclerosis arterial 4, shock, surgical 1, septicemia 6, smallpox 1, suffocation 1, suicide 1, tabes mesenterica 1, teething 3, unknown 1, unknown coroner cases 3, whooping cough 8		84

NEW JERSEY.

The Salem County Medical Society has elected officers for the year, as follows: President, Dr. E. E. De Groft; Vice-President, Dr. B. A. Waddington; Secretary and Treasurer, Dr. H. Chavanne; Reporter, Dr. W. H. Carpenter; Censor, Dr. N. S. Hires.

Cape May County Medical Society.—The annual meeting of the Cape May County Medical Society was held May 7. Several interesting papers were read, and at the close of the business session a banquet was served. The following officers were elected: President, John S. Douglass, of Tuckahoe; Vice President, Joseph Marshall, of Tuckahoe; Secretary, Nathan Cohen, of Wildwood; Treasurer, Randolph Marshall, of Tuckahoe.

NEW YORK.

New York State Hospital for the care of Crippled and Deformed Children. The opening of the Hospital will take place on Friday, May 17th, 1901 from 3-5. The Right Reverend Henry C. Potter, D. D., President of the Hospital, will preside. Short addresses will be made by Professor Robert F. Weir, M. D., of Columbia University; Professor A. Alexander Smith, M. D., of the University of the City of New York, and Professor William Polk, M. D., of Cornell University. A special train will leave the Grand Central Station at 2.06 P. M. returning will leave Tarrytown at 5.55 P. M. reaching New York at 6.35 P. M. Anyone interested may obtain tickets for the special train upon application to Dr. Newton M. Shaffer, 28 E. 38th street, New York City.

The American Congress of Tuberculosis will be held at the Grand Central Palace, in the City of New York, May 15th and 16th, and perhaps May 17th, 1901, in joint session with the Medico-Legal Society of New York. The medical profession of all countries have been invited to contribute papers to be read before this congress, in their behalf, by a committee selected for that purpose, in case of the inability of the author to attend, and to enable those who could not hope or expect to be present to participate in the

work and usefulness of the body. As the questions to be discussed involve medical legislation, legislators, lawyers, judges and all publicists who take an interest in the subject are also invited, both to enroll and contribute papers.

The governors of the American states and territories and of the Provinces of the Dominion of Canada have been invited to send at least three or more delegates.

The governor of Colorado has appointed the following delegates to represent the state of Colorado at the American Congress of Tuberculosis, to be held at the Grand Central Palace, in the City of New York, May 15-17, 1901: Dr. J. N. Hall, of Denver; Dr. Will B. Davis, of Pueblo; Dr. B. P. Anderson, of Colorado Springs; Dr. J. Tracey Melvin, of Sagauche; Dr. R. F. Graham, of Greeley, and Mrs. W. S. Decker, of Denver.

The governor of Kentucky has appointed the following delegates to the same Congress: Dr. J. N. McCormick, of Bowling Green; Dr. M. K. Allen, of Louisville, and Dr. Chester Mayer, of Louisville.

The governor of Vermont has appointed the following delegates to that Congress: Dr. Charles S. Caverly, of Rutland; Dr. Henry D. Holton, of Battleboro, and Dr. Truman, R. Stiles, of St. Johnsbury.

The governor of Washington has appointed the following delegates to this Congress: Hon. Watson C. Squire, ex-U. S. Senator from Washington, D. C.; Edward H. Thomas, Esq., of Whatcome, Washington, and Ralcy Husted Bell, M. D.

The Nicaraguan Minister has appointed the following physicians to represent Nicaragua at the Congress: Dr. Louis H. Debayle, 21 Irving Place, New York City, and Dr. Juan B. Sacasa, Columbus Hospital, New York City.

The governor of Alabama has appointed the following delegates from that state: Dr. W. H. Blake of Wetumpka; Dr. C. H. Jeringan, of Birmingham, and Dr. W. J. Kernahan, of Florence.

The governor of Missouri has appointed twenty-five delegates; the governor of Georgia has named twelve delegates, Iowa eight, Virginia three, and nearly every state and territory will be represented.

Similar invitations have been sent to the presidents of the Central and South American countries. Arrangements have been concluded for reduced railway rates throughout the United States and Canada. A letter has been sent to the delegates and officials by the President of the Medico-Legal Society embracing the following questions:

1st—What importance do you attach to preventive legislation as a factor in diminishing the spread of Tuberculosis?

2nd—Assuming the importance, necessity and utility of preventive legislation, how can the public be best educated and its sentiment aroused sufficiently, to secure the passage of preventive laws, and their enforcement after they are passed?

3rd—Which would you regard as for the best interest of the people?

(1) Legislation authorizing the employment of drastic measures for the enforcement of the necessary regulations, or,

(2) A broad policy of education of the masses, as to the cause, the danger and the remedy for a factor in diminishing the spread of Tuberculosis?

Kindly reply to this letter at once, because the time is so short; and if you will contribute a paper and enroll in the congress, do so.

Please send your reply to the questions as early as possible, so that I can publish your answer as a part of my contribution to the Congress, to be sent at least a month before its session to delegates, and in time, to awaken interest, and arouse discussion upon the subject at the Congress itself.

NEW ENGLAND.

Sterilizing Money.—Scarlet fever, which is epidemic in Keene, N. H., has caused the Cheshire National Bank of that town to sterilize all the money which passes through

the bank by means of a sterilizing oven which they have put there for that purpose.

Hartford County Medical Society.—The annual meeting of the Hartford County Medical Society was held April 17. Papers read were: "Etiology and Treatment of Sub-Acute Rheumatism," by Dr. Thomas S. O'Connell; "The Surgical Treatment of the Peritoneum," by Dr. Arthur J. Wolff; obituaries, Dr. Abner S. Warner, by Dr. Gordon W. Russell, Dr. Julian N. Parker, by Dr. William R. Tinker; "Gun-shot Wounds of the Brain," by Dr. Harmon G. Howe; "Typho-Malarial Fever," by Dr. Edward K. Root; "Ectopic Gestation," by Dr. Phineas H. Ingalls.

American Laryngological Association. The programme of the 23rd annual congress of the American Laryngological Association to be held at Yale University, New Haven, Conn. on May 27-28-29, is as follows: Monday, May 27th, morning session at 10.15 a. m. Roll call. Reception of Guests. Address of Welcome, by the President of Yale University. President's address, by Henry L. Swain, M. D., New Haven, Conn. Papers. 1 A leaf from the ancient history of the anatomy of nasal catarrh, Jonathan Wright, M. D. 2. Asymmetry of the nasal cavities, A. Coolidge, Jr., M. D. 3. Reflex epilepsy from nasal disease successfully treated by the removal of the intra-nasal cause, John O. Roe, M. D. 4. The supra-labial operation (Dr. Harrison Allen's) for deflection of the nasal septum, Arthur Ames Bliss, M. D. 5. Edema of the pharynx, palate and uvula following application of supra-renal extract, S. Solis-Cohen, M. D. 6. (a) Can we prevent secondary hemorrhages following nasal operations? (b) Epipharyngeal sarcoma in a boy (with radiographic study), Henry L. Wagner, M. D. 7. Chancre of the tonsils, J. Edwin Rhodes, M. D.

Afternoon session at 3 p. m. Papers: 8. Mouth breathing and its relation to disease of the nose, throat, ears and accessory cavities, Mayo Collier, M. D. 9. Diagnosis of adenoids in infancy, W. F. Chappell, M. D. 10. Serous disease of the maxillary antrum with a report of two cases, W. E. Casselberry, M. D. 11. Empyema of the antrum of Highmore in infants, Emil Mayer, M. D. 12. Abscess of the frontal, ethmoidal and sphenoidal sinuses complicated by adenoma of the posterior ethmoidal and sphenoidal regions, J. H. Bryan, M. D. At 4.15 adjournment to the Psychological Laboratory. Evening. Reception in Alumni Hall by the President of Yale University and the President of the Association. Tuesday, May 28th. Session at 10 a. m. Business meeting. Open only to fellows of the Association. Papers. 1. Discussion on general anesthesia in operations upon the nose and throat: (a) On the use of the A. C. E. mixture and ethyl bromide for adenoid operations, J. W. Gleitmann, M. D. (b) Nitrous oxide, chloroform and ether, T. R. French, M. D. 2. The tonsils from a purely clinical point of view, F. H. Bosworth, M. D. 3. The histology of the retrograde changes in the faucial tonsils of the adult, J. H. Goodale, M. D. 4. Vocal nodules, C. H. Knight, M. D. 5. The effects of cinchonism upon vocalization and articulation, Carl Seiler, M. D. 6. A study of the proper application of intubation in chronic stenosis of the larynx, W. K. Simpson, M. D. 7. A case of stenosis of the larynx following fracture; operation; recovery, A. W. Watson, M. D. 8. Some cases of paralysis of the right vocal chord, J. W. Farlow, M. D. 9. A note on tonsillotomy rash, Wyatt Wingrave, M. D. Evening. Annual dinner of the Association at the New Haven Lawn Club. Wednesday, May 29th. Closing Session at 10 a. m. Papers. 1. A report of a method of local treatment employed to eradicate the susceptibility of the nasal mucous membrane to hay fever, C. D. Rice, M. D. 2. The surgery of naso-pharyngeal tumors, D. Bryson Delevan, M. D. 3. Lymphadenocarcinoma of the nose (illustrated), M. Braden Kyle, M. D. 4. Note on the use of the electro-magnet for the extraction of foreign bodies from the air-passages, A. W. de Roaldes, M. D. 5. The cleft palate and its relation to speech, G. Hudson Makuen, M. D. 6. The laryngeal syringe in the treatment of laryngitis and bronchitis, Thomas Hubbard, M. D. 7. Aqueous sprays in diseases of the upper air-passages, G. V. Wollen, M. D. 8. (a) A case of sarcoma of the nose and naso-pharynx. (b) A case of thyrotomy for papil-

loma; a supplementary report. T. Melville Hardie, M. D. 9. Osteophytes of the nasal chambers, A. W. MacCoy, M. D. 10. Pedunculated fibroma of the esophagus obstructing the larynx, F. C. Cobb, M. D. 11. Report on three cases of tumors. (a) Osteo-sarcoma of inferior turbinate. (b) True papilloma of the nasal septum. (c) Sarcoma of branchial cleft, J. E. Newcomb, M. D.

WESTERN STATES.

Central Illinois Medical Association.—The twenty-seventh annual meeting of the Central Illinois Medical Association convened in Pana, Ill., April 30, for a two days' session. The attendance was the largest in the history of the association. The following program was rendered: "Puerperal Fever," W. K. Wright, M. D., Taylorville; "Diagnosis of Pericarditis with Effusion," S. E. Munson, M. D., Springfield; "Pulmonary Tuberculosis," Amos Sawyer, M. D., Hillsboro; "Suggestion as an Element in Treatment," W. T. Moffett, M. D., Blue Mound; "The Practical Value of the Cystoscope in Diagnosis," Joseph Milligan, M. D., Jacksonville; "Gastric and Duodenal Ulcers," with report of cases, Everett J. Brown, M. D., Decatur; "Report of a Case," Pierce Collins, M. D., Decatur; "Rheumatoid Arthritis," Frank P. Norbury, M. D., Jacksonville; "Some Notes on Course and Treatment of Pneumonia," W. A. Melton, Jr., M. D., Warrensburg.

The Oklahoma anti-cigarette law which takes May 1, 1901 is as follows: Section 1. That it shall be a misdemeanor for any person, firm or corporation to sell, offer to sell, or to bring into the territory for the purpose of selling, giving away or otherwise disposing of, any cigarettes, cigarette paper or any substitute for the same. Section 2. Be it further enacted that it shall be a misdemeanor for any person, except parents or guardians, either for himself or another, to give away cigars, chewing tobacco, or tobacco in any form, to a minor under the age of 15 years. Section 3. Any person convicted of the above misdemeanor, or for selling or giving away cigarettes or tobacco, or paper for the purpose of making such cigarettes, shall be fined for each offense in any sum not less than (\$50) nor more than two hundred (\$200), and any person, except parents or guardians, convicted of selling or giving away cigars, chewing tobacco, or tobacco in any form, to any minor under the age of fifteen years, shall be fined in any sum not less than ten dollars (\$10), nor more than fifty dollars (\$50) for each offense. Section 4. Be it further enacted that the grand juries shall have power to inquire into the alleged offenses committed under this act. Section 5. Be it further enacted that this act shall take effect from and after the 1st day of May, 1901, the public welfare requiring it.

The Detroit Medical Journal.—The initial edition of the *New Detroit Medical Journal*, under the editorial management of Dr. G. H. Stockwell, will be issued about April 15. It is announced that this publication will be devoted solely to the interests of the medical profession.

American Proctological Society.—The third annual meeting will be held at Hotel Aberdeen, St. Paul, Minn., June 4 and 5, 1901. The programme is as follows: First Day—Meeting of the Council, 1.30 P. M.; Executive meeting: President's Address, Dr. James P. Tuttle, M. D., New York; Primary Tuberculosis of the Rectum and Anus, with Report of Cases, Dr. Leon Strauss, St. Louis; Disease of the Sigmoid, Dr. George B. Evans, of Dayton, O.; Report of two Cases of Valvotomy, Dr. Samuel T. Earle, Baltimore; Treatment of Prolapse of the Rectum, Dr. J. Rawson Pennington, Chicago; Foreign Bodies in the Rectum, with Report of a Case, Dr. Lewis H. Adler, Jr., of Philadelphia; A Study of Simple Ulceration of the Rectum from a Clinical Standpoint, Dr. A. Bennett Cooke, Nashville; A New Method for the Painless Removal of Hemorrhoids, Dr. Thomas Charles Martin, Cleveland; Anal Pockets, Dr. Louis J. Krouse, Cincinnati; The Treatment of Recto-Colitis, Dr. William M. Beach, Pittsburg; Paper, Dr. George J. Cook, Indianapolis.

SOUTHERN STATES.

Richmond, Va.—The annual final exercises of the University College of Medicine, Richmond, Va., were held

May 2d. The graduates and the public were addressed by Dr. Charles D. McIver, of Greensboro, N. C. In the Medical Department there were 72 graduates; in the dental, 4, and in the pharmaceutical 6.

The Hunter McGuire Memorial Annex to the Virginia Hospital, erected at a cost of \$15,000 was dedicated with appropriate exercises on May 1st.

Dr. S. V. Sherrill who was recently relieved from duty as first assistant physician of the Southwestern State Hospital for the Insane at Marion, Va., has preferred charges against Dr. R. J. Preston, Superintendent of the same institution, on the grounds of "mismanagement, neglect and incompetency."

A New Medical Society, known as the Church Hill Medical Society has been organized in the eastern part of Richmond, Va., with 20 members. Dr. R. D. Garcin is president and Dr. B. A. Hord, secretary.

Association of American Physicians.—At the closing session of the sixteenth annual meeting of the Association of American Physicians, held May 2, the following officers were elected: President, Dr. James C. Wilson, Philadelphia; vice-president, Dr. James Stewart, Montreal; recorder, Dr. S. Solis Cohen, Philadelphia; secretary, Dr. Henry Hun, Albany, N. Y.; treasurer, Dr. J. Crozier Griffiths, Philadelphia; councilors, Drs. Frank Billings, Chicago, and Francis P. Kinnicutt, New York; representative on executive committee of congress, Dr. William Osler, Baltimore; alternative representative, Dr. Francis H. Williams, Boston.

The Louisiana State Board of Health has appointed the following resident medical inspectors at Central American fruit ports: Dr. J. S. Allison, Belize, British Honduras; Dr. D. P. Albers, Livingston, Guatemala; Dr. P. R. Outlaw, Port Barrios, Guatemala; Dr. Percy Ahrons, La Ceiba, Spanish Honduras; Dr. King Holt, Bluefields, Nicaragua; Dr. Ed. B. Preis, Port Cortez, Spanish Honduras; Dr. Allen Jumel, Port Limon, Costa Rica; Dr. L. A. Wailes, Bocas del Toro, United States of Columbia.

Changes in the Medical Corps of the Navy for Week Ending May 4, 1901:

ASSISTANT SURGEON B. L. WRIGHT, ordered to the Massachusetts, May 1st.

ASSISTANT SURGEON S. S. RODMAN, detached from the Adams, and ordered to the Albatross, May 11th.

SURGEON H. L. LAW, retired, detached from the Recruiting Rendezvous, Buffalo, N. Y., and ordered home.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 days ended May 2, 1901:

D. A. CARMICHAEL, surgeon, to assume temporary command of the San Francisco quarantine station—April 27, 1901.

C. P. WERTENBAKER, passed assistant surgeon, to proceed to Prescott, Arkansas, for special temporary duty—April 27, 1901.

J. B. GREENE, passed assistant surgeon, detailed for temporary duty in the Bureau—April 29, 1901.

V. G. HEISER, assistant surgeon, to proceed to Norfolk, Va., for special temporary duty—April 27, 1901.

To proceed to Quebec, Canada, and report to the United States Commissioner of Immigration for duty—May 1, 1901.

W. F. Schlaar, hospital steward, granted leave of absence for 26 days—March 29, 1901.

Preliminary Program of the International Association of Railway Surgeons.

Mr. Hutton Crater, Kansas City, Mo., "The Relation of the Surgeon to the Claim Department."

Dr. J. L. Salmon, Ashland, Ky., "Physical Examination of Railway Employees." Synopsis: I. Physical Requirements of Railroad Labor. II. Railway Accidents; How Caused. III. Advantages of Physical Examination (a) to the public, (b) to railway companies, (c) to railway employees. IV. Alleged Disadvantages. V. Mode of Conducting Examinations.

Dr. H. A. Lippman, Burlington, Iowa, "Description of a Passenger Wreck and its Management."

Synopsis: The accident; course pursued by the operating department; first aids; temporary management by surgeons; methods of examining injured; systematic summary of injuries; results; subsequent history; conclusions; advantages of hospital facilities; remote consequences, alleged and real.

Dr. N. J. Pettijohn, Kansas City, Mo., "Fractures of Phalanges."

Dr. J. B. Murphy, Chicago, Ill., "Non-union of Fractures, Cause and Treatment."

Dr. Ben Thompson, Tama, Iowa, "Transverse Myelitis."

Dr. W. N. Middleton, Davenport, Iowa, "Abdominal Contusions."

Dr. Geo. F. Bousley, Lafayette, Ind., "Should Chemical Antiseptics be Used in Recent Wounds? When, What, How?"

Dr. G. G. Cottam, Rock Rapids, Iowa, "The Immediate Treatment of Open Fractures of the Skull."
Dr. Arthur D. Bevan, Chicago, Ill., "The Use of X-Rays in Fractures."
Dr. A. F. Jonas, Omaha, Neb., "Under Symposium on Fractures."
Dr. D. Maclean, Detroit, Mich., "Fractures—Simple, Compound, Comminuted and Ununited; Diagnosis, Pathology, Prognosis and Treatment."
Dr. G. W. Cale, Jr., Springfield, Mo., "A New and Rapid Method of Making Finished Radiographs."
Dr. O. Johnson, "Rare Fractures of Upper Extremity with Unusual Complications, and Synopsis of a Few Special Cases."
Dr. W. B. Outten, St. Louis, Mo., "The Most Frequent Fractures Met with in Railway Accidents. Based on a Series of 50,000 Personal Cases."

American Pediatric Society.—Papers to be read at the Thirteenth Annual Meeting of the American Pediatric Society, to be held at Niagara Falls, New York, May 27, 28 and 29, 1901:

1. President's Address—William D. Booker, M. D., Baltimore.
 2. "The Visceral Lesion of the Erythema Group of Skin Diseases in Young Children."
"Congenital Absence of the Abdominal Muscles with Distended and Hypertrophied Urinary Bladder in a Child of Six Years," by Wm. Osler, M. D., Baltimore.
 3. "The Feeding of an Incubator Baby," by Chas. W. Townsend, M. D., Boston.
 4. "Glass Sun Rooms on City Roofs, or Winter Playhouses" (Illustrations), by W. P. Northrup, M. D., New York.
 5. "An Account of an Epidemic of Malaria in Children," by Rowland G. Freeman, M. D., New York.
 6. "An Analysis of 32 Cases of Congenital Heart Disease," by John Lovett Morse, M. D., Boston.
 7. "A Study of 571 Cases of Summer Diarrhea," by Chas. Gilmore Kerley, M. D., New York.
 8. "A Note on the Little Finger of the Mongolian Imbecile and of Normal Children," by J. Park West, M. D., Bellaire, O.
 9. "A Case of Pulmonary Gangrene in a Baby," by Walter Lester Carr, M. D., New York.
 10. "Bulbar Symptoms in the Newly Born," by Irving M. Snow, M. D., Buffalo.
 11. "A Case of Acute Hemorrhagic Nephritis complicating Influenza in a thirteen-months-old Baby," by D. J. Milton Miller, M. D., Philadelphia.
 12. (a) "Amaurotic Family Idiocy," (b) "Monster," by A. C. Cotton, M. D., Chicago.
 13. "Cyclical Albuminuria," with report of a case, by Frank Spooner Churchill, M. D., Chicago.
 14. (a) "Heart Leap," (b) "Maternal Impressions" (report of case), by B. K. Rachford, M. D., Cincinnati.
 15. "Measles Complicated by Appendicitis," by Harold Williams, M. D., Boston.
 16. "The Treatment of Tuberculosis," by B. K. Rachford, M. D., Cincinnati.
 17. Title to be announced, F. Huber, M. D., New York.
 18. Title to be announced, A. Seibert, M. D., New York.
- Papers are promised by Doctors Rotch, Acker, Adams and others.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ending May 3, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

			Cases.	Deaths.
CALIFORNIA:	San Francisco	Apr. 13-20	2	1
ILLINOIS:	Chicago	Apr. 20-27	9	1
	Freeport	Apr. 20-27	1	
INDIANA:	Evansville	Apr. 20-27	1	
KANSAS:	Wichita	Apr. 13-20	30	
KENTUCKY:	Lexington	Apr. 20-27	2	2
MASSACHUSETTS:	Fitchburg	Apr. 13-20	2	
	Holyoke	Apr. 20-27	1	
MICHIGAN:	Bay City	Apr. 13-20	5	
	Detroit	Apr. 20-27	1	
	At 94 places	Present		
MINNESOTA:	Minneapolis	Apr. 13-20	8	
NEBRASKA:	Omaha	Apr. 13-20	11	
NEW HAMPSHIRE:	Manchester	Apr. 20-27	5	
NEW YORK:	New York	Apr. 13-27	94	18
OHIO:	Cincinnati	Apr. 19-26	4	
PENNSYLVANIA:	Allegheny City	Apr. 12-19	9	
	Johnstown	Apr. 13-20	1	
	Philadelphia	Apr. 13-27	12	2
	Stetson	Apr. 20-27	1	
	Williamsport	Apr. 20-27	3	
TENNESSEE:	Ducktown	Apr. 20	Present	
	Memphis	Apr. 13-20	24	
	Nashville	Apr. 20-27	14	
UTAH:	Salt Lake City	Apr. 13-20	17	
PHILIPPINES:	Cebu	Mar. 12	5	1
	Manila	Mar. 8-16	8	
PORTO RICO:	Aguas Buenas	To Apr. 10	4	
	Ciales	To Apr. 10	1	
	Isabela	To Apr. 10	4	
	Manati	To Apr. 10	1	
	Ponce	To Apr. 10	34	
	San Juan	To Apr. 10	6	

SMALLPOX—FOREIGN.

CHINA:	Hongkong	Mar. 8-23	23	10
COLOMBIA:	Panama	Apr. 15-22	5	2
ECUADOR:	Guayaquil	Mar. 2-23	3	
EGYPT:	Cairo	Mar. 25-Apr. 1	2	
FRANCE:	Paris	Apr. 6-13	7	
GREAT BRITAIN:	England—			
	Liverpool	Apr. 6-13	2	
	Wales—Cardiff	Mar. 8-20	6	1
	Scotland—			
	Dundee	Apr. 6-13	2	
	Glasgow	Apr. 12-19	6	
MEXICO:	Mexico	Apr. 7-14	2	
RUSSIA:	St. Petersburg	Mar. 30-Apr. 6	14	3
	Warsaw	Mar. 23-30	5	
STRAITS SETTLEMENTS:	Singapore	Mar. 2-16	1	
	YELLO FEVER.			
MEXICO:	Vera Cruz	Apr. 8-16	1	
	PLAGUE—FOREIGN AND INSULAR.			
AUSTRALIA:	Adelaide	Feb. 28	1	
CHINA:	Canton	Feb. 28	Epidemic	
	Chan Tsin	Feb. 28		
	Fatahan	Feb. 28		
	Hongkong	Mar. 8-23	22	21
STRAITS SETTLEMENTS:	Singapore	Mar. 7-16	2	
HAWAII:	Honolulu	Mar. 29	1	
PHILIPPINES:	Manila	Mar. 8-16	10	9

MISCELLANY.

The Association of American Physicians.—Washington, D. C., April 30, May 1 and 2, 1901—First Day, morning.—The meeting was called to order at 11 A. M., the President, William H. Welch, of Baltimore, in the chair.

In the President's address, Dr. Welch compared the opportunities enjoyed in this country by the men who desire to study the branches of scientific medicine and the opportunities open to those who desire to become proficient in clinical medicine and surgery. There are laboratories in this country that are equal to any in the world that are open to young men who have graduated and who wish to become teachers of anatomy, physiology or pathology. In these laboratories a young man must serve his apprenticeship, but his promotion is sure. In clinical medicine and in surgery, on the other hand, the only way open to men who desire to become teachers of these branches is through dispensary work and private practice. The facilities at the disposal of those who desire to work in the practical branches, then, are not so good as the facilities at the disposal of those who desire to devote their life-work to the branches of scientific medicine. In other words, the training of physicians has not kept pace with the training of scientists. Dr. Welch referred in a feeling manner to the unusually large number of deaths that had occurred among the members of the association during the past year. Of the 4 members who had died, all were founders and 3 were ex-presidents. He read brief biographical sketches of Dr. James T. Whittaker, Dr. Jacob M. DaCosta, Dr. Samuel C. Busey and Dr. William H. Draper. All of these men belonged to the group of humanists who were known by the members of the association, as well as to the public, by their interest in the advancement of the human race.

Hobart A. Hare, of Philadelphia, read a paper entitled an undescribed cardiac sound. The sound referred to by the reader is a peculiar vibrating, systolic sound that is often heard by him on the level of the nipple in an area extending from one inch to the right to one inch to the left of the sternum. The sound is dry and is like a pericardial friction sound, but it is not a friction and is believed by the author to be due to a vibration of the chordae tendineae dependent upon deficient contraction of the papillary muscles. The sound has been heard in patients who were suffering from debilitating diseases. For example, it is heard in the early stages of pulmonary tuberculosis and in the patients who suffer from the anemia of influenza. It is not a hemic murmur, and, in fact, is not a murmur in the ordinary acceptance of the term, but is a vibration. It is accentuated by nervousness, but not by exercise. It resembles the word "ching" as nearly as any word. Patients who have a shallow chest, and in whom the heart is acting rapidly, present the sound. There are no subjective cardiac symptoms. William Osler, of Baltimore, said that in cases of weak heart he had heard a sound at the apex like the sound of pericardial friction, but having a more grating character. He had also heard a sound which as auscultation in the neighborhood of the sternum was done because of a crunching character. One of these sounds may be the one referred to by Dr. Hare.

William S. Thayer, of Baltimore, read a paper entitled **the frequency and the diagnosis of the Flint murmur in aortic insufficiency**. During the last 11 years the author has studied the cases occurring in the Johns Hopkins Hospital that presented the Flint murmur. During that period 74 cases of aortic insufficiency were treated, in 45 of which the Flint murmur was heard. In 12 of these 45 cases mitral stenosis was also present at autopsy, in 17 cases the mitral valve was normal, and in other cases various changes in the mitral leaflets were found. The writer is of the opinion that disease of the mitral valve, other than stenosis, can play no part in the production of a presystolic murmur. The Flint murmur is not so harsh nor so intense as the murmur of mitral stenosis. The thrill is both less frequent and less intense with the Flint murmur. In cases of aortic insufficiency, accompanied by Flint murmur, the systolic impulse is not of the tapping character noted in cases of mitral obstruction; and the snapping, valvular character of the first sound is rare. In cases that present the Flint murmur, signs that point to the existence of endocarditis are rare, and evidence of arterio sclerosis is common. The anatomical change in the aortic valves in cases that presented the Flint murmur during life are those of arteriosclerosis and present nothing characteristic. The characteristics of the pulse in cases of Flint murmur are those of aortic insufficiency. A positive diagnosis of functional presystolic murmur is difficult to make. The diagnosis is made with a fair degree of accuracy, in a patient who is without rheumatic history, who has a full, sudden pulse, and in whom the other signs of aortic insufficiency are present. The murmur is common, since it occurred in $\frac{1}{2}$ the cases, and it may be associated with the features of true mitral obstruction. Cabot, of Boston, said that he had made autopsies on 10 cases in which the Flint murmur was present during life and in which the mitral valve was normal. In these cases the diagnosis of mitral stenosis had been made during life. This series of cases would tend to confirm Thayer's observation. James Tyson, of Philadelphia, referred to a case of aortic regurgitation in which the Flint murmur was present, and in which a loud, aortic, diastolic murmur was absent. The case presented all the signs of aortic regurgitation.

Alfred Stengel, of Philadelphia, read a paper entitled, **the causes and clinical features of right-sided cardiac hydrothorax**. It is difficult to distinguish between unilateral cardiac hydrothorax and inflammatory effusions of the pleura. The author has analyzed 100 cases of cardiac disease, in 17 of which hydrothorax was present. In 5 of these the effusion was on the right side only; in 3 it was left-sided; in 9 it was bilateral, and in 7 of these the effusion was greater in amount on the right side. In 2 of the cases of bilateral effusion the fluid made its appearance first on the right side. The greater frequency of right-sided effusion cannot be accidental. The condition may be explained by the pressure of a dilated superior vena cava on the right lymphatic duct; but this is unlikely. A more probable explanation is that the effusion is due to obstruction of the great azygos vein as it empties into the superior vena cava by the dilation of the latter vessel. Right-sided cardiac hydrothorax was always seen in cases with considerable enlargement of the right heart, and this fact tends to confirm the opinion that the effusion is due to pressure. The anatomical relations of the azygos veins explain how dilation of the right heart may compress the larger vessel, while the 2 smaller azygos veins of the left side are not involved by the process. The secondary development of left-sided effusion is to be explained by back flow into the vena azygos minor. William Osler, of Baltimore, said that the history of cases of right-sided hydrothorax indicates a local cause. The condition almost always develops in cases of mitral disease. J. C. Wilson, of Philadelphia, said that in general edema, such as from renal disease, the volume of pleural effusion is usually greater on the right side. In such cases the heart is almost always enlarged, and consequently the space in the left side of the chest occupied by the enlarged heart would tend to prevent fluid from accumulating in the left pleural cavity. E. G. Janeway, of New York, said that right-sided hydrothorax is an accompaniment of weak heart as well as of valvular disease. He cited a case in which, at autopsy, there was no valvulitis, but in which there was extensive fibromyocarditis and thrombosis. H. A. Hare, of Philadelphia, said that it would be well to take into consideration the movements of the heart, which might serve to urge

on the fluids of the left side, without affecting the fluids of the right side. He described as illustrative case. A. Jacobi, of New York, said that in his opinion the likelihood of myocarditis was too frequently neglected in the consideration of the possibilities of a case of heart disease. Many cases that present symptoms of valvular disease are, in reality, muscular. Muscular lesions, as is well known, result early in the production of edema. The myocarditis may be local, and then the lesion is very likely to be overlooked. Alfred Stengel, of Philadelphia, referred to a case in his series that shows that weak heart may be the exciting cause of the effusion. In this case the hydrothorax was the beginning, clinically, of the condition. Evidences of valvular disease developed, but disappeared under treatment.

Beverly Robinson, of New York, read a paper entitled, **myocarditis and fatty degeneration of the heart**. The author finds that in cases of anemia, gouty heart and obesity, fatty degeneration is a common and a serious occurrence. In obese women, particularly, this tendency toward fatty change in the heart should make the physician cautious in advising operation, and if operation is deemed justifiable, the anesthetic should be administered with great care.

Dr. A. Jacobi, of New York, read a paper entitled, **hemorrhage into the pleura, from a pyothorax**. The patient was a boy, aged 9 years, who had suffered for a month with languor, fever, emaciation, cough and pain in the right chest. The temperature was 102°; the respiration was 40 per minute and the pulse, 140. There was dullness over the upper and flatness over the lower portion of the right lung. Puncture of the right pleura showed the presence of pus, and the sixth rib was resected for its relief. Irrigation of the cavity brought, first, pus, then, blood-stained pus, and then, pure blood. The bleeding came from tufts of granulation tissue seen on the pulmonary pleura, which varied in size and which were quite numerous. The pleura was packed with gauze and in a few days the bleeding had ceased. There was no malignant tumor, tuberculosis was not present and there were no adhesions. The recovery, which was complete, was retarded by the slowness of the expansion of the lung.

Dr. Jacobi also read the report of a case of cyst of the omentum. The patient was an Italian girl, aged 7 years, who had suffered for 4 years with swelling of the abdomen and emaciation. The abdomen was tapped and 2 quarts of blood-stained serum were withdrawn and the condition was apparently cured. Two years later the swelling again appeared and the patient was again tapped and again cure was apparently obtained. The swelling returned a second time, however, and tapping was unsuccessful because the trocar was obstructed. At operation, after the swelling had returned to its usual size, a thin-walled, multilocular cyst was found attached to the great omentum. The cyst was removed and 2 days later the temperature rose and cough developed. This accident, however, did not retard the recovery, which was complete. The specimen, which was exhibited, was a multilocular cyst cavity. The walls were lined by endothelial cells and it originally contained a gelatinous substance. The author is of the opinion that cyst is composed of dilated lymph-vessels. He is of the opinion that serous cysts, which are sometimes found, are probably chylous cysts of long standing, the contents of which have become converted into serous fluid. Kinnicut, of New York, referred to a case of acute lobar pneumonia which was followed by effusion. Aspiration of the effusion withdrew almost pure blood. Later aspiration withdrew a sero-sanguinolent fluid, and still later the fluid became serous. The pneumococcus was obtained in the fluid from the second tapping and the subsequent history of the case was not tuberculous. It is possible that the patient had a tuberculous affection of the pleura that produced the bloody effusion. F. P. Henry, of Philadelphia, said that he doubted whether tuberculosis had a causative relation to hemorrhagic pleurisy, since the majority of pleural effusions are tuberculous and since hemorrhagic pleurisy is rare. The only cases of hemorrhagic pleuritis that he had seen were due to scorbutus. Peabody, of New York, said that many cases of hemorrhagic pleuritis get well and no tuberculous symptoms subsequently develop. He also is skeptical as to the tuberculous origin of hemorrhagic pleuritis. F. H. Shattuck, of Boston, said that cases of hemorrhagic pleurisy undoubtedly recover but he would not agree that recovery from such a

condition excluded tuberculosis. F. P. Henry, of Philadelphia, said that tuberculosis of the serous membranes is more benign than in other situations. He holds that hemorrhagic pleuritis is not common. William Osler, of Baltimore, said that only one variety of tuberculous pleuritis was liable to be hemorrhagic and that is the variety accompanied by fresh tubercles and by fresh exudate. Such cases are seen in the terminal forms of acute miliary tuberculosis. A. Jacobi said that the case was reported as one of hemorrhage into the pleural sac. He brings it forward as additional cause of hemorrhage into the pleural cavity to those already so well known.

Charles Cary, of Buffalo, read a paper entitled a case of pneumonia complicated by pseudomembranous exudate on the mucous membranes of the mouth, tongue, pharynx, nares, conjunctivae, glans penis, anus, etc., caused by the *diplococcus pneumoniae*. The patient was a boy, aged 11 years, in whom there was a membranous exudate on nearly all the exposed mucous membranes of the body. The symptoms suggested that the membrane-formation involved the entire length of the digestive tract as well as the pleurae. The *diplococcus pneumoniae* was present in the sputum and in the membrane. The bacillus diphtheriae and the streptococcus was absent. After the exudate was peeled off the underlying surface was granular and bled freely. There was a leukocytosis. The patient recovered after an illness of 3 months. [J. M. S.]

First Day, Afternoon.—F. P. Henry, of Philadelphia, read a paper entitled further notes of a case of pernicious anemia reported at the meeting of 1900. The author referred to a case reported by him at the meeting last year. The patient had been suffering from pernicious anemia for 6 years. During that time he had had several slight and 2 severe relapses. There were gastro-intestinal symptoms, low red corpuscle count, relatively high hemoglobin percentage, hypoleukocytosis and poikilocytosis. At the time the report was made the patient considered himself well. This year the patient is profoundly anemic; his red cells number 1,240,000; the hemoglobin percentage is 32; the leukocytes number 3,000. There is poikilocytosis and the presence of megaloblasts and normoblasts. The patient had an attack of erysipelas during the year, but he is improving again under iron and arsenic. The author believes that the presence of megaloblasts is not the sole criterion of the existence of progressive pernicious anemia and that there are symptoms that distinguish this from other diseases whether the cells mentioned are present or not. Megaloblasts are found in leukemia, in Bothriocephalus anemia, in carcinoma ventriculi and in syphilis. The diagnosis of the disease is best made by the aggregate of the symptoms and the appearance of the patient.

Frank Billings, of Chicago, read a paper entitled report of progress of cases of pernicious anemia presented to the association in 1900 and a report of a case of pernicious anemia with diffuse spinal cord lesions with post-mortem findings. Of the 20 cases of pernicious anemia reported last year 10 were living when the report was made. Of these 10, 4 died during the year, 4 are still living, and 2 have passed from observation. One of the patients who died in February, 1901, presented a sudden accession of nucleated red cells just before death, and a diminution of leukocytes instead of the usual increase. Of the 4 patients who are still living one is still improving. The color index remains high, however, during the period of improvement. One patient had an improvement wave of nearly a year's duration. The author has seen 9 new cases during the year, of which 7 are males and 2 are females. He has adopted a method of estimating the volume index of the blood. He estimates the percentage of red cells with the hematokrit and counts them with the hemocytometer. He then makes a fraction the numerator of which is the percentage by the hematokrit estimation and the denominator of which is the percentage by the hemocytometer. The result of the division gives the volume index. One of the patients who died was a woman, aged 36 years. She had had gastro-intestinal symptoms, menstruation had ceased, she was anemic, with lemon-yellow color of the skin and loss of control of bladder and bowels. There were no carious teeth, the lungs were negative, there was a soft systolic murmur at the base of the heart and visceral ptosis. The patient died on an improvement wave, with terminal leukocytosis, paraplegia and sensory phenomena. The immediate cause of death was an ascending infection of the genito-urinary tract from infection of the bladder, over which control had been lost.

At autopsy, important changes were found in the spinal cord. In the lumbar region, the posterior columns were sclerosed and the lateral pyramidal tract was also degenerated. In the cervical region, these columns were degenerated as well as the anterior pyramidal tract and Gower's tract. James J. Putnam, of Boston, said that it is an open question whether the spinal cord lesions were pathognomonic or whether they are similar to those seen in other diseases. They are certainly not due to the anemia as such. They are similar to the lesions seen in diseases characterized by changes in nutrition. William Osler, of Baltimore, said that there is a group of cases of pernicious anemia in which the anemia occurs after the onset of the spinal symptoms which needs full clinico-pathological study in this country. McPhedran, of Toronto, said that he had seen such a case as referred to by Osler in which the blood did not show the changes of pernicious anemia. F. H. Shattuck, of Boston, referred to a case of pernicious anemia following mental shock. John H. Musser, of Philadelphia, said that he had had a patient under observation since 1896 who presented the clinical picture of locomotor ataxia and whose blood was a typical picture of that of pernicious anemia. In this patient the nervous symptoms developed first. Blood examination showed hemoglobin, 50%; red corpuscles, 1,500,000; white corpuscles, 45,000; myelocytes, poikilocytes, megaloblasts and microcytes. There were no normoblasts, however, and the color index was high. He said that many patients with pernicious anemia were sent to hospital with diagnosis carcinoma of the stomach, gastric catarrh, carcinoma of the liver, heart disease and tuberculosis. Frank Billings, of Chicago, called attention to the fact that the degenerated tracts in his case of spinal cord lesion were not shrunken.

David D. Stewart, of Philadelphia, read a paper entitled acute miliary tuberculosis, primarily splenic. The patient was a nurse, aged 29 years, in whom there was no tuberculous history. Four weeks before she was admitted to hospital she had had an attack of influenza and before she had recovered from that attack she took charge of a case of tuberculosis. On admission, she was suffering from chills and fever, debility, and pain in the dorsal region. She died on the sixty-eighth day of her illness. During life the spleen was enlarged and extended from the sixth interspace to below the costal margin. Two weeks before death, enlarged glands developed in the supraclavicular fossa. At autopsy, tuberculosis of the lungs, the liver, the kidneys and the membranes of the brain was found, the existence of which was not indicated by clinical signs during life. The spleen was full of tubercles, some of which had advanced to complete caseation. The infection was apparently from the tuberculous patient whom she had nursed.

John H. Musser, of Philadelphia, read a paper entitled notes on relapsing fever in Hodgkin's disease. The patient was a man who had been ill 5 months before admission to hospital and who presented hemorrhage from the nose, enlarged spleen and general lymph-node enlargement. He had recurrent attacks of fever accompanied by acute enlargement of the lymph-nodes and jaundice. The patient died 1 month after admission and during that time treatment had no effect on the course of the febrile attacks. There was a febrile period of 6 days, then a period of apyrexia of 9 days, febrile period 9 days, apyrexia 11 days, fever 8 days, apyrexia 11 days, fever 10 days and death from exhaustion. In a second patient, a man, aged 53 years, who was under observation for 3 years there was a family history of tuberculosis. The patient, however, was a man of correct habits. He had moderate anemia which became more marked and progressive and there was the appearance and the disappearance of enlarged glands with the attacks and remissions in the fever. Enlarged spleen was also present. There was a febrile period of 12 days, then a period of apyrexia of 10 days, fever for 9 days, apyrexia 6 days, fever 8 days, apyrexia 15 days, fever 8 days, apyrexia 8 days, fever 8 days and then the fever became continuous on account of the development of pleuritis with effusion. During the course of the disease the patient began to cough but once only was the sputum found to contain the tubercle bacillus. Before the occurrence of a febrile attack the patient became irritable and had pain in the inguinal lymph-nodes and loss of appetite. During the febrile paroxysms insomnia was a very annoying symptom. The pleural effusion was sterile by cultural and inoculation tests. Blood from the patient was injected into a rabbit and the animal died from the development of lymphomata on the lungs. Wil-

ham H. Welch, of Baltimore, said that in many cases the fever of Hodgkin's disease had been shown to be due to tuberculosis. John H. Musser, of Philadelphia, said that he believed that in the cases reported the fever was probably due to the development of tuberculosis.

Alfred Stengel, of Philadelphia, read a paper for C. Y. White and William Pepper, of Philadelphia, entitled a **study of granular degeneration of the red blood corpuscles**. The reader referred to cases of chronic lead poisoning in which a granular degeneration of the red cells was noted. The granules were small and were evenly distributed throughout the cell in some cases, or had a tendency to clumping in others. The granules show a different affinity for certain basic stains. They may be found in normal cells, in poikilocytes or in nucleated cells. The granules are not detected in fresh or dried specimens. The condition is not due to karyorrhexis, but is probably due to some chronic blood poisoning. They were experimentally produced by Grawitz in early lead poisoning in mice. The authors have studied the condition in lead workers, in patients suffering from chronic lead poisoning, in cases of patients exposed to high temperatures, and experimentally in poisoning animals with lead. In 4 cases of lead poisoning the granules were present in all; in 21 lead workers, with no symptoms of lead poisoning, the granules were present in all. In 4 individuals who worked in front of furnaces and in 4 patients treated by the local application of superheated air only one presented the change. The granules appeared in dogs, in which small doses of acetate of lead were administered, in 24 hours. The splenic vein contained the greatest number of corpuscles affected by this degeneration. This granular degeneration, then, is a constant finding in lead poisoning; they disappear from the blood as convalescence progresses; there is no immunity. The granules are a true degenerative product. A. Jacobi, of New York, asked of what significance the granules were? He is in the habit of giving large doses of acetate of lead at times. David H. Stewart, of Philadelphia, said that it appeared to him that the granules might be an important diagnostic sign of lead poisoning, and that they might be called a symptom of lead poisoning. Alfred Stengel, of Philadelphia, said that the patients in whom these granules were found had also nucleated red cells and poikilocytes. In other words, they were actually poisoned by lead, but without symptoms. diagnostic sign of lead poisoning. Alfred Stengel, of Philadelphia, said that the patients in whom these granules were found had also nucleated red cells and poikilocytes. In other words, they were actually poisoned by lead, but without symptoms.

(To be Continued.)

30TH CONGRESS OF THE GERMAN SURGICAL SOCIETY.

(From our Special Correspondent.)

(Continued.)

5th Session.—On Wednesday evening a number of demonstrations of photographs, skiagraphs, etc., were given.

Gobel of Ruhrort reported a case of resection of the lung similar to Heidenhain's case. Sarfert of Berlin treats of "The operative treatment of tuberculosis of the lung." Kuster of Marburg demonstrates photographs showing his method of rhinoplasty. Paper of Graz "Conservative operations on the testis and the epididymis." Paper reports the case of a patient with acute orchitis following gonorrhea. Paper incised and opened an abscess, but gangrene followed, and he was compelled to castrate. Two years later an acute orchitis of the remaining testis appeared, and Paper again performed a conservative operation incising the albuginea and opening an abscess; this time he succeeded in saving the testis, and has demonstrated living spermatozoa in the patients semen. Bessel-Hagen of Charlottenburg described a plastic operation for complete loss of the skin of the penis and scrotum. He first healed the penis under the skin of the abdomen, then formed two skin flaps at the side of the penis, and closed them over the dorsum of the penis, in much the same way as Senn operated some years ago, an operation apparently unknown to Bessel-Hagen. v. Mikulicz of Breslau "The different methods of anesthesia and their indication." He has been collecting information bearing on the question,

which of all the narcotics is the least dangerous, and has arrived at the conclusion that it is not a question whether one should narcotize with chloroform or with ether, but when one should use chloroform and when ether. The question whether one should use inhalation anesthesia at all has been actively discussed of late years since the introduction of local anesthesia. v. Mikulicz then gives a chronological review of the methods of local anesthesia; the freezing method, cocain injection, Schleich, Oberst's and Bier's methods. He has used lumbar anesthesia in 40 cases with startling results, and considers it the method of the future, although not yet sufficiently perfected to be introduced into general practice. He has lost no case, but has experienced some very unpleasant after effects. The statistics of narcosis and of local anesthesia show that the former is still in much greater use. Local anesthesia in spite of having now such large fields of surgery is nevertheless of no value in many laparotomies, in nephrectomies, amputations of the breast, etc. There is room for question in operations on the stomach and bowels, herniotomies, and in operations for goitre. Deaths have occurred with local anesthesia. A great drawback is that the topographic relation of the parts is changed by the infiltration. One would naturally prefer local anesthesia in cases of heart and lung affections, yet the mortality of post-operative pneumonias following Schleich is still large. Much depends upon the kind of operation and upon the reaction of the individual to pain. Shock can be caused by pain alone without narcosis. v. Mikulicz formerly used chloroform exclusively, now he uses ether oftener since he has learned to avoid the dangers of the ether narcosis by using the graduated method of Hoffman of Bonn. Bier of Greifswald; "Anesthesia of the Cord." Up to the present time 1200 operations have been performed with his method. After injecting one-third gr. of cocain the sense of pain is first paralysed, then the sense of heat and cold, then the sphincters; finally the anesthesia extends so high that amputations of the mamma and and resections of the ribs can be performed. Toxic effects are met with; headache, dizziness, vomiting, loss of appetite and sleep, chills, fever, sweats, disturbances of the circulation, paresis, collapse and death. Bier has consequently arrived at the conclusion that the method in its present form is useless for the practitioner. He has been trying by experiments upon animals to find a way to counteract the harmful effects of cocain. He has succeeded in obtaining anesthesia by injecting normal salt solution into the cord of cats, and thinks it was caused by pressure upon, and swelling of, the cord. He has tried further all the cocain derivatives, and diluted solutions of cocain, but succeeded in obtaining either no anesthesia at all, or only one of short duration. Tropacocain never gave good results; the diluted solutions of cocain gave an analgesia which extended over a large territory, but he never obtained anesthesia, the sense of touch and of warmth remained perfectly normal. Bier thinks it would be possible by compressing the neck with a bandage until marked cyanosis of the face appears to shut off the toxic effects from the brain. His opinion is that the method is still in the stage of development, and still far removed from general use.

Braun of Leipzig demonstrates a new apparatus for narcotizing with a mixture of chloroform and ether.

Wohlgemuth of Berlin; "A new Oxygen-chloroform Narcosis." Wohlgemuth demonstrated an apparatus consisting of a cylinder containing oxygen under a pressure which can be regulated, and so arranged that escaping oxygen passes through an automatic attachment which permits chloroform to fall in drops into the stream of gas; then the mixture is conducted into a tight-fitting mask. Wohlgemuth has tested the apparatus in 181 cases and expresses his complete satisfaction with the method, especially with its effect on the pulse. In almost all cases the pulse registered 60 beats per minute. The amount of chloroform used is small, for the longest operations not more than F.-18 grains.

6th Session. The 6th session opened with a paper

by Tilmanns of Greifswald on "Intracranial Pressure." The speaker observed two cases in which the change from the vertical to the horizontal position was immediately followed by coma; these cases led him to subject the brains of dogs to the pressure of fluids of different specific weights. Tilmanns concludes that an intracranial hemorrhage does not cause pressure by decreasing the volume of the intracranial cavity alone, but also according to the laws of gravitation.

Brann of Goettingen read an interesting paper on "The Resection of the Sympathetic in Epilepsy." Brann first describes the operations performed by Jonnesco, and expresses his surprise that Jonnesco could succeed in removing the three upper ganglia of the sympathetic, on account of the anatomical difficulties. Brann has operated in 9 cases, incising behind the sternocleido mastoid, but has found it impossible to resect the inferior ganglion. He has observed no influence on the respiration or the heart action, but has seen in each case ptosis contraction of the pupil and dilatation of the blood vessels. He has seen no change in the pulse tension; increased excretion of the sweat glands did not occur in every case. The contraction of the pupil gradually disappeared, the dilatation of the blood vessels, by which Jonnesco endeavors to explain the value of the operation in epilepsy, disappeared in the course of 24 hours. Nor does Brann believe that the dilatation of the vessels of the brain continues for any length of time. Brann lost 2 of his 9 cases, one of them in an epileptic attack following the extirpation of both nerves. The operation itself is not dangerous, but although he thought some cases improved, in no case could he report a cure.

Jordan of Heidelberg opened a large field for discussion with a paper on "The Operative Treatment of Carcinoma Uteri." Of the four methods for extirpating the uterus 2 have been completely deserted; the perineal and the sacral. Most operators now prefer the abdominal route, especially so in France. Jordan believes that the vaginal route should be followed except when extraordinary features indicate the abdominal route; he also considers it questionable whether one should extend the operation to the whole lymphatic system of the pelvis as advised by Freund. Jordan then discussed the question in relation to mortality and recurrence, using the statistics of the Heidelberg clinic; he concludes that the dissatisfaction with the vaginal route is entirely unjustified. To be sure the field of operation is better with the abdominal route; it is easier to clean out the pelvic tissues, but the same can be accomplished with the vaginal operation even if not quite so extensively. The removal of the lymphatic glands can be accomplished only by the abdominal route, against which fact Jordan places the great variability in the infection of the lymphatic glands in all classes of carcinoma uteri. It is impossible to remove the whole lymphatic system of the pelvis; his observations have taught him that the glands become first affected at a late stage, and that only in rare cases. His conclusion is, since it is impossible to remove the glands completely, and the partial removal has no object; since the danger of the extended abdominal operation is considerable; and since, finally, the percentage of lasting cures is no larger with the abdominal than with the vaginal route; therefore, the normal method is the vaginal. The fact of the cancer having attacked the bladder and the rectum is no contraindication of the vaginal route. He recommends Schuchardt's paravaginal incision and sews the anterior and posterior walls of the vagina over the portio to avoid infection.

Schuchardt of Stettin; "The Paravaginal Method for Extirpation of the Uterus and the final Results of the Method in Carcinoma uteri." Schuchardt believes that with his method the indications for extirpation of the uterus can be made much broader, and demonstrated preparations which are intended to show that one can remove the entire parametria with the aid of his incision. His mortality in all cases, both the simple and the severe cases, was 12%. The incision is of itself perfectly harmless and always heals by first intention. He has performed 60 operations in 58

cases. Of the noncomplicated cases he has obtained 88%, of the complicated cases 37%, of the severe cases 14% complete cures. If he counts only the cases operated more than 5 years since, he can show 40% lasting cures. His absolute percentage of cures is, therefore, as large again as that of other gynecologists.

Duhrssen of Berlin; "Vaginal Laparotomy as a Rival of Ventral Laparotomy, based on 874 Cases." Duhrssen's operation, colpoceliotomy anterior, has led him to abandon the abdominal route almost entirely. Even the largest tumors of the ovary can be removed with this method and their pedicles can be securely ligated. The advantages of the operation consist in the low mortality; in his last series of 374 operations, in spite of numerous difficult cases, Duhrssen has had but 2% mortality; further, in the more rapid recovery, and in the avoidance of the inconveniences and dangers following the abdominal wound. Duhrssen has operated 700 times in cases of retroflexion and retroversion; in the majority of these cases the abdominal position of the uterus was combined with various diseases of the adnexae or with chronic pelvic-peritonitis. The adhesions of the uterus and the adnexae can be separated under control of the eye by means of Duhrssen's method. Any unfavorable influence of vaginofixation on subsequent parturition can be avoided by careful suturing of the wound of the peritoneum. He has seen normal childbirths followed in 37 of his cases. In 300 cases of various inflammations and pathological growths he has removed the ovary and the tubes, leaving in each case the uterus, and at least a part of one ovary. Duhrssen has performed 200 conservative operations on the adnexae, removal of both ovaries to prevent conception in severe chronic disease, salpingostomy to make conception possible, and especially often ignipuncture or resection in cases of small cystic degenerations of the ovary, after which operations he has showed normal pregnancies. In 74 cases he has performed conservative operations on the uterus, for the most part enucleations of myoma, and in 6 cases of uncontrollable hemorrhage, excision of the mucous membrane of the uterus instead of total extirpation. In spite of this simpler technic the mortality of these operations was larger than in operations on the adnexae. Duhrssen claims that it is possible by dividing one of the broad ligaments in addition to his incision, the operation which he calls colpoceliotomy anterio-lateralis, to remove with safety the pus containing tumors of the adnexae.

Doderlein of Tuebingen; "A New Method of Performing the Total Extirpation of the Uterus through the Vagina." The new method consists in the complete division of the uterus into two halves by an incision beginning at the posterior wall of the cervix, thence into and through the uterus cavity, following the posterior wall up to the apex of the corpus and down the anterior wall; continuing the incision through the anterior wall, the operator reaches the vesico-cervical space without danger of injuring the bladder, which has been removed from the cervix by the strong downward traction on the uterus. The incision which began at the posterior lip of the cervix is completed by incising the anterior lip, and the operation is finished by extirpating each half of the uterus by itself.

Olshausen of Berlin followed with a paper on the same subject as the preceding papers. His experience has been the same as Jordan's. It has always been his opinion that one can expect a cure only when the cancer has not gone beyond the boundaries of the uterus, and he considers only such cases operable. He has never thought, and especially of late, that one should remove the lymphatic glands, even though he has extended his operation. Cancer can recur after 4 to 5 years; he has seen recurrences in 38.9% after 5 years. He believes further that the abdominal operation is only admissible where the vaginal method is technically impossible. Schuchardt's incision is necessary in only $\frac{1}{4}$ of all cases; he has seen abundant hemorrhage and cancer infection of the wound after using Schuchardt's method. Olshausen points out that the pus of a prometria is especially septic and for that reason he would con-

sider Doderlein's method applicable only to cases of beginning carcinoma, but not to cases complicated by pyometra. He does not believe in the great danger in separating adhesions of the bladder, except possibly in unusual cases, and then he doubts that Doderlein's method would give any better results.

In the discussion following these papers, Martin of Greifswald says he agrees perfectly with Jordan. He has experienced one very unpleasant hemorrhage following Schuchardt's incision, yet thinks he can recommend the method. He expresses some doubts in regard to Doderlein's method, but thinks it should be tried.

Werthheim of Vienna took the opposite view. It is his principle to operate in all cases by the abdominal route and to remove the connective tissue surrounding the uterus, and the lymphatic glands, having found in 18 out of 50 cases that the glands were affected, all of these being cases which were not far advanced. Werthheim considers it more important, however, to clean out this parametrium than to remove the glands, and he thinks this is only possible by the abdominal route. His results were at first unfavorable, losing 11 out of 33 cases. He thinks now that he then went too far. Of his last 20 cases he has lost but 3, 2 from necrosis of the ureters, and one from metastasis in the liver. The future will show the superiority of the abdominal method.

Kummell of Hamburg mentioned those hopeless cases in which one must operate to relieve complications. In three cases of closure of the ureters he has resected the ureters and sewed them into the bladder.

Frund of Strassburg emphasizes that statistics can only be of value when one and the same operator uses one and the same operation in all his cases. He considers the vaginal operation merely palliative. The abdominal method is indicated in all earlier cases where there is any hope of success.

Petersen of Heidelberg; "The Structure, Growth and Histogenesis of Carcinoma of the Skin. Petersen has made use of the embryological method (after Born and Strasser) of plate models in wax in the study of cancer. He believes that the study of such magnified serial sections, besides being of great value to the teacher, proves that skin cancer propagates itself in two ways, unicentric, starting from one single center and spreading into the neighboring tissues, and multicentric, beginning at several points independently. The masses of epithelial cells which grow from each independent focus, spread by sending branches into the tissue; the so-called cancer alveoli are in the majority of cases merely cross sections of such branches of the main growth. Petersen believes this study of such serial reconstructions teaches that the growth of the epithelium is the primary factor in the histogenesis of carcinoma, as opposed to Ribber's theory of the primary growth of the connective tissue.

Kossmann of Berlin; "The Origin of Carcinoma, especially in the Ovary." Kossmann showed micro-photographs of a "cancer" of the ovary which contained both cylindrical and pavement epithelium, and considers it an impossibility to assume that a parasite could cause the growths of such widely different kinds of epithelium. He would therefore hold to the theory of Connheim that the cells had become dislocated from their normal position at some period.

Ehrhardt of Koenigsberg advised the use of boiling water instead of the paquin to destroy any remains of a tumor in the wound, to guard against transplantation. In the general discussion Gussenbauer of Vienna considers Petersen's method too schematic. v. Hausemann points out that we cannot call such models diagrams and that they are of great value in the study of the histo-morphology of cancer. Israel, v. Kahlden, Heidenhain and Petersen took part in the discussion. Hollander of Berlin presented a case of carcinoma of the nose; the patient has now multiple carcinoids on her whole body.

Kronlein of Zuerich; "Is Narcosis advisable in Resection of the Upper Jaw or not?" Kronlein demonstrated in a

table that the earliest recorded cases of this operation showed a better mortality than the operations performed since antiseptic and aseptic times. He concludes, therefore, that some further factor must enter into the question. This factor is the narcosis, a belief supported by the result of Koenig and Kuster. Both of these authors owe the half of their lost cases to bronchopneumonia following aspiration of the blood. This danger cannot be avoided by partial narcosis, and so Kronlein operates with almost no narcosis. He has lost but one of his 35 patients, and this one died of meningitis.

Wohlhardt of Halle; "The Disappearance of the Toxicity of Cocain in the Animal Body." The author has found that a lethal dose of cocain injected into a rabbit's leg and prevented from entering the general circulation by a rubber bandage, produced no, or only slight toxic symptoms after removal of the bandage $\frac{1}{2}$ to 1 hour after the injection; he concludes that the cocain must have lost its toxic properties. Discussion: Schwarz of Agram; "Lumbar Anesthesia," claims that tropacocain is superior to cocain in its after effects; in 44 cases he has seen headache in but 4 cases, in no case nausea or rise of temperature. Blau of Tuebingen demonstrated blood pressure curves and showed that the blood pressure rises under ether and sinks under chloroform. Riedel of Jena fears the aspiration of blood, and operates in all cases on the mouth easily, etc., with the lead hanging below the horizontal. Kader of Breslau reported favorable results in 56 cases of lumbar anesthesia. He gives digitalis for one or two days before operation, and uses camphor if any heart symptoms appear. Gussenbauer of Vienna uses complete narcosis in resections of the jaw, and operates with the head held forward. He has had to perform tracheotomy in consequence of aspiration of blood in 2 cases, both of which recovered.

19TH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Berlin, April 16th-19th, 1901.

The annual German Congress for Internal Medicine which meets alternately at Berlin and Wiesbaden, assembled for its 19th session in the Architekten-Haus, Wilhelmstrasse, Berlin, on April 15th, 1901. The usual exposition accompanying the congress was devoted this year especially to instruments, etc., designed as aids in diagnosis; an extraordinary feature was the large and richly illustrated volume prepared under the direction of Mendelsohn of Berlin "The Development of Apparatus for Clinical Diagnosis," which was presented to each member of the congress. This volume gives a short description by men of note in their various lines of work, of the numerous mechanical, optical and electrical aids in clinical diagnosis.

The President, Senator of Berlin, paid especial attention to his address opening the congress, to the progress made in the diagnosis of internal disease during the past century. Senator described in a brief historical sketch the gradual development from pure empiricism, through the reactionary,—the nihilistic period when the physician doubted his ability to influence disease—to the present period when internal medicine, firmly footed on the foundation built by the pathologists; notably Brichat, Rokitsky and Virchow, began its scientific career, a period to be best judged by its results. The chief results have been in diagnosis. Here is to be especially noted the modern treatment of tuberculosis, and serum therapy. Truer today than ever before is the old saying, "*qui bene diagnost, bene curat.*"

The congress was then greeted by the representatives of the Austrian Ministry for Education, von Jakseh of Vienna, and of the Prussian Ministry, Pistor of Berlin, and by the representatives of the city of Berlin, etc.

The work of the congress then began with the first main topic of the program, "Heart Stimulants and Vasomotor Stimulants?" Gottlieb of Heidelberg treated the subject from the experimental standpoint. He described first, the conditions in which vasomotor stimulants are indicated.

In the case of paralysis of the vasomotor nerves due to some influence upon the vasomotor center, such as the narcotic poisons, or in the course of acute infectious disease, blood vessels of the abdomen become congested and anemia of the vessels of the periphery and of the brain results; the pulse becomes small, the heart chambers are poorly filled; but this not because the heart lacks the power to do the work, but because it lacks material with which to work; the blood is retained in the congested vessels of the abdomen. In these conditions the vasomotor stimulants by causing contraction of the blood vessels controlled by the splanchnicus, bring the distribution of the blood back to the normal, relieve the anemia, and enable the heart to fulfill its function. The oldest of these vasomotor stimulants is strychnin; caffeine is preferably because of the tendency of strychnin to produce convulsions. Camphor also acts in the same way as strychnin and caffeine; another vasomotor stimulant is the local application of cold. It is to be noted that only the blood vessels which are controlled by the splanchnicus are affected by these drugs. They also affect the respiration. Ether and alcohol have no tonic effect, but on the contrary a dilating effect upon the vasomotors. Heart stimulants increase the functional activity of the heart by increasing the volume of the heart stroke, thus relieving the pathological distribution of the blood which follows heart lesions as well as abnormal innervation of the blood vessels. The therapeutic value of digitalis is to be sought in this increase of the functional power of the heart; its effect is always on the action of the heart, never on the organic lesion. The constriction of the blood vessels caused by digitalis is of but secondary therapeutic importance. Gottlieb described experiments on the heart of the higher vertebrates, using a modification of the method of Hering and Bock on the heart of the living animal, and the method of Langerdorff on the isolated heart. Gottlieb and Magnus have further studied the heart action by introducing a rubber balloon into the heart chambers, inflating the same, and registering the degree of systolic compression of the balloon. They have found that the work done by the auricle is increased three or four fold after giving digitoxin. The increase is due to a stronger systolic contraction of the heart muscle. This increase of the functional power of the organ is of especial significance in valve lesions. This lessening of the frequency of the heart beat which follows the use of digitalis, caused by stimulation of the vagus is also of no little therapeutic value. The complete therapeutic action of digitalis is therefore attained in this stage when the lessened frequency of the beat permits complete diastolic expansion and filling, and the strengthened systole brings a more complete emptying of the organ. All drugs containing digitalis cause contraction of the blood vessels; this effect is, however, of but secondary therapeutic value, for example in aiding to overcome the congestion of the vessels of the abdomen. If this contraction becomes too pronounced it can be of detriment to a diseased heart by increasing the work to be done. Gottlieb's paper finished by merely touching upon the other important heart stimulants. Camphor influences the heart indirectly by its stimulative action on the vasomotors, but also directly by making the heart itself more susceptible to stimulation. Caffeine has a direct effect on the heart by increasing the power of the organ to overcome pathological difficulties. Caffeine does not affect a healthy heart if the pulse tension remains normal. Gottlieb notes the elective action of theobromin upon the coronary vessels and the consequent value of the drug in angina pectoris. Alcohol influences the heart indirectly by causing dilatation of the blood vessels, thus decreasing the difficulties to be overcome, in cases for example where the pulse tension is too high. Gottlieb expresses the hope that pharmacology and clinical experience together will in the future solve the problem of the right choice of the stimulant or combination of stimulants, in spite of the complicated mechanism which governs the heart and the vasomotor supply. Sahli of Bern treated the clinical side of

the problem of heart stimulants and vasomotor stimulants. He emphasized first that the future of internal medicine is to be sought in the advancement of functional diagnosis; the search after a specific treatment leads us too far into the future. His paper began with a discussion of the pathology of the circulatory disturbances. Sahli divided the congestions into three groups whose common characteristic is in the slowing of the aortic blood stream and the pathological distribution of the blood: (1) The cardiac congestions due to insufficiency of the systole, or to mechanical prevention of the diastole. (2) Respiratory congestions in diseases of the respiratory organs, or due to intrathoracic exudations; Sahli considers the congestions of this group due indirectly to cardiac congestion. (3) Vasomotor, better, vasodilator congestions, caused by paralysis of the small vessels of the body. Sahli divides the cardiac congestions into high tension and low tension congestions. A further group form the congestions in the vessels controlled by the splanchnicus, congestions caused by heart lesions and by primary vasodilatation. Sahli then emphasized the necessity of diagnosing these congestions in their early stages, and advised the practitioner to begin treatment much earlier than is usually the case. He believes that digitalis is useful in all these forms of congestion; but the physician must avoid schematic treatment, and must know when further therapeutic measures should be added to the digitalis treatment. In congestion with high tension pulse Sahli has found that digitalis is by no means contraindicated, but that it may even lessen the pulse tension. The success of the digitalis treatment is the explanation of the fact that digitalis may effect a cure which may last for years after one has stopped treatment, is the interruption of the *circulus vitiosus* by the drug; the heart itself suffering from the congestion, regains normal circulation in the coronary vessels, and can hold its own again. Sahli then discusses those cases in which digitalis gives no results, cases which he would call essential congestion. By this term he designates those cases where the valve lesion has become so pronounced that it is mechanically impossible to avoid congestion even with normal heart power and normal systole. In such cases digitalis treatment is either of no value, or else merely transitory value. Sahli's opinion is that there is no difference in the action of digitalis on any of the valve lesions. The claim that the drug has no effect in insufficiency of the aorta he explains by the fact that these cases first come under treatment after the lesion has existed for years and the congestion has become "essential." In regard to the dose Sahli pointed out the difference in the principle of large doses and of small doses; large doses affect both systole and diastole, small doses the systole alone. In regard to the long continued use of the drug, to its cumulative action, and to the patients becoming accustomed to digitalis, Sahli agreed with Grodel and Kussmaul. Caffeine and camphor act in an entirely different manner from digitalis. Their stimulative effect on the heart is confined to the systole. Their chief value is in their action on the vasomotors. The action of caffeine and camphor on the respiration and the diuretic action of caffeine are advantages not to be overlooked. There is no direct proof of a direct action of alcohol on the heart. In cases of high tension it can be of value by diminishing the tension and thus aiding to cardiotonic drugs. Its effect is too transitory to make alcohol of value when used exclusively in cases of high tension. Sahli considers alcohol contraindicated in the acute infectious diseases because it acts in the same way as the toxins themselves. Alcohol is useful as a transitory stimulant in chills, etc. Neither alcohol nor ether are indicated in all cases of collapse. In closing Sahli emphasized the importance of the right choice of the drug or combinations of drugs, and noted further the complicated mechanism of the human body. Oftentimes drugs, etc., which have absolutely no direct action on the heart may be of the greatest therapeutic value.

The Latest Literature.

BRITISH MEDICAL JOURNAL.

April 20, 1901.

Medical Notes from the Imperial Yeomanry Hospital at Pretoria. J. W. WASHBOURN.

Reminiscences of the Welsh Hospital in South Africa (Springfontein and Pretoria). J. LYNN THOMAS.

No. 6. General Hospital, Johannesburg. ARCHIBALD WATSON.

Clinical Notes on the Wounded in South Africa. J. W. SMITH.

The Princess Christian Hospital in South Africa.. GEORGE V. WORTHINGTON.

Veld Sores. ALEXANDER OGSTON.

Some Observations on Veld Sores. W. H. HARLAND.

Report on 295 Cases of Enteric Fever, General Hospital, Tin Town, Ladysmith. DAVID MELVILLE.

Enteric Fever in South Africa; Effective Sterilization of Excreta. MAJOR H. A. CUMMINS.

Venesection in the Treatment of Gunshot Wounds of the Chest. CAPTAIN F. J. W. PORTER.

1.—In the Imperial Yeomanry Hospital at Pretoria, Washbourn has met with a very large number of cases of jaundice. As recovery always occurred, the pathology of this affection can only be surmised at. The nausea, vomiting and abdominal pain which accompany the disease, suggest an inflammation of the duodenum which leads to blocking of the orifice of the bile duct, and thus causes jaundice. The occurrence of jaundice in epidemic form points to some infective agency. In the cases of enteric fever which the author has observed, constipation is the rule and diarrhea and hemorrhage are uncommon. Phlebitis of very frequent occurrence, and is very much more common than in England. Patients who have been exposed to excessive fatigue, and those who have been conveyed long distances in an ambulance during the early stages of the disease frequently succumb ultimately to cardiac failure, although the attack has otherwise not been severe. From clinical observation the author is satisfied that inoculation does not modify this disease. Phlebitis has followed other conditions than typhoid fever, or has arisen without any definite cause in a number of cases. It is probable that there are several specific fevers in South Africa that have not been recognized; although they represent Malta fever more frequently than any other disease. [J. M. S.]

2.—Thomas describes the method of pitching hospital tents. He has also found that wounds inflicted by ricochet bullets are severe and that lesions of an expanding bullet are most disastrous after penetrating bone; and those of the Lee Metford and Mauser are of a comparatively trivial character. The author uses a forceps-tourniquet in all cases of amputation, and regards it as the most reliable and convenient instrument when the surgeon cannot rely upon the help of any skilled assistants to control hemorrhage. The application of the forceps-tourniquet causes the simultaneous closure of both the arteries and the veins. In the use of the telephone probe the author believes that it is more desirable to put the silver plate on the patient's tongue than to apply it as directed to the skin. Over 40% of the cases in the Welsh Hospital were surgical and there was extraordinary uniformity of healing in almost all of the cases. [J. M. S.]

3.—Watson describes the conditions pertaining at No. 6 Hospital, Johannesburg. [J. M. S.]

4.—J. W. Smith reports a number of interesting cases of gunshot wounds occurring in the war in South Africa. He reports briefly a number of cases of penetrating wound of the chest, in which it would seem most probable that the heart itself had been injured by the ball, and yet, after a few days of hemoptysis the patient recovered. He also refers to cases of penetrating wounds of the abdomen which recovered without operation. The prompt healing of wounds in other parts of the body was also surprising. Aneurysms as the result of injury to arteries are not infrequent. Injuries to nerves were more numerous than would be expected, and a number of instances are reported where operation was necessary for this condition. It is thought that where bullets lie deeply, specially in the trunk, and are causing no symptoms,

it is probably better not to disturb them. Smith found that the fractures of the long bones were generally oblique in direction, irregular and accompanied by a great deal of splintering. The wounds of the knee joint made the most surprising recoveries. What is said of the modern bullet wound cannot be said of the expanding bullet or of the shell; most of the wounds caused by the latter become infected. [J. H. G.]

6.—Alexander Ogston describes the Veld sore as a superficial infected blister closely resembling the well-known onychia occurring in mill workers. The epidermis is elevated into a semi-translucent swelling with an area of inflammation around it. Lymphatic involvement is seldom seen. This peculiar sore is only seen in South Africa; it occurs mostly on the hands and forearms and on the feet and legs. Suppuration is not a characteristic of the Veld sore, but crusts of serum are apt to form over the sore. The sore is due to a micrococcus closely resembling the gonococcus, and Ogston thinks that this organism is an inhabitant of the vegetation and soil of the Veld. [J. H. G.]

7.—W. H. Harland describes the Veld sore very much as is done in the foregoing article, but seems to have observed lymphatic involvement and fever more often than did Ogston. He has found the disease very amenable to treatment by mild antiseptics. He thinks it due to the sting of an insect. [J. H. G.]

10.—F. J. W. Porter reports an interesting case of an officer in South Africa who was shot through the chest, and who, as a result, suffered great inconvenience in respiration from a large accumulation of blood in the right pleural cavity. It was necessary to carry the patient over a number of miles of rough country. 24 hours after this injury his pulse was small and the heart's impulse diffuse. Lividity was very marked and the patient was quite delirious. At this time 10 ounces of very dark blood was drawn from the median basilic vein with the most gratifying result, the patient turning on his side and going to sleep immediately afterward. The patient was enabled to continue his journey with much less suffering, and ultimately made a good recovery. [J. H. G.]

5.—Worthington describes the conditions pertaining in the Princess Christian Hospital, South Africa. [J. M. S.]

8.—During April, May and June, 1900, there were 295 cases of enteric fever in the General Hospital in Tin Town, Ladysmith. The disease was, as a rule, of malignant type. In about 40% of cases no rash was found, and in about 20% the rose spots were thickly scattered over the trunk and extremities, whilst the remaining 40% followed the usual course. In only 5 cases out of the entire number was any diarrhea noted. As a general rule, the delirium was of the rambling or muttering type, giving rise to no anxiety and calling for no treatment. Thirty of the 295 cases had been inoculated. The complications were more numerous, the duration of the fever longer and the death rate higher in the inoculated. [J. M. S.]

9.—Cummins makes a second report on his method of sterilizing the excreta of patients suffering from typhoid fever. In 2 minutes all forms of life have become extinct, and even spores have lost their vitality. The cauldron used in his hospital has a capacity of 40 gallons. It is emptied every evening for cleansing purposes; 20 gallons of a solution of izal or crude carbolic acid in water is poured into it, and when this has been heated to near the boiling point the apparatus is again fit for use. Smell from the boiling cauldron is practically absent, and flies do not approach it. [J. M. S.]

LANCET.

April 20, 1901.

1. A Clinical Lecture on Carcinomatous Stricture of the Duodenum. H. D. ROLLESTON.
2. Autopsychorhythmia or Repetition Psycho-neurosis. Morbid Rhythmic Forms of Automaticity and Rhythmic Forms of Mental Alienation. C. H. HUGHES.
3. Correspondence between Cholera and the Prevalence of Comma Bacteria in Well Waters of Gujerat during the Famine of 1900. GEORGE LAMB.
4. When to Operate in Perforative Peritonitis. ARTHUR C. ROPER.
5. Recurring Attacks of Catalepsy alternating with Violent Mental Excitement. W. G. STONE.
6. On the Causation and Treatment of Profuse Epistaxis in People beyond Middle Age. GEORGE COATES.

7. Case of Recovery after Operation for Diffuse Peritonitis from Perforation of the Appendix. CHARLES A. MORTON.

8. The Open-air Treatment of Phthisis at Home; A Short History of a Case. F. WHINFIELD BARTLETT.

1.—Rolleston delivered a lecture on **carcinomatous stricture of the duodenum**, at St. George's Hospital on March 11, 1901. The following history of the case is given: On November 29, 1901, a plumber, 50 years of age, was admitted to the St. George's Hospital complaining of weakness, vomiting, and abdominal pains. He had suffered from pain in the epigastrium, immediately after taking food, for the past two years. The patient had two attacks of vomiting, one in July and August, 1900, and the other in November. The following report was made while the patient was in the Hospital: He complains of great weakness, he has lost weight, and suffers from constipation. The heart and lungs appear normal and nothing abnormal can be palpated in the abdomen. The blood revealed a slight leukocytosis; the urine varied in specific gravity from 1010 to 1030, and at times contained a trace of albumen, and indican in varying quantities. The vomiting material was bile stain and did not contain free acid. After persistent and copious vomiting the amount of urine decreased. On December 6th the patient vomited 11¼ pints in 15 hours. The diagnosis of stricture of the duodenum below the biliary papilla suggested itself. During the course of the illness the patient developed pyemia. The probable source of the infection was a transfusion wound. Death occurred from exhaustion on February 6, 1901. The post-mortem examination revealed a **tight-stricture of the third part of the duodenum**, due to a new growth which almost completely encircled the lumen of the bowel. Microscopically this tumor proved to be a columnar-celled carcinoma. The author believes that gastro-enterostomy would no doubt have relieved the patient temporarily, but the diagnosis was never sufficiently clear to justify laparotomy. The article is concluded with some general remarks on malignant disease of the duodenum. Mention is made of the frequency of carcinoma in this part of the intestine. The most frequent situation of primary cancer of the duodenum is in the second part, less frequently in the first part and the most uncommon position is the third part. [F. J. K.]

2.—Hughes calls attention to a morbid rhythmic activity of the brain which he has termed "**autopsychorhythmia**," or repetition psycho-neurosis. He gives a brief account of a number of such cases and maintains that this form of mental derangement is a forerunner of grave insanity. However slight and remote the symptoms may be, thorough investigation and prompt endeavor is imperative. [F. J. K.]

3.—Lamb writes upon the **correspondence between cholera and the prevalence of comma-bacteria in well water of Gujerat during the famine of 1900**. The results of his researches show that none of the comma-shaped bacteria isolated from Gujerat waters could be termed true cholera vibrio. There was, however, a marked resemblance morphologically, biologically, and tinctorially with the true cholera-producing microbe. So marked was this similarity that the author believes that the bacteria found belonged to the tribe of curved bacteria, which includes the true cholera-producing microbes. In many of the localities where these comma-bacteria were found, cases of true cholera were present, which shows an enhanced significance between the incidence of cholera in a locality and the presence of curved comma-shaped micro-organisms. [F. J. K.]

4.—A. C. Roper discusses the **diagnosis of the various abdominal conditions which may give rise to perforative peritonitis**, and the **best time to operate** in such cases. In perforation of gastric ulcer the four principle signs are rigidity, tenderness, the presence of fluid in the flanks, and free gas in the peritoneum, to which of course are added pain and the signs of collapse. These symptoms are very apt to be followed by amelioration which is oftentimes misleading. It is during this period of improvement, when rigidity is being followed by distension, when tenderness is less, when there is no passage of flatus, that operation should be done. Roper thinks that it is better not to operate immediately during the shock which follows perforation of a gastric ulcer, but to relieve the pain and treat the shock, all of which can be done while preparation is being made for operation. In any form of perforative peritonitis opium

must be given at first to relieve the suffering, but a diagnosis should, if possible, be made before the drug is administered. [J. H. G.]

6.—Coates discusses the cause and treatment of **profuse epistaxis in people beyond middle age**. He gives a brief report of 5 cases and states that the sequence of events leading up to the epistaxis was similar in all cases, namely (1) High arterial tension; (2) sudden cardiac failure either due to loss of power of the cardiac muscle, or from the giving way of valve; (3) overdistension of the whole venous system; (4) leakage following from an over distended vein. The author states that a question which naturally presents itself is, Why should only some individuals, suffering from circulatory diseases develop epistaxis. The most plausible explanation for this is that the relatively weakest point in those individuals, complaining of epistaxis, is probably in the venous sinuses of the nose. From the standpoint of treatment, (of these cases of epistaxis), the most satisfactory measures will be those which tend to relieve the passive venous distension by keeping down the high blood pressure and by strengthening the weakened heart muscle. In most cases plugging of the nostrils is unnecessary, as the hemorrhage can be controlled without resorting to this procedure, which is always uncomfortable to the patient and may even prove dangerous. The drugs which prove to be quite effective are nitro glycerine, amyl-nitrite, strychnia, and strophanthus. [F. J. K.]

5.—Stone reports a case of **cataplexy alternating with violent mental excitement**, occurring in a married woman 27 years of age. The condition had existed for some time before the author observed the case, which was on November 15, 1900. The attacks seemed to occur at or about the menstrual period. During one of the menstrual periods she passed a membranous cast of the uterine cavity and said that this had occurred some months previously. The patient also complained of dysmenorrhea and menorrhagia. Recovery seemed to follow dilatation of the cervix and curettement of the uterus. [F. J. K.]

7.—Charles A. Morton reports a case of **diffuse peritonitis**, the result of a **perforated appendix**, which recovered after operation and thorough drainage. The case is interesting because it shows the danger of delaying operation in patients who have suffered from previous attacks of appendicitis. In this instance the patient had three previous attacks. On the first day it was thought that the patient might recover from his attack and no operation was advised. 48 hours after the commencement of the attack there was distension, more general tenderness and abdominal breathing had disappeared. All of the lower portion of the peritoneal cavity was found to be involved and a large quantity of pus was evacuated from the pelvis. [J. H. G.]

8.—Bartlett gives a detailed report of a case of **phthisis** and discusses the value of **open air treatment at home**. The patient, age 38, the wife of a baker, residing in the country two miles from a small town, complained of cough and expectoration, shortness of breath, severe night sweats, weakness, anorexia, and had lost weight. Fever was present; well marked physical signs of consolidation in the upper lobe of the left lung and cavity formation were elicited. Tubercle bacilli were found in the sputum. The author advised open air treatment. Improvement gradually followed; the patient gained weight, fever subsided and tubercle bacilli disappeared from the sputum. [F. J. K.]

MEDICAL RECORD.

May 1st, 1901.

1. The Operation for Radical Cure of Inguinal Hernia. CAMPBELL FORD.
2. Varicella in Adults. ALVAH H. DOTY.
3. A Plea for the Conservation of Breast Milk in Whole or in Part. THOMAS S. SOUTHWORTH.
4. On Bandages for Nephroptosis. GEORGE M. EDEBOHLS.
5. Version, Indication, Technique, Limitation. S. MARY.
6. Axis-Traction Forceps. EGBERT H. GRANDIN.
7. Caesarean Section. EDWIN B. CRAGIN.

1.—Campbell Ford has had the opportunity of being present at operations performed for the radical cure of inguinal hernia by Bassini, Lucas-Championniere, De Garmy, Coley and Broca which he describes. He approves of De Garmy's method of using kangaroo tendon as suture material or, in lieu of it, silk, and also endorses this surgeon

method of suturing the external oblique and the pillars of the ring by taking a wide stitch. He advocates the use of a **Reverdin needle** and the square-knot stitch for the deepest layer and also uses the lap insertion. [T. L. C.]

2.—**Alvah H. Doty** states that the prevalent belief that **chickenpox does not affect adults is erroneous**. He believes that it occurs in typical form in adults and discusses the character of the eruption, the manner in which it appears and its distribution or location. Even in mild cases of smallpox the hands and feet are to some extent involved, but in chickenpox, even with a profuse eruption this is uncommon. The back presents the best surface to study the eruption of varicella. [T. L. C.]

3.—**T. S. Southworth** makes a plea for the **conservation of breast milk in whole, or in part**. The cases in which the breast milk is thought to be at fault may be of two varieties. In the first are those children who appear to be gaining satisfactorily in weight but are suffering from colic, vomiting, crying or disturbed stools. It is necessary to determine whether the child is still gaining weight, and if this is the case the other ills may usually be remedied. The diet of the mother must be investigated and regular period of nursing insisted upon. In the second class are included those children who do not appear to thrive on breast milk, and who in addition to their small weight may present symptoms of irritability and indigestion. In these cases accurate weighing of the child every second day is important. It is necessary to examine the mother's breasts, correct her diet, insist upon regular periods of nursing and these simple methods will frequently be followed by improvement in the child's condition. Should they fail **supplementary feeding** may be resorted to. [T. L. C.]

4.—**G. M. Edebohls** describes the **various bandages for nephroptosis**. The bandages for this condition may be divided into two general classes. Simple bandages and apparatus embodying the feature of a special kidney pad. The simple bandages act by supporting the entire contents of the abdomen and more or less immobilizing the moveable kidney on the intestinal mass. All of the relief derived from bandages encircling and sustaining the lower two-thirds of the abdomen, or from a long and low reaching corset have the same object. The relief obtained will depend upon the presence and the degree of any associated **enteroptosis**. The greater the degree of this condition the better are the prospects of relief from bandage or corset. When movable kidney exists without general enteroptosis no form of apparatus will prove satisfactory. The writer believes that all appliances with special kidney pads or trusses are useless and injurious, and that the operation of **nephropexy** is indicated when relief of symptoms cannot be obtained from a simple bandage or corset. [T. L. C.]

5.—The indications for **version**, according to Marx, are: 1. Malpositions and malpresentations; 2. contracted pelvis, either relatively or absolutely so; 3. Prolapsus funis or allied conditions; 4. For all other unclassified conditions, such as placenta previa; 5. Except under very rare conditions in all cases in which the head remains above the brim; the exception being in those cases in which there is present a uterine rupture or a very much thinned-out lower uterine zone showing plainly the contraction-ring of Bandl. Finally, it may be stated in general terms that version is indicated in all cases in which the life of the mother is threatened, as by uremic convulsion or an embolus of the lung. Under these conditions a dilatable or one that is fully dilated must be presupposed. When the latter conditions do not obtain the version must be immediately anticipated by a rapid manual dilatation or a deep **Duehrssen's** incision of the os. The lowest limit for a deliberate elective version would be in the case of a pelvis whose true conjugate is at or above $3\frac{3}{4}$ inches in the presence of an average size or small child. The extreme lowest limit in the **Walcher** position is 3 inches. Marx believes that the operation of **symphysiotomy** finds no indication in pelvic contraction. [W. A. N. D.]

6.—**Gardin** remarks that **forceps applications** is conven-

iently divided into high, median and low. For the purpose of low application any type of forceps should answer, and similarly in the case of median application in instances in which deficiency in the expelling force is at the bottom of the retardation in labor. High application in his hands is limited to instances in which the membranes have ruptured and the presenting part has just engaged. The **axis-traction instrument** should fulfil the following indications: 1. Traction in the correct axis; 2. traction with expenditure of the least effort on the part of the operator; 3. Traction with the least compression of the fetal head; 4. Traction with the least interference with normal mechanism (e. g., rotation); 5. Traction with the least consequent damage to the maternal parts. The rules governing the application of the axis-traction forceps are similar to those associated with other types. In high application the blades are applied to the sides of the pelvis; in median application to the sides of the fetal head. [W. A. N. D.]

7.—**Cragin** records a series of 9 cases of **Caesarean section** which illustrate the various indications for the operation. He remarks that a deliberate craniotomy, or endryotomy upon a living child, with the mother in good condition, is justifiable only in conditions of emergency and extreme infrequency. He admits that in private practice the obstetric surgeon must be governed largely by the wishes of the family and friends of the patient who may prefer a craniotomy to a Caesarean section. There are two periods when the question of delivery by a cutting operation presents itself for acceptance or rejection: 1. Early in pregnancy when a prognosis of a difficult or obstructed labor is made; 2. in labor, difficult or obstructed. At the time of labor several questions present themselves: 1. Can the woman be delivered of a living child by forceps or version? 2. Is the woman in good condition? 3. Is the child in good condition? If the first question is answered in the affirmative the cutting operation should not be considered. If the woman is in a poor condition Caesarean section should yield to a craniotomy be the child living or dead. If the child is in poor condition all cutting operations upon the mother should yield to craniotomy, unless the parturient canal is so obstructed that delivery by craniotomy would expose the woman to greater danger than Caesarean section. The latter operation, viewed from the standpoint of mortality, ease and rapidity of convalescence and ease of the surgeon, deserves the preference over symphysiotomy. [W. A. N. D.]

NEW YORK MEDICAL JOURNAL.

May 4th, 1901. (Vol. LXXIII, No. 18.)

1. Abdominal Pain in Typhoid Fever. **THOMAS McCRAE**.
2. Spinal Anesthesia by Cataphoresis. **J. J. LEONARD CORNING**.
3. The Pathology and Bacteriology of the Uretero-intestinal Anastomosis. **F. ROBERT ZEIT**.
4. The use of the Suprarenal Capsule in Diseases of the Heart. **SAMUEL FLOERSHEIM**.
5. The Law and the Inebriate: with Remarks on the Treatment of Inebriety. **JOSEPH COLLINS**.

1.—**McCrae** sums up the cases in which there was **abdominal pain in typhoid fever** as follows: (1) About two-fifths of patients were without pain, one-fifth had tenderness, two-fifths had pain sometime during the disease, and one-third had pain through the entire course; (2) Pain due to some condition other than the specific bowel lesions was present in about 14 per cent. of all cases and in about two-fifths of the patients having pain during the course; (3) Pain occurred with hemorrhage or perforation in about 5% of all cases and in about 15% of the cases in which there was pain during the course; (4) Pain was most constantly present with perforation, when it was sudden in onset, severe in character and paroxysmal in occurrence. The pain of perforation was most closely simulated by that occurring in some cases of hemorrhage, that from phlebitis, and that of unknown origin; (5) In about two-fifths of all cases with pain during the course no cause could be found. Should this occur with other abdominal symptoms the condition may much resemble perforation. [T. M. T.]

2.—Dr. Corning proposes to produce **spinal anesthesia** by **cataphoresis** in the following manner: The apparatus consists of a tube four inches long, terminating at one end in a small metal bulb, pierced to give passage to a tube of smaller calibre, upon passing the latter down through the larger tube. At the other (upper) end of the larger tube is a binding-post for securing the conducting cord (positive pole) of a galvanic battery. The smaller tube, which projects an inch and a quarter beyond the upper end of the larger tube, is provided with the socket requisite to attach it to a hypodermic syringe (glass). A diminutive metal collar, sliding along the smaller tube between the socket and the upper end of the larger tube, may be kept in place at any point by the aid of a small set-screw. By this device it is possible to regulate accurately the distance to which the small tube shall be thrust beyond the bulbous end of the larger tube (about half a centimetre). The lower end of the smaller tube has no bevel whatever, and is slightly rounded at the edges. The larger (outer) tube is insulated throughout its entire length, save at the bulb, which is bare. He proposed to introduce the larger (insulated) tube between the spinous processes of the third and fourth lumbar vertebra till the metal bulb was stopped by the ligamentum subflavum, then to thrust forward the inner tube sufficiently to pierce the ligament, yet leave the dura and arachnoid unscathed, a thing very easily done, as these membranes, bolstered only by the yielding cerebrospinal fluid, would inevitably give before the rounded end of the small tube, which could at most indent, but never pierce them. Once having pierced the ligamentum subflavum, attach the syringe to the small tube, and inject the anesthetic upon the dura. This done, unscrew the syringe, withdraw the smaller tube, secure the positive conducting cord of a galvanic battery to the binding-post of the larger tube—the negative sponge of the battery being already over the abdomen—cause the current to pass. The cataphoretic action thus resulting would, he hoped, materially aid the passage of the anesthetic through the membranes. [T. M. T.]

4.—Floersheim, in his article on the use of the **suprarenal capsule in diseases of the heart**, advises the use of the dried and powdered gland, which can be kept indefinitely. He places it in a gelatine capsule, as the tablet form is useless. The dose is three grains, but larger doses, one drachm or more, are not injurious. In administering, the capsule must be thoroughly chewed, dissolved in the mouth and swallowed without water. For children he advises an emulsion by the mouth, three grains of the powder mixed in a little water in a teaspoon. The action of the extract became apparent in less than five minutes. The effect continues from five minutes to three hours or longer. It is not poisonous and has no accumulation effect like digitalis, and does not act upon the nervous system. [T. M. T.]

MEDICAL NEWS.

May 4, 1901. (Vol. LXXVIII, No. 18.)

1. Medical Department of the University of Pennsylvania. CHARLES W. DULLES.
2. A Report of Twenty-four Operations Performed during Spinal Analgesia. WILLIAM SEAMAN BAINBRIDGE.
3. Some Sources of Error in Laboratory Clinical Diagnosis. THEODORE C. JANEWAY.

2.—Bainbridge, in his article on **spinal analgesia**, prefers cocaine to eucain for the following reasons: (1) The latter is less potent, more evanescent, the areas of analgesia are frequently "patchy." Cocaine produces no more unpleasant after effects and it decidedly more reliable: (2) Analgesia to the level of the diaphragm can be depended upon in all cases in which it is introduced by lumbar puncture. In some instances the analgesia is sufficient for operations on the upper extremities; (3) Complete analgesia, including eyes, nose and throat has occurred; (4) Preparation of the patient as for a general anesthetic diminishes all the unpleasant effects and often prevents them; (5) By moderate doses of bromide before injection the initial vomiting is frequently avoided and liability to headache lessened; (6) Hysterical symptoms occur, but as a rule, a few moments after the injection the patient becomes quiet; (7) Initial nausea and vomiting often occur soon after injection, but only last for a moment and usually do not happen during operation; (8) Analgesia lasts from thirty minutes to four hours; (9) Depression after puncture is inconsiderable. Ethyl

chloride largely prevents pain when the needle is introduced; (10) Using nitroglycerine by hypodermic injection, or one of the coal-tar products with caffeine, controls the headache; (11) There may be motor paralysis or vertigo, but both are temporary; (12) Spinal puncture has no effect on normal or diseased kidneys; (13) Usually the tactile power, muscular sense, and the ability to detect heat and cold are retained; (14) The patient generally sleeps the first night; (15) Often slight temperature within eight or ten hours after operation. The circulation and respiration are not seriously embarrassed. [T. M. T.]

3.—Janeway considers that the **sources of possible error** in the application of **laboratory methods to diagnosis** are those due to the methods themselves or faulty technique in their use and those due to inaccurate reasoning from accurate results. He also gives a few of the commoner sources of error. (1) In testing for albumin, one of the most frequent is not filtering the urine, as it is absolutely impossible to make a delicate test without it; also in Heller's test where there is a small quantity of albumin, the test should not be discarded until at least fifteen minutes have elapsed. In the heat and acid test the upper part of the urine should be boiled and acid added so that a comparison can be made with the clear urine. Tests made by dropping the solution into the urine should always be judged by the side of a tube of filtered urine. The acetic-acid and ferrocyanide test needs a special check, not with clear urine but with urine to which acetic acid has been added. In diagnosis of diseases of the urinary apparatus the detection of serum albumin and globulin, and possibly abnormally large amounts of nucleio-albumin is important, and the most reliable tests for these substances are Heller's, the acetic acid and potassium ferrocyanide tests: (2) In testing for sugar, he does not consider the Fehling's test as reliable as the polariscope, fermentation and phenyl-hydrazin reaction, and only uses it for excluding the presence of the sugar, as various drugs, rhubarb, salicylates, camphor, etc., will give some sort of reduction. Another common error is in connection with specific gravity, concluding that urine does not contain sugar when it is 10.20 or below. Still another error is overlooking the significance of urine of constant low specific gravity. This he states, strongly points to the existence of contracting kidney. He advises urine to be examined to be procured at three different times—morning, late afternoon and on retiring, instead of taking the whole twenty-four hours' urine. (3) In examination for urea the greatest difficulty is the inaccuracy due to decomposition of the urine, especially in summer, causing considerable loss. (4) In the examination of the sputum the physician always looks for tubercle bacilli, when in the unstained expectoration Charcot-Leyden's crystals and Curschmann's spirals can be found. (5) In the blood examination not enough attention is paid to the marked leucocytosis present in continued fevers, which points to the existence of sepsis, and in the diagnosis of appendicitis their increase should give more weight to the diagnosis. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

1. Contusions of the Abdomen. CHARLES L. SCUDDER.
2. Observations on the Use of Antistreptococcus Serum in the Treatment of Puerperal Sepsis with a Report of Five Cases. FRANK A. HIGGINS.
3. A Case of Caesarean Section, Complicated by Uterine Fibroid. EMMA S. CALL.

1.—Scudder discusses the treatment of **contusions of the abdomen**, and especially a group of acute abdominal emergencies due to traumatism. Injuries to the **ureter** in addition to the general symptoms of shock, which may subside within a few hours, are characterized by little blood appearing in the urine and perhaps only an occasional clot. If no lesion of an abdominal organ accompanies rupture of the ureter, no very great symptoms will be manifested. Transient hematuria should not be overlooked, especially with persistent pain in the side. Treatment is briefly described. Rupture of the urinary bladder, of the liver, contusions of the kidney, injury to the stomach, rupture of the intestines, lacerations of the spleen, injuries to the pancreas, shock, hemorrhage and peritonitis are described. He calls attention to the shock which is present in almost every abdominal contusion of consequence. Shock varies

in individuals affected by the same lesion according to the temperament and nationality of the patient. An absence of shock does not signify the absence of a serious lesion. The conditions of the pulse, and temperature are discussed as diagnostic factors. When the pain depends upon the hemorrhage other signs of hemorrhage will accompany the pain. Tenderness, vomiting, distension and rigidity of the abdominal muscles are carefully considered. [M. R. D.]

2.—Higgins reports his observations on the use of antistreptococcus serum in the treatment of puerperal sepsis with a report of five cases. His observations are confined to the use of the serum in five cases occurring during the past year. He thinks that we cannot fail to be disappointed in the result of the serum treatment and are obliged to conclude that as a curative agent its power is limited. The author believes that the serum has a marked depressing effect upon the patient and is not to be indiscriminately administered to a very sick patient repeatedly and in large quantities, as is sometimes done in following the directions that come with the serum. He further believes that the serum treatment has no position in the routine treatment of puerperal sepsis that it should only be employed in such desperate cases after one has failed to obtain improvement by other efficient remedies, and that if then no improvement is manifested within two, or at the most three days after 40-60 ccm. have been used, it should be discontinued. [M. R. D.]

3.—E. S. Call reports a case of Caesarean section in a case of face presentation complicated by uterine fibroid. The patient, aged 20, in her second labor was an apparently healthy woman, whose first labor 15 months before had been apparently normal and not unusually protracted. Upon examination the os was found dilated about the size of a silver dollar, the membranes still unruptured but relaxed, and the face of the child presenting in the right mento-posterior position, but still above the brim of the pelvis. Ordinary manipulations having failed and the life of the child being in jeopardy. Caesarean section was performed by Dr. Alexander. After the incision an interstitial fibroid was discovered. The results were entirely satisfactory. [M. R. D.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

May 11th, 1901.

1. The Gyromele in the Diagnosis of Stomach and Intestinal Diseases. FENTON B. TURCK.
2. A New Operative Method to Expose the Seminal Vesicles and Prostate Gland for Purposes of Extirpation and Drainage. A Preliminary Report. EUGENE FULLER.
3. Myasthenia Gravis Pseudoparalytica (Asthenic Bulbar Paralysis). J. T. BUIST and E. G. WOOD.
4. Limitations of the Laryngologist in the General Treatment of Nose and Throat Diseases. H. W. LOEB.
5. Absolute Increase of Measurement from the Anterior Superior Spine to the Malleolus as a Sign of Hysterical Hip Disease. JAMES JACKSON PUTNAM.
6. A Case of Transient Motor Asphasia, Complete Anomia, Nearly Complete Agraphia and Word-blindness Occurring in a Left-Handed Man; with Special Reference to the Existence of a Naming Center. CHARLES S. POTTS.
7. The Pharmacology of the Nitro-Sugars. C. R. MARSHALL.
8. The Classical Cesarean versus Porro Cesarean. GEORGE M. BOYD.
9. Ocean Climates; Their Effects and the Cases they Benefit. JOHN A. ROBINSON.
10. Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation. J. B. MURPHY.
11. The Present Status of Spinal Surgery. SAMUEL LLOYD.

1.—Turck mentions the usefulness of the gyromele in the diagnosis of stomach and intestinal diseases. The gyromele, or revolving sound, is made of a flexible steel cable, the end of a more flexible steel spiral, and the tip of the spiral steel is provided with a metallic pellet covered by a sponge, cotton, or lamb's wool. A revolving apparatus is fastened to the sound. The scope of usefulness of the gyromele is not restricted to the investigations of the stomach alone; the nose and throat, the esophagus, the

pylorus and the small intestine, the colon, the bladder, the uterus, the thoracic cavity, and false cavities of various kinds have all been successfully explored. [F. J. K.]

2.—Eugene Fuller describes an original operation for gaining access to the seminal vesicles and prostate gland. The patient is placed upon the table with his face and abdomen down and his thighs flexed upon the abdomen astride of the table. The portion of the table which supports the pelvis is then elevated as in the Trendelenburg position. The incision extends on either side of the anus along the inner side of the tuber ischi, and is connected by a transverse cut across the perineum about $\frac{3}{4}$ -inch anterior to the anus. The rectum is then carefully lifted up and separated from the urethra and bladder by careful dissection. The finger in the rectum enables the operator to avoid wounding this organ. Fuller has used this method on five occasions for operations of various kinds upon the seminal vesicles, and has found it most satisfactory. His article is illustrated by three cuts which show the position on the table and the line of incision. [J. H. G.]

3.—Buist and Wood, in an article on myasthenia gravis pseudoparalytica, state that little is known of the etiology and pathology of this disease. It is characterized by muscular weakness, rapidly coming on exhaustion, and the presence of the myasthenic reaction. The bulbar muscles are not only affected, but also those of the eye and extremities. Exacerbation and remissions, varying in intensity from day to day, are of common occurrence. The intellectual and sensual powers are not impaired, and the reflexes are undisturbed. Muscular atrophy, fibrillar twitching, sensory disturbances, reaction of degeneration, and bladder and rectal troubles are not features of this disease. The cranial nerve muscles are, as a rule, the first involved; ptosis or diplopia being early manifestations. In some cases permanent paralysis develops, which may affect any of the voluntary muscles. It is a remarkable fact that with such pronounced motor defects often terminating fatally, there is complete absence of so many of the signs of organic disease of the nervous and muscular systems. Out of 63 cases there were 23 fatal ones. There are no known remedies which seem to influence the course of this disease. The article is concluded with a report of a case. [F. J. K.]

4.—Loeb concludes that the limitations of the laryngologist in the general treatment of the nose and throat are the following: (1) Nose and throat conditions of an acute character influenced by measures which have an important local effect; (2) nose and throat diseases of a rheumatic character which, under appropriate treatment, are relieved early; (3) syphilitic nose and throat diseases, the general treatment of which being best observed by watching the effect upon the local lesion. Even under the conditions named the assistance of one who is less directed to localism may be advantageous to the patient. [F. J. K.]

5.—Putnam gives an account of a case of hysteria in which there was an absolute increase of measurement from the anterior superior spine to the internal malleolus. After a prolonged and careful study the diagnosis of hysterical hip disease was made. Marked thickening in the region of the affected trochanter was noticed after the patient had been under observation for fifteen months. This swelling was believed to be due to hysteria edema. Upon pressure tenderness was present. The patient improved greatly under treatment, but did not recover entirely. The author mentions that the last account received of her was that she was still lame. [F. J. K.]

6.—Potts gives a report of a case of transient motor aphasia, complete anomia, nearly complete agraphia, and word blindness, occurring in a left-handed man, aged 42 years, a coal miner by occupation. In summing up the symptoms the author states that there was loss of the power of naming objects seen, felt or heard, smelled or tasted. The patient could not repeat the name of an object. There was almost complete word blindness, however, the power of recognizing and reading the numerals was preserved. There was inability to write spontaneously, except his name and address, and the power of writing from dictation was very imperfect, and to read from a copy was impossible. The muscles of the tongue and lower part of the face on the left side were paralyzed. From the suddenness of onset the condition was probably due to an embolus or hemorrhage. [F. J. K.]

8.—Boyd remarks that the life of the infant alone under certain conditions justifies the Cesarean section. The classical Cesarean section has as low a mortality as an

easy ovariectomy. The life of the child should then be as good a reason for performing a simple abdominal section as are the vague symptoms for which operations are daily done. The classical Cesarean section is less mutilating than the Porro Cesarean section, and with the patient in good condition, is therefore the operation of choice. The Porro Cesarean section has about the same mortality as has hysterectomy for fibroids. It should be performed when the patient demands it or when infection or a neoplasm of the uterus makes it necessary. It is the duty of the practitioner in attendance on a multipara with the history of one or more dead children to be prepared to perform the Cesarean section. [W. A. N. D.]

9.—Robison discusses the **beneficial effects of a sea voyage**. Ocean climates are more equable and the desires of the traveler to spend most of the time in the open air, enforces rest, revives the exhausted body, and creates an appetite. The sea air increases metabolism, weight, inclination to sleep, and it also acts as a sedative on the nervous system. [F. J. K.]

10.—J. B. Murphy recommends the use of an adhesive rubber dam over the field of operation in order to prevent possible infection from the patient's skin. The dam is prepared by Johnson & Johnson, and is made to adhere closely to the skin and is not affected by any of the wound fluids or by antiseptic solutions. As the dam adheres closely to the skin the incision is made through it as if it were a layer of skin itself. It is retained in position until the stitches are introduced, and then it is removed. A small amount of ether on the skin of the patient increases the adhesive quality. The author has found it useful where wound fluids are continually flowing over the adjacent skin, as it here prevents irritation of the skin. [J. H. G.]

11.—Samuel Lloyd concludes his discussion of the **present status of spinal surgery** with statistical proof of his assertion that it is better not to operate immediately after the receipt of injuries to the spine, and he urges that when the operation is undertaken that it should be thorough, all possible pressure from the cord being removed. Shock is probably the greatest danger of the operation; hemorrhage he has not found difficult to control where packing has been used for a short time, the use of hemostats, however, only delays the operation. The loss of cerebro-spinal fluid possesses no particular danger. In one of his own cases a fistula discharging cerebro-spinal fluid continued for 12 weeks without inconvenience to the patient. Four cases operated upon for fracture dislocation of the spine are added to the author's former report of his personal experience. [J. H. G.]

AMERICAN MEDICINE.

May 4th, 1901.

1. An Analysis of my Vaginal Ablations in 181 Cases of Pelvic Inflammation and Utrine Fibroid Degeneration. W. R. PRYOR.
2. Inguinal Hernia. MERRILL RICKETTS.
3. Vaginal False Membrane due to Bacterium Coli. J. N. HALL.
4. A New Series of Anaerobic Bacteria. LOUIS LEROY.
5. Conclusions from Personal Observations of Compound Fractures. DOUGLAS C. MORIARTA.
6. The Food Value of Alcohol, and Professor Atwater's Experiments and Teaching. JOHN MADDEN.
7. Some Remarks on the Cumulative Action of Digitalis, with an Illustrative Case. EDWIN ZUGSMITH.
8. Prolonged Intubation. EDWIN ROSENTHAL.

1.—Pryor remarks that the first surgeons who brought the **vaginal radical operation** to this country seemed to have abandoned it almost entirely. His own experience with the application of the vaginal method of operating, not only in those cases which require the radical procedure, but also in those in which conservatism may be applied has been such as to convince him that the greater proportion of operations now performed through the abdomen could more easily and with better results be made through the vagina. In the last six years he has been enabled to cure by the vaginal operation 83% of all those who have applied to him and without mortality. As to the indications for the radical operation he does not consider the presence of pus

an invariable indication for the removal of a pus-sac. Pus-foci of gonorrheal origin in young women may very safely be broadly incised and allowed to heal up. This process prevents the disagreeable effects of a periclitate menopause. In those who have suffered from repeated attacks the radical operation is preferable. Ectopic gestation of one side associated with inflamed adnexa of the other indicates ablation. Hydrosalpinx of both sides associated with many adhesions may be treated conservatively or radically according to the surgeon's judgment. Cases of genital sclerosis indicate a radical treatment. Pryor protests against the removal of one pyosalpinx and leaving the other tube although it be apparently normal. He opposes myomectomy except in rare instances. He remarks that the firmness of structure and character of the vaginal canal have much to do with the facility of operating through the vagina in fibroid cases. The vaginal method is particularly applicable in intraligamentous and retroperitoneal fibroids and in fibroids associated with pus. After the operation the average time in bed is about three weeks and most patients return home within four weeks. He has found no shortening of the vagina after vaginal ablation nor has he heard any complaint of dyspareunia. [W. A. N. D.]

2.—B. M. Ricketts gives an anatomical description of **Inguinal Hernia** and details differences of opinions existing among surgeons on certain points. From a consideration of the anatomy of the structures involved in inguinal hernias it will be seen that they lack vascularity and nerve supply. The ventral hernia following laparotomy is ascribed to the division of the motor nerves. The abdominal muscles lose their innervation and undergo paralysis and atrophy; hence atrophic and weakened abdominal walls are easily protruded in response to intra-abdominal pressure. In at least 10% of cases operated upon the adhesions resulting from the closure of the inguinal ring are inefficient. This is true with all kinds of sutures. The ideal material for this purpose is one of sufficient life to permit a deposit of new tissues upon the peritoneum externally. The author believes after discussing the merits and demerits of the various sutures commonly employed that the use of a **wire mattress** meets all objections that can be urged against the other means of uniting the severed tissues. He denies the influence of infection in causing recurrence of hernia and attributes such an event to imperfect methods. The views of Coley, Fenger, Marcy, Phelps and Warren are given, as to the cause of failure and the percentage of recurrences after operations for hernia. [T. L. C.]

3.—Hall records a case of **vaginal false membrane** due to the *Bacterium coli* in a young girl of 14 years. This was removed after the application of the 1:5000 bichloride solution, after which the symptoms disappeared. He remarks that the diseases caused by this bacillus are rather within the body than on the external surfaces. Thus it may cause cystitis, nephritis, pyelonephritis, perinephritis, peritonitis, endocarditis, icterus, disease of the gall-bladder, meningitis, lymphangitis, urethritis, abscess, sepsis, pyemia and septicemia. It is possible, he concludes, that other membranes ordinarily considered diphtheric may be found to be due to the *Bacterium coli*. [W. A. N. D.]

4.—Louis Leroy mentions the fact that the importance of **Anerobic Bacteria** has been overlooked in the past. Following a systematic series of researches he has been able to isolate 14 species of strictly anerobic organisms. These are the principal agents of a whole series of affections of a gangrenous or putrid nature. They have been isolated in otitis, pulmonary gangrene, appendicitis, puerperal infection and a host of other conditions. These bacteria have the property of causing **necrosis in living tissue** and to produce a process of disintegration in them analogous to putrefaction. They not only act locally but by the toxins which they secrete provoke general poisoning. The writer hopes in the near future to have a **sero-therapeutic treatment** which will be rational and efficacious. [T. L. C.]

5.—D. C. Moriarta presents his conclusions from personal observation of **compound fractures** with clinical notes of 5 cases. He urges that in compound fractures, when the pathological condition is not positively determined, that the puncture or laceration be enlarged and the bone fully exposed, approximated and held in position. [T. L. C.]

7.—Edwin Zugsmith reports a case illustrating the **cumulative action of digitalis** in a female child of 23 months. It seemed reasonable to the author that since fever is an admitted hinderance to the action of the digitalis if the child's temperature could be raised by harmless means, the digitalis which had been administered might be rendered inactive for a long enough time to prevent its cumulative action. Hot air was employed in the effort to raise the child's temperature but did not subserve its purpose, the thermometer registering but 99 degrees in the rectum immediately after the hot air bath. The child, however, recovered. [T. L. C.]

8.—E. Rosenthal illustrates a short article on **prolonged intubation** with the report of a case. He states that it should be a rule of practice to remove the tube within five days after the operation unless it be removed by expectoration before, and then be no longer required. All cases requiring a tube for a longer period than five days should receive large doses of strychnia and constant re-intubation and extubation daily or every second day and progressively smaller tubes should be used until the case no longer requires it. [T. L. C.]

BERLINER KLINISCHE WOCHENSCHRIFT.

February 18, 1901.

1. The Removal of the Waste Water of Cities. GAERTNER.
2. Concerning a new Method for Differentiating between Human and Animal Blood for Medico-Legal Purposes. A. WASSERMANN and A. SCHUETZE.
3. The Feeding of Infants with Whole Milk. E. SCHLESINGER.
4. Abortion with Poisons. G. SCHWARZWAELIER.

2.—The authors describe the results which they have obtained by the method recently reported by Uhlenhuth. They injected human blood serum into rabbits, and found that the **blood serum of the rabbits afterward had a specific action upon a solution of human blood** but upon no other blood excepting that of apes. The reaction occurred within twenty minutes, or even earlier. It acted even with blood that had been dried for three months, and under these circumstances also was entirely specific. They decide that if a reaction occurs within a half hour to one hour that the suspicious blood may be considered to be human blood if it had been tested by the serum of a rabbit that had been treated with human blood. A test should always be carried out with controls, using in the latter other varieties of blood. If the reaction occurs, and there is no possibility that the blood could be that of a monkey, one may decide positively that it is human blood. [D. L. E.]

3.—Schlesinger first states that we do not know that the mere dilution of cow's milk makes the milk any more digestible, indeed the result of mere dilution is to introduce a smaller quantity of actual nourishment with the same bulk of food, and if the child is given the proper quantity of food with a much diluted cow's milk, it means that the infant must take large amounts of water, and it is altogether probable that these large amounts of water are not wholly without damaging results. The child must use a great deal of energy in an abnormal way in absorbing and again excreting the mere water. Wassermann describes results which he has had from the use of whole milk after the children had been put upon diluted cow's milk, and presents tables to show the remarkable improvement which occurred after such a change in diet. The cheapness of cow's milk, and the readiness with which whole milk is used, makes cow's milk the most satisfactory of all foods that can be used, and he believes that the use of whole milk will come to occupy a much more important place than it now does. [D. L. E.]

4.—Schwarzwaeller directs attention to the fact that it is known that **criminal abortion is sometimes brought on by**

using lead. He himself reports 4 cases in which it was definitely determined that lead was taken for this purpose, and in which a diagnosis was made by discovering a blue line on the gums. He states that he knows 14 similar instances, some of which he has himself seen, the others having occurred in the practices of colleagues. As a rule the diagnosis in these cases was at first acute gastritis, renal colic, tubal inflammation, and similar conditions. In many cases the patients misrepresented matters absolutely, and there was not the least suggestion in their story of the actual cause of their condition. Lead can be obtained by any one, and its sale cannot well be forbidden; its use, therefore, may be easily carried out by any one, and it is wise in all suspicious instances to examine the gums, and to consider the possibility of lead poisoning, voluntarily undergone for this purpose.

JOURNAL DES PRATICIENS.

March 16, 1901. (15 me. Annee, No. II.)

1. Chylous Ascites. M. RENDU.
2. Wells, their Impurities and Disinfection. P. REILLE.
3. Lavage of the Stomach in Gastrorrhagia. G. LINOSSIER.
4. The Diagnosis and Treatment of Foreign Bodies in the Nasal Fossae. A. COURTADE.

1.—Rendu reports the case of a woman, 42 years old, who, a year ago, noticed edema of both feet and legs below the knees. There were no varicose veins. Ascites developed. Six months later the edema of the legs reached the hips, and spread into the lumbar region. Nausea occurred, without vomiting, but with diarrhea. She grew thinner, and passed but little urine. There was so much anasarca that fluctuation was hardly obtainable, though ascites was evident. Varicose lymphatic vessels appeared in the suprapubic region. The edema made the skin hard as in elephantiasis. There was bilateral pleural effusion. The absence of any albumin in the urine at any time eliminated nephritis. The history excluded cirrhosis of the liver. Nor were there any typical signs of peritonitis. Tapping the swollen abdomen revealed **chylous ascites**. The liquid looked like diluted milk. It contained irregular fat droplets, which, on being estimated quantitatively, showed from 6 to 8 grams of fat to the liter. Rendu considers this a true case of chylous ascites, probably due to compression or rupture of the thoracic duct by a cancerous or tuberculous growth. There were, however, no other signs of tuberculosis or cancer. The prognosis is grave. Exploratory laparotomy may cause some improvement. [M. O.]

2.—Reille discloses the impurities in surface well water in France, and suggests the addition of potassium permanganate as a means of disinfection. [M. O.]

3.—Linossier believed until recently that it was dangerous to introduce the **stomach tube in cases of hemothemsis**. But in the past two months, he has treated two cases which have disproved this. The first case, a woman aged 46, had been treated for hepatic colic. Upon examination, Linossier found symptoms of a gastric neoplasm, though no tumor was palpable. She had great pain and vomited blood constantly. As nothing did any good, Linossier washed out a great quantity of dark blood and food, with the stomach tube. The immediate result was excellent. He repeated it daily, and found no more blood the third day. She improved markedly. The other case, a woman 71 years old, had cancer of the pylorus. She also vomited blood, and had great pain. Her stomach was much dilated. Lavage relieved the condition at once, and was repeated. She improved also. Lavage seemed to Linossier the only way to put the stomach at absolute rest, beside tending to clot formation. [M. O.]

4.—The diagnosis of a foreign body in the nasal fossa depends upon its presence there, its nature, its size, and its shape. Sometimes these are known, oftener they are not. Before any attempts are made to extract the foreign body, it must be seen. Then its consistency can be tried, and some method followed for its extraction. Courtaud reports finding a cork (1 cm. by 1.5 cm.) in the nostril of a child of 7. It was incrustated with lime salts, of a consistency of stone. Any method of extraction applicable to the individual case should be employed, only care must first be taken to see the object to be extracted. [M. O.]

Original Articles.

THE DOCTOR'S FEE.—A PLEA FOR HONORABLE DEALING.*

By JOHN B. ROBERTS, M. D.,

Of Philadelphia.

Ex-President of the Society and ex-President of the Medical Society of the State of Pennsylvania.

"Trust not to the omnipotency of gold, and sav not unto it thou art my confidence." * * * * *

"Persons lightly dipped, not grained in generous honesty, are but pale in goodness, and faint-hearted in integrity."

These reflections of the 17th century physician of Norwich seem a fitting introduction to this paper, prepared for the consideration of the 20th century physicians of Philadelphia.

Three hundred and fifty years have greatly changed, and for the better, the methods of treating disease, and have much increased the physician's knowledge of nature's processes; but the fundamental principles of medical conduct and of the doctor's relation to his patient are still unaltered and unalterable.

"That he be as free from crafte and deceyte in all his workyngs, as the East is from the Weast. * * * that he taketh no cure in the hande for lucre or gaynes sake only, but rather for an honest and competent rewarde with a Godly affection to doe his diligence." Such should be the true surgeon, said Thomas Gale, in 1563, in the first surgery written in the English tongue. His words may well be associated with William Bulleine's contemporaneous advice to the apothecary, "To remember his ende, and the iudgement of God; and thus I doe commend him to God, if he be not coueitous or craftie sekyng his owne lucre, before other mennes' health succour and comfort."

These quotations from our medical fathers sound a little old-fashioned, and look a trifle unfamiliar in their spelling. Would they not sound discordant if read in parallel columns with the following statements recently published in the official organ of the American medical profession. "It is openly charged that certain men are to-day giving commissions to physicians sending them cases." "A prominent physician not long ago read a paper before a medical society, in which he advocated a division of the fee" (between the family physician and the consultant surgeon).

It is not the wish of the author of this paper to pose as the Doctor Purissimus of some half jesting or half sneering friend; nor does he desire to offend his hearers, as did the clergyman, who was described by a prominent, but dissatisfied, member of his congregation as "too damned pious." It is but the truth, however, to state that some recent personal experiences and observations have been the exciting cause of the preparation of this communication to the Philadelphia County Medical Society.

To one who believes that the medical man belongs to a liberal profession and not to that portion of the body economic, whose sole object is the accumulation of money, certain tendencies now seen in

the ranks of medicine cause distress. The apparent drifting away from the ideals, which formerly held possession of the minds of physicians, forces the conclusion that a spirit of commercialism is replacing the spirit of professionalism.

No slur is meant to be cast on the merchant, tradesman or promoter, who endeavors to increase his capital or his earnings in honest business enterprises; no intention exists to deprive the doctor of his right to earn his living by collecting proper compensation for his professional services. The point insisted upon, however, is this: that the province of the doctor is to relieve the sick and suffering, and to subordinate to that first object of his calling, the obtaining of a financial reward for his labor. "Do your duty and then collect your money," is the physician's motto. "Be sure of your money before you deliver the goods," is the perfectly proper motto of the business man.

My critics say that it is difficult to determine what is a proper and just enterprise and thrift in one's professional work, and what is an improper commercial spirit. The decision should not be difficult for the honorable physician, who believes in the liberal spirit of his profession, and who is inspired by the ideals of Gale, Bulleine and Browne. In a recent discussion on the possible immoral tendency in art, a well-known teacher stated his opinion in some such words as these: "If the moral quality is so weak that you cannot taste it, and the sensuous so strong that you cannot miss it, then the work of art is dangerous, no matter how well it is done." A similar test is all that is needed when a conscientious physician wishes to know what is allowable in his relations with his patient. If the sincerity, humanity, generosity and truthfulness of an action cannot be readily seen; while its selfishness, cupidity and necessary secrecy are recognizable, he may be quite sure that it does not meet the requirements of professional standards.

Let me illustrate by a few examples:

A well-known optician recently called upon me and showed me a hollow gold ball to be used in Mules's operation on the eye. His argument was that the use of this gold ball, instead of the usually employed glass sphere, would make the patient willing to pay me a larger fee for my operation; since the operation would seem more important and expensive. In other words, my fee was not to be based on the skill and time required, but on the amount that the patient could be induced to give up without protest. I was to use a gold sphere, costing me three dollars, instead of a glass one costing thirty cents; not because it was better for the patient, which it wasn't, but because it would be a good bait by which to play on his ignorance for a double or triple fee. Such a trick may be "good business," but it doesn't appeal to a physician!

In my mail a few mornings ago I found the advertisement of a dealer in trusses, bandages, and other surgical appliances. Snugly wrapped in the circular was a neatly printed slip, telling me that 25% commission would be given to me on sales made to my patients.

Not many years since, a half page advertisement of a sanitarium appeared in a well-known medical journal, offering stock of the sanitarium company

*Read before the Philadelphia County Medical Society, April 10, 1901.

on very advantageous terms to doctors sending patients to that institution. It did not lessen the insult of this intimation to learn that the leading spirit of the Sanitarium Company was a Fellow of a learned medical organization of this State.

A certain mineral springs company has recently, it is said, offered its stock to physicians, so as to induce them to advocate the use of its water by their patients.

Who does not know that in this city some opticians give, and some oculists shamefully accept, commissions on sales made to patients? The public should realize that an oculist, who insists on his patients buying their glasses at one or two special stores, lays himself open to the suspicion of being bribed to do so by a commission from the dealer. The same suspicion attaches to the doctor, who unduly urges patients to buy medicines from one apothecary. It is true that spectacles and medicines should be accurately made and compounded; but there are usually too many reliable dealers, especially in large cities, to necessitate so restrictive a choice for the mere benefit of the patient.

Another scheme, to impose on the patient and extract from him what is practically two fees, consists in giving him a prescription for medicine under a special name, agreed upon by the doctor and the druggist with whom he is in collusion. The patient is then obliged to go to the apothecary mentioned by the doctor, even if it be several miles out of his way, under the impression forsooth that no other apothecary prepares the remedy so carefully!

This business enterprise is not unlike that practised by some hospitals, which, to obtain a large and interesting accident service, keep beer and whiskey ready for the men running the patrol wagon. Little wonder is it that the injured are at times driven many unnecessary squares, and that certain institutions can show an unusually long list of accident cases. Whether these institutions similarly profit by using their private wards and rooms as boarding houses for members of State Legislatures and their friends, who visit the centres of gayety for pleasure or business, need not be discussed in this paper.

Life insurance companies seem to me to have a code quite unlike that which the true medical profession believes to be honorable. A couple of years ago I received a letter from a well-known life insurance company of this city, saying that a Mr. So and So, who had applied for insurance, had once been under my professional care, and would I kindly give the company information as to my diagnosis of the obscure abdominal condition, to aid its medical examiners in arriving at a conclusion as to the character of the risk. This unwarranted inquiry, apparently made without the knowledge of the man, who had entrusted his health to a supposedly honorable physician, elicited no reply. Soon I received a personal letter from the Medical Director of the Company, who is an old and valued friend, making the same request. A firm refusal to disclose professional confidences, without the consent of the patient, closed the incident.

It is supposable that many insurance companies are doing this thing constantly. It is not likely that my experience was an isolated one. Are doctors to

be tempted by fees or claims of friendship to disclose professional confidences, because life insurance companies doubt the skill of their medical examiners?

Take another side of the fee question. A New England Insurance Company sent me several weeks ago the blank form of affidavit usually filled up by the attending physician, when an insured person dies. I was told that if I would answer the questions and make affidavit as to the truthfulness of my replies, I would be paid a certain fee. When I replied that Dr. So and So was the attending physician, and that I was merely the consultant, another letter was sent me, saying that my affidavit would probably do, and that if I would indicate in pencil my replies, I would be paid a certain fee. The fee spoken of in the second letter was twice that previously mentioned. Here again appeared to be an attempt on the part of a life insurance company to get a doctor to disclose confidential information about his patient; for neither letter showed that the relatives of the deceased desired my affidavit; and the unwillingness to apply to the attending physician, whose address I had given, awakened my suspicion. This suspicion was increased, possibly unjustly, by the doubling of the fee for the testimony; and how easily lead pencil replies could have been changed after I had sworn to the certificate!

Some doctors, it is believed, make a fee by accepting money from manufacturing drug companies for statements, certifying to the excellence of their secret nostrums. These certificates are then published and distributed as advertisements. It is probable that in some cases the doctor has had little experience with the vaunted remedy; in others he may use the preparation in his practice for a time and then write a hurriedly prepared clinical report detailing the wonderful results obtained. The latter method will undoubtedly bring a higher financial reward from the drug firm, for the report has the appearance of being a scientific investigation.

The editors of reputable medical journals have, I believe, been deceived at times by such literary outputs, and have printed these clinical experiences as original articles of real worth. The instigator of the supposed scientific test and the doctor, who has pocketed the fee, or bribe, from the exploiters of the synthetic compound or recently discovered alkaloid, probably smile at such innocence. The deceived editor and his thoughtful readers suspect the truth, however, when the writer orders many thousands of reprints of his clinical report, and the drug house fills the mails with "literature" testifying to the successful use of its products by Dr. Blank, whose hospital and professorial titles are conspicuously mentioned.

These bribes for suborned testimony need not always take the shape of cash. Liberal donations of drugs for the doctor's private sanitarium or hospital or a few cases of carbonated water for his private use, are perhaps offered and accepted as less likely to offend the sensibility of the professional conscience. Great, indeed, are the temptations of doctors who unite the running of a boarding house for the sick with the practice of medicine or surgery. Business methods are so different from truly professional methods that the necessary com-

bination in the conduct of a private hospital or sanitarium is liable to result in damage to the integrity of the latter. It is so easy to charge unnecessarily high rate of board and to advise patients, that a month's longer stay will be undoubtedly beneficial. Five or ten dollars a week added to the rate of board make it even possible to be liberal enough to charge no fee whatever for operative treatment. How generous this seems to the unsuspecting patient!

It is a question whether the testimony given in suits for damages against railroads and other corporations is not at times biased by the knowledge that the doctor will get no fee for his attendance, if the patient fails to "recover" for his injury. I was once asked to give a note saying that I was too busy to come to court to testify, because it was known that my opinion would be unfavorable to the cause of the plaintiff. Does any one doubt that, acceding to the request, would have rendered the payment of my bill more certain?

What is more despicable than the action of that operator who gets his patient ready for operation, perhaps even upon the operating table, and then declines to go a step further until the family or friends pay at once a fee for professional services. Patients' trickiness and unwillingness to settle just claims may almost seem to require this sort of shrewdness; but professional standards do not endorse it. Better is it to be defrauded than to resort to the methods of the road-agent and the black-mailer. One modern surgeon at least has suffered from reports, let us hope untrue reports, that he has used this method to collect his fees.

There has been developed of late a system of paying commissions to the family physician, who brings medical or surgical cases, to the consultant. Sometimes this takes the shape of agreeing to give the doctor, who succeeds in sending or bringing the patient to the operator or medical consultant, a percentage of the fee obtained for the operation or advice. At other times the iniquity of this arrangement is understood by both medical conspirators, and the family doctor is made a quasi assistant and is paid by the surgeon or gynecologist a part of the fee.

A recent investigator of this evil declares that he wrote letters to a number of well-known operators in a single city, asking whether they would give him a commission on patients sent to them. The number of affirmative replies was astonishing evidence of the extent of this criminal traffic in human suffering.

That his statement is not unworthy of confidence is shown by this extract from the columns of the *Journal of the American Medical Association* of February 2, 1901:

"Resolutions on Division of Fees.—The committee to whom was referred the resolutions of the Chicago Medical Society, January 23rd, met and adopted the following resolutions, which were recommended to the Society for adoption: 'Resolved, That the offering, or the giving of a commission, or percentage of a fee, by a consulting physician or operating surgeon, or the asking or receiving such a fee or commission in any guise whatsoever, by the physician referring the case, is dishonest, disreputable and unethical, unless such arrangement be

made with the full knowledge of the patient; Resolved, That a violation of this resolution shall subject the offender to expulsion from the Society.'

The resolutions were adopted unanimously by a rising vote. The Physicians' Club has passed a resolution to the same effect: 'Resolved, That the Physicians' Club of Chicago most severely condemns the seeking for or the receiving of a commission or part of a consultation or operation fee, as well as the offering or giving of a commission, or a part of a fee, as practices highly dishonorable and detrimental to the best interests of the medical profession.'

It is not the province of this address to elaborately argue against the propriety of such an arrangement, which tempts the family physician to look first, not to the welfare of the confiding patient, but to how the most profit may be made out of his ill health or accident; and which tempts the consultant to raise his fee to an extortionate figure, in order to divide with his "pal." The fact that such a commission arrangement is always concealed from the patient is a sufficient proof of its professional impropriety. The excuse given by the family doctor that the patient will pay a large fee to a consultant and leave his bill unpaid, is no adequate apology. It is the family doctor's duty to collect his bill by fair, not foul, means; and it is the duty of the consultant, it must be remembered, not to charge such an exorbitant fee that the patient's means are so exhausted that he cannot pay the doctor who has attended, and who is to attend, him.

Few consulting surgeons, I imagine, have not met this evil in some form or other. It may be a quiet request to add, to the consultant's fee, a certain sum "for me." It may be put in this wise: "Don't mention your fee, as being so much, before the patient; for I have told him it was so much, because I wanted thus much for myself." The latter admonition, after an operation done for a medical acquaintance, was my first intimation of a possibility of such dishonor in the profession. The doctor who called me in consultation subsequently became the president of his county medical society. I evidently had seen a side of his character which his colleagues had not had disclosed to them.

The family physician should, undoubtedly, charge more than his usual fee, when he meets another physician in consultation over his patient's case. The visit is longer than usual, more important than usual, and makes more demand upon the family doctor. He, therefore, should receive additional compensation. If he does not charge a proper fee under these circumstances and collect it, he is unjust to himself. It happens, however, not infrequently, that the general practitioner fears that the consultant will charge so much that he cheats himself, in order to be sure that the patient may have the advantage of the best consultant skill. It is to be regretted that the extravagant estimate, put by some consultants upon the value of their operative and diagnostic skill, justifies the fear that either the family doctor must go without proper compensation, or the patient lack the benefit of additional professional service.

Have we not all known of honorable and faithful physicians treating men and women in moderate

circumstances for practically nothing, and who, having called a surgeon or physician in consultation, have been shocked and astonished at the large fee demanded and even insisted upon? If the general practitioner grades his fee down to the financial condition of the sick or injured man, should not the consultant have a similar reasonable appreciation of professional humanity?

Put the case in another way. If doctors treat fellow members of the profession without fee; if they treat doctors' wives and children without charge, should they not be willing to operate upon, or see in consultation, without charge, a doctor's patient, when that patient is unable to pay? The logic seems irresistible. If the physician is worried and anxious about his case and desires advice from a man who has had more experience in that particular disease, it seems only proper that his brother practitioner should come to his aid as a consultant, for a small fee; or no fee, if none is obtainable from the patient. It is the bond of professional brotherhood that seeks to lessen the mental stress in both instances. Yet consultants have been known, I understand, to refuse to thus relieve the anxiety of a doctor, because the payment by the patient of a certain fee was not possible. There is little doubt that the family physician at times pays consultation fees out of his own pocket, in order to do his best for patients with whose straightened circumstances he is familiar.

Doesn't all Scotland know of Weelum MacClure's offer, when Sir George came to the Highlands to save the life of Tammas Mitchell's wife? and didn't Sir George do more honor to Medicine by his refusal to take the check of MacClure's partner in humanity than by his brilliant operation?

Some doctors of the 20th Century need to read that story again, before sending out their bills.

The consultant sometimes, in his anxiety for his fee, unjustly assumes that the family physician should play the role of collector, because the patient lags in the payment of the debt. I well remember the righteous indignation of a certain country physician, when, some years ago, he was almost dunned by a metropolitan surgeon, who found difficulty in collecting a consultation fee.

A trust, or at least a belief, in the "omnipotency of gold" seems to have debauched the professional spirit of these days. Perhaps, however, the doctors only breathe the same air and react to the same environment, as their business associates. The professional result, however, seems to the doctors of the school of ethics of Browne and Gale to be more deplorable than that exhibited in the ranks of trade. The chief end of business is financial gain; but the doctor should take "no cure in the hand for lucre or gaynes sake only." It is this different viewpoint that makes the "pursuit of avarice" in a doctor's work so objectionable.

Is it not true that doctors' bills against the estates of deceased patients are at times larger than they would have been for the same amount of medical attendance, had the sick man lived? Do not surrogates and orphans courts act justly in viewing with suspicion the large bills sometimes presented for adjudication? Is there no reason for thinking that some medical men are willing to charge a larger fee than their custom, when they know that

dead men can neither complain, nor confer future benefit by contracting bills for medical service?

I recently heard of a doctor replying to a criticism that his bill against the patient's estate was too large, by saying that he always charged more when the patient died, because the death hurt his reputation! Such reasoning must be very soothing to the surgeon who has a fatal result to bewail. If carried to its legitimate conclusion, the argument would indicate that the justifiability of an operative procedure should be decided by the ailing patient, and the work done by a surgical engine without soul, conscience or heart. Then would Petrarch's innuendo that physicians trifled with human sickness for game and mercenary gain be justified (Medical Economy during the Middle Ages. Fort, p. 428); and the boy's objection to becoming a doctor because "he couldn't kill a cat," seem a valid reason for adopting another means of livelihood.

It is scarcely to be doubted that the triumphs of modern medicine and surgery have turned the heads of some practitioners, and that charges have become so large in certain instances as to be properly dubbed extortionate. The chronicles of the Middle Ages show, according to Fort (p. 461), that recourse to saintly remedies was induced by the excessive demands of the doctors, by which entire patrimonies were frequently swallowed up before recourse was had to these ecclesiastical curative agencies. Uncommon pharmaceutical compounds or double doses were prescribed as necessary medicaments, when the patient was wealthy, while for the poor the smallest dose was considered sufficient to cure. Do not these records afford food for thought on the relation of professional fees in this decade to the Christian Science Healer, to Hospital Abuse, and to the Gold Cure for Inebriety?

The medical professors of the Middle Ages are said to have been able to dictate terms, because "affluent invalids readily believed it impossible to escape death" unless attendance by these eminent doctors was secured. Do we not see evidences of this morbid belief, at the present day; and is not its abuse advancing "practitioners rapidly to enormous wealth and pomposity?" (Fort op. cit. p. 428).

Does any member of this Society really believe that eight thousand dollars or ten thousand dollars is a just fee for the performance of any possible gynecological operation, done on a private citizen, even if he be a multimillionaire? By a fee for the performance of an operation, I mean the charge for the operation alone, not including the preparatory treatment, the after-treatment, the nursing, or the hospital private room. I admit the possibility that the national importance of the patient, a ruler for example, might increase the surgeon's responsibility so much that this enormous fee might be justifiable. Under other circumstances its propriety is scarcely conceivable.

Would any one present to-night justify the action of a surgeon, who when asked for his bill, said "I send no bill, but I get for such professional service from five hundred to ten thousand dollars?" This is the attitude of the negro porter on the sleeping car, who, with a scrape of his foot, says to the man whose hat he has brushed, "Gib me what you please, sah;" because he hopes to get a half dollar for ten cents' worth of service. This attitude may

not demean an ex-slave, but it does not seem worthy of a medical gentleman, does it?

If such fees are to be asked by the medical gentlemen of to-day, the patient certainly ought to be frankly apprised of the fact, before he is allowed to incur the debt. I know of an instance where a physician of eminence was requested to come to a distant town to see a patient in consultation; a telegraphic reply was promptly sent, "My fee is three hundred dollars, shall I come?" I have but little criticism to offer to this frank mode of action. It is a different thing when a patient with trusting confidence submits to the professional offices of a doctor, and receives a bill of such proportions that it takes years of self sacrificing economy to discharge the debt.

There is, it seems to me, one just plan by which fees should be regulated. It is that the doctor should have an estimate of the value of his services, operative or otherwise, fixed in his mind. The amount should be based on his experience and skill. It should not be so low as to coax away unjustly the patients of the younger and less experienced men of the profession. This fee should be lessened when the financial position of the patient would make its payment a serious burden. It is not professional or humane to take a man's income for a whole year, to pay for the doctor's bill of a month.

A well-to-do patient should pay the full fee, which should be generous in order to recompense the doctor for his expensive education and hazardous life. This fee, however, should not be increased because the services of the doctor are utilized by a very wealthy person, unless an unusual time is given to the service or additional responsibility is placed upon the physician by reason of the man's position.

"Make it up on a rich patient," or "Charge him a big fee, because he is a millionaire," are admonitions not to be heeded by the true physician; but only by that healer of men's ills who is but "lightly dipped in generous honesty and faint hearted in integrity." Such words may do for the motto of the man who is "couetous or craftie sekyng his owne lucre, before other mennes health succour and comfort," but not for the doctor who taketh "the cure in the hande" for "an honest and competent rewarde with a Godly affection to doe his diligence."

THE ETIOLOGY OF ARRESTED MENTAL DEVELOPMENT.

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Idiocy, imbecility, and feeble-mindedness are varying degrees of the same condition. So gradually do they merge into one another that it is impossible to say where the one begins and the other ends. They all are the psychological expressions of infantile cerebral pathology. Their causes, therefore, which include all factors that interfere with the development of the brain of the child, must be considered together. For the purpose of brief reference, they are best divided into,

1. Those occurring before birth.

2. Those occurring at birth.

3. Those occurring during infancy and childhood.

1. *Prenatal Cause.*—More than fifty per cent. of all cases of idiocy and feeble-mindedness are congenital, and in a large proportion of this number, defective nervous systems on the part of parents or near relatives, is demonstrable. Statistics as to exact proportions vary greatly, and it seems to me fruitless to attempt to harmonize them. All agree that bad nervous heredity is the most conspicuous inhibiting factor to the growth of the infantile brain, and daily observation shows that idiotic and feeble-minded children are the products which are to be expected from marriages in which one or both parents carry in their blood the taint of degenerative nervous conditions. In comparison with this cause, all others sink into insignificance. So that in studying the etiology of idiocy, we must begin with the causes of degeneration.

Degeneration, which endangers the capacity of the individual to beget normal descendants, may be a result of ancestral defects, or may be acquired. When inherited, it is the insane, the hysterical, the alcoholic, the epileptic, the exhausted, and the defective generally who transmit it. Of all degenerative conditions, mental enfeeblement is the one in which direct inheritance is the most frequently demonstrable. Profound idiots are sterile. But in the lesser degrees of idiocy, and in imbecility and feeble-mindedness, either parent may, unfortunately, be capable of procreation.

In a large proportion of cases in which one parent is idiotic, the child bears the identical stigma. Direct inheritance in idiocy is more frequent than in other degenerative conditions. The child of an insane mother may become alcoholic and be sane, or the child of alcoholic inheritance develop any degenerative nervous disorder; in such cases the neuropathic constitution is inherited, but the particular type of its manifestation is decided by environment or other conditions. But with idiotic parents the rule is that the type itself is perpetuated.

It may seem that child-bearing idiots and imbeciles are not numerous enough to demand close attention. Such, however, is not the case. The commissioners appointed to inquire into the state of lunatics in Scotland ascertained that the number of idiotic women who had borne illegitimate children was 126—one mother having born five children.

Feeble-minded women are easy prey to the lust of men. When lacking natural or State protection, therefore, they are extremely liable to increase the State's dependents. They are also particularly subject to infection from venereal diseases. They thereby doubly disseminate the factors of degeneration. To protect this class and the consequences of it, there was established at Newark several years ago, the New York State Custodial Asylum for Feeble-minded Women. This institution shelters, during the child-bearing period, over four hundred feeble-minded women who lack natural protectors. By thus forcing sterility on these unfortunates, the State serves them, and at the same time serves a very vital economic purpose of its own.

In acquired degeneracy, it is assumed that the individual is born normal, but that through various

or abuse he has lost the power of procreating normal children. Prominent among the causes of acquired degeneracy are tuberculosis, alcoholism and syphilis.

Tuberculosis in the parents as a cause of degeneration is well recognized. As a cause of idiocy, it does not seem to receive the attention it merits. Yet it is a most important one. Piper found tuberculosis in the parents and near relatives in 23% of his cases of congenital idiocy, and a large proportion of the deaths among idiots is from phthisis.

Alcohol is the most important factor in acquired degeneration. The disastrous effect of alcohol upon the developing egg has been proved experimentally. Féré found that the injection of a few drops of an alcoholic solution beneath the shell was followed by a great variety of developmental defects. It is rather difficult, however, to determine the relationship in which idiocy and alcoholism stand to each other. Drunkenness of a parent at the time of conception has long been regarded as a fertile cause of imbecility. "Young man," said Diogenes to a stupid boy, "thy father must have been very drunk when thy mother conceived thee." My experience teaches me that the drunkard is *per se* a degenerate; that the acquisition of an uncontrollable alcoholic habit is in itself a sufficient indication of an enfeebled or perverted nervous system.

When, therefore, the child of a drunkard turns out feeble-minded, it seems as though there may well have been a cause antedating the alcoholism. Certain it is that alcoholic persons are frequent among the forbears of idiots. Ireland, in his "Mental Affections of Children," expresses himself as believing that "idiocy is not the ordinary legacy which drunkards leave to their children." I think this view is correct. In my experience the child of the drunkard is apt to have a nervous system of poor resistance and great excitability. Epilepsy, chronic chorea, morbid impulses, and bad habits frequently overtake him. These affections, rather than primary idiocy, seem the common legacies of alcoholism. They may well bring all varieties of mental defects in their train.

Active syphilis in one or both parents is reflected in the offspring. It is a fertile cause of miscarriage. Most children born actively syphilitic die soon after birth. Hereditary syphilis also causes organic brain disease in infants and young children—and organic disease of a developing organ, even without such gross lesions as hemorrhage, etc., precludes perfect development.

The question is more difficult when it concerns the responsibility of a parent who has had syphilis, but who has been free from all active manifestations of it for several years before the conception of the child. The existence of a parasymphilitic toxin is as well established as a non-demonstrated theory can be. But, so far as we know, this toxin acts solely on the nervous system of the patient himself, as, for example, in locomotor ataxia. Proof that it can act directly upon the egg is wanting. We all know fathers and mothers who have had healthy children, yet I doubt if any of us know an idiotic or feeble-

minded child of whose imperfect mental state parasymphilitic poison is the only possible explanation.

The causes which have been mentioned are the chief ones which impair the power of parents to bring forth healthy and resistant children. They occupy first rank by reason of the frequency with which they can be demonstrated throughout the neuropathic class. The more massed the parental degenerative factors, the more certain it becomes that the child will not escape his birthright. With both parents tainted, the hopes of normal issue are slight. By the continuous intermarriage of degenerates, degeneration progresses till it results in extinction of race. It is through the propagation of stigmata that consanguineous marriages have obtained their bad name.

The most far-sighted optimist cannot make out the dawn of the day when inherited degeneracy shall cease. But it does not require a very wide excursion of the imagination to discern conditions under which it might be materially curtailed. For one thing, society may well be expected to some day place importance upon the eligibility of persons who wish to marry. As it is to-day, it puts few obstacles in the way of the most improper alliances. I know many excellent families which have sanctioned marriages of their daughters with confirmed alcoholics. It was said that matrimony would work reform. The clergy take little or no care to ascertain the parental fitness of the couples they join in wedlock. The opinions of physicians are only occasionally sought by prospective brides and bridegrooms. And physicians' warnings are generally disregarded. Physicians themselves are not altogether free from blame in these matters. It is as much their duty to investigate the marital fitness of their patients as it is to discover the nature of a disease. And their warnings to the matrimonially inclined degenerate should be given with the same emphasis and the same conviction as they would be, were the object the deterring of the syphilitic patient from sexual indulgence, or the epileptic from alcohol. Two cases have come to my notice in which physicians with full cognizance of the facts, so far outraged their scientific knowledge as to contract marriage with epileptics.

The eradication of degeneracy has its brightest hope in increased education and better State care. Teach boys and girls physiology, and young men and women the pathology of generation. This is a step not difficult to accomplish, and would provide a certain protection to the normal. For the abnormal and degenerate, sequestration is the only solution. For advanced cases, institutions are the legitimate homes. But for borderland cases, for the feeble-minded, the half insane, the drunkards, the tuberculous, the epileptic, colonization is the surest means of caring for the future.

As is well known, this idea is receiving more and more approval. It should be developed, enlarged and propagated. The Craig Colony for epileptics and the institution at Newark, N. Y., have demonstrated their usefulness. The colony system for the insane is being gradually extended. The State Hospital for Consumptives is an established fact. As yet there is no colony for alcoholics. To protect itself against them the state is still powerless. However dangerous a drunkard may be to the

actual community, or to communities yet unborn, the moment his liberty is threatened he raises the cry of "inalienable right" and is free. Yet the time must come when chronic alcoholism shall be placed within the pale of State control, and when alcoholics shall be sequestered on farms on which there is a rigorous quarantine against alcohol.

Brief mention will suffice for the other prenatal causes of feeble-mindedness. They are chiefly maternal. Diseases of the mother occupy a place of importance. Of them, diabetes is one which should be regarded as a moral disqualification for conception. Popular tradition attaches much significance to a variety of other factors. Fright, grief, and similar violent emotions, traumatism, unhygienic surroundings, are all from time to time invoked as explanations of feeble-mindedness in a child. Of prenatal causes referable to the fetus may be mentioned the various fetal diseases and twin pregnancy.

II. Causes Acting at Birth.—The various factors which complicate delivery stand in prominent relationship to idiocy and imbecility. Cerebral injuries incurred at this time may cause gross lesions, which naturally imperil the development of the intellect. The commonest clinical manifestations of such injuries are diplegia and paraplegia. Even when clinical evidences of such gross lesions are absent, difficult labor with the attendant compression and asphyxiation, is sometimes the only discoverable cause for feeble-mindedness. In support of this is the fact that first children are much more apt to be feeble-minded than later ones, and that boys are affected with nearly twice the frequency of girls.

The proper use of the forceps in delivery should be regarded as a means of avoiding brain injury, rather than a cause of it, as the dangers of skillful extraction are less than long continued pressure on the head. Nevertheless, the use of forceps, by a reliable practitioner, is in itself an indication that delivery was difficult, and consequently not without danger to the head of the child.

III. Causes acting after Birth.—The study of the post-natal causes of idiocy is the study of pediatrics. All causes, whether they be traumatic, toxic, or nutritional, which act on the developing infant brain, fall into the rubric. But unless they be definite, quickly acting, and with evident and immediate results, they are extremely difficult to define and to evaluate.

If a child's development is arrested consecutively to a serious head injury, or to an attack of convulsions, or unconsciousness followed by hemiplegia, or to an attack of scarlet fever, the immediate cause is easily understandable. But when the evidences of retardation follow no such crisis diagnosis is much more elusive.

In the child at birth consciousness is not yet awakened, and all nervous phenomena are essentially reflex in character. In the absence of physical deformities if the child sleeps and nurses well, as feeble-minded children often do, it is impossible to decide as to mentality during the first two or three weeks of life. The child is usually several months old before it is brought to the physician by the mother, who is becoming alarmed. She has at last

observed that the baby's attention is not attracted by moving objects, by lights or sounds, that it does not follow with its eyes, that it is heavy and inactive, and unlike other children. It is practically impossible to determine whether such slow developing symptoms are post-natal in their causation, or whether they had their origin before birth. As an example may be cited cretinism, developing in early infancy. No one can say whether such cases are congenital or acquired.

Whenever the causes first begin their action, it must not be forgotten that they exert their influence on an organ with its future all before it.

At birth the fibers of the infantile brain are only partially medullated. Its cells are comparatively few in number and of imperfect development, as is shown by their great irritability. It resembles in its function a primitive nervous ganglion more than it does the adult encephalon. From the simplicity of its structure and from its hyper-excitability, causes which leave the adult brain undisturbed, exert intense impressions upon the brain of the child. Anyone, for example, who has witnessed the profound cerebral symptoms in very young children which may result from intestinal disturbance, will not question the extreme susceptibility to poisons of the child's ganglion cells. As in all low forms of life, also, the infantile brain is extremely susceptible to reflex stimuli. Severe nervous storms result in infants from slight peripheral irritations. But the period which is that of the brain's greatest susceptibility, is also the period of its greatest growth. At the end of the second year of life the brain weighs three times as much as it did at birth. With such rapid workmanship on the structure which is to be the permanent home of the intellect, every moment is precious. Interruptions to progress, even though brief, may have far reaching results.

Still another factor in infantile pathology, which gives an added importance to cerebral disorders, is the tendency for focal lesions to affect the whole brain. In the adult brain, focal lesions may come, and remain, or go away, exerting only a temporary effect on intelligence. I have reported the case of a man who had suffered total destruction of the frontal lobes of one side, with atrophy of the rest of the hemisphere, without the slightest disturbance of intelligence. During infancy and early childhood, however, no lesion is too small or too circumscribed to affect the whole encephalic mass or to inhibit its growth. This fact creates the greatest difficulty in the diagnosis of cerebral diseases in infancy. These disorders are characterized by the general symptoms of cerebral trouble, such as convulsions, or coma, or irritation, or vomiting; only occasionally is the most painstaking examination rewarded by a definite focal sign. Thus clinical behavior and ontogenesis go hand in hand. The brain of the infant is too undeveloped to permit of true focal disease.

With so delicate, easily influenced and rudimentary an organ as the infantile brain, therefore, causes which seem trivial, may be none the less active in arresting development. Only some of the most important ones can be touched upon here.

A foremost place among them is occupied by diseases of the brain and its membranes. Cerebral

or meningeal hemorrhage is not rare in infancy and early childhood. It becomes less frequent after three years of age. In the early cases, that is, before two years of age, the resulting idiocy is profound. Older children sometimes escape with little or no intellectual impairment, and in older children, if mental defect occurs, it is usually manifested as feeble-mindedness merely. All varieties of meningitis also are fertile causes. It is to be remembered that sporadic and epidemic cerebro-spinal meningitis are not rare in infants and young children.

Of the infectious diseases, scarlet fever and typhoid fever are the ones most frequently mentioned as entailing mental deficiencies in children. To these must be added the intestinal disturbances which form so important a chapter in infantile pathology. The cerebral manifestations of these intestinal intoxications are extremely diverse and serious. Convulsions, coma, all forms of jerking movements, rigidity of the muscles of the neck, strabismus and similar symptoms result from them without any gross lesion in the brain. If temporary, the results may not be serious. But if continued as they sometimes are, over days and weeks, it is difficult to believe that they do not interfere with the normal development of the brain.

The subject of infantile convulsions is too extensive to receive more than the most cursory mention in a paper of this character. It is, however, too important to be passed over without a word. Many children pass through all the trials of infancy and childhood without convulsions. Many of those who have them, grow up into normal people. But in some children, convulsions ensue upon the slightest provocation. Of these children a certain proportion become confirmed epileptics. And as epilepsy developing in infancy and childhood is almost invariably associated with intellectual defects, this question has important bearings on our subject. Now, when epilepsy develops in adults, it is only very rarely that the trained and wide-minded observer can be convinced that it is of reflex origin. But in infants and young children the case is different. They are essentially reflex organisms and respond vehemently to peripheral stimulation. There is no doubt whatever, that convulsions in children may be the direct consequences of such peripheral irritations as worms, phimosis, constipation, dentition, adenoids and the like. It may well be that the nervous organization of such children is more excitable than normal. It is none the less true that the convulsions often cease when the irritation is removed. If convulsions recur with sufficient frequency, the reflex arc becomes so well travelled that the child forms the epileptic habit until finally the fits take place without discoverable cause. The disease, though originating peripherally, would eventually be called idiopathic epilepsy. Now idiopathic epilepsy is a disease which is considered par excellence as a child of the neuropathic family. All statistics place it high in the list of nervous diseases in which degenerative stigmata have occurred in near relatives. Yet in a certain number of cases the family record is clean. Now I am of the opinion that in many such cases the disease had a peripheral origin in infancy. If this opinion is correct, it carries with it an important moral in the

matter of the treatment of infants and young children of excessive reflex excitability.

Sensorial idiocy is the variety of mental defect brought about by the loss during infancy or early childhood, of one or more of the special senses. It is limited almost exclusively to sight and hearing.

The deprivation of these means of education necessarily implies that fundamental conceptions supplied by them can never be acquired. Without special instruction, the mental horizon of children so afflicted is necessarily limited. Such women as Laura Bridgman and Helen Keller are brilliant examples of what skillful and painstaking instruction can do. It cannot be said that such persons are feeble-minded, but it cannot be gainsaid that they are defective. Loss of hearing affects the minds of children more than loss of sight. The cranial capacity of deaf mutes is below that of hearing children. Also mental culture in the average deaf mute cannot reach such a high point as in the hearing child. In disposition, also, deaf mutes are less pleasant and less trustworthy.

With slight degrees of sensorial defect, children can usually be well educated and be normally developed. But even in them one can hardly expect the full mental unfolding that might have been looked for had the child not been hampered in the acquisition of its ideas.

In addition to the mental defects caused by total blindness or total deafness, imperfections in the special sense organs of sight and hearing may so much interfere with the education of a child that it gets the name of being a backward child. This is especially true of hearing. Even slight imperfections in hearing may seriously interfere with the child's education. It is needless to say that in very young children, partial deafness is a very difficult thing to discover. Errors of refraction and muscular insufficiencies always put obstacles in the way of the development of the intelligence. It so frequently happens that children with these troubles do not learn to spell well, that some authorities maintain that in nearly all children who are conspicuously bad spellers some ocular imperfection may be demonstrated.

Traumatisms play so small a part in the causation of feeble-mindedness and idiocy that I shall pass them over. But I cannot bring this paper to a close without some mention of the nutritional disturbances by which the brain of the child is interfered with in its development.

A large number of feeble-minded children are rachitic. From the frequency with which rickets attacks the cranial bones, there was long thought to be an intimate connection between the local bone disease and the defective intelligence. There may be, but to my mind the relation between rickets and faulty brain development is better to be explained by disturbances of nutrition in the developing ganglion cells, than by any local process of pressure, irritation or anemia. A rachitic pelvis is due to the bones not being properly supplied with essentials at the time they need it most. And idiocy or feeble-mindedness in a rachitic child finds its best explanation in under-feeding of the ganglion cells at the time of their greatest growth.

In malnutrition, both when arising from improper

food and poor hygienic surroundings, and when arising from poisons circulating in the blood, are to be found the origin of many cases of defective brain development.

Some of the acute nutritional and toxic influences have been mentioned under infectious diseases. Here must be added some which act more slowly.

In amaurotic family idiocy, which usually makes its appearance between the second and eighth month of extra uterine life, there is a visible degeneration throughout the whole nervous system. No satisfactory explanation of the pathogenesis of this disease has yet been offered. But it must result from toxic or nutritional causes. We have learned something about the pathogenesis of cretinism, but we are far from knowing why the thyroid secretion disappears. It is interesting to note in this connection the case of Shield's (*New York Medical Journal*, 1898, No. 13), in which a child ten years old, had an attack of acute thyroiditis with fever. Subsequently the thyroid atrophied and cretinism developed.

As to external poisons, alcohol is the only one I shall mention. Difficult as it is to believe, chronic alcoholism and its effects in infants and very young children, are more and more frequently heard of. It comes about from the parents giving beer and wines to their little ones, and from medicines given in alcoholic solutions.

In closing, I wish to express my appreciation of the inequality in point of frequency and importance, of the causes which have been mentioned. Some of them are very rare and are significant in gross totals. Others merit much more detailed description than the limits of this paper would justify. But all have this in common, that the study of any one of them, whether frequent or infrequent, teaches important lessons to those who wish to have children, and to those whose duty it is to care for them.

CATARACT EXTRACTION.

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The following series of recent cases, although a small one, illustrates as well as could large numbers, the more important points regarding cataract extraction, as it is now resorted to and executed.

CASE 1.—L. G., a colored woman aged 70, has been slowly losing her sight for some years. The right eye still counts fingers at four feet. The left can just perceive movements of the hand in front of the eye. In the right, there is a nuclear cataract so far advanced that no fundus reflex is visible. The left presents a hyper-mature, white, slightly shrunken cataract. The anterior chamber is of moderate depth; the tension of the eye normal. The pupils are normal in reaction and of moderate size. Fields of vision apparently normal, with good quantitative perception of light.

March 6, 1900, extraction was done on the left eye with a small iridectomy, because the prominence of her eye and the thick powerful lids of a colored person increased the risk of iris prolapse after simple extraction. The incision was made just within the corneal margin. The capsule was opaque, opposite the lower portion of the pupil; but immediately after the operation the patient could count fingers. Four days later, the anterior chamber had begun to reform, showing that the wound had closed; and next day it was of full depth. The patient was allowed to sit

up on the fourth day and the dressing omitted from her right eye.

Recovery was somewhat slow, but uninterrupted. At the end of six weeks she had vision of 4-20 mostly. I then did a needle operation, incising the capsule in the form of an inverted T. A week later the eye was entirely quiet, and with -12.5 -3 cv. ax. 145° vision equal to 4.6 mostly. Three months later vision had risen to 4-5 full.

CASE 2.—B. W., a man aged 81, has been unable to read for 5 or six years, his sight having begun to fail some years before that. The right eye was first affected. Vision is noticeably worse now than a year ago. There is good quantitative perception of light in the left eye and fair in the right; with good fields. The pupils react slightly to light, the right being 3.5 mm. and the left 2.5 mm. in diameter. They are very dark gray, the color of the pupil in many old people who retain good vision; but no fundus reflex can be obtained with the ophthalmoscope. Tension of the eyeballs normal; anterior chamber deep. He has a habit of squeezing the lids tightly together, and does so whenever they are touched. He had a slight chronic catarrhal conjunctivitis, for which he was treated a few days with applications of silver nitrate solution.

June 20, 1900, simple extraction was done on the left eye, at St. Anthony's Hospital. The incision in the corneal margin was of full size, including almost half of the cornea. The lens proved to consist of a large, hard, dark brown nucleus, with only a trace of cortex. The pupil was left clear and central, but distorted by the stretching of the large nucleus. Pilocarpin, 1 to 20, was used to contract the pupil. The dressing was omitted from the right eye on the sixth day, and from the operated eye, during the daytime, on the eighth day. No sign of the anterior chamber having reformed was noted until the tenth day. It was again quite empty on the eleventh day, and a small prolapse of the iris occurred at this time. The wound had closed and the anterior chamber was fully reestablished on the fifteenth day. On the seventeenth day the patient went home to Julesburg.

October 5, he returned, the eye being entirely quiet. The ophthalmometer showed an astigmatism of 10. D. With -8 equal to -7 cy. ax. 170° , vision equal to 4.8 partly. The only trace remaining of the prolapse was a moderate lengthening of the pupil upward, and a small pigment spot near the centre of the firm corneal scar.

CASE 3.—C. S., a man aged 28, two years ago was struck in the right eye by a small flying fragment of rock, which caused no bleeding or subsequent inflammation. A year ago he noticed that "something was growing over the sight of the eye." Vision is now reduced to counting fingers at ten inches, while in the left eye vision equals 4-5. There is no scar, no adhesion of the iris. Tension of eyeball normal. The right pupil is occupied by white lens opacity, but not of a uniform milky appearance. Under cocaine the pupil dilates to 8 mm., but its periphery is occupied by hazy lens. There was slight conjunctival discharge, which disappeared under the protargol solution.

August 28, 1900.—I removed the lens from the right eye by simple extraction. The nucleus proved to be as large and firm as the average at 50 years of age, and was delivered with some difficulty through what was practically a 3 mm. flap incision in the upper corneal margin. The iris prolapsed and had to be returned with the spatula, but after that the pupil remained central and round. Eserin was instilled and both eyes closed with a simple dressing. At the end of 32 hours, the anterior chamber was fully reestablished.

August 30.—Eserin was used for the last time and the dressing was omitted from the left eye.

September 1.—Hydrocyanum was instilled and next day the pupil was well dilated, showing numerous gray masses in the capsule, with a clear space above them.

September 3.—All dressings omitted.

September 7.—Patient came to the office, and the ophthalmometer showed 5. D. of astigmatism, axis of convex cyl. at 30° .

April 9th, 1901.—With -13.5 equal to -0.50 cyl. ax. 35° vision equal to 4.9.

CASE 4.—J. C. F., a man aged 75, began to wear glasses at 45, and between 50 and 60, he got his "second sight," so that he could read without glasses. But for three years vision has been failing. He can still see pretty well in the periphery of the field, but in each eye central vision is reduced to counting fingers at one foot. He has flashes of light before the left eye and sometimes dark specks floating

in front of it. The tension of the eye-ball is normal. The fields of vision are apparently perfect, and there is good quantitative perception of light.

September 15.—I did simple extraction on the right eye. The globe was rather collapsed and soft from cocaine. The lens proved to be chiefly a yellowish brown, hard nucleus. After its removal the patient said that everything looked blue, except at the centre of the field. The pupil contracted well under eserine, and remained central and circular. Both eyes were closed with a simple dressing. At 56 hours the anterior chamber was of full depth. The pupil was occupied by gray cortex; and he saw no better than before the operation.

September 19.—The dressing was omitted from the left eye, and after this no eserine was employed in the right.

September 22.—Instilled a mydriatic.

September 24.—All dressings omitted. Complaints of aching and pain in the eye, probably from rubbing of scar against the lid. Eye free from hyperemia, except in the region of the scar.

October 2.—Came to office; eye quiet and free from pain. The ophthalmometer shows 9 D. of astigmatism.

October 11.—Some reflex is visible in the right pupil, and he thinks his vision has improved in the last few days; but it is still limited to counting fingers within two feet. I did a needle operation, incising the capsule on the lines of an inverted V. A simple dressing was used, until the next day. Four days later, the eye was free from hyperemia, and with $-1/8$ equal to $-1/4$ cy. ax. 5° vision equal to 4.12 partly.

November 23.—He was given right $-1/9$ equal to $-1/2.5$ cy. ax. 10° , which gave vision 4.6 partly, and $-1/3.5$ spherical was added for reading.

March 6, 1901.—His vision with the same glass is 4.5 mostly.

CASE 5.—E. K. B., a woman aged 68, always near-sighted, had noticed her vision failing for several years. She had suffered from apoplexy four months previously, a right hemiplegia but no aphasia, followed by complete recovery. The fields were good and central vision; right, 4-80, left 4-20 mostly, with correcting lenses. There was general haziness of the right lens with streaks of cortical opacity. In the left there was a dense posterior polar opacity. A few days after I first saw her, she suffered a severe attack of angina pectoris, with very great disturbance of the circulation, after which her general condition slowly improved. At the end of three months her vision was reduced to: Right, counting fingers at 1 metre; Left, 4-30.

October 22.—I did simple extraction. The incision was placed slightly beneath the conjunctiva. The nucleus was large, and considerable clear cortex was scraped away in expelling it. The iris settled back without stroking. Eserine was instilled and a simple dressing applied to both eyes. The operation was done in the morning, with the patient sitting in an easy chair; and she was kept in this chair until evening, and then put to bed with the head considerably elevated, to diminish the risk of hemorrhage. At the end of 33 hours, the anterior chamber had reformed, but was still shallow. It did not, however, re-open, and two days later was full of depth.

October 24.—Eserine was omitted; and the next day a mydriatic was used. On the seventh day she complained much of the feeling of a foreign body under the under lid, probably from bulging of the scar. Up to this time there had been a good deal of swelling of the conjunctiva; but it was now diminishing.

November 10.—She came to the office. The corneal astigmatism amounted to 7 D.

November 28.—She was given distance glasses: Right $-1/7.5$ equal to $-1/4$ cy. ax. 17° . Vision equal to 4.5.

January 17, 1901.—The strength of the cylinder was diminished to 3.5 D., giving vision of 4.4 mostly.

CASE 6.—L. M. L., a woman aged 60, who four years ago suffered from a very severe iritis in the left eye, with a history of preceding slight traumatism, but no perforating wound. At this time she was seen by five oculists, and was under treatment for 9 months. She was advised by three of them to have the eye enucleated. But this eye finally became quiet and has shown no relapse since. Last July, the right eye became inflamed and was sore for two months. The inflammation followed exposure to cold and wet. She has always been near sighted. Could read some with the right eye after the left was first affected. But vision has gradually failed ever since. Now the right counts fingers at three feet, the left counts fingers

held within three inches of the eye. Right pupil is oval, long axis vertical, and reacts fairly to light. The iris is normal in appearance, but shows three broad posterior synechiae, when the pupil is dilated. There is general haziness of the lens, but the fundus reflex can be detected throughout the pupil. Tension of the both eyes about normal December 10.—The right was extracted, without iridectomy. It was almost entirely nucleus, brown, hard, 4 mm. thick, and 8 mm. in diameter.

December 15.—A small incarceration of the iris occurred; the anterior chamber was re-established, and there was mild iritis. From this time on there was a slow iritis, attended with moderate hyperemia, very little pain and no tenderness of the eyeball; but with considerable exudate into the pupil. Not until the last of January did the eye become free from hyperemia, and then vision was no better than before the operation.

February 10.—A needle operation was done, giving a very small, clear pupil, but permitting considerable retraction of the iris. At first there was very little reaction, then an iritis occurred, slowly increasing for two weeks, after which it slowly yielded. But the eye was not free from hyperemia, March 9, when the patient had to leave the city for her home in Wyoming.

When first tested with the ophthalmometer, January 13, her astigmatism was 3 D., when last seen it had diminished to 2 D., with the axis at 30° and with $-1/12$ sp. vision equal to 10-200.

CASE 7.—T. B., a man aged 48. Sight in the left eye has been failing for 3 years. He is a miner and his eyes have frequently been struck by pieces of flying rock; but have not been severely injured, and no scar can be detected. The vision of the right eye is normal. The left has good light perception, and good field. Tension normal in both. The left pupil is occupied by grayish white opacity; which is almost uniform, but on examination proves to be entirely so. The pupil reacts normally and the anterior chamber is very deep. He has a pterygium 5 mm. wide, extending 3 mm. on the cornea at the nasal margin.

March 2, 1901. I did simple extraction on the left eye at St. Anthony's Hospital. The incision included the upper third of the corneal margin. The nucleus was found as large laterally, but not so thick as the average senile nucleus. It was thinly covered by soft cortex. The incision having been planned for a smaller nucleus, there was some difficulty in expelling the lens. It was immediately followed by fluid vitreous, 1-6 to 1-4 of the vitreous being lost. Eserine was instilled and the simple dressing applied to both eyes. At the end of 30 hours the anterior chamber was of full depth; the eye was free from pain, and the sound eye showed as much hyperemia from bandaging as did the eye operated on. The wound did not reopen. Eserine was omitted on the third day, and atropine instilled on the fifth. All dressings were removed on the seventh day; and on the ninth day, the patient left the hospital. His astigmatism, as shown by the ophthalmometer, was 7.5 D.

March 18.—The eye was quiet and with $-1/8$ equal to $-1/4.5$ cy. ax. 155° vision equal to 4/10.

Senile Cataracts at the Age of Fifty.—The above histories indicate sufficiently the common details of such cases. In a general way they may be classed as cases of senile cataract, although two of the patients were under 50. In these two the cataract was probably of traumatic origin. But the regular operation for senile cataract was required; and even with this, the attempt to reduce slightly the size of the corneal incision added to the difficulty of the operation. In these cases the pupil presented a white and almost uniform appearance, so that my first impression was, that I had to deal with fluid cataracts. Closer examination, however, showed that the opacity was not perfectly uniform in color. The operation, therefore, was planned as for ordinary senile cataract and the conditions developed by it fully confirmed its necessity.

In extracting non-traumatic cataract in young persons, I have a few times found the lens so soft that it could have been expelled through a much

smaller incision. But more frequently, as in these two cases, any decided reduction in the size of the corneal incision increased considerably the difficulty of expelling the lens, and I have known operators of large experience to be completely balked by the large size of the nucleus encountered in comparatively young persons. When a cataract in a young person is directly traceable to a wound penetrating the lens, we may hope to find the lens largely composed of soft cortex. But when, as in these two cases, the cataract follows obscure disturbance of the lens nutrition, the condition seems to be more one of premature senile change, including the enlargement and rigidity of the nucleus, that commonly occur in later life.

Mature Cataracts.—Cases 1, 3 and 7 were of mature cataract. The first and last even somewhat hyper-mature. Case 2 was one of the slow cases. It had been progressing 10 or 12 years and was still advancing. Although the power to read had been lost for 5 or 6 years, the appearances presented by the lens were not those of mature cataract. The patient had, however, reached an age when the lens is wholly converted into firm nucleus. It came away in a single mass, giving immediate restoration of vision, so that fingers could be counted at once, and vision of 4-8 partly was obtained without any secondary operation.

Extraction of Immature Cataracts.—In cases 4, 5 and 6, immature cataracts were operated upon. In 4, although the central vision was reduced to counting fingers at 1 foot, the cortex was clear enough to permit a fair fundus reflex, and peripheral vision good enough for the patient to get about some alone. In cases 5 and 6 fingers could be counted at 3 feet. So immature were 4 and 6, that the extraction operation alone gave no improvement in vision. So much clear cortex was left behind, to become opaque in a few days after the operation, that it interfered with vision as much as did the original cataract.

These cases illustrate fully the the disadvantages of operating on unripe cataracts, and they give an opportunity for comparing these disadvantages with the gain which justifies such operations. The patient gained no material advantage until after the second operation. In case 6 it is possible that the iritis was more severe and more prolonged than it would have been had the cataract been mature, although this is not certain. In case 2 and in case 4, the healing was as prompt and the restoration of vision as complete as could be expected after the removal of mature cataracts, and no secondary operation was required.

But, on the other hand, if operation had not been done on the immature cataract, these patients were doomed to years of disability from loss of all useful vision. In cases 2 and 4, it is altogether probable that waiting for the maturity of the cataract would simply have meant leaving the patients to end their days in blindness. If the good accomplished by it ever justifies a cataract operation, it justifies the operation in such cases.

Ripening Operations.—This one question can be raised about immature cataracts. Is it better to extract the unripe cataract, or to do some preliminary ripening operation? My experience with ripening operations has, without exception, been

favorable. (Transaction American Ophthalmological Society, 1893). But even if this were the universal experience, which it is not, I think it very doubtful if the ripening operation would be worth doing in any considerable class of cases.

The chances of a subsequent secondary operation being necessary, or at least beneficial, are not materially diminished by the preliminary ripening; and the slight gain in ease of extraction and brilliancy of immediate result, scarcely compensates for the additional period of waiting after the preliminary operation, before the chief operation can be done. This view with regard to operations for ripening is substantially the one held by Knapp, Weeks, de Schweinitz and others, who have expressed themselves on this point in recent years. The latest writer on the subject, W. S. Dennett, dismisses the question of ripening operations by merely remarking: "They are not worth while." (New York Eye and Ear Infirmary Reports, 1901.) That ripening operations are better than waiting for spontaneous maturity of cataract in many cases, there can be no question. But now that we have learned that immature cataracts can be extracted with safety, their field of usefulness has largely disappeared.

Cataract Confined to One Eye.—Of course, what has been said about the advantages of extraction of immature cataracts applies only when vision has been greatly impaired or lost in the other eye. If in the other eye, vision is normal or as good as the cataract extraction is likely to give, there is little reason for doing extraction before the cataract reaches maturity.

When one eye presents a mature cataract, should it be extracted even if the other has normal vision? This question was raised in cases 3 and 7. Under some circumstances it may be proper not to advise any operation. Patients who are old and feeble, and who do not lead an active life, will experience but little benefit from the removal of the cataract. But those who are younger and who lead an active life should always be advised to have a ripe cataract removed.

As a rule, the removal of monocular senile cataract will not restore true binocular vision. The strong lens required by the aphakic eye prevents it from working satisfactorily with the eye which retains its crystalline lens. The chief positive gain from the extraction in these cases is from the increased field of vision. Even without any cataract glass, the patient will gain by the operation the full binocular field for all practical purposes. In this way he will be saved from the dangers of accident that attend one who is blind of one eye. The extent of this advantage will of course depend upon the patient's activity and liability of exposure to such accidents.

The other gains through the removal of the cataract in such cases are the avoidance of the risks of hypermature cataract, and of temporary blindness should the other eye become involved. The danger of a cataract becoming hypermature is much less in an old person, while in one under 50 there is every probability of such an event. The risks from hypermature cataract are quite serious. I have recently seen an eye very badly damaged by glaucoma, apparently due to this cause. H. Gifford, in

discussing the dangers of the spontaneous cure of senile cataract, reports four cases of the kind. (American Journal of Ophthalmology, October, 1900), and H. D. Bruns (American Journal of Ophthalmology, February, 1901), reports an additional case.

I have seen the good eye largely disabled from the irritation caused by the movements of the iris over the hard rough anterior surface of a partly calcareous lens in the other eye, the removal of which gave immediate complete relief. The extraction of a hypermature cataract is attended with decidedly greater danger than is the removal of one that is simply mature, or even immature. I should always regard an overripe cataract as one that was seriously complicated. As a rule, the capsule becomes thickened, increasing the difficulty of extraction, and rendering a secondary operation necessary and more difficult. Then a hypermature cataract in a relatively young person is generally quite white, making a very noticeable deformity. Several times I have extracted such cataracts from completely blind eyes, simply because of this cosmetic indication.

One cannot urge operation for monocular cataract just as he would urge iridectomy for acute glaucoma; or enucleation of a blind eye that threatened sympathetic ophthalmia. But he can lay these important considerations before the patient, and positively advise extraction in most cases before the age of 60, and in some at a still later age.

Simple Extraction.—In the above cases simple extraction was done except in case 1. But it may be questioned if case 6 was not also better suited to extraction with iridectomy. I will not here discuss the advantages of simple extraction in cases suited for it. They are well illustrated by the patient shown. In the after-treatment, the especial danger of this operation is prolapse of the iris. This danger is lessened by the use of eserine. In the one case in which prolapse occurred eserine was not used, and the long time the wound remained open with the habit of nipping the lids together invited such an accident.

The Dressing.—The simple dressing employed in all the cases is one that I have used for 15 years after cataract extraction. Besides its simplicity, it seems to me to better meet the indications than any other. It consists of a small loose mass of absorbent cotton held in place by one or more strips of adhesive plaster, extending from the brow of the cheek. It is applicable to many other conditions requiring some sort of ocular dressing. I have never seen any bandage that would retain a dressing with the accuracy, with as little chance of displacement or disturbance by turning the head on the pillow.

When used after cataract extraction, the dressing must be removed with especial care, not to provoke a squeezing together of the lids by the pull of the plaster. During the first few days I usually cut the plaster, leaving the part in contact with the skin undisturbed. After the first dressing, the new strip is attached to the piece left fast to the skin.

I have never used any form of protective mask after cataract extraction, to prevent the patient from striking the dressings and reopening the

wound. But, in over 200 cases, I have never had any serious interference with healing from this cause. Those who use such masks have occasionally reported that the accident which it was sought to guard against occurred when the mask had been removed. It seems rather an insufficient precaution, and yet, impressing the patient strongly at the time of operation, with the idea that the hands must be kept away from the operated eye—establishing the habit of inhibiting movements in that direction—seems to have proved quite as reliable and effective in preventing such accidents as any mechanical device. When the mask is relied upon this habit of keeping the hands from the eyes is not acquired, and then when the mask is left off, the accident occurs.

Delayed Union.—These cases illustrate the variety in the length of time required for closure of the corneal incision. In case 7, the anterior chamber was found of full depth at the end of 30 hours. In case 2 it was not so completely re-established until after 15 days. Yet in both cases the result was favorable, although in case 2 the prolapse was probably due to this long delay in closure of the wound. I have once had the incision remain open for 21 days. This case also did well in every other respect. These cases of slow healing have usually been marked by rather deficient hyperemia of the eyeball for several days after operation. Case 2 of this series was no exception. The closure of the wound has several times appeared to be hastened, as in this case, by removing all dressings and allowing greater freedom of movement.

Risk of Expulsive Hemorrhage.—Case 5 was one that was undertaken with especial anxiety. Expulsive intraocular hemorrhage, following lens extraction, is a rare but utterly disastrous accident. I have twice encountered such hemorrhage, once following removal of the lens in absolute glaucoma, hoping to escape the necessity for enucleation, and once after removal of a dislocated lens. In this latter case I had not left the hospital when the hemorrhage occurred. Placing the patient in the upright position, the free flow of blood from the eye was immediately stopped. Since then, I have operated three times for cataract extraction, in patients that seemed to be in especial danger of such hemorrhage, with the patient sitting up; and have kept her sitting up for several hours afterward. In none of these cases did hemorrhage occur. In this patient, therefore, in whom the previous cerebral hemorrhage, the marked vascular disease, and her stout, heavy build, all indicated especial danger of intraocular hemorrhage, the operation was done with the patient sitting in her chair; and she was kept with her head high until after the corneal wound had closed.

Secondary Operations.—Secondary operations were done in but three of the seven cases. This unusually small proportion was due to special causes. In case 3, the patient has perfect vision in his other eye, and does not need to wear correcting lenses. He sees just as well with the eye as it is, as he would after a secondary operation, even though that should give him perfect vision with a correcting lens. He probably has many years of life before him. It is not certain that after opening the pos-

terior capsule and hyaloid membrane, the nutrition and health of the eye would be as well preserved for a period of many years. If a secondary operation should ever be of advantage to him, it can then be done. Until that time the eye is better as it is.

In case 7, the escape of vitreous occurred through a large central opening in the capsule, so that we had the effect sought by a secondary operation without having to do one. In cases 2 and 5, sufficiently good vision was obtained from the primary operation. In case 2, it might be improved by making an opening in the capsule, but the patient was satisfied with the vision he had (4-8); and extremely anxious not to be detained away from home. It is possible that in these two cases, a thickening and wrinkling of the capsule may occur in the next year or two, that will make its division desirable. This very often happens, and in any large series of extractions fully three-fourths of the cases will ultimately be the better for a secondary operation.

Results.—According to the usual standards, in six of these cases, the result is to be counted a perfect success, (vision ranged from 4-4 to 4-10. In the seventh it was a partial success, 10-200. It has been customary to count as perfect successes all cases obtaining vision of 20-200 or 1-10. But this standard is too low. Even Schweigger's proposition to raise the standard for perfect success to 1-6 is scarcely sufficient. Probably to make 20-100 the requirement for perfect success would be better. With most patients 1-5 vision allows of reading ordinary type, writing, sewing and all ordinary occupations that do not require especially acute vision. If the vision falls much below this, the patient is prevented from freely doing these things.

But these standards of success, perfect or partial, are of little practical importance as regards the individual case. The general rule must be, to aim at the best vision possible. If a patient with vision of 20-40 can be brought up to 20-30, or even 20-20 by a secondary operation, it is worth doing. Then the vision obtained furnishes but a poor criterion of the perfection of the operation. In the great majority of cases, that fail to reach perfect vision, the impairment is due to defects of the eye apart from cataract, that existed before the cataract was removed. Perfect vision is not the rule in senile eyes that are free from cataract; and when the nutrition of the lens suffers, the nutrition of other parts of the eye is commonly impaired also.

Cataract extraction has been less affected by the evolution of antiseptics than any other important surgical operation. We must disclaim the possibility of making the operation absolutely aseptic. It is done with recourse to few of the more pretentious methods and procedures by which asepsis is supposed to be secured in other capital operations; and yet, is there any other surgical operation that can show a better record, as regards infection. Our experience with it seems to teach the lesson, that the line is yet to be drawn between essentials and non-essentials in the technique of aseptic surgery.

ABSCESS OF THE ORBIT FROM DISEASE OF THE ETHMOID; CURETTING THROUGH THE ORBIT AND DRAINING THROUGH THE NOSE.

BY GEORGE C. HARLAN, M. D.

A rather delicate looking lad, sixteen years of age, was referred from the Nose and Throat Dispensary of the Pennsylvania Hospital to the Eye Department. He had been suffering with nasal catarrh for a year or more, and Dr. McCoy found an extensive oedematous swelling of the mucous membrane of the nose and caries of the middle turbinated bone. The lids were swollen, and there was a high degree of exophthalmos of the right eye, the ball being projected downwards, forwards and outwards and its motions limited. The vision was not much impaired. Indistinct fluctuation could be detected, and the patient was admitted to the Hospital on March 14, and a deep incision just below the upper margin of orbit gave exit to a quantity of pus. Careful probing of the cavity failed to reveal dead bone or any connection with the accessory cavities, and it seemed that the abscess was the result of a secondary focus of inflammation. Twelve days later, however, while introducing a gauze tent, dead bone was felt and a probe was then passed through an opening in the wall of the orbit. It was therefore decided to operate at once. An incision was made along the upper margin of the orbit, commencing at the junction of its middle and outer thirds and curving down the side of the nose to the level of the tendo-oculi. The periosteum was then stripped from the median wall and half of the roof of the orbit, and the soft parts, including the eyeball, were drawn outwards with a retractor. A patch of necrosis in the os planum and an opening into the posterior ethmoidal cells were found. When the dead bone was removed with the cutting forceps the opening admitted the end of the index finger. The frontal sinus and anterior ethmoidal cells did not appear to be involved. The ethmoid cells were curetted with a sharp spoon. A rubber drainage tube was then introduced into the orbit through the nose, by means of a retractor silver probe very sharply curved, and held in position by a silver wire passed through sound skin at the root of the nose and fastened to the forehead by rubber plaster. The upper end of the tube was thus just behind the skin, while the lower projected from the nostril. The wound was closely sutured, and the abscess cavity was syringed twice a day through the tube, at first with boric acid solution and after a few days with peroxide of hydrogen, one part to two of warm water. There was very little reaction and the wound healed promptly, except where the abscess had been opened where there is still a fistula which is daily diminishing in size. The exophthalmos is rapidly subsiding and the eye now moves freely in all directions.

This is practically the Jansen operation for empyema of the frontal and ethmoidal sinuses, except that instead of packing the cavity with gauze, as Jansen does, drainage through the nostril is used and the wound is sutured. At the last meeting of the American Ophthalmological Society I reported two cases—one of the empyema of the anterior ethmoid cells and one of empyema of the frontal sinus and of all of the ethmoid cells operated upon with this same incision. A permanent cure resulted in each case with a scarcely visible scar; the cicatrix being practically concealed by the eyebrow. I hope for a quicker result in this case, as in the others I allowed the tube to project from the wound, as well as from the nose, for a month and so retarded the healing. This does not seem necessary, as the wire holds the upper end of the tube just behind the incision of the skin, making thorough cleansing easy, while passing as it does through the sound skin, it does not interfere with the healing of the external wound. The healing would probably have been more prompt if I had performed the radical operation at once instead of establishing a fistula by

lancing the abscess and allowing it to drain through the puncture for twelve days. It, however, seems likely to close in a short time. A primary abscess of the orbit, except from traumatism, is very rare. These abscesses are nearly always connected with diseased bone, generally with empyema of the accessory cavities, and when the nose is known to be diseased, simple evacuation of the pus is much the same kind of surgery as is making a Wilde incision, instead of performing the radical operation, in case of abscess of the mastoid.

PURULENT CHOROIDITIS, FOLLOWING AN ATTACK OF MUMPS; DIAGNOSIS, METASTATIC CHOROIDITIS, REVISED BY STUDY OF THE ENUCLEATED EYE-BALL.

BY JOHN T. CARPENTER, M. D.,

of Philadelphia.

Deep-seated, purulent inflammation of the eye having its origin in the choroid or retina, may be the result of infection from without; as, for example, from penetrating wounds by foreign bodies, from operations or from ulcers of the cornea. On the other hand, the infection may originate within the body and cause choroiditis or retinitis by metastasis.

Metastatic choroiditis following the infectious fevers of childhood is not of very frequent occurrence, but we find cases in literature which have followed pneumonia, typhus, variola, measles, scarlet fever and other infectious diseases in which the development of the purulent choroiditis is explained in a rather vague way as due to changes in the vascular or lymphatic system.

The explanation of foci of suppuration in the choroid associated with ulcerative endocarditis, suppurative diseases of the sinuses adjacent to the orbit thrombosis of the orbital veins or with general septicemia is much less difficult. That most of these cases are due to the lodgement of infected emboli is no doubt true. Germann, *St. Petersburg Med. Woch.*, Dec. 15th, 1900, found during convalescence from pneumonia a purulent metastatic irido-choroiditis with symptoms of meningitis and death in six days. Another fatal case is described in which croupous pneumonia was followed by endocarditis, embolic retinitis and panophthalmitis. Pure cultures of the diplococcus were derived from the anterior chamber.

In 1892 Herrnheiser observed metastatic panophthalmitis with diplococci in the choroid, consecutive to croupous pneumonia. Blessig, Everbusch and Natanson have each reported metastatic irido-choroiditis after influenza.

Cases studied from bacteriologic standpoint have not yet been very numerous, but as our knowledge of the specific germ of the infectious fevers increases, no doubt these will be more frequently found.

Schiess (quoted by Kniess—"Eye in General Diseases") observed metastatic irido-choroiditis which necessitated enucleation following an attack of mumps.

The following notes of a case of deep suppurative inflammation of the left eye in a young child just

recovering from mumps, in which the diagnosis of metastatic choroiditis was made, contain some points of interest which seemed to me sufficiently striking to merit the report of the clinical history.

Harold, aet 2, of Carlisle, Penna., was brought to me on July 13th, 1896, by Dr. S. S. Bishop.

Previous history: Four weeks ago he had a severe attack of mumps which was worse on the left side. About two weeks after recovery his parents noticed the left eye was inflamed, and that the child was restless and evidently suffered pain in that eye. One week later Dr. Bishop found the following conditions present: lids were swollen; conjunctiva chemotic, with engorgement of both superficial and deep vessels; the cornea steamy; the iris bound down by unyielding synechiae; and a deep-seated yellowish reflex behind the pupil. The entire uveal tract became involved and a large hypopyon developed; no evidence of light perception in the eye.

Conditio praesens: There is deep ciliary injection; the cornea opaque and steamy, and quite insensitive; anterior chamber obliterated; pus is seen blocking the iris, which is degenerated and atrophic. As its upper periphery there is localized bulging of the iris, which is completely atrophied and looks as if upward iridectomy had been made. Commencing staphyloma was noted in upper ciliary region; eyeball stony hard. No evidence of penetrating wound was found.

In view of the history of the case and the early existence of purulent infiltration of the vitreous without any evidence of external injury, the diagnosis made was, metastatic choroiditis following mumps. Because of the severe pain from which the child was suffering, together with the increased tension of the eyeball, and the probability of early rupture of the sclera as shown by its staphylomatous condition, enucleation was advised and performed and the eye placed in Dr. Edward A. Shumway's hands for study.

After hardening in alcohol, the eyeball was frozen and cut in half in a horizontal plane passing through the cornea and optic nerve. It was found to be filled with a brittle white mass, in which the lens was embedded. The upper half was mounted in glycerine-jelly, and the lower half embedded in celloidin for microscopic sections. On cutting the lower part of the celloidin block, in order to mount it squarely on the object holder of the microtome, the knife struck a small particle of rusted metal, lying in the retina, which measured (1x1.5mm.) This was dissolved in strong hydrochloric acid, and on the addition of potassium ferrocyanide, a dark blue color was produced (Prussian blue), indicating the presence of iron.

Microscopic examination of the sections, stained with haematoxylin-eosin, showed the condition to be beginning panophthalmitis.

The cornea is intact, except for a moderate infiltration with round cells, and distension of the blood vessels, at the limbus. In the center, Descemet's membrane is torn, but this is probably an artefact. On the nasal side, in the ciliary region there is a depression in the globe, the iris is here adherent to the corneal surface which is especially infiltrated with round cells at this point. The anterior chamber is filled with a granular material which contains a few leucocytes. The iris is swollen to several times its normal size, and densely infiltrated with polymorphonuclear leucocytes, which have separated widely its stroma-cells.

Its anterior surface is covered with a layer of fibrinous exudate, with a few entangled leukocytes, which extend from its posterior surface, in a thin layer, over the entire surface of the retina, and in two lines converge from the equator of the lens on either side, toward the optic nerve entrance.

The remainder of the vitreous cavity is filled with a granular exudate, which contains scattered pus cells. The anterior capsule of the lens is ruptured on the temporal side, and a line of pus cells runs directly backward through the broken and cataractous lens fibres, to communicate through a similar rupture in the posterior capsule, with the masses of cells in the vitreous, showing the apparent track of the foreign body. Lines of pus cells also follow the lines of cleavage of the lens fibres, and on the nasal side, at the equator, a large collection of them separates the capsule from the cortex. The ciliary processes are drawn forward, and the ciliary bodies are mod-

erately infiltrated. The layer of pus cells on the inner surface of the retina, is much thicker on the temporal than on the nasal side, and at a point just posterior to the equator shows a break in the mass. The sections are stained a brownish red, in this position and on treatment by the Perl iron reaction (Hydrochloric acid and Potas-ferrocyanide) take a deep blue color, which gradually fades in intensity, as the distance from this point increases.

The underlying retina shows a dense infiltration with round cells, especially surrounding and filling the blood vessels, but the process has not lasted long enough to completely disorganize this membrane, as its various layers may be readily distinguished.

The pigment cells are proliferated, and are commencing to infiltrate the retina. The distant parts of the latter show edema and infiltration with cells around and in the blood vessels.

The choroid is hyperemic and at the point above described corresponding probably to the former position of the foreign body before it fell to the bottom of the vitreous cavity, it is thickened to three times its normal size, and is densely infiltrated with round cells.

The optic nerve is moderately infiltrated. A careful search for micro-organisms was made, but none was found.

Diagnosis. Beginning panophthalmitis; traumatic cataract, foreign body (iron particle) in the vitreous.

In order to explain if possible the presence of the foreign body in the eye, careful inquiries were made with the following result. A blacksmith's shop was situated just back of the house in which the child lived, and during his convalescence from mumps he had been allowed to play most of the day in the shop. No doubt the small chip of iron from the anvil penetrated his eye, although no one's attention had been called to such an accident. The development of purulent choroiditis from this foreign particle led to acute inflammatory symptoms which the child's mother detected, and for which he was brought for treatment.

It is impossible to say how soon after the entrance of the chip of iron into the eye the examination was made, but no trace of the wound was discovered by Dr. Bishop, and one week later when the eye-ball had become generally infiltrated with leukocytes there was certainly no trace of the track taken by the foreign body.

In the absence of any history of traumatism, an attack of purulent choroiditis in a young child who was convalescing from mumps was naturally interpreted as metastatic choroiditis. The accidental discovery of the foreign body, in making repeated sections with the microtome, alone enabled us to correctly interpret the nature of the attack. It was most fortunate, in the light of this discovery, that enucleation was promptly done and sympathetic ophthalmitis in the sound eye was prevented.

SPONTANEOUS (?) RUPTURE OF THE SPLEEN. LAPAROTOMY—DEATH—REPORT OF CASE.

By D. C. HOWARD, M. D., Captain, Med. Dept., U. S. A.

G. C., 22 years of age, a private of Battery "O," 4th U. S. Artillery, single, birthplace, U. S., 2½ years in service. Served at this post for past eight months. Used alcoholics immoderately at times. He was brought to hospital 10 A. M., February 19th, in a state of practical collapse. Complained of agonizing pain in abdomen, especially in left hypochondrium and stated that he had not felt well for several days previously. Denied any injury to abdomen. Had not been drinking for two weeks. Had eaten but little food for several days, bowels constipated. A comrade occupying an adjacent bed in barracks stated that the patient had complained of a cramp-like pain in left side for a week past, that in walking his body was bent forward to relieve

the pain. At night he was restless and coughed considerably. On the morning of February 17 he was seen to be very pale and advised to go to the hospital. However, he did full duty with his battery until the morning of admission, when at about 9 A. M. pain became very intense, vomiting set in and he suddenly became very weak.

On admission he was exsanguinous in appearance; pulse small, rapid and weak, respirations frequent and shallow, temperature 99.4, extremities cold. He called constantly for water and drank eagerly the large quantity brought him from time to time without allaying the intense thirst. He was in paroxysms of pain located chiefly in left hypochondrium. External warmth applied and morph. sulph. .030 gm. with atropine given at once. In a short time he became more comfortable, and a careful abdominal examination was made. Abdomen was rather prominent and tense and extreme tenderness noted, but more marked in left hypochondriac and left half of epigastric regions. Complete dullness in left hypochondriac and left lumbar regions, extending to the right as far as the left border of rectus in epigastric and umbilical regions. Upper limit of dullness was at a point 1½ inches below nipple line. Below, it extended to crest of ilium. No thoracic abnormality noted. Urine, 100Cc. removed by catheter, examined with negative result. The appearance of the patient was so suggestive that a dangerous intraperitoneal hemorrhage was recognized, though its source was undetermined. With no history of previous disease nor abdominal injury to suggest splenic rupture the condition was considered more likely to be pancreatic hemorrhage. Though his condition remained critical, his pulse and respiration had improved somewhat, and, after consultation with Acting Assistant Surgeon E. H. Porter, U. S. Army, as to the advisability of immediate operation, it was decided to await further developments. He dropped into a quiet sleep about 1 P. M. An hour later he awoke, and during a momentary absence of the nurse from his bedside arose and went to the water closet, where the nurse found him a moment later on the closet seat in collapse. He was carried to his bed and I saw him at once.

He was pulseless, respiration 50 per minute, shallow and frequently sighing. Extremities cold and covered with clammy perspiration. Abdomen showed marked increase in limits of dullness. Hypodermics of ether and brandy given at once and frequently repeated. Hot saline solution, one liter given per rectum. External warmth and friction to limbs employed. After a few minutes a pulse could be felt, rapid and weak (140 per minute). Violent paroxysmal pain now complained of. Acting Assistant Surgeon E. H. Porter now saw the man with me and coincided in my opinion that an immediate operation gave him his only chance, though it was hardly believed that he could survive it. Preparations for operation were at once begun, though one and one-half hours elapsed before they were completed. Meanwhile, under free stimulation and subcutaneous injection of 500Cc. normal saline solution his pulse had improved (120 per minute), his extremities had become warm, and general improvement noted. Temperature, 99.4.

Exploratory Laparotomy, 3.30 P. M.

Eucaine solution (4%) used for infiltrating tissues in line of incision. A few whiffs of ether were given from time to time, but never to point of anesthesia. Assisted by Acting Assistant Surgeon E. H. Porter and hospital corps attendants, an incision four inches in length was made in left semi-lunar line about one inch below free border of ribs, which was rapidly carried down through the muscular planes to peritoneum. Great tension within peritoneal cavity was indicated by marked bulging through incision when the peritoneum was reached. The peritoneum was carefully nicked when a column of blood serum mixed with blood spurted upward with great force to a height of several feet. The opening was enlarged the length of incision, and an enormous amount of fluid poured out, which it is impossible to correctly estimate, but it is believed the amount was at least two liters. Strychnine and brandy hypodermically had been freely given during operation, but the sudden escape of so much fluid from the peritoneal cavity nearly collapsed patient, and heroic stimulation was again demanded. Hypodermoclysis again employed. Rapid exploration was now made, and spleen was found adherent to diaphragm, greatly distended with blood clot, and firmly attached to its concavity was a mass of blood clot filling the lesser peritoneal cavity, its surface as smooth and firm as the

splenic capsule itself and as large as an infant's head. In the patient's critical condition further operative interference would certainly have ended his life on the table. It was seen that nothwithstanding short of total extirpation of spleen and removal of haematoma would be of lasting benefit, and that the patient's condition would not allow. The peritoneal cavity was therefore filled with hot saline solution, gauze strips packed deeply in concavity of spleen, upper angle of wound hastily closed by suture and a thick gauze dressing applied. He was removed to warm bed, freely stimulated, salt solution given and very slowly reaction set in. The operation, by relieving tension, had relieved all pain. Temperature 98, pulse 130, extremely weak. Throughout the evening and night he was in a calm sleep most of the time, but would rouse when spoken to. Took water and stimulants by stomach, though hypodermic stimulation was continued. Pulse ranging from 120 to 160. Temperature, 2 A. M., 99.6. Death occurred at 6.45 A. M. February 20, over fourteen hours following operation.

Autopsy, 4 hours after death.

Body of muscular man, 5 feet 10 inches in height, weighing about 165 pounds. No rigor mortis. Gauze dressings of operative wound saturated with bloody serum. Abdomen opened from ensiform cartilage to pubes. Overlying stomach, intestines and liver there was a thin layer of clotted blood, soft and friable. Nearly 600Cc. bloody serum in greater cavity of peritoneum. The spleen was firmly adherent to diaphragm. Capsule distended with blood clot, with a rupture 12 cm. in length leading from hilum downward along its inferior surface, then upward to centre of convexity. The margins of ruptured capsule were separated 8 cm. midway from angles. From this point protruded a globular mass of clot into the lesser peritoneum continuous with that distending the ruptured spleen. From examination by touch it was almost impossible to define the limits of the spleen and that of the attached clot, as both were of equally firm consistency. In removing the organ the blood clot was accidentally detached just beyond the splenic border. It was practically encapsulated by the lesser peritoneum. Weight of detached clot .960 kilogram. A portion of omentum about 10 cmx10 cm. was removed with spleen as it served as a portion of haematoma capsule and was densely infiltrated. Weight of spleen and contained clot with omentum as above, 1.1 kilograms. Left lung collapsed, 500Cc. bloody serum in left pleural cavity. Small perforation in diaphragm, posterior segment well to the left. Pericardium contained 16Cc. straw colored serum.

In the photograph, "A" can be seen the widely separated margins of splenic capsule and the central blood clot with infiltrated omentum. Exposure on day of removal. The specimen has been preserved and sent to the Army Medical Museum, Washington, D. C.

Remarks.—Splenic rupture with fatal intraperitoneal hemorrhage most often follows traumatism, but it also is said to occur spontaneously in acute enlargements of the organ during typhoid and malarial fevers in certain localities. According to Osler the condition is very rare in this country. In the case reported an element of doubt must remain as to its cause. It is assumed, however, that the rupture occurred spontaneously in the absence of history to the contrary. As to traumatism, it is possible that while intoxicated at some time he may have sustained an injury to splenic region, of which he subsequently remembered nothing. No marks of injury to body, either recent or remote, were found.

Acute enlargement from malarial infection cannot be positively excluded as a predisposing cause of rupture, malarial diseases being prevalent here at all seasons. It is not probable, however, as a malarial infection of sufficient intensity to cause such enlargement would most likely have come to the notice of the Medical Officer. This man had been under treatment for slight injuries only during his service here. As to typhoid, there has been but one case in this command for 18 months past, that case

being imported. It is considered a more improbable cause than others mentioned.

Undoubtedly some splenic disorder existed several days before rupture. Whether it was simple congestion or an acute splenitis, both from causes unknown, must remain unanswered.

EPHEMERAL INSANITY WITH REPORT OF TWO CASES.

By CHARLES J. ALDRICH, M. D.,

of Cleveland, Ohio.

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The occurrence of insanity which has a duration of a few hours or a few days in an otherwise apparently healthy and normal individual possesses not only great medical interest, but involves questions of forensic medicine that are tremendous in significance and scope. Clouston has described this form of insanity as "*mania transitoria*," but since the word transient means passing, without any particular reference to time, it has occurred to the writer that the other term used by Clouston—ephemeral insanity—is the better one.

Clouston believes that most of these cases are epileptiform—the mental epilepsy of Hughlings-Jackson, or the masked epilepsy, the "*épilepsie larvée*" of Morel; that a few cases are seen in young persons of unstable nervous and mental organization, and usually possessing an intense neurotic heredity. None of these causes or predispositions will explain the advent of insanity in my cases.

It seems very strange that any person who has never suffered an attack of mental aberration or epilepsy should suddenly become insane and remain so but a few hours or a few days and then recover without one bit of demonstrable mental peculiarity remaining.

The following cases serve to illustrate this phase of insanity, and are very suggestive as to the legal complications which might arise.

CASE I. L. G., age 18, female, white, German, domestic, with good family history; has been uniformly healthy and never suffered from any sickness but those incident to childhood; no history whatever of any unconscious spells, spasms or evidence of mental aberration. She was employed in the family of Mrs. R., who looked upon her as a very trustworthy, honest and religious woman. She has never indulged in narcotics or stimulants of any kind. She retired at an early hour on the night preceding the Fourth of July, 1898, intending to arise in the morning and view a street pageant. In the morning about four o'clock her mistress was aroused by her pounding upon the door and loudly calling for her to come out. Mrs. R., opened the door and found the young woman standing in her night clothes with a Bible under her arm. When the door was opened she threw her arms around her mistress and begged her to come with her. Her mistress, thinking that perhaps the house was on fire, urged her to tell what was the matter. She answered that the world was about to end and Christ had sent her to save her mistress. This insane talk appraised Mrs. R. that the girl was in delirium, and she immediately began to soothe her, telling her to go and dress. The girl retired to her room, put on her best clothing and came downstairs, ate a hearty breakfast which her mistress had prepared for her, talking in the meantime incoherently on religion and the threatened destruction of the world. Soon after this a young woman friend appeared who was to accompany her to witness the street pageant and persuaded her to go and view the procession. Carefully and neatly

dressing herself, and taking her Bible under her arm she walked half a mile and stood nearly one hour watching the procession, most of the time in perfect silence. Then she declared herself to be very tired and wished to return to her place of employment. Upon arriving at this place she immediately undressed herself, put on her night-clothing, folded up the garments that she had worn, and put them away in her usual manner. She then retired and immediately fell asleep. She slept for a period of about five hours and awoke with a dim recollection only of the street pageant. She has since been under observation for a period of two years and has never manifested the slightest degree of mental aberration. She has no sonnambulistic tendencies or symptoms that would lead to the idea that she is mentally unbalanced or suffering from masked epilepsy.

The following case I had the pleasure of seeing with Dr. Friedman at the Cleveland General Hospital:

CASE II. R. L., Hungarian, age 40, married, paver. He gave a good family history: had previously enjoyed good health and no mental aberration had ever manifested itself.

One day while at work and without having complained of any ailment, he went to his foreman and told him that two of his fellow-workmen were plotting to kill him and that one of them had a knife concealed in his clothing with which he intended to assault him. He declared that he had heard them talking and planning his destruction, and begged the foreman to prevent its accomplishment. The man seemed so sincere and had always been such a sober, industrious, peaceful workman that the foreman believed his story and called the other men to account, who, it is needless to state, were perfectly astounded. There had never been one word said in reference to the complainant and on search, neither of the men was found to have anything that might have been mistaken for a weapon. He insisted, however, with added vehemence that he had heard them plotting and planning to kill him and had seen the knife. He was taken to his home and thence to the Cleveland General Hospital. He had no fever nor bodily ailments whatever, neither could the slightest history of any spasmodic seizures or mental aberration previous to this time be obtained from his family or friends. He was kept in bed for a few days and treated symptomatically. Shortly he discovered that he had been a victim of delusions and seemed surprised that they had occurred but was unable to assign any cause. He was discharged from the hospital in a few days, since which time I have heard that he has been in perfect health and has never had a recurrence of his delusions or other evidence of insanity or epilepsy.

Fatty Degeneration of the myocardium considered as a Fatty Infiltration on the Cardiac Fibers. LOUIS GALLAVARDIN. (*Gaz. Heb. de Med. et de Chém.*, March 24, 1901, 48 me. Annee No. 24. Lyons Thesis, 1899-1900, No. 155).

Fatty degeneration of the myocardium may present 2 different anatomical varieties; (1) That in which the fatty change in the cardiac fibers occurs in the form of islands, principally beneath the endocardium, and (2) That in which the fatty change in the cardiac fiber is diffuse. When the fatty degeneration exists in islands the grouping of these islands beneath the endocardium and their whitish appearance produces a characteristic marking known as subendocardial mottling. This sign is pathognomic of this form of fatty degeneration of the myocardium. By the use of injections of coloring matter the general disposition of these islands of fatty degeneration is seen to be controlled by the vascular distribution, and in the majority of cases they seem to be situated in the portions of the myocardium that are injected with greatest difficulty. The cells that compose these islands are cardiac fibers regularly infiltrated by fine fatty granulations, but presenting neither the characteristics of necrobiosis nor of cellular degeneration. The diffuse form of fatty change in the myocardium is only to be diagnosed after microscopic examination. Fatty degeneration of the myocardium is rarely found in the course of the acute infections. It follows frequently, on the other hand, in the course of cardiac affections or of chronic pulmonary diseases accompanied by insufficient oxidation of the blood, and in the course of cachexias and anemias. The sympto-

matic expression of this lesion appears to be restricted. It has little influence upon the course of the affection which it complicates. Gallavardin admits, however, the possibility of sudden death and attacks of cardiac failure in obese patients. The author attributes to this lesion a signification analogous to that of fatty liver. This lesion is, then, according to the views of the author, neither a myocarditis nor a fatty degeneration, but a fatty infiltration of the cardiac muscle fibers. And he proposes to employ the term **fatty myocardium** or **fatty infiltration of the cardiac fibers** for it. [J. M. S.]

Prostatic Abscess Which Opened into Both Urethra and Rectum.—In the *Annales de la Polyclinique de Bordeaux* for March, 1901, Dr. E. Loumeau reports the case of a man of 35, in whom gonorrhea or gleet was constant. For two weeks before consulting his physician, his symptoms had become aggravated. Though examination showed no sign of recent gonorrhea, permanganate injections were given. At the moment the liquid reached the bladder, the patient experienced sudden severe pain in the perineum, followed by a chill and a temperature of 104° F. This perineal pain persisted with frequent urination, a few drops of blood appearing at the end of micturition. Pus was found in the urine in large quantity. The diagnosis of acute prostatitis with cystitis was made. Complete retention of urine occurred, to relieve which catheterization was employed, though so painful that chloroform was necessary. Rectal palpation at this time revealed an abscess in the right lobe of the prostate, which was evacuated through the urethra by pressure with the finger. As this treatment yielded no good result, the abscess, which had pointed in the rectum, was opened there. The cavity was cleaned out, dried with gauze, and drained per rectum. The fever and pain disappeared. **Pneumaturia** was noticed for a few weeks, but no fecal matter was seen in the urine, or urine in the bowel movements. Two weeks after operation, right epididymitis occurred, going on to suppuration. This abscess was also opened and drained. The patient, who had wholly recovered, left for Brazil, where he died of yellow fever six months later. This phlegmonous prostatitis opened into the urethra, causing a cystitis and urethritis; by its pressure into the rectum, it caused great pain, and after evacuation it was still the cause of epididymitis. Loumeau believes that when such an abscess points into the rectum, rectal incision is to be preferred to perineal section. [M. O.]

Soda Compresses in Suppuration. G. E. Vladimiroff (*Medicinskoje Obozrenie*, February, 1901.) fully corroborates the splendid results obtained by a number of Russian physicians from the use of **compresses of soda in diverse suppurative processes**. The use of this drug in such cases was first suggested by Georgiewski who claimed for it the following advantages: 1. It is cheap and readily obtainable; 2. no drainage is required; 3. the patient is much more comfortable; 4. the pain, at times severe, accompanying the change of tampons is altogether avoided; 5. the bad odor and the unsightly appearance of the dressings are absent; 6. recovery is much more rapid. The author employed this treatment in 30 cases. In 6 there were burns of the second and third degree; in 2 a pustular eruption; in 1 a suppurating fistula; in 10 contused and incised wounds; in 6 suppurating lymphatic glands; in 5 ingrown toe-nails. He employed the compresses in the following forms: 1. a layer of gauze saturated with a 2% solution of soda was applied. This was covered with a piece of oil-cloth, cotton and a bandage. The compress was changed 3-4 times in 24 hours. 2. The gauze next to the body was not removed but kept saturated by pouring on it 2-3 times during the 24 hours a 2% solution of soda. 3. Several layers of gauze saturated in the soda solution were placed over the suppurating surface, these were covered by a thick layer of boric acid and camphor salve, then a piece of oil silk, cotton and bandage. Such a compress remained moist for 1-2 days. **The results obtained were exceptionally good.** [A. R.]

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The Pennsylvania Hospital.—The story of colonial Philadelphia will always be an important part of the wider history of the nation. The provincial history of this city has special significance, because it was associated not only with the birth of the republic, but also with the inception of more than one movement, and the origin of more than one institution, which were not merely political, but were widely educational and humanitarian. Among these institutions stands pre-eminent the Pennsylvania Hospital. The steady hand of Benjamin Franklin was felt in its early administration, and its history derives an added colonial flavor from association with the name of "Poor Richard." As Mr. John B. Garrett said in his commemoration address last Saturday at the sesquicentennial anniversary of the hospital, the conservatism of the founders has been preserved in their successors; nothing has been ruthlessly destroyed, and the ways of to-day are in accord with the best traditions of every period of its history. With all this the hospital has kept pace with every advance in medical and surgical science; its name is forever associated with one at least of the greatest reforms in psychiatry; its staff has been for a century and a half recruited from the most distinguished teachers and practitioners of medicine and surgery in the oldest medical center in America; and its benefactions have involved the expenditure of millions of dollars. As Mr. Garrett reminded his hearers, the promoters of the Pennsylvania Hospital were far-seeing men. There was nothing provincial about them or about the scheme which aimed to establish in a colonial city a hospital which was as metropolitan at the beginning as it remains to-day. If aught were needed to emphasize this statement, it can be found in the provision made for the reception and treatment of the insane. This department was destined to become, under Rush, a clinic in psychiatry, which is hardly surpassed anywhere in this country at the present time (and hardly equalled, if literary and scientific results are to be the standard). In the original petition drawn up by Franklin, the insane are mentioned first as the objects of wise hospital treatment.

As it stands to-day in its old colonial building, backed by its modern but less imposing structures,

and supplemented by its great estate in West Philadelphia, the Pennsylvania Hospital is one of the most significant institutions on the continent. It represents a colonial movement of wide scope and foresight, which bears fruit in these modern times quite in accord with our most advanced ideals.

Dividing the Responsibility.—Our friends in San Francisco should understand by this time that it is not easy for medical observers here in the East to solve all the mysteries of the plague situation in that city. Now that the Plague Commission has published its report, the local physicians seem inclined to come forth and blame the State authorities for all the trouble. We have received several letters—explanatory and expostulatory—on the subject. One of our correspondents finds fault with us for reflecting on the authorities out there, and in the next paragraph lays the blame for the concealment of the plague on their "wrong-headed Governor, knavishly advised." He tells us that at our distance "it is simply impossible to realize the forces of evil which have been brought into play to try to smother and suppress the truth as to the plague situation here. The selfish and provincial point of view assumed by the business portion of the community, ably seconded by the San Francisco press, has been responsible for this condition." The power of the State Legislature, he tells us, "has been used to make it a crime to even publish mention of the existence of a plague case."

This is worse than anything we have ever said in these columns about the authorities in San Francisco, and coming from a correspondent whose object is to chide us for being unjust to them, it sounds at least rather odd. If the local authorities in San Francisco, such as the Mayor, City Councils, and Board of Health, allowed themselves to be controlled by a "wrong-headed Governor, knavishly advised," they cannot well evade their responsibility. If they bowed before an ignorant public sentiment and a mendacious press, they did not do their duty. It is not for us to attempt to distribute the responsibility in due proportion among the State and local authorities. In common with the rest of the world we know merely that the whole truth did not come

out until it was brought out by a United States Government commission. The importance of the subject is not confined to the city of San Francisco. It is not a local, but a national affair.

Another correspondent tells us that "The local health authorities had the situation scientifically well in hand, and the rest of the country was never assured by or upon the authority of the Board of Health that there was no plague in the city." To which we can only say that it would have been a source of satisfaction to the "rest of the country" to have known this sooner. We are glad to chronicle the fact that "the cases which had occurred prior to the coming of the Commission had been studied by the local pathologists and bacteriologists in the same manner and with the same thoroughgoing, honest and scientific methods which the members of the Commission employed." This is greatly to the credit of the local health authorities, and they should have full credit for it. The statement, however, only increases our wonderment how, in spite of this fact, it was constantly proclaimed that there was no plague in San Francisco, or, if any, that it was of a "non-contagious" character. We are satisfied that the local pathologists and bacteriologists could not have been responsible for these false statements.

Febrile Albuminuria.—Gerhardt (*Deutsches Archiv. f. Klin. Med.*, V. 1868, page 212) described a condition of the urine occurring in the acute infectious fevers, in which albumin, usually in small amounts, appeared. To this condition he gave the name "febrile albuminuria." The urine in this condition also occasionally contains hyaline tube casts and propepton. It was supposed that this albuminuria was due to the febrile process, and albumin occurring as a result of renal disease, was termed "true albuminuria." Within recent years, v. Kahlden (*Die Aetiologie u. Genese der Acuten Nephritis*, vol. II, page 441) has had an opportunity of examining these so-called cases of "febrile albuminuria" pathologically. He found that in some of these cases almost exclusively the epithelium of the convoluted urinary tubules and Henle's loops was pathologically altered, and in those cases in which the glomerular epithelium was affected, these changes were always secondary. A histological examination of the renal tissue showed that blood was rarely present in the interstitial structure, but almost invariably in the glomerular capsules, and in the urinary tubules. Besides, these hemorrhages were very frequently missed by v. Kahlden in his examinations. He is of the opinion that in the case of "febrile albuminuria" there is actual change in the renal structure, which is identical with the preliminary stages of an acute nephritis, and that the same etiology was respon-

sible for the condition. This etiology depends largely upon toxic substances which circulate in the blood stream. Nevertheless, it will remain justifiable to differentiate between a beginning nephritis and a well developed nephritis, as well in a diagnostic as a prognostic sense. It would be preferable to give to the condition known as "febrile albuminuria," which is, as a rule, transitory, simply the designation "albuminuria," and to leave off the adjective "febrile." The differential points between nephritis and albuminuria would then not be difficult to determine. In the latter condition the albumin is noted during the infectious process. There is, as a rule, but a small quantity of albumin, and hyaline tube casts are occasionally present. In nephritis complicating the infectious diseases, the condition, as a rule, is acute, and albumin and tube casts are present in comparatively large amounts. The term "toxic albuminuria" is not well chosen, as, according to our knowledge, both conditions are due to toxic causes.

The Editorship of "Brain."—We regret to learn that Dr. A. de Watteville has retired from the editorship of this important journal. The announcement is made in the last number of the *Journal of Mental Science* that at the annual meeting of the London Neurological Society, held on February 14th, the resignation of Dr. de Watteville was accepted. The Council of the Society put on record a statement of its appreciation of the way he had conducted the journal for the past twenty years. Dr. de Watteville has brought *Brain* to a high standard of perfection and secured for it a great European reputation. He is even credited with having saved the very life of the journal at a critical period of its existence. The success of his editorial charge, extending over twenty years, deserves wide recognition. *Brain* has come to be an important exponent, not only of English neurology, but to a limited extent of American neurology as well. It has been through its pages that not a few important papers by American neurologists in recent years have been introduced to the still wider field of European specialists. It is to be hoped sincerely that under its new editor, Dr. Percy Smith, it will continue to have a successful career.

The Priority in the Discovery of the Pest Bacillus.—It has been generally believed that the specific microbe of the pest was discovered simultaneously by Kitasato and Yersin, during the Honk-Kong epidemic of 1894. Kitasato's paper appeared July 7, 1894, while that by Yersin was only published July 30. But Dr. Tatsusaburo Yabe, a physician in the Japanese Marine, has shown in the *Archives de Medecine*

cine Navale, quoted by Le Dantec, in the *Journal de Medecine de Bordeaux* (1901, No. 16), that the two bacilli described were not identical. For, while Kitasato made his culture from the blood, Yersin took his from the bubo directly. La Dantec compares the pest to diphtheria; while the Klebs-Löffler bacillus is always found in the membrane, streptococci may appear in the blood. So it seems probable that Kitasato's bacillus was but a microbe of secondary infection. It stained by Gram's method, coagulated milk, made bouillon turbid, and was motile. But Yersin's bacillus, which has been proved the true cause of the pest, does none of these things. Aoyoma has shown that both microbes exist in cases of pest, that of Yersin in the buboes, that of Kitasato in the blood. La Dantec recently received some pest preparations from the Island of Reunion, in all of which Yersin's bacillus existed in pure culture. The bacillus of Kitasato was not found in a single preparation. No doubt, therefore, remains that the bacillus of Yersin can exist alone in cases of pest. This is now generally recognized by bacteriologists all over the world.

Self-Performed Caesarean Section.—Probably nothing better shows the remarkable immunity enjoyed by the peritoneum than the interesting cases of self-performed Cæsarean section, that from time to time are reported in the current literature. Besides manifesting an astounding degree of stoicism, these patients seem to have the happy faculty of evading the disastrous consequences of their temerity, and that notwithstanding the most inauspicious circumstances under which the act is consummated. Filth to them is apparently innocuous, and bacilli have no terrors.

A remarkable fact associated with these blood-curdling reports is that most, if not all, of the cases have occurred among the degraded classes of Southern and Eastern Europe, as in the last instance recorded by Löffler (in the *Wiener Med. Woch.*, No. 10, 1901), the victim being a Turkish peasant woman. Suffering from some obscure chronic affection, and fearing she would perish before the termination of her pregnancy, this stoical creature, at the eighth month of gestation, deliberately opened her abdomen and uterus with an ordinary pen-knife. As the child emerged, the woman fainted from shock and loss of blood. On regaining consciousness some time afterwards the wound was sewed up, at her request, by her thirteen-year-old daughter, an ordinary needle and waxed-hemp thread being employed for the purpose. Notwithstanding these primitive measures, and the fact that a simple Cæsarean section was performed, that is, without the insertion of uterine ligatures, the woman made an uninterrupted recovery. There were no manifestations of

sepsis or peritonitis, and union of the abdominal incision was unattended with suppuration. The abdominal dressing employed was a layer of moss held in place by a filthy linen cloth. The child, which also survived, was nursed by its convalescent mother.

Such cases seem to indicate the uselessness of the modern methods of antiseptics. If patients placed in the most unfavorable of circumstances can recover from the gravest of injuries without the development of any untoward symptoms, it would seem that the extreme care practised by the modern surgeon is altogether unnecessary and a waste of valuable time and material. Such cases naturally fall in line with those remarkable instances recorded of unbroken recovery following most extensive traumatism—accidental, military and surgical.

Many feet of bowel may be resected from one individual without ill-result, while a simple enter-rhaphy in another will be rapidly followed by a fatal termination; gravel, filth, and curious foreign bodies gain entrance into the peritoneal cavity and apparently excite not the slightest irritation, while a simple exploratory incision will be followed by grave or even fatal sepsis. The explanation of this curious phenomenon must be found in some refinement and extreme developmental sensitiveness of the tissues, whereby in one case there will be an apathy of the parts to external influence and in another a high degree of reaction. It is well known that individuals of higher mental and social development will react more promptly to these deleterious influences than will individuals much lower in the mental and social scale. The leader in the community will succumb to a moderately severe peritoneal operation, while the hod-carrier will recover from some grave lesion without any untoward symptom to interrupt the progress of the recovery. In the auto-Cæsarean section, above recorded, and in the others that have filled the curiosity-pages of surgery, this low position in the social scale was one of the attendant features in the cases. It was not because of the lack of surgical care that recovery followed, but in spite of the dangerous concomitants of the operation.

Fallacies in the Chemistry of the Blood.—Although the examination and estimation of the corpuscular constituents of the blood are approaching a stage of perfection, and although the hemoglobin can be estimated to a nicety, much of the chemistry of the blood is still to be discovered. This expansive field of research is fraught with many difficulties. The mineral constituents of the blood have been estimated almost without exception from blood-ash. Unless scrupulous precautions are observed, a portion of the chlorine and the

phosphoric acid is lost. The distribution of acids and bases in the blood taken from the body is different than in the ash; acid salts become neutral or basic, carbon dioxide is produced while the ash is being formed, and may be left behind combined with the bases; furthermore, the carbon dioxide originally present in the form of carbonates, may escape, while the acid phosphates become transformed into neutral ones. Even the iron shows an erroneous picture, because the iron that previously had been combined with albumin may also go over to the phosphoric acid, leaving no clew regarding the distribution of the iron in either organic or inorganic combinations. Another fallacy is that the greater part of the sulphuric acid found is derived from the sulphur in the albumin combinations. Liebig has shown that the amount of sulphur in meat juice is so small that it is almost indeterminable in a whole animal, but, as later investigators have shown, an enormous quantity of sulphuric acid is found in the blood-ash. This is due to the fact that during the formation of the ash some of the organic acids are broken up and the sulphuric acid from the albumin combinations is liberated. The sulphuric acid liberated in this case, although it certainly has nothing to do with the mineral constituents originally present, may, nevertheless, be a marked source of error. Similar fallacies are present in the case of phosphorus, for only a portion of this substance which is found in the ash as phosphoric acid has been originally present as such. The amount of nitrogen is generally somewhat parallel with the amount of albumin, and consequently changes according to the degree of decomposition of the latter. In determining the amount of sulphates and phosphates, it will be found that the organic albumin combinations containing sulphur and phosphorus all enter into solution, and that finally the sulphur and the phosphorus are again found as sulphuric and phosphoric acid. The next century will undoubtedly reveal many of the long-looked-for facts in the chemistry of the blood.

The Maniaco-Melancholic Insanity of Kraepelin.

—Dissatisfaction with the existing schemes of classification of mental diseases is constantly cropping out. This is inevitable. When scientists attempt to classify what they do not fully understand, the results are not altogether educational. As yet we do not fully understand the various forms of insanity—their etiology and pathology. Our knowledge is largely clinical, for it is based on a study of symptoms; it is not sufficiently profound to allow us to erect a classification on data which are truly fundamental. Thus it happens that some good alienists have almost ignored classification, as Sankey, for instance; while at the other extreme some of the

Germans have elaborated deeply involved schemes. A marked tendency toward simplicity in this matter has, however, been perceptible for some years. Sankey led this movement (or was in the van of it) when, in his text-book, he described "ordinary insanity," and included under this colorless term almost all the symptoms of mental disease. This was too iconoclastic, but it suited those simple-minded souls who have always maintained that Esquirol fathomed the whole subject when he divided insanity into Mania, Melancholia, Monomania and Dementia.

It is interesting now to note that these simpler methods are gaining credit even in Germany. Recently the eminent Jena alienist, Kraepelin, in his "Psychiatrie," has expressed some rather original views on the nosological position of mania and melancholia. By almost universal consent these two psychoses have been considered distinct. They are primitive and typical forms with almost every systematist. Each stands out separate and alone—one the antithesis of the other. This fact was the A, B, C, of psychiatry. But now Kraepelin (who will be listened to with respect) classifies the psychoses into acute, demential, and chronic; and in the first of these he includes the maniaco-melancholic insanity. In other words, he unites or fuses melancholia and mania into one clinical form, regarding these two states simply as phases of one identical disease. The essential character of this disease is the occurrence of symptoms of mental exaltation on the one hand, and of mental depression on the other, these symptoms appearing separately, or in irregular alternation, or simultaneously in a confused form. This disease arises on a basis of degeneracy—and here again Kraepelin departs from some of his confrères who have not considered the psychoses as forms of degeneracy.

The interesting point, and the one to which we call special attention, is the tendency here shown to cut loose from some of the old moorings. Many acute observers will agree that the affective moods, as marked by exaltation or depression, are not constant in numerous cases, and that after all they are not the disease itself. They are but phases of the troubled surface—the true pathological deeps are not yet explored. Still the fact remains that for all clinical purposes the old division into mania and melancholia will not be lightly ignored. The view of Kraepelin will, however, invite discussion, excite speculation, and incite to investigation, and out of these may come an increase of knowledge. Galdi, an Italian alienist, has recently subjected Kraepelin's views to a criticism, and this is abstracted in the *Journal of Mental Science* for April.

Reviews.

Points of Practical Interest in Gynecology, by H. Macnaughton-Jones, M. D., M. Ch., Q. U. I.; Master of Obstetrics (Honoris causa), Royal University of Ireland, etc.; Reprinted from the *Edinburgh Medical Journal*, 1900, with twelve plates. New York. William Wood & Company, 1901.

In this little volume of 124 pages are reprinted a series of communications from the pen of the distinguished author, which primarily appeared in the *Edinburgh Medical Journal*. They are six in number and include the following subjects: Some points in gynecological aseptis; some pitfalls in gynecological diagnosis; the therapeutics of disorders of menstruation; conservatism and its influence on operative technique; affections of the female genitalia as causal factors in the etiology of neuroses in insanity, and their special bearing on the operative treatment of the insane; and the indications for the operations of hysterectomy and myohysterectomy in myoma. Like all that emanates from the pen of Dr. Macnaughton-Jones, the material is absolutely up-to-date and full of instructive suggestions. Especially do we commend his attitude toward the so-called "brilliant" operating, in which he says that "deliberation and completeness are to be aimed at;" Too many men sacrifice these essentials in successful operating in their eager desire to appeal to the eye. In the performance of hysterectomy for fibroid tumor of the uterus the author is guided in his technique by the nature of the complications encountered, a list of which he appends to his article on that subject. Twelve handsome plates add to the value of the book, as well as an extensive bibliography bearing on the subject of sexual neuroses and insanity. [W. A. N. D.]

Essentials of the Diseases of Children.—By William M. Powell, M. D. Third Edition. Thoroughly Revised by Alfred Hand, Jr., M. D., Dispensary Physician and Pathologist to the Children's Hospital, Philadelphia. 12mo., 259 pages. Philadelphia and London: W. B.

Saunders & Company. Price \$1.00, net.

The Third edition of Powell's *Essentials of the Diseases of Children*, prepared by Dr. Hand, is thoroughly modern. The section upon the Infectious Diseases, which has been rewritten, contains many important details. The management of a case of contagious disease, to which a few pages are devoted, cannot fail to prove of great assistance to the young practitioner. The chapters upon the Diseases of the Stomach, Intestines, and Peritoneum are also well compiled. A new chapter upon Infant Feeding has been added, which embraces the essentials of that subject only, in a most concise manner. It is natural, in a compact book of this kind, that all subjects treated should be brief. One is therefore somewhat surprised to find the rarer diseases, such as perleche, Bednar's aphthae, Riga's disease, cyclic vomiting, glandular fever, and head-nodding mentioned. The three pages given to epidemic cerebro-spinal meningitis are well filled. In pathology and treatment, the book is quite up to date. The treatment of acute bronchitis is most concisely disposed of, in two short paragraphs. And it is interesting to note that mercury, as a laxative, in any of its preparations, is contra-indicated in all forms of stomatitis. Salol is not mentioned in the treatment of influenza, while phosphorus still holds a front place in the treatment of rachitis. The occurrence of functional heart murmurs, and of a venous hum over the jugular veins, is not given among the symptoms of chronic gastro-intestinal catarrh, though both are found under chlorosis. Nor is the appearance of craniotabes, given as a symptom of rickets, spoken of under syphilis or marasmus. The printing is singularly free from typographical errors, and the book is well made. It will, without doubt, be of use to the young physician, and to the medical student preparing for examination. [M. O.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

Appointment.—Dr. S. Lewis Ziegler has been appointed a surgeon to the Wills Eye Hospital, in place of Dr. George C. Harlan, resigned.

Diphtheria is not "Quarantinable."—The Steamer Rhynland, from Liverpool and Queenstown, with three cases of diphtheria on board, was passed May 13th, by both the Federal and State quarantines and allowed to proceed directly to the city of Philadelphia. Although both the Federal and State authorities consider diphtheria contagious, they do not classify it as a "quarantinable" disease.

Philadelphia Lying-In Charity.—At the annual meeting of the contributors to the Philadelphia Lying-In Charity, Eleventh and Cherry streets, held May 8, one-third of the Board of Managers was elected to serve for three years. Stephen Green, Charles W. Warrington, Mrs. Gulielma. M. S. P. Jones, Hood Gilpin, Colonel Charles H. Howell and Mrs. Mary Warrington Stokes were re-elected. The Treasurer's report showed receipts for the year amounting to \$14,555.45, with \$14,698.70 disbursements, leaving a floating indebtedness of \$2170.10.

Sesquicentennial of the Pennsylvania Hospital.—Hundreds of friends and contributors to the Pennsylvania Hospital were present on Saturday, the 11th inst., to celebrate the 150 years of the Hospital's existence. Programmes were furnished narrating the simple exercises and containing a chronological list of the principal events in the history of the Hospital from May 11, 1751 to the present time. On the 18th inst. the invited guests will visit and inspect the well-equipped Department for the Insane, at 44th and Market streets. The separation of this department from the hospital proper took place in 1841. The exercises on Saturday last were held in the new Assembly building. T. Wistar Brown read St. Luke's version of the parable of the Good Samaritan. Benjamin H. Shoemaker, President of the Board of Managers extended a welcome to the "little provincial hospital" for which Franklin petitioned in 1751. Mr. John B. Garrett delivered the formal address. He paid a special tribute to the memory of those men prominent in the early history of the country who assisted in the establishing of the hospital and gave to it their substantial aid. Among those to whom he referred were John Morton and Benjamin Franklin, and in the later history of the institution, Wistar Morris and Dr. Kirkbride.

Pathological Society.—The first paper at the meeting of May 9 was the report by Dr. W. S. Wadsworth of a case of **ball-clot in the auricle. Death by occlusion.** The clot was spherical, and at least 2 inches in diameter, being perfectly free in the cavity. Death was sudden. The patient was an alcoholic who had been drinking heavily for 2 weeks, this being the apparent cause of the clot formation.

Dr. F. S. Pearce exhibited 2 specimens of hemorrhagic pachymeningitis and a tumor of the spinal cord. . . The lesion in the first 2 cases was unilateral and had not been diagnosed. The tumor of the dura which pressed upon the spinal cord in the lower thoracic region had also been undiagnosed, spastic paralysis of the lower extremities being the only symptom.

Dr. J. Walsh read a paper on **Diphtheria bacilli in noma.** The paper was a report of 8 cases of noma observed by Dr. Walsh at St. Vincents' Home during the past 2½ years. In every case the diphtheria bacillus was found. Four of these cases began as an ulcerative stomatitis. Other cases of stomatitis in which gangrene was not present were not found to contain the diphtheria bacillus. This would indicate that the important agent in these cases is not originally a saprophyte but the diphtheria bacillus. Dr. Joseph McFarland stated that he had experimentally produced a condition resembling gangrene by injecting cultures of the diphtheria bacillus. Dr. D. Riesmann said that the diphtheria bacillus was not the only cause of gangrene, as in a case of gangrene of the vulva no diphtheria bacilli were found.

Dr. W. W. Babcock exhibited **new apparatus**. These were 1. for rapidly filling tubes with cultures media, and 2. for washing gross specimens.

Dr. W. E. Hughes and Joseph McFarland exhibited a specimen of **Rupture of the aorta**. The rupture had occurred just above the heart.

Philadelphia Academy of Surgery.—At the regular meeting of May 6 Dr. R. H. Harte exhibited **three cases of empyema**. The importance of surgical interference in these cases was emphasized and the operative technic discussed. Dr. Harte advises the resection of at least 2 ribs and sometimes 3 for the purpose of securing ample drainage. A very large drainage tube should be employed. The opening should be made in the mid-axillary line. After operation a rise in temperature means that the tube is not draining properly or that a secondary pocket of pus is present. Even though the tube appears to be draining properly it should be removed and reinserted. If this is not effective remove the tube and insert a urethral sound, 22 or 23 French, and break up any pocket formations which may be present. Dr. R. G. Le Conte said that in cases where the chest was very much distended, the patients did not bear the operation well and a preliminary puncture should be made. Afterward a resection may be done. This view was also endorsed by Drs. Taylor, Wharton, Davis and Jopson.

Dr. W. J. Taylor read for Dr. W. W. Keen the report of **two cases of ligation of the external carotid**. The ligation in one case was for the control of obstinate hemorrhage following tonsillotomy. The second case was one of hemorrhage after an intra-nasal operation.

Dr. Lewis S. Mutschler read by invitation the report of **two cases of facial anthrax treated by carbolic acid injections**. The cases were undoubted anthrax as proven clinically and bacteriologically. The treatment consisted in the injection of 25 minims of pure carbolic acid in the tissues surrounding the lesion, the drug being introduced at 8 or 9 points. This was repeated the second day after, two injections sufficing. Bichloride dressings were applied. No internal treatment was instituted. Recovery followed in both instances. Dr. Jopson stated that these cases made in all 10 cases reported in Philadelphia. Dr. J. Chalmers Da Costa said that studies at the Jefferson Dispensary some few years ago demonstrated that tanners, etc., were subject to three lesions which must be differentiated. These are tuberculosis, sores due to the acids used, and anthrax. Dr. R. H. Harte said he saw no reason why cases of anthrax should be refused admission to the wards of general hospitals.

Dr. R. G. Le Conte reported the **ultimate result in a case of interscapulo-thoracic amputation for sarcoma**. Autopsy revealed the fact that the only metastasis was a growth the size of an orange in the lung of the opposite side.

Jefferson Medical College Commencement.—At the Public Commencement of the Jefferson Medical College held at the American Academy of Music on May 15, 1901, the Degree of Doctor of Medicine was conferred on one hundred and forty-two graduates by the President, Hon. William Potter, the exercises closing with a Valedictory by Prof. W. W. Keen, M. D., LL.D., F.R.C.S. (Hon.) The following prizes were awarded:

The Henry M. Phillips Prize of Seventy-five Dollars. Awarded upon the recommendation of the Professor of Medicine to the graduate in his opinion most worthy, to James Edwin Weller, of Indiana.

The Henry M. Phillips Prize of Seventy-five Dollars. Awarded upon the recommendation of the Professors of Surgery to the graduate in their opinion most worthy, to Albert B. Craig, of Washington.

Physiology Prize. Awarded by bequest of Dr. Francis W. Shain, for the best Essay or the best Examination on a subject pertaining to Physiology (open to undergraduates of the second year), to Undergraduate Thomas Cook Stellwagen, Jr., of Pennsylvania.

Chemistry Prize. A Gold Medal, for the best Original

Work in the Chemical Laboratory (open for undergraduates), to Undergraduate Max R. Dinkelspiel, of New York.

Therapeutics Prize. A Gold Medal, for the best Examinations in Therapeutics, to Acheson Stewart, of Ireland.

Obstetrical Prize. A Gold Medal, for General Excellence in Obstetrics, to George A. Ulrich, of Pennsylvania.

Anatomy Prize. A Gold Medal, for the best Anatomical Preparation (open to undergraduates), to Undergraduate Thomas Cook Stellwagen, Jr., of Pennsylvania.

Ophthalmology Prize. By Professor De Schweinitz, a Gold Medal, for the best Examination on Ophthalmology, to Pascal Brooke Bland, of Pennsylvania, with honorable mention of William Carey Vail, of Indiana, and Theodore T. Girould, of Illinois.

Gynecology Prize. By Professor Montgomery, a Gold Medal, for the best Examination in Gynecology, to Collin Foulkrod, of Pennsylvania, with honorable mention of George A. LaMotte, of Missouri.

The W. S. Forbes Anatomical League Prize of One Hundred and Fifty Dollars given by Professor Forbes to the member of the Anatomical League having the highest standing in a competitive Examination in Anatomy, to Louis C. Williams, of New Jersey, with honorable mention of Douglas Symmers, of South Carolina.

Clinical Orthopedics Prize. By Professor H. Augustus Wilson, Twenty-five Dollars for the best Examination in Orthopedic Surgery, to Albert B. Craig, of Washington.

Clinical Pediatrics Prize. By Professor Graham, Twenty-five Dollars for the best Report on his Clinics, to Louis C. Williams, of New Jersey, with honorable mention of J. B. Horiinstein and Joseph Weller.

Clinical Neurology Prize. By Professor Dercum, Twenty-five Dollars, for the best Examination in Neurology, to William C. Vail, of Indiana, with honorable mention of George A. LaMotte, of Missouri.

Clinical Genito-Urinary Prize. By Professor Horwitz, Twenty-five Dollars, for the best Examination in Genito-Urinary Surgery, to George A. LaMotte, with honorable mention of Robert G. Davis.

Clinical Obstetrics Prize. By Professor Davis, Twenty-five Dollars, for the best Report of his Clinics, to George Althouse LaMotte, of Missouri, with honorable mention of Collin Foulkrod, of Pennsylvania, and Francis Wayland Goddard, of Pennsylvania.

Clinical Ophthalmology Prize. By Professor Hansell, Twenty-five Dollars, for the best Report of his Clinics, to J. Leslie Davis, of Kentucky.

Clinical Otolaryngology Prize. By Professor S. MacCuen Smith, Twenty-five Dollars, for the best Examination in Otolaryngology, to J. Leslie Davis, of Kentucky, with honorable mention of William C. Vail, of Indiana, and Collin Foulkrod, of Pennsylvania.

Clinical Dermatology Prize. By Professor Stelwagon, Twenty-five Dollars, for the best Examination in Dermatology, to W. C. Vail, of Indiana, with honorable mention of George A. LaMotte, of Missouri.

Clinical Laryngology Prize. By Professor D. Braden Kyle, Twenty-five Dollars, for the best report of his Clinical Lectures, to Collin Foulkrod, of Pennsylvania.

Clinical Laryngology Prize. By Professor Jones, Twenty-five Dollars for the best Report of his Clinics, to J. Leslie Davis, of Kentucky, with honorable mention of Louis C. Williams, of New Jersey.

Alumni Prize. By the Alumni Association, a Medal for the best General average gained in the Examinations for the entire curriculum, to George Althouse LaMotte, of Missouri.

W. B. Saunders Prize. Ten Volumes of Saunders' Medical Hand Atlases, to the student who passes the best General Examination at the close of the College term, to Collin Foulkrod, of Pennsylvania.

Out-Patient Department Obstetric Prize. By Dr. W. H. Wells, Demonstrator of Clinical Obstetrics, a Case of Instruments, for the best Report of work in out-patient maternity service, to George Burton Angle, of Texas.

The S. McCuen Smith Prize of Two Hundred Dollars. Awarded by Professor Smith, upon the recommendation of a Committee, for the best Essay embodying original research "On the Discharge from the Ear, with Special Reference to Intra-Cranial Lesions," to John Funke, Pennsylvania.

Ptolemy Prize. A Gold Medal, by the Ptolemy Society, to the student of the Graduating Class who passes the Examinations of the Senior year with the highest general average, to Collin Foulkrod, of Pennsylvania.

Philadelphia County Medical Society.—At the meeting of May 8, Dr. Simon Baruch of New York read a paper on *Lessons of a Decade in Hydrotherapy*. Dr. Baruch stated that of the remedies in use during the time of Hippocrates two now remained—venesection and water. Water is used for the purpose of conveying temperature and thus to produce the effects of temperature changes. The medical profession has been backward in the employment of cold water because of the erroneous idea that it produces shock. On the contrary it produces the opposite effect when judiciously used. In deciding upon the dosage 3 elements are to be considered—duration, temperature, and pressure. The circulation is under the control of water at a proper temperature as proven by experiments upon animals when portions of the brain were exposed. The desired effect of cold water is the enhancement of the resisting powers of the individual. In typhoid fever the peripheral resistance and the circulation in general is increased by the stimulation of the peripheral nerve filaments. When the teeth of a typhoid patient in the cold bath begin to chatter the bath should be stopped. If the patient shivers but the teeth do not chatter the bath need not be stopped but friction should be increased. Under no circumstances should the ice coil be applied to the abdomen. In chronic diseases cold baths deepen inspiration and increase the heart's action thus sending an increased amount of hemoglobin and blood cells to the periphery of the body and also to the lungs. This increases the oxygenating power of the individual. In the treatment of tuberculosis hydrotherapy should supplement dieting and open air life. The good results of hydrotherapy in this disease are traceable to the stimulating effect of cold on the nervous system. In neurasthenia a large proportion of cases are benefited and not a few cured by hydrotherapy where there is no organic lesion associated. Dr. Baruch gave in detail the method of treatment. Hydrotherapy is of value in diabetes, especially in obese patients. The glycogenic function of the liver can be influenced but little, but the glycogen in the voluntary muscles plays a large part in the disease. The amount of sugar can be decreased by paying attention to the muscles in the way of exercise and the improvement of the circulation by the use of cold water.

Dr. Wharton Sinkler read a paper on *The effect of the douche in neurasthenia and other Nervous Troubles*. Dr. Sinkler spoke of the good results from the use of hydrotherapy in nervous affections. His method of employing it is practically the same as that of Dr. Baruch. It is particularly valuable in combatting the insomnia of neurasthenia. Exercise after the bath is a very important matter. Dr. S. Solis Cohen spoke in confirmation of Dr. Baruch's advocacy of hydrotherapy. He believes that every medical center should support an institution for the application of hydrotherapy, pneumotherapy, massage, and electrotherapy. Dr. J. H. Musser stated that the term "cold friction bath" as used by Dr. Baruch was a most happy one and much more impressive than the term "cold bath." The belief in the efficacy of hydrotherapy in the treatment of typhoid fever is becoming stronger every day. He hopes to see the hydriatic treatment of tuberculosis increase in use and value. Dr. Pearce read for Dr. J. M. Anders his discussion on the subject in question. Dr. Anders spoke of its value in neurasthenia and typhoid fever. He also said that in actual conditions where there was an overwhelming toxemia large draughts of water acted as a diuretic and were thus useful in ridding the body of the toxins present.

In closing the discussion Dr. Baruch said that in treating insomnia by the use of water certain precautions must be taken. Warm water dilates the capillaries. If the patient then comes in contact with cooler air this dilatation is

counteracted and the patient is weakened. Hence instead of allowing this chilling of the surface the patient should be wrapped in warm sheets and blankets and then placed between warm sheets and hot water bottles applied. A still better way is to give a cold wet pack. Dr. Baruch said that the diuretic effect of water was not due to simple flushing of the kidneys. It acts in the stomach as it does on the skin, causing a contraction and then a dilatation of the vessels. This, through action on the nerves, stimulates respiration and the systole of the heart. In this way diuresis is brought about. Because of this fact the giving of 1 or 2 ounces of water at 40° every 2 hours will produce more diuresis than will the giving of one-half a pint.

Dr. R. G. Le Conte read a paper on *The value of combined medical and surgical clinics to the student*. Dr. Le Conte claims that a purely medical or surgical clinic gives only a one-sided view of many cases and the student does not get a connected idea of the case. Several combined clinics were given at the Pennsylvania Hospital during the past winter, with a great degree of satisfaction to clinicians and students.

College of Physicians of Philadelphia.—The meeting held May 1 was devoted to the discussion of *The relation of diseases of the heart to surgical operations, and especially to the use of general anesthetics*. The first paper was read by Dr. W. J. Mayo, of Rochester, Minn., on *Pre-existent heart disease, in reference to surgical operations*. Dr. Mayo said that the condition of the heart muscle was of prime importance to the surgeon and the reserve power of the heart so far as is possible, must be estimated and taken into consideration. Will it stand the anesthetic, the blood loss, the nerve shock, of the operation? The reserve power of the heart is commonly thought to be less in infancy and in old age. Dr. Mayo finds this to be more true in regard to the former period than in the latter. His experience does not enable him to substantiate the statement that people above the average height bear anesthetics badly. Many people in the Northwest are above the average in height and they take anesthetics excellently. Valvular lesions of the heart are usually well compensated in persons between the ages of 10 and 40 years and there is generally little risk in giving them an anesthetic. If failing compensation is present, only the most urgent operations should be done before treatment has been instituted. After 40 valve lesions are usually associated with myocarditis. The most dangerous lesion is fatty degeneration. Dr. Mayo believes that many of the unexpected and sudden deaths which occur soon after operation are due to myocardial change. Cases were cited in illustration of this point. Some of the cases of death following operation for exophthalmic goiter are undoubtedly due to myocarditis incident to that disease. The one death in 7 thyroidectomies done by Dr. Mayo was due to that cause. A knowledge of cardiac insufficiency by the surgeon and anesthetizer is a great safeguard against danger during an operation. Dr. H. A. Hare spoke on *The safest anesthetic to use in organic disease of the heart and vessels*. Dr. Hare said that comparatively few people having heart disease died from the effect of an anesthetic as compared with the deaths from straining at stool, going rapidly up stairs, etc. The majority of the accidents in surgery are due, not to the anesthetics, but to the shock of the operation. He has seen the condition of the patient improve under the influence of the anesthetic. The question of poisoning by these drugs must be taken into consideration. Probably not more than 1 surgeon in 100 knows how much anesthetic his patient really receives. The quantity poured on the inhaler is not the true amount and for this reason the dosage is unknown. In choosing an anesthetic the idiosyncrasy of the patient is often not taken into account. The statement of Dr. Mayo in regard to persons of overheight may apply to the hardy races of the Northwest, but it does not to people in this locality. Dr. Hare laid great stress on the condition of the vessels in regard to the use of anesthetics. Ordinarily the clinician or surgeon examines the heart but does not investigate the cardio-vascular tone, blood pressure, etc. In many cases of high arterial tension, ether is contraindicated, although generally it is the safest anesthetic we have. American surgeons do not often enough use stropline for its effect in checking secretion caused by the anes-

thetic. The choice of method of giving an anesthetic is as important as the choice of the anesthetic itself. The inhaler to which a rubber bag is attached and which causes the patient to breathe his own respired air should never be used. The giving of an anesthetic by means of oxygen bubbling through it is a disadvantage. If chloroform be used a chemical change may take place and ether is rendered more combustible. If it is desirable to increase the oxygen the anesthetic is increased at the same time while a decrease in oxygen means a decrease in anesthetic. Too much oxygen will produce apnea. The oxygen should be given alone and the anesthetic alone as it is only by this means that a proper amount of each is used. Ether is the safest anesthetic except in cases of vascular disease. It is not strongly contraindicated in Bright's disease. Chloroform in cases of myocardial change is often dangerous. Nitrous oxide is contraindicated when vascular changes are present. In regard to the use of a general anesthetic in cases having valvular and myocardial disease, Dr. Hare said that the patient often improves under the use of the anesthetic. General anesthesia is better than local or spinal anesthesia. Shock to the nervous and circulatory systems is greater in the latter method and patients have been seen to improve when it was abandoned and general anesthesia used. In Dr. Hare's opinion intraspinal injection will soon be a medical curiosity. Dr. Finney exhibited charts which he has the anesthetizer keep for each case. These show the pulse frequency at each 5 minutes during the operation. Dr. Alfred Stengel spoke of **The cardiac complications which may arise after operation.** There is very little to warrant the belief that anesthetics will produce a heart lesion except of the myocardium. For the immediate effect inferences should be drawn from examinations with no blood loss, and from trivial operations. In pre-existing myocardial change ether is well borne. Some cases show an improved cardiac condition immediately after operation. After some days a weakness may develop. Pneumonia is often said to be due to aspiration, irritation, etc., when it is due to a failing circulation and anesthesia has been the exciting cause. Pneumonia embolism is more frequent in gynecological cases. The heart is the predisposing cause. Myocardial disease is common in women who have myomata of the uterus. Dr. Stengel emphasized the necessity of recognizing that pneumonia, late vomiting, embolism, etc., are in some cases really due to the failure of the operator, causing sepsis, etc. Dr. Ochsner, of Chicago, stated that he had never had an alarming condition from anesthesia in patients suffering from a demonstrable heart lesion. A paper by Dr. R. G. LeConte entitled **Hydatid disease of the breast** was read by title.

Philadelphia Obstetrical Society.—At the stated meeting held May 2, Dr. Frank W. Talley reported **A case of puerperal septicemia treated with Unguentum Crede.** In addition to treatment by whiskey, strychnine, etc. in an undoubted case of septicemia, Crede's ointment was used by inunction. Improvement was noticed the morning after its use was begun. On the fifteenth day the temperature was normal and the inunctions were discontinued. The temperature rose again in 5 days reaching 102°. Inunctions were again used and the temperature was normal by the second day. In all 3 ounces of the ointment were used. Dr. J. M. Baldy said that cases of septicemia were deceptive, sudden changes often taking place. He does not see that the silver ointment can do any good in such cases. Dr. Chas. P. Noble stated that a large percentage of the cases of puerperal septicemia recover. He has never used silver ointment but it is worthy of note that Dr. Talley used other approved methods of treatment in his case. Dr. Stricker Coles uses whiskey, strychnine, sponging, etc. and has had no fatalities in 8 cases. Dr. J. M. Baldy reported three cases and exhibited specimens. Case 1 was an apparent calcareous degeneration of both ovaries but histological examination showed it to be a fibrous change, the tissue being remarkably dense. Case 2 was an adenocarcinoma of the fundus of the uterus. Case 3 was an ovarian cyst.

OBITUARY.

Dr. Andrew K. Minnich.—Dr. Andrew K. Minnich died May 11, at his residence, 145 Susquehanna avenue, in his 54th year, after an illness of six months. Dr. Minnich was born in Mount Joy, Pa. He was graduated with honors from Lafayette College, and then entered the Jefferson Medical College, from which he was graduated in 1870.

The Franco-German War was in progress at that time, and he enlisted as surgeon in the German army. At the close of the conflict he was induced to return to this city as a teacher and lecturer in the Wagner Institute of Science. For more than twenty years Dr. Minnich was a visiting physician to the Episcopal Hospital, and for many years was quiz-master and lecturer in the Jefferson College. He contributed many valuable treatises on blood disease. He was a member of the Medical Club, Philadelphia County Medical Society and Metropolitan Club.

Dr. Julius Boushey, at San Francisco, Cal., on April 29.—Dr. George Cyprian Jarvis, at Hartford, Conn., on May 7, aged 67 years.—Dr. E. L. Priest, at Nevada, Mo., on May 8.—Dr. M. E. Downes, at Wilmington, Del., on May 10.—Dr. H. D. Peters, at Henry County, Md., on May 10, aged 84 years.—Dr. Daniel Humphrey, at Lawrence, Mass., on May 9, aged 79 years.—Dr. E. Stanley Perkins, at Philadelphia, Pa., on May 6, aged 59 years.—Dr. Robert Bolling, at Chestnut Hill, Philadelphia, Pa., on May 12, aged 68 years.—Dr. Charles Rice, at New York City, on May 13, aged 60 years.—Dr. Norman Armett Smith, at Greenwich, Conn., on May 12, aged 78 years.—Dr. George W. Pembroke, at Friendship, Md., on May 12, aged 58 years.—Dr. James Hayes, Plainfield, N. J., on May 13.

Vital Statistics of Philadelphia for the week ending May 11, 1901:

Total mortality	475	Cases.	Deaths
Inflammation of the appendix 3, bladder 2, brain 9, bronchi 6, heart 2, kidneys 16, larynx 2, lungs 71, peritoneum 9, pleura 3, stomach and bowels 21, uterus 1, spine 1 ..			146
Marasmus 13, debility 8, inanition 16			37
Tuberculosis of the lungs			62
Apoplexy 15, paralysis 5			20
Heart-disease of 36, fatty degeneration of 1, neuralgia of 3			40
Uremia 14, diabetes 1, Bright's disease 3			18
Carcinoma of the breast 1, stomach 4, uterus 5, larynx 1			11
Convulsions			15
Diphtheria			14
Brain-abscess of 1, congestion of 2, disease of 2, tumor of 1			6
Typhoid fever	98		12
Old age			10
Cyanosis			2
Scarlet fever	101		6
Influenza 1, abscess of lungs 1, alcoholism 6, asthma 3, anemia 2, burns and scalds 2, carbuncle 1, casualties 5, congestion of lungs 4, child birth 1, cholera morbus 1, cirrhosis of the liver 3, croup 1, croup, membranous 1, diarrhea 1, drowned 4, dysentery 1, epilepsy 2, fever, malarial 1, puerperal 1, hemorrhage from uterus 2, gangrene 2, jaundice 1, locomotor ataxia 2, lymphadenoma 1, measles 4, obstruction of the bowels 2, edema of lungs 2, poisoning 1, rheumatism 2, shock 2, septicemia 2, sarcoma, multiple 1, suffocation 1, suicidal, tetanus 1, ulceration of the stomach 1, unknown coroner case 1, whooping cough 3			74

NEW JERSEY.

Smallpox Epidemic at Gloucester City.—Considerable excitement prevails in Gloucester City on account of the epidemic of smallpox which exists there. All cases have been isolated and rigid sanitary measures have been instituted. There is no positive knowledge as to how the disease was introduced in Gloucester City, but the first case, who is a native of the city, is said to have repapered the house in Woodbury in which the only fatal case of that town occurred. The superintendents of mills and factories have insisted upon general vaccination of the employees.

NEW YORK.

New Lunacy Commissioner.—Governor Odell has appointed Dr. Frederic Peterson, of New York City, the Medical member of the State Lunacy Commission, to succeed Dr. Wise. Dr. Peterson was largely instrumental in the organization of the Craig Colony for Epileptics, and is president of the Board of Managers of that institution.

Dr. Charles Rice, Chairman of the Revision Committee of the United States Pharmacopeia, died May 13th., at Bellevue Hospital, N.Y. Dr. Rice was born in Munich in 1841. He received an education in Vienna, Munich and Passau, acquiring a thorough mastery of several Oriental languages, the classics and the modern tongues. He was a most thorough and accomplished linguist and recognized as an authority on questions of philology and etymology. Dr. Rice came to America in 1862, and during the war served in the navy as surgeon's steward. After his discharge from service he entered the Department of Public Charities and Corrections of New York City, and has been the chemist to that department and superintendent of its drug department for many years.

Appointment.—Dr. L. Emmett Holt has been appointed Clinical Professor of Diseases of Children at the College of Physicians and Surgeons, New York.

Home for Chronic Invalids.—The Montefiore Home for Chronic Invalids, of New York, has maintained a sanitarium for consumptives at Bedford Station, Westchester County, for several years. It has now widened its scope by adding a new building capable of accommodating upward of 150 patients. This building is nearing completion, and will be formally opened on Memorial Day, Thursday, May 30.

Appointment.—Dr. Louis Fischer has been appointed a Visiting Physician to the Willard Parker and Reception Hospitals of New York City.

Dr. Samuel K. Lyon.—Dr. Samuel K. Lyon, who has been a police surgeon for thirty years, died suddenly May 4th. in New York City. He was a graduate of the College of Physicians and Surgeons, and a member of the County Medical Association, the Academy of Medicine, and the County Medical Society.

Edward N. Gibbs Memorial Prize Fund.—The Trustees of the New York Academy of Medicine have the pleasure of announcing the receipt of Ten Thousand Dollars from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of The Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing in the medical profession of the United States of America, who shall present the best original essay upon the etiology, pathology and treatment of the diseases of the kidney.

Manhattan Dermatological Society.—The regular monthly meeting was held on Friday evening, May 3d, at the residence of Dr. A. Bleiman, No. 206 E. 48th St. Dr. Wm. S. Gottheil presided. Dr. R. Abrahams presented a patient with *tinea, versicolor* limited to the palms. The lesion had existed for a year and a half and when first seen consisted of light and dark yellow patches of various shapes and sizes. Sweating was noticed during the summer months and but little during the winter. The lesions were more perceptible with daylight. At present, owing to the constant washing, the palms simply showed a superficial scalliness. Microscopical examination by Dr. Gottheil demonstrated typical mycelia and spores of the microsporon. Apart from the case of Dr. Gottheil, this is the only one recorded. Dr. Gottheil remarked that although from a clinical standpoint this case was not as characteristic as his own, the microscopical picture was classical. Dr. Bleiman said that at present the case looked like *tellositas*, and Dr. L. Weiss that it resembled a chronic eczema. Dr. J. Sobel recommends the application of Leyol's solution for bringing into view pale and imperceptible lesions of the disease (Allen's Test.) Dr. E. L. Cocks presented two cases of *prurigo* in a native born boy and girl of eight and nine years respectively. These cases would refute the statement of Hyde and White that this disease occurred only in foreign born individuals. Both presented papules on the exterior surfaces of the extremities, the feeling of a nut-

meg grater and enlarged glands. Both gave a preurticarial history. Dr. Kinch agreed with the diagnosis. Dr. R. Abrahams would call both chronic urticaria and advise pilocarpine. Dr. S. Sobel remarked that neither case corresponded to his conception of *prurigo* nor to the cases as he had seen them abroad. The papules lacked a certain firmness, he could not detect the nutmeg grater feeling, the *prurigo* buboes were wanting. He would call both chronic papular articularia. Dr. L. Weiss said the preurticarial state might speak for *prurigo*. Against it were the absence of haggard look and anemia, and the *prurigo* buboes. He would call them lichen urticatus or chronic lichen simplex. Dr. Oberndorfer stated that neither case looked like *prurigo*. He missed the great infiltration of the skin, the hardness of the individual lesions and the characteristic glandular enlargement. He calls it chronic popular eczema.

Dr. Gottheil said the picture was not quite that of *prurigo* or popular urticaria. He inclined however toward a diagnosis of *prurigo*.

Dr. Weiss presented a case of *eczema neuroticum vegetans*. The patient showed symmetrical lesions of the lower extremities; there were patches with healed centres, the individual lesions being small, elevated papules resembling lichen. Dr. E. L. Cocks considers it lichen planus on an eczematous base. Dr. Oberndorfer fails to see lichen planus. Eczema is his diagnosis. Dr. Bleiman believes the primary condition to be *pruritus senilis*. Dr. J. Sobel would call this condition a mycotic eczema. For this speak the more or less circular form, the somewhat sharply defined edges, the healed centre, the persistency of the lesions. Chrysarbin and formalin act well. Dr. R. Abrahams excludes lichen planus, *pruritus*, and neurotic eczema, and diagnoses a parasitic eczema. Carbolic acid and strong silver colution (50%) are advised. Drs. Gottheil and Kinch consider it eczema.

Dr. L. Weiss presented a *rosacea* of the cheeks; upon stretching the skin the capillary dilation and circulation became apparent. Dr. Geyser advised the use of a fine steel needle attached to the negative galvanic pole and inserted at right angles into the vessels. Dr. A. Bleiman presented a girl of twenty-three with *favus* of the nails of the left hand. There were lesions of *favus* on the scalp. Dr. Kinch did not find much evidence of *favus* on the scalp. Drs. Oberndorfer, Gottheil and Cocks would expect more destruction of hair in a *favus* of such duration.

Dr. Oberndorfer showed a patient with a probable *acne varioliformis* of the scalp and neck, together with a number of bald spots of the head. Many lesions were not characteristic. Dr. R. Abrahams would call the condition *acne vulgaris* with folliculitis.

Dr. J. Sobel calls it *acne pustulosa* and folliculitis abscedens. Dr. L. Weiss said that the bald spots speak for folliculitis decalvans. Dr. E. S. Cocks does not consider it *acne varioliformis*. Dr. Ochs presented a patient with resolving syphilis. Dr. A. Bleiman showed a *pityriasis rosea*, resembling seborrheal eczema and a case of *scabies*, showing the continuous treatment of the disease with Wilkinson's ointment.

WESTERN STATES.

National Confederation of State Medical Examining and Licensing Boards.—At the next meeting of the National Confederation of State Medical Examining and Licensing Boards to be held at St. Paul, Minn., June 3rd, 1901, there will be a discussion of the question: "What should be the legal definition of the practice of medicine?" following a paper on that subject by Dr. Henry Beates, Jr., of Philadelphia. Also a discussion following the report of the Committee on Interstate Reciprocity and Uniform Medical Legislation.

Meeting of the American Medical Editors' Association.—The annual business meeting of the American Medical Editors' Association will convene in the library rooms of the Ramsey County Medical Society, Lowry Arcade building, St. Paul, at 2.30 P. M., Monday, June 3d. The Lowry Arcade building is situated in St. Peter street, between Fourth and Fifth. The session will open promptly at the above hour, and all members are urged to be present at that time.

This association, as implied in the name, consists of medical editors of the United States. Meetings are held

annually, coincident with the American Medical Association. The aims of the association are the advancement of medical journalism, the foundation of an ethical press in medicine, and the improvement of the medical profession in general. The membership includes the leading medical writers and editors of the country.

The meeting this year will be a most successful one, both from the point of presentation of valuable papers and the energetic work of the members of the association which will be made manifest at the meeting. The preliminary program is calculated to interest and benefit every medical editor. A partial list of papers includes:

President's Address, Dr. Alex. J. Stone, of St. Paul.
Relative Value of Medical Advertising, by Dr. John Puntton, of Kansas City, Missouri.

Paper, subject unannounced, by Dr. John V. Shoemaker, of Philadelphia.

Improvements in Medical Education, by Dudley S. Reynolds, of Louisville.

Some Thoughts on the Ethics of Medical Journalism, by Burnside Foster, of St. Paul.

Editorial Corps and Medical Journalism, by Dr. George F. Butler, of Alma, Michigan.

Relation of the Medical Editor to Original Articles, by Harold Moyer, of Chicago; and

Paper, subject unannounced, by Dr. George H. Simmons, of Chicago.

The annual dinner of the association will be held at 9 P. M., June 3d, reservation of plates should be made at once. Membership applications and titles of additional papers can be sent to Alexander J. Stone, Lowry Arcade, St. Paul, president, or O. F. Ball, Century building, St. Louis, secretary.

Not Obligated to Attend Patients.—The supreme court of Indiana has recently decided that a licensed physician is not legally obliged to attend a patient when called, although he has been the family physician of the patient in times past. Dr. Weddingfield refused to attend a patient, although he had been called three times. The patient died, and it was charged that her death was caused by the doctor's refusal to respond to the call. He was sued for \$10,000 damages.—*Western Medical Review.*

Mississippi Valley Medical Association.—It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th, and 12th of September to the 12th, 13th, and 14th of September. This change has been necessary because the dates first selected conflicted with another large Association meeting at the same place.

The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12th, good returning without extension until September 15th. By depositing tickets with the Joint Agent at Cleveland and paying 50 cents the date can be extended until October 8th. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland.

Full information as to rates can be obtained by addressing the Secretary, Dr. Henry E. Tuley, No. 111 West Kentucky street, Louisville, Ky. Members of the Profession are cordially invited to attend this meeting.

Those desiring to read papers should notify the Secretary at an early date.

A Bill introduced by Mr. Stubblefield for an act requiring reports of births and deaths, and the recording of same; regulating the interment or other disposal of dead bodies, and prescribing a penalty for non-compliance with the provisions hereof, has passed both Houses in the State of Illinois and will go into effect January 1, 1902.

Pleads Guilty.—Stephen A. Weltmer and Joseph H. Kelly, former president and secretary of the Weltmer Institute of Magnetic Healing, at Nevada, Mo., who recently pleaded guilty to indictments charging them with using the mails to defraud, were each fined \$1,500 by Judge Phillips, in the United States District Court. The men gave "absent treatment," and their mail, which reached a tremendous volume, was stopped by the Postoffice Department at Washington on a fraud order.

Smallpox in California.—Eighteen cases of smallpox have broken out at the State institution for the deaf, dumb and blind, at Berkeley, Cal.

SOUTHERN STATES.

Women Doctors in South Carolina.—Two young women have recently been graduated from the Medical College of South California. They are the first women graduates of the institution and also of the State.

Dr. Stanford E. Chaille, dean of the medical department of Tulane University, in New Orleans, has been given the degree of LL.D. by the university on his completion of fifty years in its service.

Medical Springs.—The Secretary of the Interior has addressed letters to the Governor of each State in the Union asking for detailed reports as to the safeguards thrown about thermal and medical waters within the borders of the states. He seeks the information for the International Commission of Medical Hydrology which will meet in Berlin shortly.

Meeting of the American Therapeutic Society. (Reported by Dr. T. L. Coley).—The second annual meeting of the society was held in Washington, on Tuesday morning, May 7th, at 10 o'clock. In the absence of Dr. H. C. Wood, who was prevented from attending on account of illness, the meeting was called to order by the vice-president, R. W. Wilcox, of New York. Dr. Robert Reyburn, chairman of the Judicial Council, delivered the address of welcome. Dr. T. E. Satterthwaite, of New York, responded on behalf of the visiting members. The reports of the secretary and treasurer followed. Dr. George C. Ober, of Washington, delivered a memorial address upon the late Dr. Samuel C. Busey, of Washington. The morning session was then adjourned. The Judicial Council met at 12 o'clock. The afternoon session convened at 2 o'clock and the president's address, "Reviewing the Progress of Therapeutics for the Preceding Twelve Months," was delivered by Dr. R. W. Wilcox. A business meeting behind closed doors followed. In the evening the District Therapeutic Society gave a reception at the Cochran. At the morning session of May 8th, Francis G. Morgan, M. D., of Washington, read a paper on "Suggestions Concerning the Use of the Metric System in Prescription Writing," and an interesting discussion followed. Dr. F. E. Stewart, of New York, read a paper on "The Relation of the Pharmacist to the Physician, and the Relation of Pharmacy to Materia Medica and Drug Therapeutics." This paper was of especial interest on account of Dr. Stewart's well-known advocacy of the idea for the establishment of a National Bureau of Materia Medica. Dr. Stewart called attention to the necessity of regulating the papers to be read before the society in such a manner that it would be impossible to permit commercial interests to assume control or allow the society to be used for advertising purposes. On the other hand, it should be permissible for the results of all truly scientific investigations upon pharmacology to be submitted to the society, but care must be taken that no drugs are discussed under their copyright names but under their chemical designations. He made an urgent plea for the establishment of a National Bureau of the Materia Medica, and desired that the American Therapeutic Society should be known as strongly advocating this measure. The matter was referred for favorable consideration to the Judicial Council. Dr. Robert Reyburn, of Washington, read a paper upon

Importance of Petroleum in Therapeutics When Given Medicinally. The good effects of petroleum when obtained, the writer believed to be due to its emulgent and lubricating qualities. It also aids general absorption by increasing peristalsis, but the drug is not absorbed. Dr. Albert C. Barnes, of Philadelphia, stated that it is well known that petroleum is not absorbed in the gastro-intestinal tract, but a remedy may have the most pronounced physiological effects purely upon account of its mechanical properties. He quoted Dr. Robinson, of Philadelphia, who had treated over 50 selected cases in which nutrition, digestion and body weight were impaired and the purest oil administered for periods of several months. There was in every instance increase in weight and improvement in health. The fact that petroleum passes through the intestine in the original form and that it has been proven to be a solvent of many remedies administered for their antiseptic and astringent influence indicate a useful field for petroleum as a vehicle. In closing Dr. Reyburn expressed his conviction that the petroleum was in no sense a substitute for cod liver oil. At the afternoon session Dr. T. E. Satterthwaite, of New York, discussed

"The Therapeutics of Chronic Heart Diseases and their Complications." He placed especial stress upon the fact that the condition of the cardiac muscle and the cardiovascular system generally was far more important than the precise valvular lesion, and he placed more dependence upon exercise alternating with periods of rest and upon the bath treatment, with strychnia and heart tonics given only as indicated, than upon the total rest in the treatment of these conditions. Eli H. Long, M. D., of Buffalo, contributed a paper upon the "Principles of Cardiac Therapeutics in Recent Valvular Disease." On account of the absence of Dr. Long, the paper was read by the Secretary. J. N. Hall, M. D., of Denver, read "A Report of Two Cases of Aneurysm Treated by Wiring and Electrolysis." These cases illustrated the great benefits to be derived from this method when gelatin and other treatment have proven unavailing, and the location of the aneurysm is suitable for the operation. In the evening a banquet was served at the Cochran. At the morning session of May 9th, Francis H. Miner, M. D., of Washington, discussed "Hypnotism; a Practical Demonstration of its Therapeutic Value." Dr. Miner exhibited a patient whom he could hypnotize very readily, and who was extremely susceptible to post-hypnotic suggestion. He had been an inveterate smoker, and had been cured by post-hypnotic suggestion. At this point in the proceedings a discussion arose as to the advisability of permitting the next paper on the program, "The Therapeutic Use of Chlorotone," to be read under that title. Dr. Stewart remarked that the drug is covered by a patent, and the right to the use of the name chlorotone is limited to one firm of manufacturers. Dr. Barnes, of Philadelphia, believes that the attitude of the physician toward remedies covered by patent, copyright or fanciful name should be unequivocally decided at this meeting. If the society is to be made a place of discussion for patented remedies it will soon lose its usefulness as a scientific body. Dr. Barnes stated that this drug is not a new product. It was first produced in Germany by Willgerodt in 1888 and scientifically investigated by Kossak and Rudolf, and, as Eichengrün states, is shown to be dangerous as an internal remedy because of its strong depressing influence upon blood pressure. The product has been sold for years in Germany under the name of Aneson. Dr. Barnes therefore moved; "that any therapeutic agent offered for discussion before the society should be discussed under its chemical name, and not under its fanciful patented or copyrighted commercial name." This motion was unanimously passed by the Society. Dr. Wilcox therefore instructed Dr. Houghton to discuss the preparation under the name Acetone-Chloroform, which is its chemical name. Dr. E. M. Houghton, of Detroit, then read a paper on "The Therapeutic Use of Acetone-Chloroform. This drug, he declared, was of value as a local anesthetic, a hypnotic and an antiseptic, and from his studies he believed that it was perfectly safe and adapted to general employment.

At the afternoon session the following officers were elected: President, Reynold W. Wilcox, M. D., New York, N. Y.; first vice-president, Howard H. Barker, M. D., Washington, D. C.; second vice-president, Eli H. Long, M. D., Buffalo, N. Y.; third vice-president, Leon L. Solomon, Louisville, Ky.; secretary, Noble P. Barnes, M. D., Washington, D. C.; recorder, William M. Spriggs, M. D., Washington, D. C.; treasurer, John S. McClain, M. D., Washington, D. C.; Curator, Dr. George C. Ober, of Washington. Dr. Leon L. Solomon, of Buffalo, read the final paper of the meeting, "The Therapeutics of Alcohol."

A committee was appointed to investigate the plan of establishing a Bureau of the Materia Medica, with Dr. F. E. Stewart as chairman. A committee was also appointed to investigate the plan of establishing a Psycho-Physical Laboratory under the control of the Department of the Interior. The Society adjourned to meet in New York, the second Tuesday of May, 1902.

Correspondence from Dr. George Elliott, 129 John St., Toronto.

CANADA.

Sir William Hingston, on the occasion of the fortieth anniversary of his entering Hotel Dieu Hospital, Montreal, was the object of a very pleasing demonstration on the 6th inst. Sir William has now reached his seventy-third year, but still continues in the active practice of his profession, and even on that very day had performed two critical opera-

tions at the Hotel Dieu. The ceremonies opened with a religious ceremony. Mass in the chapel of the hospital being celebrated by Archbishop Bruchesi, after which the surgeons of the Hotel Dieu presented Sir William with an address accompanied by an urn of great value. Then the students of Laval University gathered in the operating room, where they presented their esteemed professor with an address and handed Lady Hingston a magnificent bouquet. The sisters of the institution also paid their respects to the distinguished surgeon, and presented him with some relics brought over from France by Mille. Mance over two hundred years ago and since preserved by her successors. The patients of the hospital, too, gathered into one of the wards where Dr. St. Jacques in their name thanked Sir William for the many services he had rendered during the forty years of his service at the Hotel Dieu. Sir William overwhelmed by such praise and thanks expressed some surprise at the latter testimonial when, as he facetiously remarked, he had always been busily engaged taking off their arms and legs or taking out their eyes. However, he thought he had never performed an operation which he did not deem justifiable in the interests of his patients.

The value of a Smallpox Waiver in the case of life assurance has been aptly illustrated in the recent unfortunate death of one of Toronto's physicians. Dr. Thomas Henry Little died on the morning of the 25th of April, at the smallpox hospital, of hemorrhagic smallpox, he having contracted the disease from a very mild case, and at the same time thinking that he was not attending on a case of smallpox at all, but for another ailment, having the patient calling at his office for treatment. Dr. Little was a graduate of Toronto School of Medicine and had been practising in this city for twelve years. He was thirty-nine years of age. He had never been vaccinated, although this was subsequently denied by his friends. It transpires also that he had signed smallpox waivers to the extent of \$11,000 insurance. His sad death also emphasizes the importance of vaccination, viz., in contracting a malignant form from an unsuspected mild form of the disease.

A Slander by one Medical Man Against Another has recently been tried at the non-jury sittings of the High Court on the 6th inst. at the town of Barrie, Ont. Dr. L. H. Campbell, of Bradford, Ont., sued Dr. L. Clement, of the same place, for libel. It appears that the defendant wrote a letter, accusing the plaintiff of want of skill in his profession. The letter was addressed to a friend of Dr. Campbell, in which Dr. Clement offered to put up \$50 to \$100 that if a post mortem were held on a certain case, his charges would be substantiated. At the trial the defendant conducted his own case. He admitted writing the letter and said there was no malice, that his action was in the public interest. He further admitted that his practice had been reduced two-thirds since Dr. Campbell had come to practice in Bradford. Judgement was given for the plaintiff for \$200 with costs, although the Judge remarked he felt tempted to allow the full amount asked for, viz., \$1,000.

The Canadian Nurse, if a report which comes to the Toronto daily press from New York can be relied upon, is evidently holding her own in the United States—and presumably even more than doing so with her American cousin. It is said that Canadian girls constitute one-half of the graduating classes of the leading training schools of New York and all the big cities from the Atlantic Ocean to the Rocky Mountains. The Canadian girl is now said to be prominent in all the professions in the United States, but it is in trained nursing that she has achieved her greatest distinction. The report goes on to say that they are even popular as wives of American doctors. Amongst some of the best known are Miss Russell, a daughter of the medical superintendent of the Hamilton Insane Asylum, who went to Cuba to nurse American soldiers, and who has also been in South Africa; Miss Burdette, superintendent of the lying-in hospital built by Mr. J. Pierpont Morgan; Miss Rykert, who is superintendent of the training school of the Post Graduate Hospital; and Miss Richmond, assistant head nurse at the Kemp Memorial Hospital. Other cities mentioned where these Canadian nurses hold prominent positions are Pittsburg, Chicago, Cleveland, Cincinnati and Buffalo.

The Toronto Branch of the Anti-Consumption League held its annual meeting in this city on the evening of the 5th inst., Dr. E. J. Barrick, the president, in the chair. It was decided that the time was opportune for the sub-

mission of a by-law to the ratepayers for \$50,000 for the purpose of a municipal sanitarium. Last fall the local board of health, acting under the advice of Dr. Sheard, the medical health officer, recommended the submission of such a by-law, and it was at that time that the National Sanitarium Association made an offer to provide accommodation for Toronto's consumptive poor. The report of the secretary, the Rev. Dr. Eby, showed that there were now 600 members of this branch of the league. The treasurer's report showed the receipts to have been \$1,362 and the expenditure \$1,250. A suggestion was made that the city establish a canvass hospital beyond the city limits for the reception this summer of at least a percentage of its hundreds of consumptives. The local branch decided to accept the offer of the Central Association at Ottawa to provide \$700 to send Dr. Eby through Ontario as a special organizer and educator for the next six months.

The Victorian Order of Nurses, Toronto branch, held their annual meeting in this city on the afternoon of April the 27th. Dr. James Thorburn, the president, in the chair. Lady Minto was present from Ottawa, and delivered an address on the work of the Order throughout Canada. She told of the encouragement she was receiving for her cottage hospital scheme for the Northwest Territories. The Dominion Government has given \$6,000 for this work. Sir William MacDonald, Montreal, has donated \$3,000, and contributions to the amount of \$4,000 have been received from other sources. The report of the local superintendent showed that during the past year the Order had cared for 249 cases in Toronto, with 4,323 visits and sixteen deaths. There had been added to the list thirty-eight Toronto physicians, who now employ these nurses. During the year \$472 had been collected in fees.

Samaritan Hospital, Montreal, held its annual meeting last week, when the report of the surgeon-in-chief and superintendent, Dr. A. Laphorn Smith, was presented by himself. During the past year this institution has cared for 110 in-patients with a total number of 2,125 days in the institution. Many were very serious cases and 142 operations had to be performed. Only five deaths occurred, three of which followed operations, which gives a death rate of a trifle over two per cent. There were also 250 out-door patients; and at the present moment all the beds in the hospital are occupied. Dr. Smith stated that this institution only admitted women of irreproachable character, who required medical treatment peculiar to their sex. At the present time there are a large number of suitable young ladies waiting to be trained as nurses, but until such time as a larger building can be provided no increase will be made to the present staff.

The Toronto Clinical Society held its final meeting for the season of 1900-1901 on the evening of May 1st. The year has been a very successful one. Dr. H. A. Bruce presented a patient, a young man of 24 years, upon whom he had operated about seven weeks ago for mastoid disease and in addition to finding pus there also found a large quantity in the temporo-sphenoidal lobe, some three or four ounces. When five years of age this young man had otitis media of the right ear and after treatment for two years was cured. Whenever he contracted a cold, however, a few drops of discharge appeared, but only for a day or so. When taken again two weeks prior to operation, he had slow pulse, depressed temperature, exaggerated knee jerks, ankle clonus, slight vomiting; no unconsciousness. Patient made a good recovery after operation, some slight exaggeration in the knee reflexes and ankle clonus being still present. Dr. F. LeM. Graeet showed a large lipoma removed from the thigh of a woman just above the popliteal space. Considerable difficulty was experienced in separating the great sciatic nerve from the tumor, it being spread out over the posterior aspect of the tumor. Dr. George A. Bingham related the history of an enterprising lad of 14 years, a cripple, who, having heard of the good work being performed for crippled children at the Victoria Hospital for Sick Children, Toronto, and not being possessed of sufficient means to come by train, harnessed his dog to his sleigh and drove all the way to the city, a distance of twenty miles, in the dead of winter. He was very much deformed from his knees down. The lad reaped the reward of ambition. The election of officers took place and resulted as follows: President, Dr. J. F. W. Ross; Vice-President, Dr. E. E. King; Treasurer, Dr. W. H. Pepler; Recording Secretary, Dr. George Elliott; Cor-

responding Secretary, Dr. A. A. Small; Executive Committee, Drs. H. J. Hamilton, H. B. Anderson, W. B. Thistle, H. A. Bruce and George A. Bingham.

The Victoria Asylum for Women, Coburg, Ont., is rapidly nearing completion and the Government expects to open it for the reception of patients by the 1st of September. Dr. McNichol has been appointed medical superintendent and will have associated with him as assistant physician, Dr. Harriet Cockburn, of Toronto, this being the first instance of official recognition of the claims of the lady medicos. Dr. Cockburn has had considerable experience in hospital work, having been connected for some time with the Dakota State Asylum for the Insane. Dr. McNichol has retired from private practice in Coburg and is at present devoting his attention to asylum work in the various institutions of the province.

UNIFORM MEDICAL LEGISLATION.

side of the medical profession, have an idea of the serious problem which must confront them in the near future. The fact that in one state or territory is regarded as unfit to treat people in another political division necessarily invites every intelligent citizen to investigate the reasons for such a state of affairs.

In any country the lives of all citizens should be valued equally high. This is not the case in the United States. Any one who is familiar with the different medical laws in the various states and territories cannot conceal his grievance and indignation that conditions are allowed to exist which reflect upon the intelligence of many, and on the good will of some, in a way so strange to the American mind and so little in accord with the general interest in other public matters.

Either the standing of those physicians is not sufficiently high

education proper.

would be a wise step to close about three-fourths of the schools now existing, and to place the rest under rigid state institutions, as, for example, the University of

Many of the medical schools now existing are the property of corporations for the benefit of a few. Special priv-

which concerns every citizen.

schools in our country to twenty medical schools in Germany.

tioned, besides others, must be considered.

The importance of the movement is recognized more and

and it is to be done with more satisfaction at the point at large interests itself in the same to a greater extent.

A great problem is before the people of the United States. Its solution should not be delayed.

Changes in the Medical Corps of the Navy, week ending May 11, 1901.

ASSISTANT SURGEON J. S. TAYLOR, detached from the Medical Staff to the Naval Hospital, Yokohama, Japan.
ASSISTANT SURGEON F. L. HUNTER, detached from the Naval Hospital, Yokohama, and ordered to duty on the Asiatic Station.
MEDICAL DIRECTOR E. Z. DERR, detached from the Naval Academy, and ordered to duty on the Asiatic Station.
SURGEON F. W. P. WHEELER, detached from the San Juan Naval Station, and ordered to the Naval Academy, May 6th.
SURGEON C. H. T. LOWMEDES, detached from the Lancaster, May 11, and ordered to the San Juan Naval Station via the Mayflower.
P. A. SURGEON E. S. BOBERT, ordered to the Lancaster, May 11th.
SURGEON L. W. CURTIS, detached from the Vermont, May 11th, and ordered home to be in readiness for sea duty.
SURGEON G. PICKRELL, ordered to the Vermont, May 11th.
SURGEON C. F. STOKES, detached from the Asiatic Station, and ordered home, via mail steamer.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ending May 11, 1901.

SMALLPOX—UNITED STATES AND INSULAR.

Cases. Deaths.

ALASKA:	Sitka	Apr. 9, prevalent	1	0
CALIFORNIA:	Los Angeles	Apr. 22	1	0
	Oakland	Apr. 6-27	2	0
	San Francisco	Apr. 20-27	2	0
FLORIDA:	Jacksonville	Apr. 20-27	21	1
ILLINOIS:	Chicago	Apr. 27-May 5	5	0
INDIANA:	Evansville	Apr. 27-May 4	4	0
IOWA:	Michigan City	Apr. 27-May 4	4	0
KANSAS:	Ottumwa	Apr. 27-May 4	4	0
LOUISIANA:	Wichita	Apr. 20-May 4	4	0
	Bossier	Apr. 1-30	1	0
MARYLAND:	New Orleans	Apr. 1-30	1	0
MASSACHUSETTS:	Sabine	Apr. 1-30	1	0
MICHIGAN:	Fitchburg	Apr. 20-27	2	0
MINNESOTA:	Holyoke	Apr. 27-May 4	1	0
NEBRASKA:	Detroit	Apr. 27-May 4	1	0
NEW HAMPSHIRE:	Minneapolis	Apr. 29-May 5	44	0
NEW JERSEY:	Winona	Apr. 20-27	3	0
	Omaha	Apr. 20-May 4	32	0
	Manchester	Apr. 27-May 4	4	0
	Jersey City	Apr. 21-May 5	23	0
	Newark	Apr. 20-May 4	11	0
	New York	Apr. 27-May 4	86	10
	Charlotte	Apr. 1-30	18	1
	Cincinnati	Apr. 26-May 3	1	0
PENNSYLVANIA:	Lebanon	Apr. 27-May 4	3	0
	McKeesport	Apr. 20-27	1	0
	Philadelphia	Apr. 27-May 4	2	1
	Pittsburg	Apr. 27-May 4	1	0
	Steeleton	Apr. 27-May 4	1	0
	Williamsport	Apr. 7-May 4	1	0
TENNESSEE:	Memphis	Apr. 27-May 4	4	0
UTAH:	Nashville	Apr. 27-May 4	6	0
VIRGINIA:	Salt Lake City	Apr. 20-27	18	0
WEST VIRGINIA:	Wheeling	Apr. 20-May 4	8	1
WISCONSIN:	Green Bay	Apr. 28-May 5	1	0
PORTO RICO:	Miami	Apr. 27-May 4	2	0
	Ponce	Apr. 13-20	9	0

SMALLPOX—FOREIGN.

ARGENTINA:	Buenos Aires	Feb. 1-28	1	0
AUSTRIA:	Prague	Apr. 6-20	11	0
BELGIUM:	Antwerp	Apr. 6-20	1	0
BRAZIL:	Pernambuco	Mar. 16-31	4	0
	Rio de Janeiro	Mar. 16-31	1	0
CEYLON:	Colombo	Mar. 23-30	1	0
CHINA:	Hankow	Mar. 23-30	13	0
COLOMBIA:	Panama	Apr. 22-29	5	0
EGYPT:	Cairo	Apr. 8-15	1	0
FRANCE:	Marseilles	Mar. 1-31	3	0
	Paris	Apr. 13-20	11	0
GREAT BRITAIN:	England—			
	Leeds	Apr. 13-20	1	0
	Liverpool	Apr. 13-20	2	0
	Scotland—			
	Dundee	Apr. 13-27	4	0
	Glasgow	Apr. 19-26	10	0
	Glasgow	Apr. 7-21	2	0
GIBRALTAR:	Rome	Apr. 26-Apr. 9	10	0
INDIA:	Karachi	Mar. 1-Apr. 7	36	0
	Madras	Mar. 16-23	2	0
ITALY:	Sicily	Apr. 6-13, prevalent	27	0
MALTA:		Apr. 7-17	6	0

MEXICO:			
	Nuevo Laredo	Apr. 13-20	1
	Yucatan, Merida	Three or four deaths daily.	
NETHERLANDS:			
RUSSIA:			
	St. Petersburg	Apr. 6-13	9
	Warsaw	Mar. 31-Apr. 13	14
STRAITS SETTLEMENTS:			
SPAIN:			
TURKEY:			
	Smyrna	Mar. 11-Apr. 14	1
YELLOW FEVER.			
BRAZIL:			
CUBA:			
MEXICO:			
	Rio de Janeiro	Mar. 16-31	42
	Vera Cruz	Apr. 20-27	1
		resident for ten years.	
CHOLERA.			
INDIA:			
AFRICA.			
PLAGUE.			
AFRICA:			
CHINA:			
INDIA:			
	Cape Town	Apr. 6-13	43
	Karachi	Mar. 14-Apr. 7	429
JAPAN:			
	Wakayama Kon	Apr. 12	1

Appointed Assistant Surgeons.—Acting upon the recommendation of Surgeon-General Wyman of the Marine Hospital Service, the Secretary of the Treasury has appointed the following persons as assistant surgeons, to serve during the quarantine season at the various fruit ports of Central America, their principal duty being that of inspecting fruit to be exported to the United States: Bocos del Toro, Colombia, Paul Osterhout; Port Limon, Costa Rica, D. W. Goodman; Livingston, Guatemala, W. K. Fort; Puerto Cortez, Honduras, S. H. Backus; Ceiba, Honduras, R. H. Peters; Belize, British Honduras, J. Grey Thomas; Bluefields, Nicaragua, W. H. Carson.

MISCELLANY.

Fourth Annual Meeting of the American Gastro-Enterological Association.—The Shoreham, Washington, D. C., May 1st, 1901.—The meeting was called to order by President Einhorn at 10.24 A. M. Paper by Dr. Max Einhorn, "Syphilis of the Liver." The doctor gave a very comprehensive resume of the subject, and said that from the middle ages to the beginning of the seventeenth century great importance was attached to the liver in syphilitic diseases. It was generally believed that syphilitic ulcers were the result of bad humors of the body, the origin of which was to be looked for in the liver. The pathological anatomy and clinical studies were reviewed and a report made of thirty cases, 29 of whom died. He divided syphilis of the liver into three classes—gummata, syphilitic cirrhosis, and syphilitic disease belonging to either of the above-mentioned groups and accompanied with icterus. The first case was that of a patient who had chancre six years previously. He suffered with disturbances of digestion, poor appetite, much belching, loss of weight, etc. With treatment by iodide of sodium and innunctions of mercury the patient finally was cured. Diagnosis of hepatic syphilis can be most positively made in cases in which there exist gummata of the liver, in conjunction with other signs of a present or recent attack of syphilis. Gummata of the liver are easily confounded with malignant neoplasms. The majority of cases have pain in the right hypochondrium, sometimes constantly and sometimes in attacks, occasionally gallstone colic; this is accompanied by disturbances of digestion, and a feeling of tension in the upper half of the abdomen, with loss of weight. In the more advanced stages there is amyloid degeneration. The doctor did not always find enlargement of the spleen. The treatment should consist of anti-luetic measures, iodide of potassium or iodide of sodium and similar preparations of iodine. The hygienic and dietetic elements in a patient's life should not be overlooked.

In discussion, Dr. J. C. Hemmeter said that he was impressed with the very scholarly paper and that its value chiefly consisted in the collated literature brought before the society in one article.

Dr. Edward Quintard mentioned a case of a tumor as large as a small fist, in which the polymorphonuclear neutrophils were absent and asked the essayist whether any note was made of that particular count. He concurred in the combination treatment of iodide of potassium and the ointments mentioned.

Dr. John A. Lichty commended the essayist on the use of iodides and anti-syphilitic treatment, especially in cases where there is a marked condition, and believed that after all one would be obliged to fall back upon the therapeutic test.

Dr. J. C. Hemmeter, speaking again, said that he recollected three cases of syphilis of the liver that occurred in his experience. One was that of a man who was supposed to have tuberculosis of the lung, but the autopsy proved it to be a gumma of the lung which had pulled apart the bronchial tube.

Paper by Dr. J. C. Hemmeter, "The German Clinics of To-Day." The doctor said that "modern therapeutists are not satisfied to study the diseased process and its course, the physician must also familiarize himself with the special manner in which disease manifests itself in and influences the individuality of each and every patient. The personality of every patient is put in the foreground of treatment, not the conception of the disease. This is one of the predominant features of the therapeutists in German clinics of to-day." After reviewing the different contributions of Continental experimentors, he made a plea for the establishment of a journal on diet and physical medical treatment, which should be the offspring of the Society, in which could appear the investigations and clinical, experimental and pathological observations concerning the treatment of disease by dietetic means, that such a journal is a necessity.

Dr. Quintard said, in speaking of the new journal: "It is necessary for the majority of American physicians and I think the suggestion is really particularly timely."

Dr. Einhorn said that one must appreciate not only the necessity for studying scientific methods, but of practically helping the patient, and the giving of proper sunshine, correct diet and good nursing.

Dr. Aaron expressed himself in favor of the establishment of the proposed journal of dietetics and hygiene.

The following papers were read by title in the absence of their authors: "Etiology of Hepatic Sclerosis," Dr. A. L. Benedict; "Treatment of Gastric Ulcer," Dr. D. D. Stewart; "The State of the Gastric Secretion in Chronic Rheumatism and Rheumatoid Arthritis," Dr. Frank H. Murdoch.

Paper by Dr. Edward Quintard on "Spastic Ileus." The author believed that spastic ileus is of much more common occurrence than is generally recognized and he reported a number of cases in which he gave not only the similarity which existed between spastic ileus and mechanical ileus, but also gave the methods of differential diagnosis. As to the theory of the causes of fecal vomiting there was a sketch given from the time of Galen to that of the Haguënot theory and the theories of the present day.

In discussion Dr. Quintard reported two of his own cases, in neither of which had there been the fecal vomiting which had been observed in many other cases. He held that there was such a thing as pathological antiperistalsis. The author cited several cases which proved almost conclusively that such was the case, and although he believed that the Haguënot theory explained many of the cases of fecal vomiting in mechanical ileus, he also held that in spastic ileus the theory of antiperistalsis came very nearly covering the point.

Dr. Rose spoke of the desirability of the pathological condition of the splanchnic nerves being better understood. He proposed the treatment of warm water and opiates, also the application of carbonic acid gas—the inflation of the rectum with this gas. With him this last named treatment had been effective in cases of dysentery and peritussis in children.

Paper by Dr. Wm. Gerry Morgan, "Some Cases of Tetany." He defined tetany as an affection characterized by the occurrence of, for the most part, tonic, but occasionally clonic, spasms in the hands, forearms, feet, legs, and, in severe cases, the neck, face, larynx and trunk. The doctor thoroughly explained the etiological factors and spoke of the dehydration theory of Kausmaal. The opportunities for pathological study have been very few. Prognosis in tetany depends upon the particular disease with which the condition is associated and upon the nature of the attack.

The doctor made a fine distinction between epilepsy and gastric tetany and related many interesting cases.

In discussion, Dr. Rose said that in English literature one would find a great many cases of tetany in connection with acute dilatation of the stomach. He spoke of the compensating element as analogous to that in heart disease. Further discussion was prevented by the usual midday adjournment.

Afternoon Session.—Paper by Dr. Julius Friedenwald, "The Report of Two Cases of Acute Dilatation of the Stomach." The doctor believed that the symptoms of the disease are so clearly established that diagnosis can usually be made without difficulty. Much attention has been paid to chronic dilatation, while little has been said concerning the acute form, which is probably due to the fact that it occurs with much less frequency. Dilatation may be caused by serious infectious diseases and sudden overloading of the stomach or improper diet. Many cases of acute dilatation were reported with fatal results, the necropsy affording an opportunity to note the pathological conditions. In one case lavage and the use of the stomach-pump proved of great value. The etiology of the acute form is somewhat obscure, except as previously mentioned, through gross errors in diet and overloading. Pepper and Stengel were quoted as suggesting the immediate cause, being spasm of the pylorus. It is well to remember the possibility of the occurrence of acute dilatation in all cases of acute dyspepsia and quickly to empty the stomach either by means of some brisk emetic or by means of the stomach tube.

Dr. Hemmeter referred to the great obscurity of the pathogenesis of these acute dilatations. He related a case in consultation in which a patient was operated for gallstone and the surgeon had an opportunity of seeing the stomach and said that it was normal and in its proper position, but looked rather small. Test meals had been taken and everything seemed to be normal. The day after the operation the patient died from symptoms of ileus and at the autopsy an enormously distended stomach was found.

Dr. Einhorn said that these cases should be termed acute dilatation, and that in order to make that positive, it would be necessary to observe such patients for quite a while after and see if they had any return. He mentioned certain cases of beginning obstruction of the pylorus, with no noticeable symptoms until suddenly an abrupt awakening.

Dr. Quintard referred to Dr. H—— who took the \$100 prize in the Philadelphia Medical Journal on the "Size and Location of the Stomach."

Dr. Julius Friedenwald closed the discussion by saying that there were but few authentic cases of dilatation of the stomach, a great many being spoken of as gastric atony.

In the absence of their authors the following papers were read by title: "Experiments in Peristalsis," Dr. Fenton B. Turck; "Some Clinical Studies in Gastric Secretion," Dr. G. W. McCaskey; "Report of a Case of Cancer of the Cardiac End of the Esophagus at a Distance of Twenty-one Inches from the Incisor Teeth in a Man Five Feet and Three Inches Tall," Dr. C. D. Spivak.

Paper by Dr. A. Rose, "Treatment of Atonia Gastrica and Splanchnoptosis by means of Abdominal Strapping." Dr. Rose cut from a newspaper the size and kind of bandage that he specially recommends. His paper proved to be a very exhaustive treatise on the subject. He believed that a number of pathological conditions of the stomach are caused by insufficient activity of its muscular fibres, diminished activity of its walls, elongation of the suspending ligament of the lesser curvature, the lesser omentum and gastropotosis. The doctor said he uses the term "gastropotosis" instead of "gastropotosis," as formerly. He was of the opinion that gastropotosis is very frequently present in phthisical patients and rare in strong and robust people, except when caused by trauma or by peritonitic adhesion. It may be caused by hernia; also tumors of the spleen and liver and enlargement of the abdominal space. Tight lacing and the tight attachment of skirt strings aggravate an existing gastropotosis. He spoke of an interesting examination of one hundred patients in order to establish the significance of the phenomenon of the splashing sound of the stomach. Men afflicted with the condition present symptoms of general nervous irritability less often than women. Discussion was spirited on the subject of supporting the abdomen by strap or bandage. Dr. Lichty said he was disappointed in the bandage. Dr. Hemmeter said that the bandage as described by Dr. Rose seems to have the

advantage of grasping the whole abdomen. Dr. Aaron asked whether the secretions would not soften the bandage and thus shorten its life. Dr. Lincoln reported that by his method of application he secured support for five weeks.

Dr. Einhorn said that strapping would not do as much for the patient as the bandage.

Paper by Dr. John A. Lichty, "Hyperchlorhydria." The doctor said that about one-third to one-half of the patients suffering from digestive disturbances have hyperacidity. Among 225 consecutive cases whose stomach contents were analyzed 84 or about one-third had more than the normal amount of acid. The patient suffering from hyperchlorhydria proper usually gives no history of indiscretion of diet. He believed that the splanchnoptosis is the result of the starvation diet to which the patients are driven. Electricity should be applied percutaneously. The doctor had not found any advantage in the intragastric electrode in these cases.

Dr. Hemmeter reviewed some interesting experiments, on two fox terriers, one of which was fed on the proteids and the other was fed on soup meat, etc. Dr. Friedenwald favored internal electricity.

ELECTION OF OFFICERS.

President, Dr. John C. Hemmeter, Baltimore; First Vice President, Dr. W. D. Booker, Baltimore; Second Vice President, Dr. S. J. Meltzer, New York; Secretary and Treasurer, Dr. Charles D. Aaron.

Dr. Max Einhorn was elected as a member of Council to serve for three years.

(Adjourned.)

The American Association of Genito-Urinary Surgeons.—Held at the Hotel Chamberlin, Old Point Comfort, Va., April 30, May 1 and 2, 1901. The President, Samuel Alexander, M. D., of New York, in the chair.

Address by the President, Dr. Samuel Alexander, M. D., of New York, called the attention of the Association to the death of one of its former Presidents, Dr. Fessenden F. Otis. He then considered the subject "The Treatment of Intra-peritoneal Traumatic Rupture of the Bladder by Laparotomy and Suture." He reported 45 cases with 23 deaths and 22 recoveries, and considered the following questions: How can we prevent delay in operating upon these cases? How shall we treat the abdominal cavity to obtain the most thorough asepsis? How shall we most effectually close the bladder wound?

Report of a Case of Nephrectomy for Adeno-Carcinoma with Remarks on Combined Cystoscopy and Segregation as a guide to the Earlier Surgical Intervention.—Dr. John P. Bryson, of St. Louis, read a paper with this title. He said that the matter of the relative excretion of the urea may have been too much overlooked but we cannot tell how well a kidney may be doing until we know what the blood brings to it and the antecedents or urea in the blood are, so far as we know, influenced by so many conditions that it is difficult to bring it within a working formula. Cystoscopy may be of service in this matter, but the phloridzine test appeared to have the greater value. He thought it would be but a one-sided pathology and too narrow specialism which would fail to take into account the relationship of the condition and functional activity of other important organs as their changes affect the kidney and its work.

The value of the X-Ray in the Diagnosis of Renal Stone: Report of Four Cases.—Dr. Paul Thorndike, of Boston, briefly reported these cases not in order to show beautiful X-ray plates of kidneys containing calculi, but because the cases were studied by the same people under the same conditions and show results, partly negative in character, which the writer deemed of enough interest to justify presentation. It seemed to be true that stones which contain mineral salts are much more readily photographed than others, and yet, in two of the cases presented, where the stones were made up of layers of uric acid and in both distinct shadows were evident, while in one of them the stones were shown with considerable clearness, probably due to the admixture of urates in the former and of calcic phosphate in the latter case.

Rupture of the Urethra: A Report of Cases.—Dr. James R. Hayden, of New York, read a report of three cases, giving the detailed histories of them, describing the operation and giving the results of treatment.

Inversion of the Tunica Vaginalis for Hydrocele.—Dr. Robert H. Greene, of New York, read a paper with this title, in which he made the following conclusions: (1) That

this is an easy operation to perform, and that it results in the cure of the hydrocele seems undoubtedly true. (2) The fact of so many operations having been recorded with the history of no unfavorable result as regards suppuration or neuralgia of the testicle offers pretty conclusive evidence as to the safety of this operation from the above complications. (3) The effect it may have in causing atrophy of the testicle or changes in the function of that organ is a subject concerning which clinical data, extending over a long period of time, are necessary before final conclusions can be drawn.

A Case of Unusual Bacillus of Abnormally Behaving Gonococcus.—Dr. J. P. Tuttle, of New York, described such a case, in which the behavior of the coccus found was entirely different from that of the gonococcus in that it was rapidly destroyed in all acid media, but in an alkaline media it rapidly thrived. The case finally resolved itself into a very obscure form of syphilis, and, under the influence of mercury, the urinary symptoms gradually cleared up.

Partial excision of the Bladder and Urethra for Carcinoma.—Dr. Tuttle reported this case of cancer of the rectum which involved the urethra, the prostate and possibly the wall of the bladder.

SECOND DAY, MAY 1, 1901.

Some Unusual Manifestations of Syphilis (Clinical and Pathological Illustrations).—Dr. John A. Fordyce, of New York, considered gangrene of the initial lesion, lichen planus and syphilis, syphilis and pemphigus, syphilis and psoriasis, syphilis and lepra and syphilis and lupus. These were accompanied by illustrations.

A Case of Prostatectomy.—Dr. James Bell, of Montreal, read a report of such a case showing the peculiar enlargement of the prostate, and the fact that the Bottini incisions could not have effected this enlargement.

What I Have Learned From One Hundred and Sixty-one Operation for the Relief of Senile Hypertrophy of the Prostate Gland.—Dr. Orville Horwitz, of Philadelphia, read a very long and complete paper on this subject, considering the subject under the sub-headings of vasectomy, castration, supra-pubic cystotomy, prostatectomy and the Bottini operation. His conclusions in brief were as follows: 1. Success following the Bottini operation depends on having perfect instruments, a good battery, the necessary skill, and the employment of a perfect technique. 2. In suitable cases the Bottini operation is the safest and best for the radical cure thus far devised for the relief of prostatic hypertrophy. 3. It is often very efficacious in advanced cases of obstruction as a palliative measure, rendering catheterism easy and painless, relieving spasm, lessening the tendency to constipation, and improving the general health. 4. It is of special service in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life. 5. It is indicated in all forms of hypertrophy except where there is a valve formation, or where there is an enormous growth of the three lobes, associated with tumor formation giving rise to a pouch, both above and below the prostate gland. 6. Where the bladder is hopelessly damaged, together with a general atheromatous condition of the blood-vessels, associated with polyuria, results are negative. 7. Pyelitis is not a contra-indication. 8. The character of the prostatic growth has no bearing on the results of operation.

Some of the Conditions Following the Bottini Operation for Prostatic Obstruction.—Dr. L. Bolton Bangs, of New York, brought out the following points, which he considered of importance: 1. The muscular impediment which almost immediately follows the removal of the instrument. 2. The process of repair, as witnessed by the cystoscope, which begins and proceeds as in ordinary aseptic wounds. 3. The decided necessity for after-treatment because patients that come to us usually suffer from a chronic catarrhal condition of the prostate, seminal vesicles, bladder and urethra.

Contracture of the Neck of the Bladder.—Dr. Charles H. Chetwood, of New York, after considering the causes and symptoms, referred to the treatment, as advocated by him, and which was a modified Bottini operation. He used a specially constructed instrument which performed the same function as the galvano-cautery knife of Bottini which operates through a perineal opening. He then described the instrument and the technique of operating. 16 cases were reported. The ages were between 30 and 73 years, 6 being under 45 and the remainder between 45 and 73.

Out of this number there was one death, which occurred five weeks after the operation from a pyelonephritis. He stated that if a perineal opening was made many cases of the contracture type of prostatic hypertrophy would be recognized, and many would be found suitable cases for the use of the perineal prostotomy with the galvanocautery. The perineal incision permits of exploration, which is better and more rapid than the cystoscope.

Officers Elected for the Ensuing Year:—President, Dr. W. T. Belfield, of Chicago; vice-president, Dr. Paul Thorndike, of Boston; secretary, Dr. James R. Hayden, of New York. Member of Council, Dr. William K. Otis, of New York. Place of meeting, Atlantic City, N. J.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued.)

M. Allen Starr, of New York, read a paper entitled the **toxic origin of neurasthenia and melancholia**. Cases of toxic neurasthenia are found in poorly nourished women and in men, about 45 years of age, who are negligent of diet and exercise and who are free livers. These patients complain of pain in the head and back, irritability, disorders of circulation and digestion. The urine was irregular in quantity and always contained a large amount of indican. The symptoms of depression are at their height at about 4 o'clock A. M., they gradually disappear until noon, when the patient feels at his best, and they gradually return during the afternoon and night. This train of symptoms, worse in the morning, is not due to the wear and tear of exhaustion, but is more probably due to the action of some intoxicant, which accumulates during sleep, and by its irritation wakens the patient. Although indican is found in the urine, it is probably not the cause of the symptoms. In the treatment of the condition the diet should be nourishing, and of the best form that the patient can assimilate. Fluids should be given in great excess. Digestion should be aided by drugs which stimulate the liver, such as calomel, podophyllin and Carlsbad salt and by the intestinal antiseptics which may act in counteracting the toxic agent. The author uses 3 forms of intestinal antiseptic medication; (1) a capsule of 5 grains of sulphocarbonate of sodium, with one grain of potassium permanganate; (2) a capsule of 5 grains of salol and one minim of castor oil; (3) a capsule of 2 grains of benzoate of sodium, and one grain each of sulphocarbonate of zinc and naphthol. These capsules are coated with shellac to prevent them from becoming dissolved before they reach the intestine. Baths, exercise and rest form an important part of the treatment.

W. W. Johnston, of Washington, showed the patient suffering from **Addison's disease** that he exhibited to the association last year. The improvement continues under treatment with suprarenal extract, the patient lives on a farm and does heavy farm work. He has gained 2 pounds in weight.

Johnston read a paper entitled, **the evils arising from failure to recognize the true nature of neurasthenia and some of the causes of this failure**. The reader referred to the case of Charles Darwin, who, from the affects of fatigue, hardship and strain, was a neurasthenic when he returned to England from his voyage in the *Beagle*. Darwin found that his sufferings were much relieved by rest, and if he had abandoned all work as soon as he returned to England, he might have recovered from his neurasthenia and saved himself much later suffering and misery. When a diagnosis of neurasthenia is made the patient should be required to take a complete rest. Many cases of this affection are curable, but others, of course, are incurable. Devoting attention to gastrointestinal symptoms, or to the symptoms of any one system in the body is a hindrance to final recovery, for as the neurasthenic symptoms disappear from one system they appear in another. The reader was of the opinion that there should be more sanatoria in this country devoted to the treatment of this disease. Cabot, of Boston, said that calomel and podophyllin are not hepatic stimulants, and that ox-bile was the only true cholagogue. He thinks that the term hepatic stimulant should be divorced from such drugs as mentioned. James J. Putnam, of Boston, thought that Starr had not proved his case concerning the toxic origin of neurasthenia.

The daily fluctuation of symptoms is seen in other forms of the disease than the so-called toxic form. Because one has found a remedy it does not follow that the cause of a disease has been found. He is in thorough accord with the suggestion to provide sanatoria for the treatment of the condition. C. A. Herter, of New York, said that there was a relation between intestinal putrefaction and melancholia. In melancholia the ethereal sulphates, which are the best indicators of intestinal putrefaction, are increased. Indol produces irritability of the nervous system and, later, depression. Calomel probably acts in such cases by reducing the absorption of ethereal sulphates. Baumgarten said that it is difficult to assign mental fatigue to its proper cause. The mental worker does not always feel the effect of his overwork immediately. Daily habitual overwork may indeed stimulate the patient until neurasthenia finally develops.

C. A. Herter, of New York, read a paper entitled the **acid intoxication of diabetes and its relation to prognosis**. In normal urine, the total of acid and base almost coincide, with slight excess of acid. In diabetes there is an apparent excess of base, the acid excreted not being sufficient to neutralize the bases excreted. When the method of estimating the total amounts of acids and bases cannot be carried out in detail an approximate result can be obtained by estimating the nitrogen of ammonia. In cases of diabetes with impending coma the nitrogen of ammonia will be increased. In cases of diabetes, the urines of which were examined, there was increase in the excretion of organic acids, estimated in terms of oxybutyric acid, and also of the nitrogen of ammonia during coma and in impending coma. In the case of a patient who was on a moderately restricted diet the amount of organic acid excreted was high and the excretion of potassium was almost as much as that of sodium. Under strict exclusion of carbohydrates for 4 days, the amount of acid excreted decreased and the potassium excreted decreased and returned to its normal relation to the sodium excreted, about 1 to 2. In cases of diabetes in which urine does not contain an excess of organic acids the progress of the case is usually satisfactory. The relation between the sugar excreted and the amount of organic acid in the urine is not constant; the sugar may drop and the acid continue high or *vice versa*. As a rule, when large quantities of sugar are present in the urine the organic acids are also present in large amount. The estimation of the nitrogen of ammonia is useful for clinical purposes, because, as a rule, considerable oxybutyric acid is attended by an increase of the nitrogen of ammonia. The latter factor, however, cannot be relied upon in the estimation of the output of small amounts of oxybutyric acid. There is danger of coma whenever the amount of oxybutyric acid is high; but the nitrogen of ammonia may be increased to 17% and coma be delayed. A patient may feel well and be able to do a considerable amount of muscular work even when he is excreting 30 mg. of oxybutyric acid daily. A patient whose urine contains no organic acid is in no immediate danger of coma, but he is liable to the other accidents of diabetes.

E. P. Joslin read a paper entitled **metabolism in diabetic coma with special reference to acid intoxication**. The author referred to a case of diabetes which was under treatment for 2 years and 2 months. During this time the patient gained in weight. Diacetic acid was absent from the urine when the patient was first seen; it then made its appearance and remained for 2 years; it then disappeared and remained absent until death occurred. The relation of organic acid to nitrogen was high. Victor C. Vaughan, of Ann Arbor, said that the substance producing acid intoxication is not known, or else the admixture of alkalies would result in cure. He believes that death is hastened by excessive nitrogen metabolism, because acid substances arise from nitrogenous food and coma may be prevented by reducing the amount of that kind of food administered. He is inclined to believe that the elimination of potassium indicates a disintegration of the body cells. C. A. Herter, of New York, said that the amount of acid produced in cases of diabetes is so large that the alkali administered can neutralize only a portion of it. He believes that acid is the cause of the condition, although the nature of the acid is not known. His studies, however, point to oxybutyric acid as the offending substance. He agrees that the acid is derived from the nitrogenous food, and he thinks that the ammonia also comes from meat diet. Franz Pfaff,

of Boston, said that the administration of fat increases the amount of acetone in the urine.

J. George Adami, of Montreal, read a paper entitled **classification of the intoxications from a pathological point of view**. The author divides the intoxications into (1) exogenous, due to poisons introduced from without and (2) endogenous, due to poisons elaborated within the body. The exogenous intoxications may be (1) exotic, if introduced through the skin or through the mucous membrane of the respiratory or digestive tracts, and (2) indigenous or excretory, due to reabsorption of secretions, indirect auto-intoxication, or disintegration processes. The endogenous intoxications may be (1) direct auto-intoxications due to internal secretions discharged from the cells or to disintegrative processes of the cells and (2) parasitic, which may in turn be microparasitic or macroparasitic.

[J. M. S.]

First Day, Evening.—The evening session was occupied by demonstrations of photographs with the stereopticon, gross morbid anatomy specimens and microscopic specimens of various pathological conditions. Charles Bond, of Richmond, Indiana, showed with the stereopticon, specimens of **photomicrography**, some of which represented work at a magnification of 3,000 diameters.

William F. Councilman, of Boston, showed a series of photomicrographs with the stereopticon representing the lesions of the kidney in cases of diphtheria.

H. C. Ernst, of Boston, showed a series of photomicrographs with the stereopticon showing various pathological conditions.

Simon Flexner, and R. M. Pearce, of Philadelphia, exhibited a collection of gross specimens illustrative of the lesions of **experimental acute pancreatitis in the dog**.

William H. Welch and Eugene L. Opie, of Baltimore, exhibited specimens that illustrated **hemorrhagic pancreatitis, both human and experimental** and a specimen of **filarial lymph-varix**.

William H. Welch, W. G. MacCallum and Buckley, of Baltimore, exhibited specimens of **multiple myelomata** and of **epizootic hemorrhagic encephalitis**.

(To be Continued.)

NINETEENTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

(Continued.)

2D SESSION.—V. Struempell of Erlangen in the chair. The second session was devoted principally to a discussion of the papers read at the first session. Schott of Mannheim considered the strengthening of the heart itself of prime importance, the effect on the vasomotors secondary; a more powerful systole acts at the same time as a stimulant to the vasomotor nerves. The effect of the heart stimulants is largely dependent upon the concentration and mode of application, especially in the case of camphor. Jacob of Cudowa confirmed the statement that digitalis has no effect in lesions of the aortic valves, and explained this failure of the drug by the fact that the heart is already performing the utmost possible amount of work; a stimulant cannot, therefore, increase the heart action. Lang of Marienbad called attention to the poor and varying preparations of digitalis as the cause of varying action of the drug. This is especially the case with the infusions. The action of the drug can often be increased by combining it with other stimulants, especially alcohol. Heintz of Erlangen remarked that the finely powdered drug often gives much better results than a coarsely powdered preparation. Goldscheider of Berlin warmly recommended the use of 0.1-0.2 gr. digitalis *pro die* for months at a time, in cases with a tendency to frequent recidivation. Goldscheider recommended the gradual discontinuing of the drug, gradually decreasing the dose for weeks. He believes that one can obtain more exact results with digitoxin. Hirsch of Leipzig described the experiments made by himself and Beck on the determination of the viscosity of the blood. The viscosity of the blood is not due to the corpuscles alone, but also due to the composition of the blood serum. He has found that it is to some degree dependent upon the nutrition of the animal. He found that no proportion existed between

the specific weight and the viscosity of the blood. Ewald of Berlin emphasized the necessity of removing the pressure of exudations and transudations upon the walls of the blood vessels, and demonstrated an apparatus devised by Dehio of Dorpat to aid in the sacrifice of edema. Ewald pointed out further that digitalis can cause digestive disturbances, even when given in the form of a clysm, or in a suppository, and considered the anorexia due to the influence of the drug upon the nervous centre. Friedel Pick of Prague mentioned the action of digitalis in lessening edema by the contractile effect of the drug on the blood vessels. Hydrastin acts advantageously in the same way. Unverricht of Magdeburg noted the poor quality of many digitalis preparations. He judges the effect of a given preparation from the amount of digitoxin it contains. Unverricht recommended the dialysates prepared by Golaz, which contain constant quantities of the glucoside. He considers digitoxin better than any of the other digitalis preparations. The speaker considered the continued use of the drug to be disadvantageous, on account of the cumulative action of the drug and the further results—digitalism and anorexia—which latter he has also been following the use of the drug *per rectum*, and which he also considers of central origin. Rosenstein of Leiden praised strophanthus, which he uses almost exclusively in his clinic, and which he prefers because strophanthus causes no stomach disturbances. The French clinicians use the drug extensively. Camphor, because of its transitory action, should be confined to cases of immediate danger, but in such cases should be used more frequently than it is. In regard to the viscosity of the blood Rosenstein mentions the view long held by English authors that anemic murmurs are caused by a changed composition of the blood. He does not believe in the idea suggested by Hirsch that a change in the viscosity of the blood can cause hypertrophy of the ventricles. Naunyn of Strassburg considers the old *infusum digitalis* the most valuable preparation. His experiments with digitoxin were negative. He does not believe in the cumulative action of digitalis nor in the bad effects on the stomach. He uses the drug in long continued small doses. Grodel of Bad Nauheim has never seen digitalism, either in a form similar to morphinism, or that his patients ceased to react to the drug. He does not believe that the drug lengthens the patient's life, but that it does make their last years more comfortable. Of course one must sometime change the drugs, or cease giving it, according to the conditions. Rosenfeld of Stuttgart has returned to the infusion, having obtained no results with digitoxin. He thinks this due to the fact that the latter is prepared from the stems as well as the leaves, and the stems contain varying amounts of the active principle. In order to retain the good effects of digitalis Rosenfeld recommends the use of *adonis vernalis* as a tea, a tablespoonful to a cup of water, 1-2 daily. Schreiber of Goettingen discussed the value of the determination of the viscosity of the blood. Baeltz of Tokio, Japan, recommended the use of digitalis *infusum*. Next to digitalis ranks strophanthus, which is of especial value if one wishes to attain results in a short time. Baeltz also recommends *adonis vernalis* in the form of tea as a substitute for digitalis. He does not consider digitalism rare. Pranke of Munich suggested that investigators direct their attention more to the action of drugs on the normal organism before directing taking up pathological conditions. Ott of Prague called attention to the difference in digitalis gathered in different parts of the same country, and to the action of carbonic acid on the heart. Gottlieb confirmed Ott's statement in regard to the different toxic effects of preparations of different origin. The physician should know not only how much he prescribes, but also the toxic equivalent of the prescription. Sahli repeated that there is no difference in principle between any of the digitalis preparations. He uses strophanthus often, but the preparations vary considerably. The best preparation is the French strophanthin in the form of pills. Sahli has experienced disturbances in the digestive tract following the use of strophanthus, especially diarrhea. He has seen

good results with digitoxin, but it often has little effect, possibly because it acts too strongly on the blood vessels. He warns against proclaiming it as a complete substitute for digitalis. Smith of Schloss Marbach; "The Examination of the Function of the Heart and some Facts Derived Therefrom," claims to have found dilatation of the heart to be an etiological factor in certain forms of neurasthenia, melancholy, hypochondria, etc., etc., after curing the heart trouble Smith's patients recovered, or at least were improved.

Hoffman of Schloss Marbach; "The Objective Effect of Modern Internal Heart Stimulants on the Heart Function."

Schott of Mannheim; "The Pulse Tension in the Treatment of Chronic Heart Disease." Schott finds by means of Gartner's tonometer that his balneological-gymnastic treatment is followed in certain cases by an increased pulse tension; in these cases his method is indicated. In certain other cases, as in the advanced stages of arterio-sclerosis or myocarditis, and in aneurism of the heart or the aorta, the pulse tension is lessened and the treatment is contraindicated.

GREAT BRITAIN.

Divers' Diseases and Perils.—The *London Globe* quotes: The latest report on the health of the navy contains some important remarks on the accidents and diseases caused by diving operations, contributed by Surgeon Henry N. Stephens, Royal Navy. The diving operations in his Majesty's navy are carried out by men who received a special training in this branch at one of the three gunnery establishments. The principal causes of rejection are (1) tobacco heart; (2) alcoholic subjects are rejected on the slightest suspicion; (3) degeneration of the blood vessels. Bull-necked men are rejected if over thirty-five years of age on account of their tendency to apoplexy, and men are rejected who suffer from nervousness. In the novice the effects of diving may be classed under two headings, namely, (1) hunger, (2) sleepiness. In the first place, the digestive functions are stimulated by one or a combination of the following causes: (a) Owing to the increased pressure of air while diving, there is probably an increased metabolism in the body, nature calling attention to this by an increased appetite. It is proved by the following case that the blood becomes hyperoxygenated by inhaling compressed air while diving; (b) the lightness of the man's breakfast may also partially account for his hunger. Secondly, sleepiness, which is induced after diving may be (1) produced by reaction after excitement; or (2) may be an effort of nature to make up for increased metabolism; or (3) the after effects of congestion of the blood vessels of the brain. Suffocation may be caused by defective apparatus, injury to the air pipe, or insufficient knowledge of the diving apparatus. Fainting or loss of consciousness is of frequent occurrence, and, when the diver is a beginner, is attributed to nervousness. This is often entirely unknown to the diver (the loss of consciousness). The officer instructing divers in this establishment describes it thus: The man is signaled to and asked if he is all right, and he does not reply. He is then signaled to come up and still there is no reply; then he is pulled up to the surface, when he often regains consciousness and strikes out to get hold of the ladder. The man when questioned about it says he did not notice the signals, or that he does not remember anything about it. The signals are good heavy pulls on the breast rope. When a man goes under the surface of the water his body is subjected to considerable pressure in proportion to depth, varying from eight and a quarter pounds to the square inch at twenty feet depth to sixty-five and a half pounds to the square inch at 150 feet depth. In conclusion, Surgeon Stephens recommends that no man should go down after a heavy meal, probably two hours after a light breakfast being the best time. No man should ascend or descend more quickly than one foot per second in shallow water, that is, under five fathoms, and in deeper water one foot in five seconds, with frequent stoppages to allow the ears to be eased and the body to accommodate itself to the altered pressure. He should take about fifteen minutes to descend twelve fathoms, including stoppages. No man should be allowed to stay at a depth of fifteen fathoms for

longer than one hour at a time without coming to the surface.

The Registration of Plumbers.—The *British Medical Journal* states that at a meeting of representatives of district councils for the National Registration of Plumbers, held at London, on April 24th, it was reported that since the conference of Health and Water Authorities and Plumbers, held in Birmingham in October last, 2,082 operative plumbers and 494 master plumbers have been registered, and that numerous applications for registration remained to be dealt with. On the motion of Dr. Alfred Hill, Medical Officer of Health, Birmingham, it was resolved that apprenticeship should be encouraged in connection with the National Registration of Plumbers.

King Edward has made Sir William Henry Broadbent, M. D., a Knight Commander of the Royal Victorian Order, and Dr. A. R. Manley, who has been for many years surgeon apothecary to the Prince of Wales, a member of the fourth class of the same order.

CONTINENTAL EUROPE.

Valuable Discovery.—The well-known Austrian scientists, Professor Loeffler and Dr. Uhlenbuth, announce that they have discovered serum which will protect animals against the foot and mouth disease. This serum affords to animals inoculated with it immunity for from four to eight weeks against infection from the disease. As soon as Drs. Loeffler and Uhlenbuth receive the authorization of their Government the new remedy will be placed at the disposal of the public.

The Military Step.—Dr. Colin, of the French Army, has published (*La Salud*, January, 1901) the results of his investigations regarding the effects which the regulation military step of the disciplined soldier produces on his health and on his constitution. The regularity of the military step causes an indefinite repetition of the shock affecting the bones and the brain which is much more prejudicial than that produced by an irregular walk. Dr. Colin attributes to the regular and uniform repetition of this shock on the same parts of the body much of the pains and diseases peculiar to the soldier. During the march of a single day this shock is repeated 40,000 times, and the strongest men, who can walk a long distance without fatigue when using the ordinary step, yield to the tension caused by the military step after two or three days. Dr. Colin proposes that the heel of the military shoe be made of rubber. The French infantry have begun to adopt this kind of heel, and it seems to afford some relief to the soldier. The Government still continues to experiment with the rubber heels.

Prof. A. von Eiselberg, a pupil and assistant of Billroth and now professor at Koenigsberg, has been appointed to the chair of surgery at Vienna made vacant by the death of Professor Albert.

Hypnotism in Hungary.—On account of the number of crimes committed of late in Hungary, which have been attributed to hypnotic influence, the Hungarian government has prohibited the practice of hypnotism except by medical men and under special permission.

Death of Bizzozero.—The illustrious Italian Pathologist, Giulio Bizzozero, died on April 8, aged 56. His illustrious achievements in histology and biology are well known. He was an untiring and conscientious worker and has contributed many valuable articles embracing original research, to medical literature.

Professor Brouardel, the Dean of the Paris Faculty of Medicine, will not permit his name to be considered for re-election when his term expires in 1902. He has been Dean of the Medical Faculty for 15 years now.

Dr. Lannelongue, Professor of Surgery in Paris, Surgeon to the *Hôpital des Enfants Malades*, has received a médallion, his portrait engraved by Chaplain, from his former students, for his services during the last International Medical Congress.

Professor Rudolph Virchow will attain his 80th year on October 13th, and preparations are being made to celebrate the occasion in a manner commensurate to his position in the scientific world.

Women Physicians of Switzerland have succeeded in having a new hospital exclusively for women, opened in Zurich. The plant costs about 500,000 francs. The physicians are

exclusively women, and a training school for nurses is connected with the institution.

Correction.—We beg leave to call attention to an omission which occurred in the *Philadelphia Medical Journal* of April 13, 1901, in the article entitled "Ligation of the Carotid as a Preliminary Operation to Resection of the Superior Maxilla," namely that the article constituted the advanced sheets of the *Beitraege zur Klinischen Chirurgie* which were sent by the courtesy of Prof. Bruns, the editor.

Lepers in Russia.—According to statistics there are 862 lepers near the Baltic Sea.

A New Veterinary Bacteriological Laboratory.—An institute is being established in Moscow for the purpose of studying infectious diseases in animals.

A Kind-hearted Physician Dies a Pauper.—A well-known physician died recently in Kharkow who devoted his life to the poor. He gave them not only free medical advice, but the greater part of his earnings. He was buried by the police.

An Over-supply of Medical Journals.—The epidemic of medical journalism is invading even Russia. A number of medical journals general, as well as special, made their appearance within the last year. Referring to one of them, the *Medicinskoie Obozrenie* remarks that such a rapid growth, which is out of all proportion to the demand, not only endangers the life of the journals already existing, but tends to lower the standard.

A New Laboratory for the Study of the Plague.—An extensive and costly laboratory is being established in Kronstadt for the purpose of studying the plague, as well as for preparing serum.

American Treatment of Appendicitis.—Prof. Eichhorst calls the operative treatment of appendicitis the "American" treatment. That the Americans may not be so far from right in their treatment has just been evidenced in Prof. Eichhorst's own clinic, where a case of pulmonary gangrene has developed from an appendicitis treated by "passive therapy." The case is: A boy of 13 years was brought into the hospital on March 23, suffering with appendicitis. Treated with opium and cataplasms, the attack passed off. But on April 17, the boy began to cough up the typical sputum of pulmonary gangrene, and now the lower lobe of the right lung, with a suspicion of participation on the part of the left lung is involved. There is considerable exudative pleurisy. The prognosis is not very favorable. Some bacteria have been found in the boy's blood but they have not as yet been identified.

Russia.—It is proposed to increase the salary of the professors of the Military Medical Academy in St. Petersburg. The professors in charge of clinics are to receive 6000 roubles (3000 dollars) a year, while those who are free from such duties will get 4000 roubles (2000 dollars).

The Minister of Public Instruction, who received a gunshot wound during the recent riots, died as a result of suppuration. The number of male medical students is gradually decreasing, while the female students are on the increase.

In 1898 the Russian Government established a monopoly of the liquor traffic, with a view of limiting the sale and abuse of intoxicants. It appears now that within the last two years drunkenness and crime increased considerably.

Sexual Impotence Following Gonorrhea.—Professor Filaretopoulos, of Athens, has written in *L'Independance Medicale* (1901, No. 16), upon sexual impotence following gonorrhea and its complications. Gonorrhea affects the human generative function in two ways, causing inability to copulate, or total absence of spermatozoa. The latter follows orchitis or prostatitis. While theoretically double epididymitis or orchitis ought to prevent the occurrence of spermatozoa, they are, nevertheless, sometimes found. Filaretopoulos has seen four such cases. Following premature erection, which is common with gonorrhea, absolute impossibility of erection eventually results. Gonorrhea may cause latent or apparent spermatorrhea; or it may produce urethral stricture. In some of these cases urethrotomy may effect a cure, virility possibly returning after operation. [M. O.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

April 27th, 1901.

1. Presidential Address on Traps and Pitfalls in Special and General Practice. J. DUNDAS GRANT.
2. Remarks on the Training of Ophthalmic Surgeons. A. FREELAND FERGUS.
3. On the Advisability of the Inclusion of the Study of Anesthetics as a Compulsory Subject in the Medical Curriculum. DUDLEY W. BUXTON.
4. On Certain Practical Applications of Extract of Suprarenal Medulla. E. A. SCHAFER.
5. Suprarenal Gland Extract in the Epistaxis of Hemophilia. DAN McKENZIE.
6. The Dietetic Value of Sugar. H. WILLOUGHBY GARDNER.
7. A Preliminary Note on the Hibernation of Mosquitos. H. E. ANNETT, and J. E. DUTTON.

3.—Buxton advises that the study of anesthetics be introduced into the medical curriculum as a compulsory subject. He advises a course which shall include lectures dealing with the theory of anesthesia, its physiology, pharmacology and practice. The student should have acutely administered nitrous oxide gas, ether and chloroform. As a minimum, 50 cases might be accepted at which the student has been present and of these at least 12 should have been conducted by him from start to finish. [J. M. S.]

4.—As the result of numerous experiments which have been conducted in Schafer's laboratory by Slight, Malcolm, and Frost, which are not yet published nor entirely finished, he feels justified in suggesting that a trial should be made of the extract of suprarenal medulla in all cases in which it is desired to strengthen or to induce uterine contraction. The observations which have hitherto been made show that his extract has a far greater power in causing contraction of the muscular tissue of the uterus, whether pregnant or nonpregnant, than any other drug having the same reputed action, and this whether the extract be applied directly to the muscular tissue or be introduced into the circulation. Since the active principle is unaffected by the gastric juice, it can be given by the mouth, but in postpartum cases it would doubtless be more advantageous to inject it directly into the uterine cavity, where it would only tend to produce immediate contraction of the uterine musculature, but also of the uterine arterioles, and thus more effectually control accompanying hemorrhage. The solution which I would recommend to be used is an infusion of dry medullary substance, 30 grs. to the pint of water. This should be sterilized by boiling and inject whilst still fairly hot. Such a solution is a powerful styptic, and its value in this respect may be still further increased by the addition of 60 grs. of calcium chloride. Another class of cases in which the extract in question may prove of great clinical value are those of sudden cardiac failure. In these cases the sterilized decoction, which may be of the strength of 5 grs. to a fluid ounce and must be filtered, should be injected with a hypodermic syringe very slowly into a superficial vein, or even, in extreme and apparently hopeless cases, into the heart itself through the thoracic wall. [J. M. S.]

5.—McKenzie reports case of a boy, aged 13 years, who had been suffering from bleeding at the nose for 10 days. A solution of suprarenal gland was applied locally with immediate success. The patient presented a clear history, hereditary and personal, of the hemorrhagic diathesis. [J. M. S.]

6.—The Anglo-Saxon may be distinguished as the sugar-eating race. The characteristics of that race are its energy, robustness and vigor, its pluck, and its power of endurance. The great feature in the metabolism of all carbohydrates is that they are completely oxidized in the

body into water and carbonic acid, without waste, and without residue. Sugar it is not acted upon by the saliva, except in so far as it may be dissolved or further diluted. In the stomach it is partly changed into dextrose by the gastric juice and, to a small extent, absorbed. The greater part, however, passes into the small intestine, where it is rapidly changed into grape sugar-dextrose. It is then quickly absorbed into the portal blood and is carried by it to the liver, where it is stored as glycogen in the hepatic cells. This glycogen is again turned into grape sugar when it is required for use and in this form undergoes oxidation in the tissues, splitting up into CO_2 and H_2O , liberating kinetic energy in the process. This kinetic energy may be utilized either for the production of heat or for mechanical work. Sugar is easily digested and absorbed. It is readily stored up as glycogen, forming a reserve of force-producing material. It is, in this form, readily available when required. It becomes completely oxidized without waste and without residue. It can, under certain circumstances, be converted into fat, in which form, also, it can be stored up in the body and so be capable of producing heat and force in the future. It is also what is called a proteid-sparing food, that is, it will save the wear and tear of the proteids of the body, being used up instead of these substances. Then, again, it is pleasant to take, and thus acts as a relish, stimulating the activity of the digestive processes. So, it would seem that the theoretical considerations derived from a study of the chemical and physiological properties of sugar, the experiments upon animals and upon men in the laboratories, the general instinct of mankind leading it to increase its consumption of sugar wherever it can, the experience of different races in widely different climates, the energy and vitality of the great sugar-eating races, the experience of athletes, and lastly, the experiments conducted upon a large scale in the German army all point to the same conclusion—all tend to show the great value of sugar as an article of diet. If sugar is such a valuable food it is likely to be of value in the numerous cases in which nutrition is at fault, such as simple marasmus, phthisis, and in the condition of malnutrition in those who inherit a predisposition to phthisis. For growing boys and girls it is also needed, and we often find their nutrition suffering owing to a popular prejudice against sugar. For the aged and for convalescents it is probably one of the best of foods. Those who are gouty and fat must avoid sugar, but those who are gouty and thin, while their nitrogenous food, especially red meat, soups, etc., must be strictly limited, may use the sugars and starches without much fear. [J. M. S.]

7.—Annett and Dutton have found that mosquitoes of both genera, *Culex* and *Anopheles*, hibernate during the winter months in England. It seems certain that not only the adults but also the larval forms provide for the continuation of the species during the cold weather. [J. M. S.]

LANCET.

April 27th, 1901.

1. A Clinical Lecture on the Sometimes Successful Treatment of Cases of Apparently Incurable Blindness. CHARLES BELL TAYLOR.
2. On Two Cases Bearing Upon the Question of Limitations of Enterectomy. ARTHUR E. BARKER.
3. On Hour-Glass Stomach; with List of Six Cases Operated upon by the Writer, etc. B. G. A. MOYNIHAN.
4. Reversed Pulsus Paradoxus due to Aneurysm of the Aortic Arch. JOHN HAY.
5. Case of a Parasite—"Argas (or Ornithodoros) Mégnini" Dugès—in Each Ear. J. CHRISTIAN SIMPSON and E. G. WHEELER.
6. A Case of Belladonna Poisoning; Morphia Used as an Antidote. PETER D. STRACHAN.
7. Dermatitis from Arsenic in Stockings. F. W. TUNNICLIFFE.
8. Tetanus Puerperalis. KEDARNATH DAS.
9. Mercury and Iodide of Potassium Internally Given with Pilocarpine Hypodermically in Disease of the Eyes. G. HERBERT BURNHAM.

1.—Charles Bell Taylor, in a Clinical lecture on the sometimes successful treatment of cases of apparently incurable blindness, calls the attention of the profession to electricity as a therapeutic measure which is of especial use on account of the electrical conductivity of the eyeball. The facility with which a current can be passed through the eyeball along the optic nerve to the brain makes it all the more remarkable why electricity is not employed more frequently. He not only considers electricity of value in cases of ocular and facial palsies, but even considers it a means for restoring power in neuritis and degenerative changes such as accompany and follow attacks of influenza, diphtheria, diabetes, typhus, typhoid, rheumatic, and other fevers. He reports a case of blindness caused by optic neuritis in which sight was restored under the employment of a powerful galvanic current. He recommends elaterin in detachment of the retina. He makes a strong plea for vivisection. [M. R. D.]

2.—Arthur E. Barker reports first the case of a woman 58 years of age who suffered from a carcinoma of the transverse colon complicated by a long-standing diabetes. At the time of operation the urine contained 6.6% of sugar. At the operation $4\frac{1}{2}$ inches of the colon were removed and an end-to-end anastomosis made by means of a silk suture. The patient made a good recovery from the operation, and after the use of codeine, the per cent. of sugar decreased rapidly. The abdominal wall suppurated and there was discharged from it a slough of omentum which had been found adherent to the growth and separated at the time of operation. There was for a while a discharge of fecal matter from the wound, but this subsequently ceased, and the wound healed satisfactorily. Barker thinks that where gentleness is used in the manipulation of the tissues and careful asepsis observed that many operations which are now declined might be performed in the presence of glycosuria. The second case reported is that of a feeble woman aged 76 years, who suffered from strangulated ventral hernia. In this case it was found necessary to excise $5\frac{1}{2}$ feet of small intestine, after which an end-to-end anastomosis was made. The patient made a satisfactory recovery, the wound healing without trouble. Subsequent to the operation there was some slight diarrhea, which was easily controlled. Barker thinks that it is oftentimes better to remove a strangulated portion of bowel, the vitality of which is questionable, rather than to return it with the possibility of subsequent palsy, perforation or adhesion. [J. H. G.]

3.—B. G. A. Moynihan discusses first a case of hour-glass constriction of the stomach, and expresses very strongly the opinion that this condition is rarely, if ever, congenital. Acquired hour-glass stomach is attributed to four causes: first, perigastric adhesions; second, ulcer with local perforation and anchoring to the anterior abdominal wall; third, circular ulcer with cicatricial constriction; and induration and fourth, cancer. The usual symptoms of this condition are those of a dilated stomach supervening upon chronic ulcer of the stomach. Two signs which are of assistance here are, first, the fact that upon introducing fluid into the stomach it seems to disappear altogether and does not return through the tube. This, of course, is explained by the passage of the fluid into the second compartment. Second, that upon washing out the stomach until the fluid returns clear, a sudden unlooked-for gush of foul fluid occurs; or if, after apparently thoroughly cleansing the stomach, the tube is again introduced, then through it may pass an amount of foul fluid due to reflux of the contents of the pyloric cavity through the stricture. The author has also observed that upon distending the stomach with CO_2 , the bubbling and gushing of fluid through a narrow chink could be heard with the stethoscope. The symptoms, of course, are influenced by the situation of the constriction. The operation for the relief of this condition will depend upon the condition found at the time of operation, and will consist in gastroplasty, gastro-gastrotomy, gastro-enterostomy and partial gastrectomy. While the process of ulceration is still active it is unwise to perform gastroplasty, but if the ulcer has healed entirely and there are no adhesions, the operation can be done with the expectation of recurrence. When the condition is due to cancer of course a partial gastrectomy must be performed. [J. H. G.]

4.—Hay reports a case of aneurysm of the aortic arch in which the pulse of the carotids and right radial arteries had the reversed character of the pulsus paradoxus.

There was a very marked diminution in the volume of the pulse during expiration, and with the respiratory variations there was present a definite anacrotic wave. Upon post-mortem examination an aneurism was found which involved chiefly the posterior portion of the aorta in the region of the transverse arch. The left carotid and innominate arteries sprang from the anterior surface of the arch instead of from the convexity, on account of the distention of the aorta. With each expiratory excursions these blood vessels were compressed against the bony thorax. [F. J. K.]

5.—Simpson reports a case, in which a live animal parasite, a species of tick (*argas mégnini*), existed in each ear for fully two months without producing local or general symptoms sufficiently severe or annoying to necessitate surgical examination during this time. [F. J. K.]

6.—Stracham reports a case of **belladonna poisoning** in which **morphia** was used as the antidote. The case was that of a boy, five years of age, who had been given a large tablespoonful of glycerine of belladonna. The symptoms of belladonna poisoning developed rapidly. The sulphate of morphia was given hypodermatically on several occasions and recovery followed. The case is of particular interest in view of the fact that the child showed a remarkable tolerance for belladonna and that morphia was an effective antidote. [F. J. K.]

7.—Tunncliffe and Rosenheim give an account of two cases of dermatitis from arsenic in stockings. [F. J. K.]

8.—Das discusses **tetanus puerperalis** and states that on account of the rarity of this almost fatal complication of the puerperal state, he feels that a report of a case, successfully treated, warrants publication. The case was that of a Hindoo female, 23 years of age, who was delivered on July 20, 1900, of a full-term child. The child died on the 10th day of trismus neonatorum. On July 30th the mother developed stiffness of the muscles of the neck and jaw. On August 3 symptoms of tetanus were well defined. There was opisthotonos, the jaw was locked, the temperature was 100.2°F., and the pulse rate 120 per minute. An enema of soap and water was immediately given and followed by a rectal injection of 40 grains of chloral hydrate. Five grains of calomel were administered by mouth and a uterine douche of bichloride of mercury was given at once. During the course of her illness she was kept under the influence of chloral, and apomorphin was administered hypodermatically. On several occasions intracellular injections of normal salt solution were employed so as to aid in the elimination of the toxin. The spasms subsided in about six weeks. [F. J. K.]

9.—Bernhan highly recommends the use of mercury and iodide of potassium internally, given with pilocarpin hypodermatically in disease of the eyes. This treatment was used successfully in a case of sclero-keratitis and in a case of acute sympathetic ophthalmia. [F. J. K.]

MEDICAL RECORD.

May 11, 1901.

1. The Toxic Origin of Neurasthenia and Melancholia. M. ALLEN STARR.
2. Potain's Simple and Accurate Method of the Percussion of the Heart (with Post-mortem Verifications). GEORGE M. CONVERSE.
3. The Treatment of Pneumonia, Including the Hypodermic Injection of Saline Solution. F. NEUHOF.
4. Syphilis in the Well-to-do. J. A. McDONALD.
5. Subarachnoid Spinal Cocainization as a Means of Inducing Surgical Anesthesia. E. N. LIELL.

1.—M. Allen Starr describes a type of **neurasthenia and melancholia of toxic origin**, the chief symptoms of which are headache, dull pressure in the head and back of the neck, sensations of fulness in the head, with inability to concentrate the attention, of temper. manifest irregularities of the circulation, shown by cold extremities, and by frequent flushings and burnings. There are general disorders of digestion, frequently with eructations of gas, and irregular and offensive stools. The urine at times contains a large quantity of indican or indoxyl. It is usually irregular in quantity, of high color and high specific gravity, but may be the reverse. A mild state of melancholia is usually associated with the neurasthenia. Patients in this condition present cycles of depression and well being. Starr believes that the cause resides in some toxic agent

which accumulates in the blood during the period of sleep which reaches the point of irritation early in the morning, which is counteracted by the activity of the day, and hence is less intense in its action towards the afternoon. He theorizes that this toxic agent is manufactured either in the intestines or the stomach. As to treatment the diet should be carefully directed, and the alimentary tract treated as indicated. Baths and exercises are of value. [T. L. C.]

2.—George M. Converse advocates **Potain's simple and accurate method of the percussion of the heart** and presents postmortem verifications. The percussion stroke must be moderate in force, precise and single. The percussion must be concentric, that is, must proceed from points situated at a little distance from the heart, some 3 or 4 cm. toward its periphery. On reaching the border of the heart there occurs a slight difference in the intensity of the sound, and what is most important, a sudden rise in pitch. Here the percussion stops. Potain makes a tracing of the projection of the heart on the chest wall which is mapped out by three lines and three angles. The first corresponds to the curved border of the left ventricle, and forms the left boundary of the dulness. The second line forms the right line of the dulness and corresponds to the right border of the right auricle, and to part of the ascending aorta. The third line should correspond to the curved border of the right ventricle, but as this cannot be distinguished, usually by digital percussion, a straight line is drawn from the upper border of the liver at its point of junction with the right border to the apex. Of the three angles, the right inferior has already been determined, since it is formed by the junction of the right border with the lines of the liver. The left inferior angle is rounded and corresponds to the apex. The superior angle, also rounded, corresponds to the point at which the aorta leaves the immediate vicinity of the sternum to take its course backward. With these attentions it will be found that these tracings may be verified exactly by the post mortem findings. [T. L. C.]

3.—F. Neuhoff discusses the **treatment of pneumonia including the hypodermic injection of saline solution**. As to the latter in acute croupous pneumonia, he believes it is a useful adjunct in selected cases. It acts as a powerful heart stimulant when other remedies can no longer sustain the flagging circulation. It increases the secretions, moistens the tongue and throat, as well as the skin, and lessens delirium. It is contraindicated in pulmonary edema. [T. L. C.]

4.—J. A. McDonald contributes a paper on syphilis in the well-to-do. In 145 adults with acquired syphilis he divided the cases in the following manner. 1st. (and to which 65% belong), were those having mild transitory lesions which left no trace when they had disappeared. The 2d class included 26% of the cases, were those showing destructive lesions of any sort whatever, from the pustular eruptions which left scars, to the necrosis of bones. In the 3d class, numbering 6% of the cases, were included those which exhibited considerable severity for a time, but which finally cleared up completely, leaving no trace. He concludes that the prognosis of syphilis should not alarm us, especially in the well-to-do, in whom it seems particularly amenable to treatment. [T. L. C.]

5.—E. N. Liell presents a contribution to the study of **subarachnoid spinal cocainization** as a means to inducing surgical anesthesia. He mentions the usual causes of failure which may be due to inert cocain solutions, idiosyncrasy to the drug, faulty technique, or too small a quantity of the drug employed. The ill effects of the treatment are nausea and vomiting, headache, increased temperature, increased pulse rate, and sometimes vertigo, pallor and prostration. He believes that this method has passed the experimental stage, and that we are justified in entertaining the hope that it will have its field for practical usefulness along with ether, chloroform and nitrous oxide. [T. L. C.]

NEW YORK MEDICAL JOURNAL.

May 11, 1901. (Vol. LXXIII, No. 19.)

1. Atonia Gastrica and a New Method of Treatment. A. ROSE.
2. What Constitutes Sexual Intemperance. W. J. S. STEWART.
3. The Pathology, Diagnosis, Special Prophylaxis and

Treatment of Tuberculosis of the Skin. JOHN A. FORDYCE.

4. Primary Chancre of the Septum of the Nose. W. FREUDENTHAL.
5. Syphilis of the Nervous System. B. ONUF (ONUFROWICZ).
6. Acute Strangulated Femoral Hernia on a Puerto Rican Hillside. P. R. EGAN.

3.—Fordyce's treatment for tuberculosis of the skin is as follows: (1) Depends upon the form; (2) The extent of tissue involved; (3) Locality implicated. In tuberculous ulcerations about the orifices, usually preceded by grave pulmonary or intestinal tuberculosis, in most cases local remedies which alleviate without holding out any prospect of permanent cure must be used. Iodoform is the best, as it relieves pain and promotes healing. A more radical remedy is the Paquelin cautery under local anesthesia. Anatomical tubercle and other forms of papillary tuberculosis of the extremities are best removed by the curette after local anesthesia. Total excision of the patch with skin grafting is also recommended, especially in lupus of the face. [T. M. T.]

4.—Freudenthal states in his article on primary chancre of septum of the nose that it is not always essential that a lesion of the epithelial layer be necessarily present before a syphilitic infection can take place. Most of the cases of extragenital chancres occur in and around the mouth and in many instances a lesion has not been found. It is well known that the virus of syphilis is one of the most energetic and certain of animal contagions, and exerts its power whenever and wherever it can find a suitable opportunity differing from tuberculosis. The condition is mostly transmitted by kissing and through drinking cups, and at the present day is not very frequent.

[T. M. T.]

5.—Onuf gives the special characteristics of cerebro-spinal syphilis to be paralysis of single cranial nerves, especially that of the ocular nerve. Recently Sachs has pointed out the irregular manner of contraction of the pupil, in cases of cerebro-spinal syphilis, and believes it to be characteristic. The author says that there is no doubt that it is frequently met with in this disease, but is also observed quite commonly in general progressive paralysis and sometimes locomotor ataxia. He does not entirely agree with Sachs, and thinks the irregular shape of pupil is not so typical as the very contracted or pin head pupil which is more characteristic of syphilis, than the irregularly shaped pupil. Vertigo is another symptom which should put one on one's guard for cerebral syphilis, although it occurs in other diseases. [T. M. T.]

MEDICAL NEWS.

May 11, 1901. (Vol. LXXVIII, No. 19.)

1. Practical Food Prescribing. FLOYD, M. CRANDALL.
2. Studies in the Bacteriology of Typhoid Fever, with Special Reference to its Pathology, Diagnosis and Hygiene. PHILIP HANSON HISS, JR.
3. Restoration of Useful Vision in a Complicated Case of Acute Inflammatory Glaucoma of Ten Days' Duration with Visual Acuity Reduced to the Perception of Light. C. A. VEASEY.
4. Rupture of the Right Kidney; Nephrectomy; Recovery. G. R. TROWBRIDGE.

1.—Crandall classifies the knowledge required by practitioners to become good infant-feeders as follows: (1) A knowledge of breast milk; (2) Artificial foods, their chemistry and physical composition; (3) Good cow's milk and how it is to be secured; (4) The differences between cow's milk and breast milk; (5) The modifying or adapting of cow's milk to each individual infant; (6) The character of the food required in health and disease. He also gives two tables, one explaining the proportion of fats and proteids in the upper nine or fifteen ounces of milk and cream:

7	ounces	top	milk	contain	16	per	cent.	fat,	4	per	cent.	proteid
8	"	"	"	"	14	"	"	"	4	"	"	"
9	"	"	"	"	12	"	"	"	4	"	"	"
11	"	"	"	"	10	"	"	"	4	"	"	"
15	"	"	"	"	08	"	"	"	4	"	"	"
20	"	"	"	"	06	"	"	"	4	"	"	"

and a table when the requisite per cent. of fats and proteids are established for the amount of sugar required—
1 part sugar to 20 parts food adds 5 per cent.

1	"	"	"	25	"	"	"	4	"	"
1	"	"	"	33	"	"	"	3	"	"
1	"	"	"	50	"	"	"	2	"	"

—[T.M.T.]

2.—Hiss gives the following conclusions in his article on typhoid fever, dividing them into general and hygienic. Under general conclusions, he gives: (1) During the course of typhoid fever, usually after the first week, typhoid bacilli can frequently be obtained from the blood, spleen, rose-spots, urine, and feces, and in rarer instances, it is claimed, from the secretions or exudations of the mouth, throat and lungs. After death the bacilli have been demonstrated in these and other locations and lesions, such as the lymphatic tissues of the intestine, the mesenteric glands, bone-marrow, lungs, liver, kidneys, gall-bladder, etc.; (2) The bacilli, as far as can be determined from various observations, do not thrive or even survive long in the circulating blood. They are, however, able to live and multiply at some, at least, of the points at which they are deposited by the blood and lymph, thus forming bacterial foci within the tissues; (3) Morphological examinations of tissue sections to determine the relation of the bacilli to the lesions of typhoid fever have in most instances proved unsatisfactory and have given inconstant results. Some of the lesions, without doubt, occur at points remote from the bacilli. On the other hand, it is probable that the bacilli are intimately associated with many of the lesions, since wherever the bacilli, after gaining access to the tissues and fluids of the body, find lodgment and establish foci, the various products of bacterial metabolism and degeneration are thus concentrated and doubtless give rise to lesions at these points. Moreover, it is not unlikely that certain lesions occur only at points of localization of the bacilli; (4) Typhoid fever, therefore, is an infectious disease, in which a wide dissemination and multiple localizations of the bacilli are frequently demonstrable both during life and after death. During the course of the disease various tissue changes take place, some necrotic, others hyperplastic. Some of these lesions are at points remote from the inciting organisms; certain facts, however, point strongly to a close association of the bacilli with some of the more characteristic lesions, especially those of the lymphatic tissues; (5) There is a close connection, in time at least, between the appearance in, and disappearance from the intestinal contents, of the typhoid bacilli and the appearance and repair of the intestinal ulcers. The organisms are only very rarely demonstrable in the stools before the first days of the second week and disappear with the fall of the fever. During the period at which intestinal tissue destruction is most active they can be isolated with great regularity. When continuously absent in typical cases, this may be looked upon as indicating a probable scarcity or absence of intestinal lesions; (6) The urine in a certain percentage of cases contains the bacilli, though not often before the end of the second week. The organisms may not appear until very late in the disease or during convalescence. They may persist for days, weeks, and it has been claimed, for months, and are generally associated with albuminuria. Under hygiene: (1) The urine of typhoid fever patients should always be disinfected. From a hygienic standpoint bacteriological examination of the urine of patients convalescing from typhoid fever is important and should never be omitted before patients are allowed to go at large, so that proper precautions may be taken to guard against the dissemination of typhoid bacilli by the urine. This is an often neglected source of infection that should be seriously considered in the hygiene of typhoid fever; (2) Feces, of course, should be disinfected at all stages of the disease, but the organisms being present generally only from the beginning of the second week to the fall of the fever and the patient during this period usually being confined to bed, the feces are not such a source of infection to the community at large as the urine; (3) The bacilli may, on account of the lung and throat lesions, be present in the mouth of those suffering from typhoid fever, hence, the expectoration should be disinfected, as well as all eating utensils, etc., used by the patients. [T. M. T.]

4.—Trowbridge gives in rupture of the kidney the signs and symptoms as follows: A history of violence over the organ; hemorrhage per urethra; a sense of fulness about

the kidney, often discoverable by palpation; pain extending into the groin and testicle of the same side; weak pulse; pallor of mucous surfaces and skin, and signs of collapse. All these signs vary with the extent of the injury, although he does not think signs and symptoms should always be taken as an indication of the extent of the rupture. The hemorrhage may be severe, the blood clotting in the bladder and blocking the urethra, or it may be so slow, that in the absence of an exploratory operation the surgeon is misled, and sepsis and peritonitis result from too long delayed operation. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 9, 1901. (Vol. CXLIV, No. 19.)

1. Some Reported Cases of Typhoid Fever Attributed to Contaminated Oysters, with Certain Facts Concerning this Means of Infection. CHARLES HARRINGTON.
2. Experience with the Widal Reaction in Typhoid Fever. CHARLES F. WITHINGTON.
3. The Widal Reaction in Typhoid Fever. GEORGE B. SHATTUCK.
4. Means of Infection in Typhoid Fever. EL. N. WHITTIER.
5. Early Diagnosis of Typhoid Fever by Isolation of Bacillus Typhosus from Stools; Conclusions of Dr. L. Rémy Based on the Use of his Asparagin-Lactose-Carbol Gelatine. CALVIN G. PAGE.
6. The Fevers of the Philippines. JOSEPH J. CURRY.

1.—Harrington's article is a review of the literature concerning the transmission of typhoid fever by eating raw oysters.—[J. M. S.]

2.—The general experience of the past 4 or 5 years tends to confirm the favorable impression of the value of the Widal reaction as a diagnostic sign in typhoid fever. The usual 95% of successful results indicates, certainly, a valuable diagnostic aid. The limitations of the test, however, as to the time of its first appearance, which is rarely before the sixth day and often not before the ninth or tenth, are such as to deprive it of the value that one would like to attach to it for early diagnosis. Withington gives the results of the application of this test to the cases of typhoid fever in the Boston City Hospital for 6 months. During this period there were 253 cases of typhoid fever in the institution and of these there were 4% of failures. The author excludes 6 cases in which the evidence of typhoid fever is not conclusive, but in which the diagnosis of typhoid fever was made. If these cases are included there will be 259 cases with failures in a little over 6%. [J. M. S.]

3.—Shattuck refers to the paper of Withington, No. 2, as confirmatory of conclusions reached by him, in 1897, in a paper read before the Association of American Physicians. In his recent service at the Boston City Hospital there were 62 cases of typhoid fever, clinically, of which 3 failed to respond to the Widal test. [J. M. S.]

4.—The typhoid of city origin may be atypical and puzzling; care and restrictions may be as prolonged, but it is without the terror, the destructiveness, the lethal drift characteristic of country typhoids. Whittier refers, in his paper, to an epidemic of typhoid fever at Marton, Mass., due to eating raw oysters. [J. M. S.]

5.—Page refers to the method of Rémy, which was published in *Annales de l'Institut Pasteur*, Vol. XIV, 1900, and Vol. XV, 1901, for the separation of the bacillus typhosus from the stools and quotes his results. [J. M. S.]

6.—Some of the typhoid fever seen in the American troops in the Philippines may have been imported to Manila from San Francisco. But the great source of sickness among our soldiers was the old Spanish camp-grounds that our troops were obliged to occupy for military reasons. Malarial fever and dysentery were prominent features among the soldiers that were encamped on these old Spanish camp-grounds. At the First Reserve Hospital there were 653 cases of typhoid fever and of this number 15% died, a remarkable result for a tropical country and a high recommendation for the Medical Department of the Army. The immediate cause of death in over 1-3 of these cases was intestinal hemorrhage or perforation. The death rate was higher after the Philippine insurrection than before the outbreak, this is to be explained by the fact that the soldiers infected during the

existence of hostilities were more fatigued and had less resisting power. Curry has seen 16 cases of Malta fever among the soldiers in the Philippines. Compared with other tropical countries the malarial fevers of the Philippines are not severe. However, out of 20,000 cases admitted to the First Reserve Hospital, 23% were cases of malarial fever. The types met with are the same as those seen in other tropical countries. In the Philippines, however, the tertian type was much more common than the estivoautumnal variety. Out of 1,187 blood examinations malarial parasites were found in but 223. This is accounted for by the fact that as soon as an American soldier begins to have fever he begins to take quinine. The Anopheles are very common in the Philippines where malaria is common. There are many fevers of obscure origin met with in the Philippines which are being studied by the Army surgeons. It is possible that many of these will prove to be cases of Malta fever. There is a class of cases characterized by jaundice and enlargement of the liver that are known as hepatic fever. In a fatal case of this type there were multiple abscesses of the liver without previous dysentery. There was an acute duodenitis and the liver infection may have come through the bile ducts. [J. M. S.]

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 11.

1. The Diagnosis and Treatment of Injuries of the Head. JAMES H. DUNN.
2. The Relation and Position of Pelvic Organs; Examination of Patients. FRANKLIN H. MARTIN.
3. Four Cases of Calculi Impacted in the Ureter. Nephro-Ureterectomy. Abdominal Uretero-Lithotomy, Vaginal Uretero-Lithotomy. B. R. SCHENCK.
4. The Differential Diagnosis of Ectopic Pregnancy, with Especial Reference Between it and that of Early Uterine Abortion. HIRAM N. VINEBERG.
5. I. Union Following Pathological Fracture of the Femur Due to Secondary Carcinoma. II. Spontaneous Disappearance of Carcinoma of the Lip. LEONARD FREEMAN.
6. The Rational Use and Limitations of Therapeutic Measures Intended to Promote the Absorption of Exudates within the Eyeball. Medical Measures. RANDOLPH BRUNSON.
7. Suppurating Mastoiditis with the Report of Cases. Suppurating Otitis Media, Both Ears; Suppurating Mastoiditis on the Right Side, Abscess Extending into the Deeper Tissues of the Neck, Extradural abscess. J. H. BRYAN.
8. Remarks on the After-Effects of Operations for the Removal of Adenoid Tissue at the Vault of the Pharynx. E. L. SHURLY.
9. Medical Treatment of Actinomycosis. J. L. SAWYERS.
10. Tropical Abscess of the Liver. E. F. ROBINSON.
11. The Prevention of Insanity. DANIEL R. BROWER.
12. When Should we Operate in Appendicitis. DOUGLAS C. MARIARTA.
13. Operating under X-Rays. J. F. BALDWIN.

1.—James H. Dunn goes very carefully into the diagnosis and treatment of injuries of the head. He first of all lays great stress on the careful examination of the head after the hair has been removed. Shaving of the head not only enables the surgeon to observe the injury to the part, but also to observe and note the natural irregularities of the skull which otherwise might later be made the basis of a claim for damages. A hematoma with a hard rim about it is not infrequently mistaken for a fracture, but if steady pressure is made with the finger over this rim it will be found that an impression can be made in it, which would not be true if it were bone. He urges upon the general practitioner the great necessity of cleansing the nasal, oral, and aural cavities in all cases where a fracture of the base of the skull is diagnosed or suspected. The careful keeping of notes, both as to history and as to progress is advised and the giving of a most guarded prognosis. Excepting where symptoms of compression are marked or there is

hemorrhage which demands immediate operation, it is better not to operate at once in fractures of the vault but to wait until a thorough preparation of patient, instruments, etc., can be made, as sepsis is most important in these cases. Where depression is suspected it is better to make an exploratory incision rather than to remain in doubt. Dunn is of the opinion that it is better where symptoms would indicate a lesion of the brain on the side opposite that of injury, to trephine first at the point indicated by focal symptoms and then at the site of injury only in case of clear indication. The symptoms and treatment of rupture of the middle meningeal artery are next detailed. The author expresses the opinion strongly that many more cases of fracture of the base of the skull recover than is generally supposed. The deaths occurring late from this condition are usually due to infection and hence the greatest care should be observed in keeping the connecting cavities as clean as possible, by means of frequent spraying with antiseptic solutions. Brain abscess occurring from fracture of the base is usually so deep-seated and diffuse as to be beyond treatment and not infrequently there are multiple foci of suppuration. The prevention of cortical irritation from adhesion of tissues is next spoken of, and the author thinks that all the methods heretofore suggested of placing gold foil, gutta-percha tissue, egg-membrane, etc., between the scalp and the dura are impracticable and in most instances productive of cyst formation. The replacing of bone buttons or chips of bone is not recommended because of the tendency to necrosis; the later also excite connected tissue proliferation and produce even more pressure by cicatricial formation than would otherwise be the case. The author does not advise the use in traumatic cases of the plates of gold, silver, platinum, or even celluloid. He thinks that the best results are obtained by the careful preservation of the structures as they are divided and their careful and separate suturing after the operation is completed. The use of the osteoplastic flap is highly commended where it is practicable. The technique of opening the skull is finally described. [J. H. G.]

2. Martin, in speaking of the pelvic relations, remarks that under normal circumstances the free upper wall of the bladder does not lie in contact with the anterior wall of the uterus. That space, when not occupied with the bladder, normally distended, is filled with light, constantly moving, small intestines. If the uterus rested on the free superior wall of the bladder, as usually represented, it would never have a minute of equilibrium, but would constantly be moving about as the bladder filled and emptied, and as the cervix would remain comparatively stationary, the intra-abdominal pressure would impinge on a different portion of the uterus almost every minute of the day. His reasons for believing that the uterus occupies this position are the following: 1. Because it is the only position that the uterus can occupy in which it would not be subject to constant important changes in position with the normal changes in the bladder and rectum. 2. In this position the intra-abdominal pressure impinges on, or just posterior to, the narrow crest of the uterus in the direction of its line of axis, and in such a way as to equally distribute the force to all of its supports; and the organ in this position does not receive the whole impulse of the intra-abdominal pressure at one point, but it is equally distributed to all parts of its surfaces and is divided by its lateral, posterior and anterior support. 3. On opening the abdomen the uterus, when not pathologic, almost invariably lies in the position as described above with the space between it and the bladder filled with light coils of small intestines. Three things are important to bear in mind in the blood supply of the pelvis: 1. The arterial supply to the pelvic organs is derived from widely separated points and is provided with the freest anastomoses. 2. The veins of the uterus contain no valves. 3. The left spermatic or ovarian vein enters the general circulation at a disadvantage, as it enters the left renal vein at right angles, while the right spermatic vein enters di-

rectly the vena cava at an advantageous angle. [W. A. N. D.]

3.—B. R. Schenck reports 4 cases of calculi impacted in the ureter which were operated upon by Professors Kelly and Halsted. The first case is that of a woman aged 29 years. Dr. Kelly here made a diagnosis of calculus impacted in the ureter by catheterizing the ureter with a wax-tipped catheter. The catheterization of the opposite ureter showed the kidney on that side to be healthy. The operation was performed by the peritoneal and extraperitoneal incisions. The left ureter was nodular and enormously enlarged, being the size of the colon and very adherent. A rough calculus 1 2-5" x 3-5" completely occluded the ureter. Gauze drainage was employed after the removal of the kidney and ureter. The patient made a good recovery. Case No. 2, a woman aged 37 years. This patient gave a history of repeated attacks of hydronephrosis, but for the last six weeks the condition had been permanent. Upon opening the abdomen the kidney was found enormously dilated, its cortex being about ½" thick. 370 c.c. of pale urine was evacuated together with a small stone. Two other stones were removed from a point 1 1-5" below the renal orifice. This was accomplished with difficulty and required an incision in the ureter 1 2-5" long. The incisions in the pelvis and in the ureter were closed with interrupted silk sutures. A gauze drain was employed and the patient made a satisfactory recovery. Case No. 3, a woman aged 32 years. This patient had suffered for a long time with pyuria. Hydronephrosis was present on admission. Catheterization of the ureters showed the left to be patulous but scratch marks were visible on the wax tip: the right ureter was partially obstructed about 2 3-5" from the bladder and several deep scratches were visible upon the catheter. A radiograph showed a shadow in the region of the left kidney and another on the right side lower down. A lumbar operation was done on the left side and a large amount of purulent urine was withdrawn, together with a large calculus. There was considerable hemorrhage at this time and operation on the right side was postponed until about a month later, when an exploratory laparotomy revealed a calculus located about 2 3-5 inches from the vesicle opening. This was removed through the vaginal vault and the abdominal wound closed. Previous to this operation a ureteral catheter had been introduced and was used as a guide during the operation. It remained in place for 16 hours after the operation and during this time drained 660 c.c. of urine. The vaginal wound closed after draining urine for a short time and the patient made a good recovery. Case No. 4 was a woman aged 56 years. This patient suffered from hydronephrosis and examination of the ureter with a wax-tipped catheter showed a calculus to be situated high up near the kidney. At the time of the operation by Dr. Halsted it was found that this calculus had descended considerably lower in the ureter and it was removed through the vaginal vault. Urine drained through the vagina for some time and ceased entirely on the 16th day. The patient made a good recovery. The author then classifies 84 cases operated upon for stone in the ureter. In 19 of these the calculus was located within 6 cm. of the kidney; in 8, at or near the pelvic brim and in 41 within 5 cm. of the vesicle opening. [J. H. G.]

4.—Vineberg gives the following conclusions from his study of the differential diagnosis of ectopic pregnancy with especial reference to the symptoms of early uterine abortion: 1. Ectopic gestation is diagnosed very frequently as early uterine abortion. 2. It is advisable to look with suspicion upon every case presenting apparently the symptoms of early uterine abortion, and if the case is not running a simple and natural course to fully anesthetize the patient for a rigid examination and for the proper performance of curettage in the event of uterine abortion being present. 3. If after carrying out this plan there still be some doubt, the advisability of making a posterior vaginal exploratory incision should be considered in order to determine the presence or absence of blood in the peritoneal

cavity. The so-called pathognomonic signs of ectopic gestation are unreliable. [W. A. N. D.]

5.—Leonard Freeman reports a case of union following pathological fracture of the femur due to secondary carcinoma. This patient was a woman aged 35 years on whom the author had twice operated for carcinoma of the breast. After the second operation there was no return of the growth. The patient, however, complained of pain in the dorso-lumbar region and on the external surface of the left side of the pelvis. In turning over in bed the patient broke her left femur at the level of the lesser trochanter. There had been no pain or tenderness at this point and nothing to call attention to the process going on within the bone. Extension was applied and four weeks later firm union had resulted. The patient died shortly after this and post-mortem examination showed a secondary growth at the seat of fracture, and firm union had taken place at this point. The second case reported is that of a man 38 years of age who gave a history of having had an ulcerated sore upon the lip which disappeared without treatment and did not return. About a year after the disappearance of the ulceration glandular enlargement occurred below the jaw and was twice operated upon. At the time of the author's examination there was a large inoperable, deeply ulcerated, indurated mass over the right inferior maxilla, the neck and side of the face, microscopic sections of which showed it to be a typical epithelioma. The author believes the original sore upon the lip to have been of the same character and this growth to have been secondary to it. The patient gave no history or evidence of syphilis. [J. H. G.]

6.—Randolph Brunston discusses the rational use and limitations of therapeutic measures intended to promote absorption of exudates within the eye-ball. Medicinal measures. He believes that this is a branch of ophthalmology which has been neglected, and that in the eagerness to use the knife and the needle, therapeutic measures are forgotten. Rest, hygienic surroundings and the prevention of all excitement should not be neglected. The iodides are the most reliable of the so-called alteratives. Iodide of sodium is to be preferred to iodide of potassium because it is better tolerated by the stomach. The iodides are frequently given in too small doses, and in conjunction with hot baths much larger doses can be tolerated. Although mercury and the iodides form the sheet-anchor in the removal of exudates caused by syphilis, profuse diaphoresis can be advantageously produced by pilocarpine. Salicylate of sodium has marked value in the absorption of exudates especially in rheumatic subjects or those that have a uric-acid diathesis. Hydrotherapy is a valuable adjunct to the internal remedies. He questions whether the benefit sometimes derived by the administration of mineral waters depends upon any mineral properties they may contain, or whether it is rather the great quantity of water taken into the system which naturally stimulates the elimination. [M. R. D.]

7.—J. H. Bryan reports 5 case of suppurative mastoiditis, the first of which occurred in a six year old boy, and is of interest as it seems to have had its origin in an attack of influenza. In this case there was extensive necrosis of the mastoid process requiring in its treatment the exposure of the lateral sinus for some distance and an extensive wound in the neck. The patient ultimately made a good recovery. [J. H. G.]

8.—E. L. Shurley speaks of the after effects of operations for the removal of adenoid tissue at the vault of the pharynx. The immediate effects of this operation are classified as hemorrhage, injury to the pharynx, reactionary acute inflammation of the pharynx and accessory cavities and sepsis. The remote effects are subacute inflammatory conditions of the pharynx, the ear, accessory sinuses and tuberculosis. [J. H. G.]

9.—Sawyers considers the treatment of actinomycosis from a medical stand-point. He gives a report of a number of cases, his chief object being to call attention to the frequency of the disease, especially in agricultural communi-

ties, and to direct attention to the most satisfactory plan of treatment of the cases coming under his own observation. The author concludes that the disease is not an uncommon one, and that when uncomplicated it is a non-suppurative, slow-progressing, afebrile, and a comparatively painless disease. Often the signs and symptoms of the disease are pathognomonic. Referring to the characteristics of the micro-organisms he states that the coccus-like bodies are most constantly found, the threads less frequently, and the globe-shaped bodies are often absent. The most favorable results have been obtained by combining surgical measures and the administration of potassium iodide. A large percentage of the cases being cured by the internal use of the iodide potassium. Hypodermic injection of iodide of potassium into the diseased areas produces a marked curative influence. [F. J. K.]

10.—Robinson states that the subject of tropical diseases has assumed new importance to the medical profession, and in this connection abscess of the liver has especially attracted attention. The author gives a detailed report of a number of case of tropical abscess of the liver, stating that they are usually multiple and that the right lobe of the liver has been found most commonly affected. Attention is called to the fact, that the symptoms of liver abscess afford little aid in the establishment of the diagnosis. The detection of pus by aspiration is the means by which the diagnosis can be absolutely made. In his cases a general anesthetic was given while making the exploratory puncture. The needle was introduced to its full extent in five or six different directions in the eighth intercostal space in the midaxillary line. If pus was not found the needle was introduced in other places before abscess of the liver could be excluded in the diagnosis. The finding of pus should at once establish an indication for operation. Robinson states that unless there is evidence of pointing excision of a portion of a rib and drainage from the side is a most favorable method of treatment. [F. J. K.]

11.—Brower points out that as heredity is a most potent factor in the causation of insanity, measures should be directed to regulate marriages and to asexualize degenerates. Before either one of these methods is carried into effect, a great deal of educational work must be done by the medical profession. The medical profession can only direct the proper measures of prevention, while it is a duty of the state to enact laws and enforce them. [F. J. K.]

12.—Douglas C. Moriarta urges upon the general practitioner the great importance of early operation in cases of appendicitis. [J. H. G.]

13.—J. F. Baldwin reports a case of a boy 9 years of age in whom he used the X-rays for locating and during the extraction of a bullet from the knee-joint. The manipulations of the instrument and the location of the bullet in the cavity was easily observed during the operation by means of the fluoroscope. [J. H. G.]

AMERICAN MEDICINE.

May 11.

1. The Necessity for Greater Conservatism in the Use of Vasodilators in Certain Cases of Cardiovascular Disease. LOUIS FAUGERES BISHOP.
2. Aneurism of Ascending Aorta of Great Size; Treatment by Gelatin Injections and Electrolysis, with Effect of Coagulating Most of the Contained Blood. W. W. JOHNSTON.
3. Postpartum Metastatic Panophthalmitis, with a Clinical and Pathological Study of the Case. WALTER L. PYLE.
4. Preliminary Note upon Hydrocyanic Acid Gas as a Disinfecting Agent. JOHN S. FULTON.
5. The Food Value of Alcohol, and Professor Atwater's Experiments and Teaching. JOHN MADDEN.
6. A Case of Double Bladder; Each with a Separate Ureter. A Study of the Urine from Each Kidney. E. P. HERSHEY.

7. Transfusion, Infusion, Autotransfusion. G. W. WAGONER.
8. Litholapaxy in a Child Four Years Old with an Improvised Evacuator. GWILYM G. DAVIS.

2.—W. W. Johnston, of Washington, reports the case of **aneurysm of the ascending aorta** of great size which was treated by **gelatin and electrolysis** with the effect of coagulating most of the contained blood. The question of electrolysis of the aneurysm was discussed for some time and was finally performed by Dr. Finney of Johns Hopkins Hospital. Three unsuccessful attempts were made to reach fluid blood with a canular needle, four inches long passed directly into the tumor. The fourth insertion at a point near the shoulder was successful. Ten feet of silver wire was passed through the tube of the needle. A current of ten milliamperes from a dry cell battery was then turned on and continued for one hour. The operation was comparatively painless except at the beginning. A few weeks after this operation the patient suffered from an attack of intermittent fever. Several large blebs formed near the sternal margin of the aneurysm, some of these finally ulcerated through revealing necrosed fragments of the ribs and discharged continually a thin, bloody serum. Small hemorrhages occurred on several occasions from these blebs, but they were controlled by pressure. The patient died suddenly from a sudden loss of about one pint or more of blood from the point of successful puncture. The autopsy showed that cure had been progressing and there were evidences of recent coagulation about the silver wire. Death was due to the blood current, making channels between the clot and the sac, and finally making an exit through eroded spots on the outer wall. [T. L. C.]

3.—Walter L. Pyle reports a clinical and pathological study of a case of **postpartum metastatic panophthalmitis**. The patient was a well nourished primipara, aged 27 years, who after having been in labor for 56 hours was delivered by forceps. Ten days after delivery the right eye became inflamed and although somewhat relieved by atropine, hot and cold compresses, etc., inflammation continued in violence and persisted for five or six weeks. When the author first saw the case the right eye-ball was congested and atrophic, although the cornea was clear, the iris quite distinct but adherent to an opacity in the pupillary area resembling a calcareous lens. On the following day the eye was enucleated. Microscopical examination showed that the eye ball was phthisical, and had undergone disorganization. The sclera had been ruptured resulting in the evacuation of some of its contents. The rupture had occurred at the posterior portion of the eye ball, to which the author calls attention, as such ruptures usually occur at or near the corneoscleral junction. The literature on the subject is carefully reviewed. Diagnosis, etiology and pathology, prognosis, treatment, as well as the microscopical appearances of each portion of the eye-ball are described. [M. R. D.]

4.—John S. Fulton has made a number of experiments which seem to indicate that **hydrocyanic acid may be found a reliable agent for house disinfection by Boards of Health**; that it is especially servicable in maritime disinfection and alone or in combination with other gaseous germicides very effective against certain infectious diseases. [T. L. C.]

6.—E. P. Hershey reports a case of **double bladder** each with a separate ureter, and presents a report of the study of the urine from each kidney. The patient was 28 years of age before her condition was discovered and had been treated for many diverse conditions. Hershey believes that the condition of surgical left kidney is present with a dilated ureter and collapsed bladder. The left kidney is so far diseased that it secretes urine only at times and when this secretion occurs the posterior bladder fills and the urine is voided by virtue of its own pressure. By means of filling the anterior bladder with methylene-blue, and the posterior with a deci-normal salt solution and subsequently examining the contents of both bladders, it was proven that there was no connection between the two. The posterior bladder was first treated daily with a solution of

creolin gradually reduced to one washing a week. She has gained 15 pounds in weight. [T. L. C.]

8.—G. G. Davis reports a case of **litholapaxy** in a child 4 years old, with an **improvised evacuator**. The case is interesting on account of the rarity of the condition in so young a child. The instrument devised was a No. 18 French Civiale instrument. The stone having been found and crushed an ordinary silver catheter 17 French was introduced. This was attached by means of a rubber tube a few inches long to an ordinary one ounce glass syringe filled with boric acid solution. The fragments were readily withdrawn. [T. L. C.]

VRATCH.

March 10, 1901. (Vol. XXII, No. 10.)

1. On the Casuistic of Sudden Irresistible Sleepiness (Narcolepsy). S. Ia. SELTZER.
2. A Case of False Arterio-venous Aneurism. Ligation of the Vein. W. I. LISIANSKI.
3. On the Casuistic of Extrauterine Pregnancy. B. A. FRATKIN.
4. Poisoning by Cream-Tarts in Charkow. P. N. LASHENKOW.

1.—Seltzer reports 4 cases of narcolepsy. All occurred in peasants. One in a young man of 18, the other in a woman of 30, the third and fourth in women of 35 and 40, respectively. In three of the cases the affection occurred independently, in the fourth it was associated with cephalalgia. On the ground of his own observations and those collected from the literature on the subject the author draws the following conclusions: (1) Narcolepsy may occur as an independent affection. (2) A series of depressions, with the influence of pleasurable or—more frequently—grievous mental perturbations. (3) Independent narcolepsy occurs more frequently in persons of limited intellectual development. (4) Sudden sleepiness in general is met with more frequently in persons debilitated by disease; possibly as a result of depressed spirits caused by the patient's being aware of the gravity of the malady from which he suffers. (5) Change of environment and mode of life should have a beneficial effect on the course of the disease. [A. R.]

3.—Fratkin reports 5 cases of extrauterine pregnancy and devotes considerable space to a critical review of the recent literature on the subject. He does not believe that our knowledge of the causes of ectopic gestation is complete, and that it will be 15 years ago that we in possession of more diagnostic signs. Up to the fifth month the diagnosis is at best uncertain. The reason a positive diagnosis is established with greater frequency is to be sought in the fact that, owing to our accumulated experience, the condition is readily suspected. Indications for and various methods of operating are discussed. An expectant plan of treatment is recommended in cases in which attacks of prostration are not repeated. [A. R.]

4.—Lashenkow in discussing the various forms of poisoning by decomposed food points out that in many obscure cases which cannot be elucidated by a chemical examination the poisoning is due to bacterial toxins. In the case studied by him about 200 persons were poisoned by cream-tarts obtained at a well known confectionary. The symptoms were those of gastro-intestinal irritation and varied considerably in intensity, resembling in some arsenical poisoning. They all recovered. A bacteriologic examination of the cream mixture which is usually composed of milk, eggs, sugar, flour and pastry showed the presence of *streptococcus pyogenes aureus* of unusual virulence. A series of experiments established the fact that when the cream mixture becomes sour and is kept in a very warm room the pyogenic cocci with which such mixture is liable to become contaminated develop very rapidly. The suggestion is made that the cream-mixture be heated to 80.00°C. and the tarts kept in a cool place after they are finished. Moreover, the manufacture of cream-tarts in very hot weather should be prohibited. [A. R.]

March 17, 1901. (Vol. XXII, No. 11.)

1. On the Action of the Alkaloid Johimbine on the Animal Organism and its Utility in the Treatment of Impotence. N. P. KRAWKOFF.
2. On the Question of the Alkalinity of the Blood. W. F. ORLOWSKI.

3. On Some Difficulties in the Restriction of Diphtheria. G. N. GABRITSCHÉWSKI.

4. A Contribution to the Study of Metrophlebitis following Labor. B. A. LIBOFF.

1.—Will be abstracted when completed

2.—Orlowski presents a preliminary report of his experiments undertaken with a view of establishing the causes of the variations in the alkalinity of the blood observed not only in pathological conditions but also in health. He found that the method of Landois-Jaksch is uncertain and inaccurate, the alkalinity of the blood depending to a great extent on the number of blood corpuscles. He has made observations on 45 patients suffering from diverse diseases, having determined in each case not only the alkalinity of the blood but the hemoglobin, as well as the number of red and white blood corpuscles. The results obtained were very satisfactory. The following conclusions were reached. (1) Engels alkalimeter gives results exceeding the normal to the extent of 106 mlgrm. when litmus is used as an indicator; with lacmoid the error amounts to 119 mlgrms. (2) The alkalinity of the blood in health equals 240-267 mlgrms. of NaOH to 100c.c. of blood, when litmus is used, and 269-299 mlgrms. with lacmoid. (3) In various forms of disease the alkalinity of the blood is in proportion to the number of red blood corpuscles, diminishing with the diminution of the latter and remaining normal as long as these are in normal proportions. (4) In view of this fact the determination in disease of the alkalinity alone is not sufficient to form an idea of its deviation from the normal. (5) Of the accumulation in the blood of acid-salts and consequent autointoxication one can judge only when, with a normal proportion of red blood corpuscles, the alkalinity is diminished, or, should oligocythemia be present, the lessened alkalinity is out of all proportion to it. (6) Such a disproportion, suggesting the possibility of acid intoxication, the author observed in grave cases of diabetes and cancerous cachexia. (7) Small (250 grms.), warm alkaline enemas raise the alkalinity of the blood more than the ingestion of soda, both in health and disease. (8) The increase of the alkalinity of the blood by the administration of alkalies and alkaline enemas is transient. A more extensive report of these observations is promised. [A. R.]

3.—Gabritschewski, referring to the paper of Dr. Wolfson on the same subject, (abstracted in the *Philadelphia Medical Journal*, April 6, 1901), remarks that in his experience the prolonged residence of diphtheria bacilli in the throats of convalescents from the disease is due to some pathologic alterations in the throat or nasal cavity of such persons (adenoids, hypertrophy of the tonsils, rhinitis, syphilitic infections, etc.) In anemic or debilitated children the diphtheria bacilli persist for a much longer period than they do in the robust. It is, therefore, necessary to pay special attention to the soil which favors the harboring of the bacilli. He believes that in cases in which complete isolation is impossible, at least partial isolation should be practiced, in the same manner in which it is employed in cases of tuberculosis. [A. R.]

4.—Liboff discusses at length a form of metrophlebitis which receives but little attention in text-books and is often overlooked. This form is usually local, is characterized by chills, sudden elevation of temperature, taking place late in the puerperium, and extremely rapid pulse, but without any subjective symptoms or visible pathological alterations in the genitalia. In the graver forms phlegmasia alba dolens develops, which serves as a useful diagnostic sign. Occasionally this local affection may lead to a general invasion with a fatal issue. The diagnostic signs are the regular fever, the rapidity of the pulse, which is out of all proportions to the temperature, and the tendency to become localized. As a rule, chronic gonorrhea is the predisposing or exciting factor. Five cases are described by the author to illustrate these points. [A. R.]

BERLINER KLINISCHE WOCHENSCHRIFT.

February 11, 1901. (38 Jahrgang, No. 6.)

1. The Hereditary Predisposition to Poisons. E. von BOHRING and KITASHIMA.
2. Work as Treatment for Nervous Patients in Sanatoria. ALBRECHT ERLÉNMEYER.
3. The Tallerman Apparatus. FR. NEUMANN.
4. Experiences with the Tallerman Apparatus. O. ZIMMERMANN.

5. Observations upon the Treatment of Puerperal Fever with Marmorek's Antistreptococcic Serum. M. BLUMBERG.

1.—Experiments have been made in Marburg for years to test the predisposition to poisons, of the different species of animals, and of the different individuals of the same species, in normal and abnormal conditions. Horses of all races and at any age can be made immune to the poison of diphtheria by antitoxin in increasing doses. Even in those horses which died with diphtheria, the antitoxin was found in the blood. Experiments upon apes had similar results. Guinea-pigs on the other hand, always died of diphtheria, even when very small doses of the antitoxin were injected consecutively. Guinea-pigs, however, will live longer when attacked by diphtheria bacilli, if they have had diphtheria antitoxin beforehand. Yet they die eventually, anyway. Mice are almost immune to diphtheria antitoxin, yet are well able to withstand diphtheria bacilli. For there is no increase in the predisposition to the poison of diphtheria following bacillary infection. Animals are predisposed to the poison of tuberculosis in this order: sheep, horses, goats, dogs, cattle, and guinea-pigs. To bacillary infection the order is reversed. White mice are even more rapidly affected by tubercle bacilli than guinea-pigs. [M. O.]

2.—Open air sanatoria for nervous patients were begun by Otto Mueller, who realized that some patients would be much better off with physical work and exercise. This has always been advised for melancholia, etc. But for neurasthenia, work is not to be thought of. Such patients need rest and rest and rest. Should, however, psychopathic complications appear, some regular work will be necessary to distract the patient's attention from himself. But the nervous patient must be distinguished from the neurasthenic, for while the latter is really tired out physically, the former only feels tired, and can do more than enough work, should opportunity present. For him, too, at first, rest will be necessary. Later exercise and work will do immense good. Work will also benefit the hysteric and epileptic physically, but his illness not at all. For chorea, exophthalmic goiter, tetany, paralysis agitans, spinal and cerebral diseases, rest will be necessary. But this treatment is not new, as it was instituted about 30 years ago. [M. O.]

3.—Tallerman's hot air apparatus, invented in 1893, is now well known all over the world. Two sorts of apparatuses are in use, a larger for the trunk, and a smaller for the extremities. The temperature can be raised to 230° F. The only unpleasant cardiac symptoms occurred in frightened, excitable individuals. In arteriosclerosis, myocarditis, or valvular disease, no bad effects resulted. Neumann noted not only temporary improvement, but permanent effect in many cases. He treated gout, sciatica, arthritis deformans, etc., the most severe cases only being baked. In the past year the Tallerman apparatus was used in 70 cases of sciatica and lumbago, in four of which there was no effect; 35 cases of arthritis deformans, two of which remained unchanged; chronic rheumatism, fractures, ankylosis, scleroderma, etc. Some of the cures were marked and immediate. The histories of 23 cases follow. A case of scleroderma which had existed for six years in a woman of 46, was much improved by the hot air treatment. In the most severe cases of arthritis deformans, the effect is always marked. No treatment has hitherto been found so effective in its results. [M. O.]

4.—Zimmermann reports the effect of the use of the Tallerman hot air apparatus in 40 cases. 8 were protracted acute articular rheumatism, 10 chronic articular rheumatism, 12 arthritis deformans, 7 sciatica, and 3 inflammatory flat-foot. In all but seven cases the improvement was great and lasting. In the grave cases the amelioration was most noticeable. [M. O.]

The Reductive Action of the Blood After Chloroformization.—At the recent meeting, at Nancy, of the Congrès des Sociétés Savantes, (*Revue Médicale de l'Est*, 1901, No. 8), Professor Garnier reported the result of a number of experiments made by Dr. Lambert and himself. After the inhalation of chloroform, the glycogen in the liver decreases, while the reductive power of the blood increases. The action of chloroform upon the blood *in vitro* confirmed the results obtained *in vivo*. Garnier believes that under these conditions hydrolysis of the glucose occurs, with the formation of a fermentable sugar belonging to the hexose group [M. O.]

Original Articles.

THE DISINFECTION OF WOUNDS WITH PURE CARBOLIC ACID.

BY PROFESSOR DR. VON BRUNS.

of Tuebingen, Germany.

From the 1 with permission of the author, by Max P. Drake, Spert.

Although our methods for rendering operative wounds aseptic have been productive of a certain definite result, there is, nevertheless, still more to be desired in the treatment of infected wounds. The times during which all good results were expected from antiseptic irrigations, are passed. Antiseptics came into discredit because the danger of poisoning accompanied their employment, as carbolic acid and sublimate, and also because, when coming in contact with the albuminous secretions and tissues of the body, they lost their efficiency, like corrosive sublimate, etc. We were soon convinced that no disinfection could render a septic wound aseptic, and even ascertained, by comparing the efficiency of the aseptic and antiseptic treatment of infected wounds, that neither was superior to the other.

The principal value, therefore, has been ascribed to the physical action of the means at our disposal: free incision exposes the focus of suppuration, the infectious wound secretion is washed off, moist dressings are applied for the purpose of absorbing the secretion, and we attempt to obviate the inspissation and retention of the secretion by frequently changing the dressings. In many instances antiseptics is entirely desisted from and only sterile salt solution employed for irrigation and moistening the dressings.

But I believe we should not desist from chemical disinfection, but look for a procedure which is germicidal, without causing injury. I have recently again conducted experiments in this direction, which promise favorable results, although the latter are not yet conclusive. This consists in disinfection with pure carbolic acid.

This may cause considerable hesitation, especially when the times of Lister's carbolic acid antiseptics are thought of, and also the innumerable cases of eczema, intoxication, marasmus, and gangrene, caused by carbolic acid. All this was attributed to the employment of dilute solutions, and consequently one should suppose that the concentrated solution, 96% carbolic acid, would act even worse. This apprehension is at first disproved by Lewis's method of treating hydrocele with injections of pure carbolic acid into the sac of the delicate tunica of the testicle. The procedure never causes intoxication, and is characterized by the slight reaction and the absolute painlessness after its employment. Recently Phelps has treated wounds with pure carbolic acid, after opening tuberculous abscesses and joints, especially the hip joint, and has recommended this method on account of the brilliant results which he has obtained. The joint is opened freely, scraped out or resected, and then filled with pure carbolic acid, which after one minute is washed out with absolute alcohol. Phelps here considers the alcohol as an

antidote against the corrosive action of the carbolic acid.

By these procedures the applicability of pure carbolic acid to wounds is demonstrated; but before we proceeded with the practical application of the method, certain questions had to be answered in an experimental manner. The experiments were conducted by Dr. Honsall, who will report the results. I will but state, that carbolic acid in concentrated solution is relatively less toxic than when diluted, that its penetrability during its brief influence is but slight, and that the bactericidal action of pure carbolic acid surpasses that of sublimate in albuminous compounds.

In view of these assumptions the procedure of Phelps seems to me to be of considerable value in septic wounds. We have employed it in more than 80 cases of infected wounds, plegmons, suppuration of joints, etc. After incision, and subsequent curetting or excision of the wound, the surrounding skin is protected against the excess of carbolic acid, by wetting it with absolute alcohol; the wound is then thoroughly swabbed with a gauze sponge previously immersed in pure carbolic acid. The amount of carbolic acid employed depends upon the size of the wound, but more than 2-6 gr. was not even used in the largest wound, therefore, not more than is injected in a hydrocele sac and left there with impunity.

Not only is this cauterization with carbolic acid not particularly painful, so that it may be performed without anesthesia, but the subsequent pain after fresh incisions is also remarkably slight. Particularly remarkable is the small amount of secretion after the first dressing, so that the latter may remain from 2-4 days in cases where otherwise the dressings would have had to be regularly changed after 12-24 hours. For example, in a case of resection of the hip joint, performed on account of grave, acute puerperal suppuration, the first dressing was allowed to remain four days, during which the temperature was nearly normal.

From this alone it follows that carbolic acid applied but once markedly influences the condition of septic wounds. The course, as a rule, is simpler and less interrupted than is ordinarily observed. Local injury was never noticed, neither a trace of toxic symptoms, and not in a single instance, carboloria.

The result obtained obviously depends upon the fact that carbolic acid belongs to the few antiseptics, whose germicidal power is not weakened by the secretions and tissues of the body. Pure carbolic acid destroys with certainty the bacteria on the surface, and also those in the most superficial layers of the wound. In addition, the superficial sloughing brings about a reaction in the deeper layers, which assists in the demarcation and desquamation of the septicly infiltrated areas, thus assisting, as it were, in the cleansing process of the wound.

I do not hesitate to recommend the application of pure carbolic acid in small quantities and for one minute, followed by immediate irrigation with absolute alcohol, as a remedy that forms a valuable adjunct to our mechanical procedures in infected wounds. It would be a special providence if that remedy which was the foundation of the whole antiseptic era, and which since then has

again been generally discarded, would be called upon to serve us anew in the battle against wound-infection.

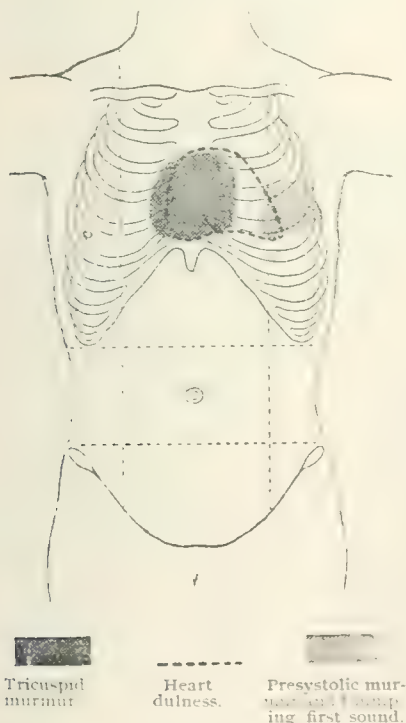
A FURTHER REPORT ON A CASE OF PRESYSTOLIC MURMUR ASSOCIATED WITH PREGNANCY, ETC., ORIGINALLY REPORTED AT THE MEETING OF THE ASSOCIATION IN MAY, 1899.*

By JAMES TYSON, M. D.,

Professor of Medicine, University of Pennsylvania, Phila.

It may be remembered that I read before the Association at its meeting in May, 1899, a short account of a case of presystolic murmur associated with systolic tricuspid murmur complicating pregnancy in a woman who was admitted to the hospital of the University of Pennsylvania with these symptoms and condition. In addition she had a striking jugular pulse simultaneous with systole of the ventricles, a marked presystolic thrill at the apex, and increased area of cardiac dullness. There was a thumping first sound characteristic of a case of mitral stenosis, with sharp accentuation of the pulmonary second. There were associated aggravated dyspnea and distressing cough, emaciation and exhaustion, but no dropsy except the amniotic dropsy. The physical signs are illustrated by Fig. 1. With the birth of her child came, as was to be expected marked improvement of all symptoms, including disappearance of the jugular pulse, replacement of the apex, and probably slight change in the situation

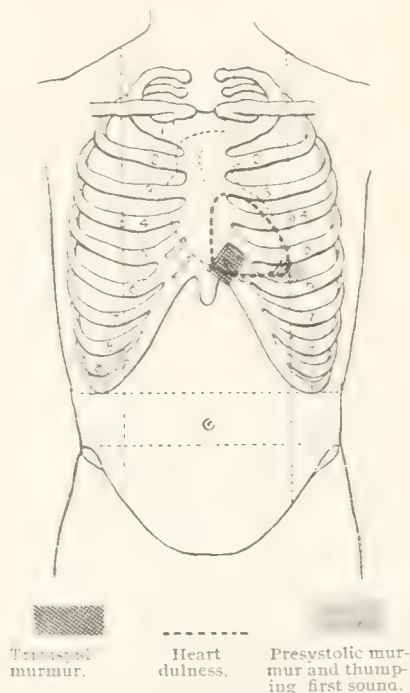
Fig. 1.



of the right border. An enlarged liver could now be recognized. At the date of my first report to the Association her breathing rate was 20, her pulse 60 and the temperature 97.2°, these being approximately the temperature, pulse, and rate for three days

previous. She was discharged thus improved June 21st, and a month later went to work in a shoe factory, and continued to work a part of each day until Christmas, 1899. She could not, however, do a full day's work because of shortness of breath easily induced, an irrepressible drowsiness at times, faintness, and sometimes syncopal attacks. Soon after the new year 1900 she grew worse, and was readmitted to the hospital January 16, 1900.

Fig. 2.



Physical Examination on Readmission.—Negative as to all organs excepting the heart. There is visible pulsation over the left praecordium and the apex beat is visible and palpable, somewhat irregular, in fifth interspace slightly outside the nipple line. A presystolic thrill can be felt. Absolute cardiac dullness begins at the lower edge of the third rib, to the left of the sternum, that of the right border, between mid-sternum and left edge of sternum. Auscultation recognizes a short, rough presystolic murmur at the apex, terminating in a sharply accentuated, thumping first sound, the first part of diastole being also occupied by a murmur. At the tricuspid area a distinct systolic murmur is heard, conducted a short distance to the left of the sternum toward the apex growing fainter as the latter is approached. There is also heard at the base a markedly accentuated pulmonary second sound. (See Fig. 2.)

On April 9, 1900, the following note was made:

Mrs. McC. has been quite comfortable for some time, being up and about the ward. For purposes of examination she is again put to bed. Her temperature and pulse rate have been normal for some weeks; her breathing rate has varied between 20 and 27. On inspection we find chest symmetrical well nourished, and a scarcely appreciable prominence of the left praecordium. Apex beat is not visible, but can be felt in fifth interspace in nipple line. At this time there is no thrill palpable, but sometimes under agitation there has been a thrill since her return to hospital. Relative cardiac dul-

* Read before the Association of American Physicians, Washington D. C., May, 1901.

ness is recognized at lower edge of third rib to the left of sternum, and at the right in the mid-sternal line. Absolute cardiac dulness at the upper edge of the fourth rib and at the left edge of sternum. Auscultation recognizes only a very short presystolic murmur, ending in an exaggerated thumping first sound; this is much less marked than originally. At this time no diastolic murmur except the presystolic is heard, nor a systolic at apex, nor a systolic at ensiform, although there was at time of readmission and at times since. Pulmonic second sound is sharply accentuated in strong contrast with aortic sound. She menstruates regularly and has gained seven pounds since her admission.

She was again readmitted February 1, 1901, having had a cold all winter and grippe early in January, when she went to bed and remained there until admission to hospital. Before the grippe she had at times a smothering sensation, especially when she went up stairs rapidly. During the grippe her lungs filled up and there was copious expectoration, sometimes bloody, especially recently. She could not sleep lying down, and had a few fainting spells. Her feet were swollen once.

On readmission her pulse was 80, breathing 26, and temperature 98.6°. She was somewhat dyspneic, but soon improved after resting, and in a few days seemed quite well. Evidently her condition was vastly improved as compared with the first and even second admission. The physical examination the next day revealed trifling prominence of the left precordium, breathing 20, pulse 78, temperature 97.4°. There was no thrill appreciable in mitral area; the apex beat was in fifth interspace, mid-clavicular line. There was no presystolic mitral murmur, no systolic mitral murmur, or tricuspid murmur. There remained, however, a thumping first sound at apex, though less marked than at previous admissions, growing rapidly fainter as the sternum was approached and disappearing at the

third rib, where the pulmonic element of the second sound was well heard. Percussion found relative dulness to the left of the sternum, at lower border of the third rib, absolute dulness on the fourth rib; for the right border relative dulness at right border of sternum, absolute at about mid-sternal line.

Fig. 3 indicates the area of dulness at the third admission, and the shading at the apex the seat of the thumping first sound. There was, as mentioned, no mitral murmur and no presystolic murmur, although at times the latter seemed to come out culminating in the thumping first sound.

There were in addition, on admission, some physical signs of the pulmonary engorgement, which was responsible for her more serious symptoms at this time, but these rapidly passed away, and she was discharged March 20, 1901, much improved, the last weeks of her stay being rather protracted because I desired her to remain in the wards longer than any real necessity for her so doing.

It is not very usual to have an opportunity to examine a cardiac case at such long intervals and exhibiting so strikingly different stages in returning compensation as this, which furthermore illustrates typically the changing physical signs of mitral stenosis.

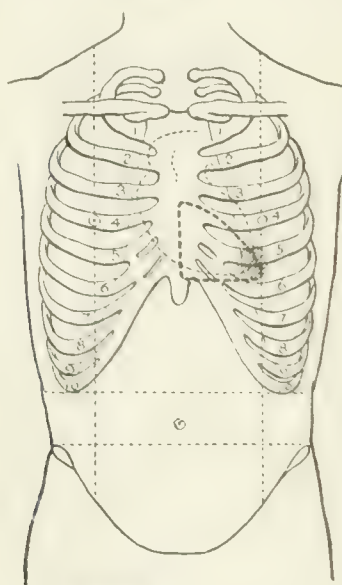
AN EXCEEDINGLY RARE CASE OF IMPERFORATE ANUS.

By CHARLES B. KELSEY, M. D.

OF NEW YORK.

Through the kindness of Dr. Nichols, of Barton, Vermont, I am enabled to place upon record the following exceedingly interesting and possibly unique case:

The patient, a man of twenty-four, fairly well nourished, though weighing only one hundred and seven pounds at time of operation, was born with an imperforate anus. The history beyond this is exceedingly meagre from the fact that both his parents died in his childhood; but he knows that the opening was made in the perineum during the first few days of life, and that there has always been a free communication between the bladder and the rectum by which urine escaped per rectum and feces per urethram. He states that he has frequently gone for three months without any fecal evacuation of any sort; and that after such a period it is not unusual for him to fill two chamber-potens full of solid matter. On examination there is found a deep anal depression ending in a narrow, firm undilatable slit running antero-posteriorly, which admits the index finger with pain. The slit is surrounded by and located in firm fibrous tissue. Through this slit the finger impinges upon an immense fecal impaction extending above the umbilicus and filling the entire lower abdomen. Any attempt to break up or loosen the impaction or to pass the finger around it causes intense pain and free bleeding; and the mass is so stony that hardly any impression can be made upon it with the finger. There is no sphincteric power (no sphincter), and the usual fluid discharge existing with impaction is caught in a large sponge which the patient has been always in the habit of wearing against the anus. Under ether it required the united efforts of two men and two nurses forty-five minutes to break up and wash out the fecal mass. No attempt was made to estimate its weight, its size being sufficient indication of the amount, and its stony hardness of the time it must have been present. A sound passed into the urethra revealed an entire absence of corpus spongiosum for about an inch and a half in front of the triangular ligament, its place being taken by a thin membrane which separated the urethra from the rectum. This membrane was absent at one point for a space about one third of an inch in diameter, through which communication with the rectum existed. The malformation was of the general type shown in the

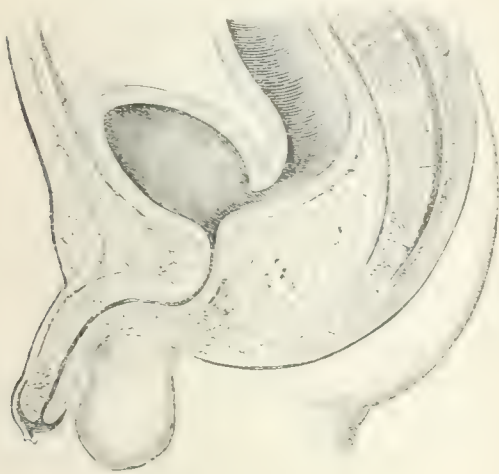


Presystolic murmur and thumping first sound.

Heart dulness.

cut except that the communication was urethral instead of vesical.

The usual incision for colostomy was made on the left side, and, as had been predicted before opening the abdomen, no descending colon was to be found at the usual site. Instead of this an immense muscular pouch was found spreading like an apron over the entire small intestine in contact with the abdominal muscles, and reaching from the anus to the diaphragm. I cannot describe this better than by saying that at first it felt like a greatly dilated stomach, but as part of it was pulled through the incision, it was seen to be at least three times as thick as any human stomach, and that the mesenteric veins spreading over it at regular intervals of a little more than an inch, were two-thirds the size of an ordinary lead pencil. The muscular layer was hypertrophied to such an extent that each fascicu-



A COLONIC POUCH.

lus could be plainly distinguished with the eye. This pouch was replaced and a long rectal bougie passed per anum for a guide. The end of this being brought out of the incision, was found to be enclosed in this same muscular pouch, proving that this was the only descending colon we were to find. It was therefore followed up several inches, when at about the point which I should judge would ordinarily mark the end of the transverse and beginning of the descending colon, it rather suddenly narrowed into something more like a greatly hypertrophied large bowel, and here an artificial anus was established with the usual spur, under the gut through the mesentery. The wall of the gut when cut away still showed a muscularis at least three times the ordinary thickness. Other congenital defects casually noted during the operation were absence of development of the muscles of the left thumb, and almost complete absence of both radial arteries.

It is well known that attempts to establish an anus in the perineum by mere incision in cases of imperforation do not usually result favorably either for length of life or function; but I have never seen a description of the result, twenty-four years later, of nature's efforts to utilize such an opening as was here very successfully made by the surgeon. Cases are recorded, however, of children who have lived to adult life with this deformity entirely unrelieved thirty years (Gross).

THE RELATIONS OF THE PUBLIC TO THE MEDICAL PROFESSION.*

By WM. H. THOMSON, M. D., L. L. D.

To a physician who is conscious of the aims of his profession, it seems but natural to expect the fullest sympathy and co-operation on the part of the public in whatever involves the relations of the public to his profession. One has but to enumerate the long list of deadly diseases which a solitary dweller on an island would never have, to perceive how community of disease is involved in the very word community. In all communities men must constantly give and take in everything, disease included. With children, every school, and with adults, every passenger vehicle affords many chances for illustrating what is involved in the term public health. All this seems plain enough. Therefore, why should not physicians expect to be a generally popular body whenever they appear as a class of professionals, men specially trained to guard the public health?

There are causes, rather than reasons, which account for the comparative failure of the public to appreciate the services of the medical profession to the community as such, and it behooves us medical men clearly to recognize just what those causes are.

We would rank as first the conception of the medical profession as a trade. That it is anything else than a means for getting a livelihood by its members is seldom thought of. Why, therefore, should the public take a special interest in the medical profession more than in any other body of persons who make a living by their business? But with many there exists, besides, the impression that the medical profession is a particularly close corporation, strongly dominated by class feeling, and which aims to monopolize to its exclusive profit the whole field of the treatment of disease wherein it is very jealous of all competitors. Also the common term used to designate members of the regular profession, "doctors of the old school," is coupled in many minds with hostility to all innovation and to modern progress.

Thus it is that one of the most creditable features of our profession in its acknowledgment of a code of professional ethics, which, as the term itself implies, relates to questions of honor in professional life and conduct, is interpreted by many as a purely trades union code of the most despotic nature. That consideration which one gentleman should show to another with whom he is brought in professional relations is also regarded as formulated among physicians into a rigid and artificial systems of etiquette, which no outsider can pretend to comprehend. This widely spread delusion tends to hamper the relations of our profession to the public in many ways. It constitutes the first resource of the charlatan to appeal for sympathy to the generous public against the persecution of the great Union of the Doctors, and that sympathy is very readily granted. Costly experience in the past

has shown us that nothing so often defeats itself as an official condemnation by representative medical organizations of any form of quackery, be it ever so absurd or ridiculous. So soon as our profession publicly arrays itself against anything of the kind, it multiplies its adherents indefinitely. Instead of extinguishing the fire, it simply scatters it.

Another fact which we should bear in mind is that in the present state of public intelligence on medical matters, physicians by no means are regarded as having a monopoly of the knowledge of disease, and least of all of curing it. On the one hand there exists a great world of minds which craves for the marvelous and the occult, and nowhere as in medicine can this tendency find such free play. Such people are ever ready to welcome any prophet or prophetess who hails from the realms of the vast unknown. From Hahnemann down to Mrs. Eddy, and to the apostles of osteopathy, the procession of wondermongers has no end, for the reason that such multitudes of our fellows find it so easy to part with their common sense whenever the subject is raised of our life in the flesh and its ills. As life is a mystery, so is disease a mystery, and therefore the more mysterious and incomprehensible the personage is who talks about them, the higher he or she rises in their estimation. But apart from this indefinitely large class of credulous weaklings, there will be found a very general belief that after all doctors do not know so much more than other people about their own business. The average man privately considers himself as good as any doctor about most diseases, and resents the assumption of superior knowledge by a simply formally qualified fellow-mortal. We physicians are constantly made aware that we live in a world of male and female critics, who feel abundantly able to pass judgment upon us, and they often do so unreservedly. There can be no greater mistake than for a medical man to take it for granted that because he has spent years in the investigation and study of the human body and its diseases, therefore, that he will be considered as knowing a good deal on the subject. The truth is that while in most things else special training and experience are accorded proper consideration, the doctor must not be surprised at any time to find the judgment of some female friend of the patient rule him right out of court.

In view of these and many like facts which bear upon the actual relation of the medical profession to the public, we come to the question, how can these serious evils be counteracted? What is it which makes quackery in any form possible or flourishing? Why is rational medicine so commonly unappreciated? The sufficient answer is, because of ignorance, and of nothing but ignorance. We may truthfully say that it is impossible to over-estimate the ignorance of the public in medicine—there is nothing with which it can be compared for its completeness and universality. The most intelligent man in town is likely to come into the physician's office with his diagnosis already made. "Doctor, my liver is out of order, and I want you to give me something to set it right," when, ten to one, he does not know on which side of his body his liver is. Men would be ashamed

to confess that they did not know a good deal about geography or of history, or that Jupiter was a planet and Sirius a fixed star, while they cannot tell what is the difference between an artery and a vein, or the difference between a bronchial tube and a pleura, or that the meninges do not cover the stomach. Very few, even among the intelligent classes, have anything but the vaguest conception that medicine is a great science, and nothing less. That like every other great science, it cannot be known by ignoramuses, but that, on the contrary, it demands the severest mental training and the most patient and exclusive study to become at all proficient in it.

That there is no marvel like life and like the living body, nor any investigation which can surpass its investigation for the problems which it presents. That the astronomer's task is simplicity itself compared with the world which we turn to with the microscope for its revelations of living structure. No chemistry which compares for intricacy with the chemical facts of life, or any branch of that majestic science which is practically so important. That there is no skill in observation which can surpass what is needed for watching the manifestations of life before perversion, and after perversion by disease. No such courage or readiness of resource demanded in any emergency, as in the exigencies of surgical or of medical practice, and that adequately to meet such crises calls for years of preparation beforehand.

In this connection one may say that nothing would so impress intelligent laymen as some adequate information about not only the wonderful progress of the science of medicine in our time, but also how it is achieved. Medicine now makes no haphazard or accidental discoveries, but only by means of research after the most exacting scientific methods. In this work is illustrated the worldwide and international brotherhood of medical science unparalleled in any other of the sciences. All America, all Europe, and far-off Japan contribute to the great company of investigators, working in the most elaborately equipped laboratories, where every alleged discovery in any department of medical knowledge is subjected to the severest tests known, either to confirm or to disprove it, so that nothing of the truth can escape such general and independent scrutiny. Due to this great modern system of experimental medicine, the discoveries made in medicine in our age are really greater than any of the boasted scientific achievements of the past century for their far-reaching effect upon human welfare. What is the gain to humanity by steam, telegraph or telephone compared with the benefits of antiseptic surgery or of the demonstration of what tuberculosis really is: what, also, is the secret enemy which works in every pestilence, and, lastly, why whole regions of the globe are afflicted with the deadly agent now proved to be mis-called malaria or bad air? These and many more inestimable gains to humanity have been won by the most skilful and masterly processes of investigation which the history of pure science can afford. And yet rational medicine demands that by no other way shall its progress be attempted. Theories and speculations are now quickly brushed aside with common sense and daily painstaking observations checked

by exact experimental tests are allowed any hearing. The result has been that as medical knowledge has become more and more based upon facts, the growth of its vast store of information has exceeded all possibility of acquisition by any one mind, however great. There is no man living who himself knows one-fourth of what is now known about the human body and its diseases. The profession has therefore been obliged to apportion its great field to different bands of workers. But what does this fact indicate as to the impossibility of an ignoramus being ever fit to treat anything, when the most highly trained physician constantly acknowledges that he is not himself qualified to treat everything? Were these truths generally known as they should be, the status of the medical profession in the estimation of the people, would be proportionately raised. People would as soon think of committing themselves or their families when sick to uneducated hands as they would commit the locomotive of an express train to a man who knew nothing about locomotives, or to let a common day laborer have charge of a powerful dynamo. How, therefore, the deplorable nescience of the great mass of the public with the most elementary facts about medicine is to be remedied, is a question of the most practical concern to our profession as a body. Every day furnishes some new illustration of the mischievous effects of this public ignorance on the community itself rather than on ourselves, and it has become, in my opinion, a duty on the part of the profession to take some concerted action to devise measures against this great evil. One of the readier means for this purpose, it seems to me, would be a demand that some suitable plan should be devised for the teaching of anatomy and physiology in the curriculum of every high school, academy and college in the land, and equally for both sexes. It is high time that some acquaintance with the mechanism of life should be recognized as an indispensable requisite in all systems of education fit for the name. Thereby to know something of oneself in the structure and functions of the bodies we have, is equal in importance to the study of grammar, of belles letters, or of the dead languages. To remain four years at college and then leave without knowing virtually anything about how the lungs breathe or the heart beats, or the nerves act, is a satire upon the modern systems of education. Of course, we do not advocate any teaching of medicine as such in this suggestion. What we do maintain is, that as the average man and woman in society has heard at school enough about astronomy to render astrology to them ridiculous, so would a corresponding degree of information given at school about the great facts of bodily life tend to render the quack and the charlatan equally ridiculous and impotent.

But we cannot wait at present for such an educational reform, on account of a public exigency, which though orders like it have happened before, yet in this instance is more than usually acute. A sect has arisen which calls itself both Christian and scientific, whose members prefer to heal disease, first by total banishment of all physicians, and by exclusion of all medical measures, substituting instead ideas and

ideas alone. The first of these all-healing ideas is that there is no pain, and there is no disease, but only mind. The rest of their propositions we have no time to state, nor are we sure that we could state them if we did have the time. We need not be surprised at the numerous following which this sect has received, for by this time physicians ought not to be surprised at anything in connection with medicine in this remarkable country. But it cannot be too publicly announced that the medical profession would not attempt to interfere with any human being believing what he pleases about disease and about doctors. As far, also, as doctors are concerned, they may act as they please and never run up a doctor's bill on any account. But how about the public? It is the public's turn to speak now. Suppose a man finds his next door neighbor regarding a case of smallpox, or of scarlatina, or of diphtheria, in his house as only ideas, and for getting rid of these ideas calls in a Christian Scientist to deal with them by his or her ideas, what then? It may be that his Christian Science neighbor does not even do that, but pays a fee to some 'scientist' to operate through "absent treatment"? The fact is practice based upon this childish delusion is more dangerous than allowing children to play with fire. Allowed to act itself out, cases of the most virulent infectiousness will occur beyond the reach of any timely recognition by those who often alone would recognize them, until hundreds of innocent persons are fatally stricken down by subsequent dissemination of the infection. In that aspect this whole system of doctrine, so soon as consistently carried out, becomes simply criminal. If a separate earth could be provided to which Christian Scientists might be consigned, it would not so much matter, but in this crowded miscellaneous world, we must have qualified guardians who do not believe in smallpox being an idea, but a hideous sickness, and whose only form of absent treatment is to absent the patient himself from everybody as soon as possible. A most stringent law ought to be passed, and most effectively enforced, enacting that every case of disease in the community should be visited at least once by a properly qualified medical man. If a properly qualified medical man has not been called in, then one such man should be provided by the public as its official public authority, whose sole duty then should be to determine whether the patient is sick or not with an infectious disease. Other than that duty he should have nothing more to do. All that he is there for is not for either patient or the patient's friends, certainly not as a representative of the medical profession as such. He should be a public officer only to see to it that the sick one does not become a public danger. But for reasons which we have already adverted to, such a law should not be proposed either by medical men or by medical organizations. It is the public's business to see to such an enactment, and public bodies, other than medical, should take it up. Initiated and advocated by the medical profession, any attempt of the kind will raise multitudes to protest that the doctors are frightened about their business being ruined by the success of these apostles of the new faith, and the old story of futile appeal by our profession to the world will simply be repeated.

GASTRIC TETANY, WITH REPORT OF CASES.*

By WM. GERRY MORGAN, M. D.

of Washington, D. C.,

Assistant to the Chair of Theory and Practice and Diseases of Children,
Georgetown University.

Definition.—Tetany is an affection characterized by the occurrence of, for the most part tonic, but occasionally, also, clonic spasms in the hands, forearms, arms, feet, legs, and in severe cases, the neck, face, larynx and trunk. Consciousness is usually undisturbed, but may be partially or wholly lost; it may be entirely lost at one time and undisturbed at another time in the same individual. The contractions are, for the most part, bilateral, and painful; either paroxysmal or continuous.

Etiology.—Up to the present time there have been several theories advanced to explain the symptom-complex of tetany. 1. The dehydration theory of Kussmaul was the first of these, which has already been proven untenable, and abandoned by him. 2. When the dehydration theory failed to explain the spasms seen in tetany, Germain See decided that tetany was of reflex origin, and certainly there is much in these cases to support this theory. He argues that the spasms are due to irritation of the hypersensitive terminal nerves of the mucous membrane of the stomach, which in turn excite the cells in the brain. If this theory be the true one, it is difficult to explain why tetany is not more frequently met with than it is, in view of the many severe conditions of the stomach with which it is never associated. And, too, the fact that the early weeks of pregnancy are very nearly quite immune to tetany speaks against the reflex theory, because at this time there is an increase in all the reflex phenomena. One case was reported in which a young woman who had been subject to attacks of tetany prior to becoming pregnant, was entirely free from seizures for a period of several months, although she vomited nearly every morning during this period. 3. The third theory is based upon the belief that there are certain toxic substances elaborated and reabsorbed by the stomach which produce the manifestations seen in tetany. This auto-intoxication theory is the one most supported by experimental and clinical research. An increasing number of the foremost observers in this line of research have accepted this theory. Kulneff, as well as Bouveret and Devic, have done much by their admirable experimental work to establish and strengthen the theory of auto-intoxication in tetany.

Pathology.—The opportunities for the study of the pathological changes which occur in gastric tetany have been surprisingly few, and comparatively little has been learned concerning the morbid changes which take place in this affection.

Quite recently an article appeared in the *Centralblatt fuer Innere Medizin*, from the pen of Ferranini, giving the results of his study upon the histological changes in a case of tetany following Reichman's disease, which terminated fatally. In this article he gives a very clear picture of all the pathological changes which were found by him.

On post-mortem examination, the stomach was found enormously dilated. The pylorus and the

upper portion of the duodenum were also dilated, and entirely without hypertrophic alteration, a fact of especial interest, as it shows that stenosis of the pylorus is not a necessary accompaniment of Reichman's disease.

His studies seem to indicate that gastritis does not precede Reichman's disease. He claims to have been able to trace out the different stages in the histological changes *pari-passu*.

In the first stage, the glandular ducts and fundi are dilated, and the parietal cells are slightly swollen and clouded. In the second stage the dilatation increases, the parietal cells become much clouded and swollen and project into the lumen of the glands, and are increased in number. The principal cells are shrunken and decreased in number. The interstitial tissue was not in this stage increased, but later there was a small celled infiltration, slight fibrous thickening, and hyperemia. These inflammatory changes were very superficial and most marked at the outlets of the glands, where in spots small erosions and ulcerations were seen.

In the third stage, all the previously described changes reached their highest degree. The principal cells were almost entirely destroyed. The parietal cells were enormously enlarged, and the number decreased, and in all stages of granular degeneration. In the neighborhood of the most degenerated glands the connective tissue had the appearance of cicatricial tissue. At these points the inflammatory changes could be traced to the submucosa.

He observed in the first stage evidences of hypersecretion only, which is soon followed by hyperplasia of those elements which are called upon to produce the increased secretion. As a further result of hypersecretion there is hyperemia followed by inflammatory processes. From this Ferranini argues that the gastritis is the effect and not the cause of hypersecretion. As a further result of this hypersecretion and hyperacidity, the terminal nerve filaments become irritated, and nutritive changes follow, with, as a final result, dilatation of the stomach.

Numerous attempts to demonstrate the terminal nerve fibrils in the gastric mucosa by the gold-chloride and Golgi's osmo-chromic acid methods, were unsuccessful. Ferranini attributes his failure in this respect to alterations in the nerve terminals. However, I do not think it proves disease in the nerve terminals, because these methods in the hands of the most skilled are uncertain when applied to the nerves of the mucosa.

The kidneys showed very little pathological change. There was only very insignificant increase in the connective tissue development in the liver, which increase was most marked about the bile ducts and blood vessels.

The most important changes were observed in the nerve centers, especially in the motor cells of the medulla oblongata and in the dorsal portion of the cervical cord, where nearly all the nerve cells showed pathological alterations. The perivascular spaces were dilated. The cells were much and variously deformed in shape, mostly longish-oval, biscuit shaped, shrunken at the margins, and especially in the centers of the cells much swollen. The cell

*Read before the American Association of Pathologists and Bacteriologists, St. Louis, Mo., 1900.

walls were much thickened. The cell protoplasm showed various degenerative alterations, from slight alterations of form of the chromophile granules to complete granular disintegration of them, and involving either parts of or the entire cell. Many of the cells were infiltrated with yellow pigment, sometimes to an extreme degree. Other of the nerve cells showed changes of the achromatic substance, which in many places was completely destroyed, leaving vacuoles. The nucleus was usually distorted, often so enlarged as to occupy nearly the entire cell, and usually peripherally situated or protruding from the margin of the cell. The nerve processes were often thin and knobbed.

These observations of Ferranini in regard to the changes in the central nervous system are in accord with those previously made by Weiss, Bonome and Cervisato and others. All clinical and experimental researches go to prove that these lesions are caused by the absorption of poisons elaborated in the stomach. The exact nature of these toxins has not yet been determined, so far as I am aware, although several experimentors have been able to separate certain toxic substances which are capable of producing tetanic convulsions.

Symptoms.—The attacks are usually preceded by premonitory symptoms, as, a feeling of nausea with or without vomiting, or there may be a pain or burning in the stomach, or a tingling in the finger tips, or a sense of unutterable fatigue in the group of muscles about to be affected, as occurred in my second case. At times there may be no warning of the impending attack. The spasms are almost invariably symmetrical, and usually begin in the hands and extend upward to the arms. In a few cases the spasms have begun in the toes and extended upward, involving legs, thighs and trunk. In rare instances the attack began in the hands and extended upward until the muscles of the neck and jaws were affected. These spasms are tonic in character, and either paroxysmal or continuous, or, as Allbutt puts it, either intermittent, remittent, or continuous. The hands assume a position which is designated as the obstetrical hand, so called for obvious reasons. The flexor group of muscles are the ones especially affected. The contractures are painful, and any attempt to overcome the rigidity greatly increases the pain. The duration of the spasm varies from a minute to several hours or even days. Consciousness in most cases remains undisturbed, but may be partially or wholly lost, and further, may vary in different attacks in the same individual. Reflexes are usually normal. Both the electrical and the mechanical irritability of the nerves and muscles of the parts affected are increased for some time after the attack, and are looked upon as characteristic symptoms of the disease.

Prognosis.—The prognosis in tetany depends upon the particular disease with which it is associated, and upon the nature of the attack. In a general way, in mild attacks of short duration, not associated with lesions of the stomach, which are of themselves serious, a favorable prognosis may be made. On the other hand, a prolonged, severe attack accompanying well marked isochymia is a very grave complication, and in such cases the rate

of mortality is very high, being placed by Bouveret and Devic as high as 70%.

Treatment.—The treatment of tetany should be that for the particular gastric disorder with which it is associated. In addition the bromides, especially the bromide of strontium, should be given with a maximum dose in the beginning and after a greater or lesser length of time be gradually reduced.

CASE I.—Mr. I.—, merchant, age forty years; well nourished and robust, of nervous temperament, but of cheerful disposition. His family history was negative in so far as it had any bearing upon his present illness. He had never had an illness severe enough to confine him to his bed two days in succession. Has led a temperate life. Has been troubled with mild attacks of dyspepsia for more than ten years. These periodic attacks have been increasing in frequency and severity until at present they are well nigh continuous. At times during the first three years of this period he was annoyed with spells of dizziness whenever worried or hurried after eating a hearty meal. Seven years ago, after enduring the paroxysms of vertigo for three years, he was attacked suddenly with what he calls "a fit." He was then travelling and one afternoon immediately after an unusually heavy dinner he received a telegram to return home to meet a crisis, and while hurrying to pack his belongings and at the same time worrying as to the outcome of the impending affair he became unconscious and had what was then diagnosed an epileptic fit. When he regained consciousness his arms felt so very sore and stiff that he could not use them for some hours; he was nauseated. For eleven months there was no recurrence, at which time he passed through a second convulsion, which was preceded by a severe attack of nausea and vomiting. Again he noted the excessive soreness and stiffness of the muscles of his arms. These attacks have been increasing in frequency until at the time when he came to me in December 1900 he was having from two to three a week. During the past two years he has retained consciousness throughout some of the attacks, although he invariably falls to the floor with vertigo, unless there be a chair or bench near at hand. During these attacks he noticed that the muscles of the arms and chest alone seem to be knotted beyond his control, and excessively painful; and further, that the attack is invariably ushered in with vomiting of an extremely acid liquid with or without admixture of food. The attacks in which consciousness is lost are not preceded by vomiting, but are usually followed by both nausea and vomiting upon return of consciousness. He says that for some hours before the occurrence of a spasm he has an insufferable feeling of weariness and lassitude. He says he has warded off attacks by drinking a pint of hot water in which he dissolved a table spoonful of baking soda, which caused him to vomit. His friends tell me that during the attacks in which consciousness is lost his hands and forearms are flexed and rotated inward; the fingers and thumbs are flexed and claw-like; and that in the beginning of the attack there are muscular twitchings which gradually become quiet, although the contractures continue. The head is rotated more or less to the right side. The tongue is not protruded, nor has he ever bitten it. His spasms last for three to ten or twelve minutes. For the past ten years he has suffered from severe burning sensations in the stomach and along the esophagus, which are relieved for an hour after partaking of food. He belches very constantly an odorless gas. His appetite is excellent, but he has sense of hunger a couple of hours after meals. Thirst is abnormally increased. If his stomach is empty beyond the usual time for meals he is hungry and nauseated at the same time. His bowels are obstinately constipated, not having enjoyed an unaided movement in fifteen years. Has no pain in stomach or bowels. Has lost only ten or fifteen pounds in weight in the past three years.

Present condition. Heart and lungs normal. Tongue clean and moist, showing no scars or indentations. Breath not offensive. Epigastrium not sensitive to pressure. Splashing sound is produced over the stomach from ensiform process to navel. Moderate tenderness in right iliac region, where there is some increased resistance noted.

On examining the stomach in a fasting condition it was found to be empty. One hour after the test breakfast: acidity 104, free HCl 88; dextrin very much, erythrodex-

trin present. The urine was normal, excepting for large numbers of uric acid crystals present. Feces showed nothing of interest excepting, as has been often noted by me in cases of hyperchlohydria, large numbers of triple phosphate crystals were observed.

The treatment in this case consisted of a suitable diet, with small frequent meals; teaspoonful doses of sodium bicarbonate an hour after meals, to be repeated in an hour if the pyrosis was not relieved. Bromid of strontium in five grain doses before meals. For five weeks after beginning this treatment he had no recurrence of the spasms but thinking himself cured, one evening after a hard day's work he ate a hearty dinner of most ill-favored combination of foods one could well imagine and went to bed shortly thereafter. On awaking in the morning he felt the soreness and stiffness in the muscles of his chest and arms and was told by his wife that he had had another "fit" as a result of his folly. He has had only one other recurrence up to the present time, and that again was the result of over-eating.

CASE II.—Mrs. E—, nearly 60 years of age. Had typhoid fever about 20 years ago, from which she made a perfect recovery, and remained in good health up to three years ago, when her digestive troubles began, since which time she has been gradually getting worse.

Present condition: Appetite is good. Is very thirsty and her mouth is often dry. Tongue clean and moist. About two hours after meals has a feeling of weight and oppression in pit of her stomach, accompanied with "a misery," which lasts until food or magnesia are taken. Often has water-brash. Belches an odorless gas so constantly that it is a source of much annoyance to her. Has no nausea or vomiting. Bowels are regular. Feces and urine are normal. During the past eight or ten months she has been suffering at times from attacks during which she was unable to use her arms, and which last from a few minutes to an hour. These attacks begin with a distress in her stomach which is soon followed by a feeling of weariness and actual pain down the flexor surfaces of her arms, forearms and hands. After a few minutes she uses the power of movement in these limbs; the elbows are drawn close to the sides of her body, the arms, forearms and hands rotated inward; the hands are flexed at the wrists and assume the Trousseau position. During this time the feeling of weariness has passed off, but the pain continues, and any attempt to change the position of either of these members caused greatly increased pain. Twice only have the muscles of the neck become involved. The second time it occurred in my office immediately after I had withdrawn the gastric contents through a tube. While the tube was still in her stomach she began to experience much weariness and pain in her arms. Upon withdrawing the tube a spasm in the upper extremities followed, typical of tetany. After lasting for about two minutes, the head was rotated slightly to the right and backward and appeared fixed. The muscles of the face, jaws and tongue were not affected. In two or three minutes the spasm passed off, leaving her weak and nervous, with stiffness of the muscles of her arms, but none in those of the neck. The following morning I was called to her home to relieve the pain and stiffness in the muscles at the back of her neck. I found these muscles much swollen and painful, which rendered her unable to rotate her head. This condition subsided in about four days.

Examining the gastric contents one hour after the test breakfast: acidity 59, free HCl 53; dextrin present, erythro-dextrin very much.

The treatment in this case was similar to that pursued in Case I, except that in the place of the bromid salt I ordered Phospho-glycerite of Lime in capsules.

In my first case there is much to suggest a complication of tetany with epilepsy, and certain it is that he has two very different kinds of attacks, but having the same after effects, viz.: the marked soreness and stiffness of the muscles, which are at the time affected. That this case is one of epilepsy only I do not believe, both on account of the nature of the attacks, the after effects, and because of the marked relief which has followed the simple treatment which he has carried out, the 20 grains of bromid salt in divided doses daily not being suffi-

ciently powerful to control the convulsions of a well-established epilepsy of seven years' standing. That my second case is gastric tetany may be accepted, I think, without further comment.

THE FUNCTIONAL TESTS OF HEARING.

By WILLIAM LINCOLN POLITZER, M. D.

The value of the functional tests of the organ of hearing as aids in the diagnosis and prognosis in diseases of the ear has for more than three generations been a controversial subject. In spite of this fact they are still used and recommended by most of the great authorities on otology. Much discussion has arisen because of certain exceptions to the general rules laid down by various writers, or on account of an imperfect understanding of the principles underlying the physiological experiments. The fact that three generations of otologists have used them and are using them more generally now than ever before is a fair indication of their utility, and of their fixed place in otologic practice.

I can do no better than quote Prof. A. Politzer in this connection: "The tests for hearing are of the greatest importance in the diagnosis of diseases of the ear; for they serve not only to determine the extent of the disturbance of hearing, but not infrequently also to localize the affection, inasmuch as in cases in which the other objective methods of examination give a negative result, we are enabled to judge whether the anatomical cause of the functional disturbance has its seat in the apparatus for the conduction of sound or in the nerve apparatus. But they are also of special value because by means of them, while the patient is under observation, we can note the course of the disease, and also the result of the treatment."

Some Physiological Facts.—(a) The normal range of hearing, in man, for musical tones is from 16 to about 48,000 vibrations per second. After the fiftieth year the upper limit of hearing is somewhat lowered. Persons seventy or more years old do not usually hear tones of more than 37,000 vibrations.

(b.) Sound waves reach the labyrinth chiefly through the tympanic membrane, the ossicles, and the oval window into which the foot-plate of the stirrup is inserted. As you all know, the foot-plate does not form a bony union with the oval window, but is attached to it by means of a fibrous membrane or ring. This allows it to vibrate freely in the window. Politzer first demonstrated that the malleus performed the greatest excursions, the incus less, and the stapedius least of all. Helmholtz found the greatest excursions of the stapes to be 1.18-1.14 mm. It can readily be seen that slight interference with the movements of the foot plate by either adhesive bands or ankylosis at the window will very materially interfere with the function of hearing.

(c.) It is more than probable that sound waves also reach the labyrinth through the round window, ~~but the importance of the test is not altogether destroyed when the foot-plate is fixed.~~

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(d.) Sound Waves are also carried to the labyrinth to a considerable extent through the bones of the skull. This explains the somewhat startling fact that certain deaf persons hear tolerably well if the speaker places the tips of his fingers against the forehead of the listener. It is well-known that if when a tuning fork of 512 vibrations is placed upon the skull and the external meatus is artificially closed with the finger, the vibrating fork is heard much better on that side. In other words, bone conduction is thereby increased.

(e.) In the normal ear bone conduction for tuning forks is a little more than one-half the time of hearing by air conduction. Most text books state that it is about one-half. In my text book which appeared last year, I make this statement. This, should be somewhat qualified as the relative duration of hearing by bone and air conduction varies greatly with different forks of the same number of vibrations. It will also vary with the point of contact made with the fork. For instance it is heard a little longer when placed over the mastoid antrum than when placed on the tip of the mastoid. It is customary with most otologists to place it between these two extremes be just posterior to the external meatus. At this point my fork will register in the normal ear about 12 seconds by bone conduction, while it is heard 28 seconds by air conduction. Politzer has wisely called attention to the varying results obtained by forks of the same number of vibrations. Each set of forks should be carefully and repeatedly tested upon normal cases so as to establish its normal register. Gradinigo at the last International Congress of Otologists, of which I had the honor of being a member, gave a scheme for the uniform record of the functional tests, in which he gives the register of his fork. This should be done by all observers. In this way our reports will be of much greater value to otologists in general.

(f.) The tensor tympani and stapedius muscles have long been regarded as the tension regulators of the drum-head, the stapedius counter-balancing the tensor tympani. A few years ago Dr. T. F. Rumbold wrote an article to the effect that they were the tone-selecting muscles of the ear as the ciliary muscles are the view-point selectors of the eye. In other words, that they are the focusing muscles of the ear. He says that through their action one selects the voice from a multitude of voices he wishes to hear; and that they attune the drum-head to catch and transmit to the labyrinth the sound waves desired by the listener.

(g.) The normal ears of a given subject perceive sound in its actual pitch. Both ears perceive it exactly alike. They co-ordinate in pitch timbre and intensity. In certain pathologic states one or both ears may get "out of tune."

In order that we may have a simple basis for the study of the physiologic tests of hearing, I will here quote from my text book* the principles underlying them. I have thus formulated them for use in my clinical teaching and have found them of great value in making the subject attractive and

lucid to students of otology. They are herewith given with slight amendment and explanatory remarks.

The normal range of hearing is from 16 to 48,000 vibrations per second. The upper limit of hearing is lowered after the 50th year from senile changes, independent of other pathologic process.

(2.) When the conduction apparatus is diseased or obstructed the power to hear low tones is impaired or lost.

(3.) When the perception apparatus is diseased, the power to hear high tones is generally impaired or lost. There are cases in which the rule will not hold good, high tones being heard when there is undoubted labyrinthine disease. The exceptions are so rare, however, that the rule is of great value in differentiating between middle ear and labyrinthine disease. As age diminishes bone conduction the rule is not of so great value in testing the aged.

(4.) The normal ear hears about twice as long as by bone conduction. As already stated, this rule should be somewhat modified, as bone conduction for some forks is more than half as long as air conduction, while in others it is shorter. This is not a matter of great importance, however, as the rule applies more particularly to the use of the Rinné experiment, in which the most important question is, as to whether it is positive or negative Rinné. The rule also applies to the Schwabach test, and, therefore, a more accurate statement is desired. In recording the results of the Schwabach test the number of seconds the vibrating fork is heard by bone conduction and by air conduction is noted. For instance, if the normal time of the fork is 12 seconds by bone and 28 seconds by air, and it heard only 15 seconds by air conduction, the rule as above stated would show that either air conduction is shortened. Each fork used for this test should be tested on a number of normal ears and its register determined. In reporting cases the register and number of vibrations should be stated so as to avoid further confusion in this regard.

(5.) When the conduction apparatus is diseased or obstructed, bone conduction is increased and the time left in which the fork should be heard by air conduction is diminished; or bone conduction is often lengthened so as to exceed air conduction in duration.

(6.) When the perception apparatus is diseased, bone conduction is shortened or is entirely absent, so that the relative time of hearing by air conduction is increased.

(7.) In addition to the above principles I might add the following: When the normal ear once clearly hears the tick of a watch upon approaching the patient, it will be heard as if it is gradually withdrawn to a greater distance. The distance to which it may be withdrawn and still be heard varies from 6 to 18 inches. In some cases of impaired hearing there is inability to hear the watch as it is withdrawn beyond the point at which it is distinctly heard upon the approach. Rumbold thinks this is due to weakness of the tensor tympani muscle. I have observed the sign in a number of poorly nourished and neurasthenic cases, in which it might well be true that there was muscle weakness, although

*Eye, Ear, Nose and Throat, Ballenger and Wipperrn, pp. 182-183.

I am not certain as to the significance of this sign.

The Application of the Functional Tests. We are now ready to discuss the application of some of the most approved physiologic experiments pertaining to the ear with the hope of arriving at some conclusion as to their value as aids in diagnosis and prognosis. It is not assumed by the writer that a correct diagnosis cannot usually be made, or at least pretty accurately guessed at, without the use of the functional tests. We grant as much. The only question herein discussed is as to the reliability of the tests in cases in which there is some doubt as to the diagnosis. I may be pardoned for remarking just here that one should make constant use of the tests in order that he may become skillful in their application and in his deductions therefrom. It may be necessary, therefore, for some to make it a routine practice to apply them to all, or nearly all, cases coming under their observation. The writer has for several years made this his practice in both clinical and private practice. He feels that he has been well rewarded for his trouble, and the convictions herein expressed are based upon this experience. They are offered for your thoughtful consideration with the hope that you will add to his knowledge, rather than he will add to yours.

The Watch Test.—This instrument has long been used to test the acuteness of hearing and is of more or less value. The patient may be able to hear the watch distinctly at about the normal distance and yet not understand conversation, or vice versa. While it may not afford an accurate means of diagnosis, it is often a means by which comparisons may be readily made from time to time during the progress of treatment. In catarrhal inflammation of the middle ear, and especially of the Eustachian tube the watch may be heard distinctly one day and indistinctly or not at all another day. This variation is rather diagnostic of this type of ear disease, and is accounted for by the intermittant, through irregular stoppage of the lumen of the tube and the subsequent absorption of the oxygen from the middle ear. When the tube becomes clear again air is restored to the tympanic cavity and the normal tension of the drumhead and ossicular chain is restored. We use two watches, one a high-pitched ticker, the other a low one. The low-pitched ticker is one of the dollar Ingersoll watches, and can be heard at a distance of ten feet, while the high-pitched ticker (a Paillard's non-magnetic Swiss) can be heard at five feet. Prout's method of recording the result of the test is used, i. e., the number of inches the watch is heard by the normal ear is used as the denominator and the distance at which it is actually heard as the numerator. Thus, if the Paillard, or high-ticker, is used and it is heard at 10 inches the fraction ten-sixtieths expresses the result. If the loud-ticker is used and is heard at 30 inches the fraction thirty-one hundred and twentieths expresses the result. There are four ways of using the watch, namely, (a) finding the distance at which it is heard upon approaching the ear; (b) placing it in firm contact with the auricle; (c) placing it against the mastoid process; (d) placing it between the teeth and noting in which ear it is heard the plainest, as in the Weber

experiment; and finally (e) after first finding the distance at which the watch is heard upon approach, and then noting how much farther it can be heard upon withdrawing it from the ear. As before stated, Kumbold uses this test to ascertain the tonicity of the Stapedius muscle. The writer has also used it for the same purpose for the last three years and finds improvement in such cases follows the administration of strychnia, iron, rest, and out-door exercise.

The Voice Test.—In 1871 Oscar Wolf published his conclusions as to the voice as a means of testing the organ of hearing. He found the letter R to be the lowest in the scale, having 128 vibrations per second, while the highest number of vibrations was given by S which gave from 5400-10840 vibrations per second. Hence, by the use of these two consonants we may test the hearing for the lower and within two octaves of the highest musical tones. With marked limitations this experiment may be used to differentiate between disease of the middle ear and of the labyrinth. He found speech in other words to be confined within about $6\frac{1}{2}$ octaves. The greatest strength and timbre belongs to the vowel A, which can be heard 252 m., and the smallest to the consonant H, which can be heard at 8.4 m. distance. And so he goes on to classify the various sounds and letters so that they may be used for testing purposes. There are several objections to this method of testing in spite of the great amount of scientific investigation bestowed upon it by Wolf, Clarence Blake and others. If words are used the patient often hears only the vowel sounds distinctly, and if numerals are used he experiences the same difficulty with the additional one of attempting to infer the number by sequence. Then, too, there is the difference in the quality, timbre, pitch and carrying quality of the voices of different observers. This difference is less pronounced in the whispered voice, especially if it is given out with the residual air. In fact, when the whispered voice is used it should be given only with the residual air, thus rendering all voices more nearly alike. As a careful analysis of Wolf's method would require many pages, it will not be considered further here. Suffice it to say that a thoughtful application of his method will aid the diagnosis, and will be useful in noting the progress made under treatment.

The Politzer Acoumeter.—This instrument was designed to take the place of the watch, or at least to supplement it, and can be heard at about 40 feet. All of the instruments are supposed to be of the same pitch and timbre, but in the mad rush of American dealers I fear little attention has been given to their exact construction. It is, however, a valuable adjunct to the watch tests, and may be applied in the same way, 40 feet being taken for the denominator, and the actual number of feet at which it is heard as the numerator. Politzer and Lucae claim it more nearly corresponds with the voice test than either the watch or distance tests with the tuning forks.

Many ingenious physiologic tests of more or less value have been devised, but after all the most valuable are those made with the tuning forks and whistles. We will now proceed to discuss some of the more valuable ones.

The Range of Hearing.—As already stated, the normal range of hearing for adults under 50 years of age is from 16 vibrations to 48,000 per second. After the fiftieth year this may be reduced to 37,000 per second. In other words, the upper register is lowered by the changes incident to senility. By referring to the third principle we find that high tones are diminished or lost in disease of the perception or nerve apparatus, hence in applying this principle the age of the patient should be taken into account. The upper limit of hearing is also lost in certain conditions of the middle ear, notably in marked retraction of the drumhead whereby the footplate of the stapes is forced inwards against the labyrinthine fluid. This increased pressure so affects the terminal endings of the auditory nerve as to interfere with the perception of high tones. This condition can usually be readily differentiated from true labyrinthine or nerve deafness by inflation of the middle ear. This procedure usually restores the normal tension to the drum-head and ossicles, and thereby relieves the increased intratympanic tension. The upper limit of hearing being restored, the diagnosis can easily be made.

The best outfit for making a complete test of the range of hearing is the Bezold-Edlemann set of forks and whistles. With these every musical tone from 16 to 48,000 vibrations can be tested. This is very important in a certain number of cases, more especially in deaf mutes. It is a well-known fact that a large percentage of so-called deaf-mutes are not totally deaf, but only to such an extent that they do not hear well enough to learn speech. Then, too, some of them can only hear certain tones in the entire range of hearing. In these cases these tones should be ascertained, and they should be trained to distinguish sounds, musical tones, and speech at these pitches. The information gained by this simple test may be made the avenue through which some of these poor unfortunates are brought within the range and influence of the greatest pleasure in life, namely, social conversation with his fellows.

By referring to the second principle we find that in disease of the conduction apparatus the power to hear low tones is impaired or lost. Loss of hearing for low tones is, therefore, usually a sign of middle ear disease or obstruction to the external meatus. It must not be forgotten, however, that the portion of the nerve apparatus concerned in the perception of low tones may be diseased while the other parts are not affected. In this case the loss of low tones would not signify middle ear disease. These cases are exceedingly rare, and would not, therefore, often confuse the observer.

The Weber Experiment.—This is one of the best known and most reliable tests made with the forks. Weber's experiment consisted in placing the tuning fork c2, 512 v., on the median line of the skull, and then closing the external meatus of one ear with the finger, under which conditions he found the sound lateralized toward that ear. Clinically it has been shown that when the middle ear is diseased, or the external meatus is obstructed by cerumen or other morbid conditions, the sound for the vibrating tuning fork (when on the median line of the skull), is lateralized to the affected side; and that when

the labyrinth is affected the sound is lateralized toward the good ear. This rule, like all rules, has exceptions. If the labyrinth and middle ear are both diseased there are manifestly two opposing conditions, one increasing, the other decreasing bone conduction. In such cases dependence must be placed upon a much more extended examination of the case. Indeed dependence should rarely, if ever, be placed upon a single test. Where both the middle ear and labyrinth are affected the Schwaback test will often help to clear the diagnosis. By this test both the bone and air conduction are measured and the variation from the normal may afford evidence of the true condition.

Another exception to the rule which has been noted by several observers, is often found in cases in which both middle ears are affected, but unequally. Ordinarily the fork is lateralized toward the side most affected, but the opposite is often true. Hence in bilateral deafness the Weber experiment is not so reliable as in unilateral deafness.

In simple, or uncomplicated labyrinthine disease, however, the fork is almost universally lateralized toward the good ear. Jacobson and Politzer have never seen an exception to this in undoubted cases. The test seems, therefore, to be a reliable one in this class of cases.

The accuracy of the Weber test will depend very much upon the fork used. In nearly all cases the best results are obtained with fork c2 512 v. Occasionally better results are gotten with lower ones. Higher forks should not be used, as they often give exactly the opposite result. They are almost useless for making this test. In exceptional cases a c2 512 v. fork may not be at all adapted for this test. When we remember that a fork of a higher pitch should never be used we can readily understand why a c2 fork with marked over-tones should not be used. The high over-tones might so counterbalance the true tone of the fork that it would be a question as to which was referred to by the patient in response to the test.

According to Politzer, when the result is questionable the sound will be lateralized if ear specula are inserted in both external meatuses. He also calls attention to the fact that in double chronic middle ear disease the sound of the fork may be lateralized to one side when placed on the vertex and to the other when placed on the maxilla or base of the nose. The writer's experience leads him to depend, chiefly, upon the median line of the upper teeth and the base of the ear.

The Weber test is, therefore, found to be more reliable in unilateral middle ear disease and somewhat less reliable in labyrinthine disease, and still more unreliable in double chronic middle ear affections.

The Schwaback Test.—This consists in ascertaining the number of seconds the fork is heard by bone and by air conduction. The result is to be compared with the normal register of the fork. Thus, if the normal register is bone conduction 10 seconds, and air conduction 20 seconds, and the result in the given case is bone conduction 20 seconds and air conduction 18 seconds, it is a natural conclusion to say that there is an increase in bone conduction, and therefore the deafness is due to disease of the conduction

apparatus. If there is both middle ear and labyrinthine disease the result is very different. It would be something like this: bone conduction 0 seconds; air conduction 5 seconds. Perception by both bone and air being reduced below the normal. In making this test the fork should be placed over the mastoid just posterior to the external meatus. It will make some difference in the result if it is placed over the mastoid antrum rather than the tip of the mastoid. In the former position bone conduction will be a little longer than in the latter. It might afford useful information to make tests in all three of these positions. For instance, if there is a small antrum from sclerosis, bone conduction should be diminished as compared with the normal register. The writer has not extensively experimented in this direction, but only throws out the suggestion for what it may be worth. Dr. A. H. Andrews has done considerable work along this line and speaks of greater differences in bone conduction from the 3 points on the mastoid than have been observed by the writer.

The Rinne Test.—This is only a modification of the Schwaback, or rather a modification in the method of recording and drawing deductions therefrom. In this test only the difference between bone and air conduction is recorded. For instance, if bone conduction is 25 seconds and air conduction is 15 seconds, it is recorded negative Rinne or Rinne -10. If air conduction is 10 seconds longer than bone conduction it is recorded positive Rinne +10. By this test if air conduction exceeds that by bone when applied to the deaf ear there is nerve deafness, and when bone conduction exceeds that by air when the fork is applied to the deaf ear there is middle ear deafness. This test is not so reliable as the Weber, but is nevertheless one that should always be used in conjunction with the others.

According to Lucae the Rinne is only reliable when hearing for whispered conversation is reduced to 1 m.

If there is increase of bone conduction to such an extent that a negative Rinne is obtained the test is pretty reliable. If, however, bone conduction is only increased to a moderate extent and a plus Rinne obtained, it does not afford much information. The more profound the deafness from middle ear disease the more reliable is the test.

If, in examinations, there is a correspondence between the results of the Weber, Schwaback and Rinne tests, the latter is additional proof of the pathologic condition present. Thus, if a patient complains of deafness in the right ear and the Weber test lateralizes to the right side, the Schwaback shows bone conduction 25" and air conduction 15", and the Rinne -10, the Rinne corroborates the other tests and confirms the other signs pointing to middle ear disease. There are many cases in which the diagnosis is in doubt when the information afforded by the various physiological tests render the diagnosis clear. When, however, we get a -Rinne with duration of bone conduction also shortened, there may be some doubt as to the significance of the negative Rinne (—Rinne). In such cases there may be present both middle and labyrinthine diseases. This apparently anomalous result is often very significant,

and should lead to most careful investigation and to a very guarded prognosis. So, it is often the case, that, through the very contradictions arising between the tests that we are enabled to arrive at a pretty correct idea as to the location and extent of the pathologic process.

In middle ear disease of very moderate degree the Weber test is the more reliable of the two.

In the aged the Rinne test is not so reliable on account of the diminished bone conduction incident to senility.

In severe deafness when the Rinne gives the positive result (plus Rinne) it is a pretty reliable sign of nerve involvement.

The tuning fork best suited for making this experiment is c^2 , 512, although it may be made with forks two octaves higher. With higher forks than c^2 it is, however, difficult to eliminate hearing by air conduction. Unlike the Weber, the lower forks are not suited to this test as upon the mastoid, the patient cannot so easily distinguish between the mechanical vibrations and the tone of the fork.

The fork used should have its register established by numerous experiments upon normal ears, and in publishing reports of cases this register should be named.

The Gelle Test.—This test is based upon the physiologic experiments of compressing the air in the external auditory meatus, while the vibrating fork is upon the vertex. At the time of compression the perception for the tone of the fork is greatly diminished in a normal ear. This is due to the increased pressure within the labyrinth. If there is ankylosis of the foot-plate (according to Gellè), there will be no change in the tone, he, therefore, claims it is of value in diagnosing this condition. If, on the other hand, there is marked deafness and the tone is greatly diminished with each compression it signifies that the foot-plate is freely movable, and, that deafness is due to labyrinthine disease. My own personal experience with this test does not warrant me in expressing an opinion as to its value. According to Politzer, it is only of value in cases of severe deafness and even in these cases often fails to afford information.

Bing Test, No. 1.—This test is also used to differentiate between middle ear and labyrinthine affections. This experiment is based upon the fact that when the turning fork upon the mastoid ceases to be heard, it is heard anew when the external meatus is closed with the finger. In cases with pronounced deafness if closing the meatus does not develop the tone anew it is, according to Bing, a sign of middle ear disease, whereas if it is heard again (in cases of pronounced deafness) it is a sign of labyrinthine disease. This test seems to be of value only in very severe deafness.

Bing Test, No. 2.—This test is thus referred to for the sake of convenience of reference, and refers to what Bing calls the "entotic" use of the speaking tube. The purpose of the test is to differentiate between ankylosis of the foot-plate of the stapes, and adhesive bands or other pathologic condition which hinders the malleus and incus in transmitting sound waves. The test is made by comparing the hearing of a patient through a speaking tube applied to the external meatus and one applied to the Eustachian

tube by means of a suitable fitting to the Eustachian catheter. If the patient hears better through the speaking tube by way of the catheter, than he does through the external meatus, the inference is that the foot-plate is freely movable while the malleus and incus are fixed or hindered in their vibrations. If such is the case, a rational sort of treatment is at once suggested, i. e., either the freeing of the malleus and incus from the adhesions or other hindrances or removing one or both, perhaps, preferably only the incus. The sound waves might then reach the foot plate through the vibrations of the air in the tympanic cavity and hearing be materially improved.

A condition which has been but recently much spoken of in this country is known under various names, as "Spongifying of the Bony Capsule of the Labyrinth," "Multiple Sclerosis of the petrous portion of the temporal bone," "Rarefying osteitis of the petrous portion of the temporal bone, especially that part near the oval window." This condition was, I believe, first described by Bezold more than twelve years ago, but is best known by the writings of Siebenmann. Briefly, it is a rarefying osteitis of the petrous portion of the temporal bone, especially that part around the oval window. It begins chiefly between the ages of eighteen and thirty, with gradually increasing deafness, although it may progress in rare cases by leaps and bounds. It develops independently of middle ear disease, although both may be present in the same case. When spongifying is present alone, the case may be readily diagnosed by the absence of any objective signs of middle ear disease, and by the three signs as described by Siebenmann, namely, (a) increased bone conduction for fork A; (b) the loss of hearing for low tones, and (c) the negative Rinne.

In closing the writer wishes to say that he has found many of the foregoing tests of great value in making a differential diagnosis, and in estimating the probable course and termination of certain cases. Of course, in many cases all this can very well be done without such aids, but this fact does not minimize their importance, but rather sets them apart as of especial value in selected cases.

What seem to be numerous exceptions to the rule are, after all, neither numerous nor difficult to understand. This is true if they are studied in the light of well-known physiologic experiments, rather than as arbitrary exceptions to be remembered and used empirically.

A Severe Case of Anthrax Cured by Injections of 5% Carbolic Acid. W. A. Niemtschenko (*Voenno-meditsinski Journal*, 1900; *Meditsinskoie Obozrenie*, February, 1901,) reports the case of a man who developed a malignant pustule on the right cheek near the eye. The infiltration was great and the systemic manifestations severe. Injections of 10 $\frac{1}{2}$ springful of a 5% solution of carbolic acid into the affected region brought about a prompt subsidence of the alarming symptoms, resulting finally in complete recovery. The author states that while weak solutions of carbolic acid may cause poisoning from the absorption of the drug strong solutions have no such effect. [A. R.]

REPORT OF A CASE OF RUPTURE OF THE EYE-BALL FROM CONTUSION—LUXATION OF THE LENS. HERNIA OF THE IRIS AND CILIARY BODY.*

By J. W. SHERER, M. D.

of Kansas City, Mo.

On February 25th, 1901, D. N., married, art. 47, was referred to me by the courtesy of Dr. Coons. Patient was seen at midnight about an hour after having received a light blow on the outer side of the right eye with the tips of the fingers of the open hand of an acquaintance with whom he was having a friendly sparring match. When seen by me the tension of the eyeball was nil; the anterior chamber was completely evacuated; the pupil was distorted and displaced upward and inward; the pupillary space was narrow, elongated and extended to the limbus opposite a point where a rent in the sclera and conjunctiva showed the black mass of the iris and ciliary body protruding.

There was evidence of extensive hemorrhage into the interior of the eye-ball. The rupture was situated about three m. m. from the sclero-corneal junction and extended about 5 mm. in a line parallel with the same from 50° to about 80° from the horizontal in the upper internal quadrant of the globe. The rupture was slightly irregular and its edges somewhat serrated. The location corresponded accurately to what is described by T. Collins to be the typical place for scleral rupture to occur. According to Fuchs the rupture is most likely to occur 90° from the point where the disrupting force impinges upon the eye-ball. He bases his opinion upon the hypothesis of Arit, which is as follows: When a non-penetrating force is applied to an elastic globe, flattening of the globe occurs with the point of sharpest curvature at a right angle to the axis of the thrusting force. Thus if a blow fall directly upon the center of the cornea, the place of sharpest curvature, the place of greatest strain, and the most probable place of rupture, will be at the equator. Other theories have been advanced. One is that of rupture by contre coup at a point opposite to the point where the thrust is received. I do not think it possible that the eye ball can afford perfect exemplification of the physical forces and principles involved, but that, as in the present instance, the place of rupture is determined by the compound of all the opposing forces present. In other words the rupture will occur at the weakest place assailed by a sufficient strain. The eye is most liable to violence from in front and from the outer side.

I consider that it is peculiarly the very prominent, protruding eye which most frequently ruptures. This is vividly shown in this case. You will observe that the patient has very prominent eyes which have almost no bony protection whatever externally. This being the case the rupture will tend to occur in the upper and inner quadrant of the globe. The sclera varies in thickness. Its diameter of one m.m. posteriorly gradually diminishes anteriorly to the equator. In the zone just behind the insertion of the recti muscles which, as you know, is five to eight m.m. from the cornea, the diameter is .35 m.m. More anteriorly it is re-inforced by the tendinous insertions of the recti muscles, these becoming interlaced with and felt into the fibers of the sclera. Thus we would expect to find the weaker spots between the tendons. In fact it is here that nearly all ruptures occur.

Approaching the cornea the bundles of fibers become arranged so that there is a preponderance of those fibers which run in a circular direction parallel with the cornea. This explains the invariable extension of these ruptures in this direction.

On account of the late hour at which this patient was first seen, and because he did not wish to enter a hospital, it was deemed inexpedient to attempt more at the time than to asepticise the eye and apply a suitable bandage. Thus protected the patient was carefully conveyed to his home and placed quietly in the recumbent position. Next morning under the strictest aseptic precaution, after excising so much of the prolapsed viscera as could not be reposed, with a very fine sharp needle and very fine black silk the ruptured conjunctiva and episclera were sutured conjointly. The

*Read before the Kansas City Academy of Medicine, April 20th, 1901

importance of great care in securing asepsis will be better realized when it is remembered that the vitreous has very little power of resisting infection. In fact it possesses a number of qualities necessary to a good culture media for bacteria, including alkaline reaction which nearly all bacteria require.

The wound being closed, atropine was instilled, both eyes bandaged, a calomel and soda laxative given, the patient admonished to lie very quietly on his back, and to partake of no food except such as was light easily digested and required very little mastication. The patient was very obedient and contributed all in his power to gaining a good result. For several days the eye was aseptically treated twice daily; then when it was seen that there was no inflammatory reaction worth mentioning, once daily. On March 4th, the seventh day, the surgical dressings were removed. March 6th all blood had disappeared from the anterior chamber which was again established. The pupil was still occluded with blood clot.

The left eye was now left uncovered one hour in the morning and afternoon, and the patient permitted to use gentle exercise during these periods. March 14th the bandage was removed entirely. The tension of the eye was again normal. Smoked coquilles were advised to be worn with cotton behind the right lens, thus closing and protecting the injured eye. An uneventful recovery was thus secured. When the blood in the vitreous was absorbed a clear fundus was found. The lens was dislocated and a -10 D. lens in the ophthalmoscope gave the best view of the retina. On the nasal side there was an area of retinal detachment (ablation of retinae). The ophthalmometer showed 2.75 D. astigmatism with the rule and the best vision, 6-12, was secured with +10.00 s. +2.00 c. ax. 60°.

I wish to point out that incised wounds of the sclera frequently recover and that ruptures very rarely do. I have been able to find record of but three cases of bona fide ruptures, but feel assured that they occasionally occur. I have been unable to ascertain the percentage of recoveries, but systematic writers uniformly agree that these cases are uniformly lost. The violence done the organ of vision is best indicated by calling attention to the great fragility and delicacy of its internal mechanism.

The scleral capsule is tough and inextensible. Its contents are soft and easily disorganized. The attachment of the retina in its most vital part is so slight as to be almost elusive. The mesh-work which contains the vitreous fluid and makes it a body instead of a fluid is so exquisitely delicate that the finest gossamer filaments of silk that can float on a summer zephyr is as a ship's hawser compared to it. Imagine the pulpifying effect of a contusing blow sufficient to burst the eyeball by compressing its contents, as is always the case in a rupture.

In the present case not only the sclera, but the extremely elastic conjunctiva also was ruptured. The degree of vision saved in this case is three-sixths, or one-half of normal, which is considered successful for a cataract operation. But even after recovery is accomplished there are still elements of hazard in the sequel. The scleral cicatrix may become ectatic and a scleral staphyloma result. Cases are known where, by some occult means, infection has developed after many months and panophthalmitis has resulted.

Retinal detachment may occur from different causes, such as the violence of the blow, sub-retinal hemorrhage, loss of vitreous, and as a late sequel tension upon that part of the uvea connected with the cicatrix produced by cicatricial contraction. The danger of irido-cyclitis and glaucoma is not altogether phantasmal. That

bug-bear, or, as the Germans say, das Schreckensgespenst, sympathetic ophthalmia, is always within the horizon of the conservative surgeon when a dislocated lens is retained within the globe, as in this case. However, the danger is very remote, and the eye is likely to remain quiescent for years.

ANISOMETROPIA.

By NORBURNE B. JENKINS, M. D.,
of Chicago.

About half of the civilized have unlike eyes; one eyeball is different in shape from the other, and spectacles are required with the two glasses ground differently. This trouble is called anisometropia, and a study of it may show the general practitioner why many are unable to read five or six hours a day; why many needing proper glasses are wrongly supposed to have weakness of eyeball muscles; why some are fitted with glasses in a few minutes and others are never fitted; why the importance of fitting glasses is underestimated; why nervousness and headaches are so often unrelieved.

Farsightedness is the most common of all eye imperfections. Many with plain farsightedness have one eyeball flatter, smaller or shorter than the other; again, the two eyeballs may be alike and one focusing muscle stronger than the other. Such, at best, are often difficult to fit; at worst, when both focusing muscles and eyeballs are unlike, the difficulty is greatly increased. About one-third of the people have the same degree of farsightedness in each eye, and also have one focusing muscle just as strong as the other. These, sooner or later, need spectacles with two magnifiers exactly alike, and, as a rule, are easy to fit, often fit themselves in the stores. Sometimes one eye is more farsighted and has a proportionately stronger focusing muscle than the other, consequently, the eyes balance and unlike glasses may not be needed until late in life.

In most plain near-sightedness one eyeball is longer or larger than the other. Such are wrongly supposed to be more easily fitted than unlike farsighted eyes. Nearsightedness is the least common of eye imperfections, and is rare in some parts of the world and in savage and semi-civilized peoples.

A few have a nearsighted and a farsighted eye, and some of these read with one eye and see at a distance with the other.

In astigmatism the eyes are usually unlike, for, as a rule, one eyeball is imperfectly rounded either in a different location or to a greater extent than the other; often both the location and amount of the astigmatism are different in each eye. Astigmatism is almost as common as farsightedness.

About half of the people have farsightedness united with astigmatism in one or both eyes, and worse still, one or both imperfections is usually different in each eyeball, so most with both farsightedness and astigmatism have unlike eyes. While the shape of the two eyeballs is usually different in these cases, the size is frequently the same, consequently, if magnifiers are used, the average power of each glass is the same, an important guide in balancing such eyes.*

More than half of the nearsighted have astigmatism, and it is common for the amount of both imperfections and for the location of the astigmatism to be different in each eyeball. In nearsightedness united with astigmatism, one eye practically always requires a glass ground differently from the other, and, further, the average concavity of each glass is usually different.

Some have one eye about perfect, while the other is somewhat imperfect, or even deformed and practically useless.

There may be both farsightedness and nearsightedness in the same eye. This is mixed astigmatism. Such an eye may be perfect in size, but imperfect in shape, for an eyeball may be as much too broad across as too short up and down. Mixed astigmatism is somewhat common, and is easily mistaken for nearsightedness. The eyes are usually unlike in mixed astigmatism.

There are thirty-five combinations of unlike eyes. The two eyeballs tend to be the same size and shape, and even unlike eyes have this tendency. Eyes with less farsightedness, nearsightedness or astigmatism than O. 25 D, and not more unlike than O. 12 D, may be considered perfect. Only about one person in a hundred has such eyes.

In unlike eyes one focusing muscle gets weak prematurely. The difference in the strength of the two muscles is usually noticeable at the age of forty, while at the fiftieth or fifty-fifth year one of the muscles is often powerless. Sometimes one of the focusing muscles never develops whether the eyeball is perfect or not.

In unlike eyes, in time, the sight of one will be better than the other, still, with right glasses, the sight of each is alike. The slightest difference in the shape or size of the two eyeballs is easily discovered in the aged, for, if tried by holding a magnifier before one eye and then the other, fine print, held at reading distance, is more distinct to one of the eyes.¹ When indicated, a concave or a cylindrical glass may be used instead of a magnifier. The focusing mechanism in children is so powerful that slight degrees of unlike eyes are often impossible to detect. Belladonna may be used in the young, and the fine print test tried as above.

The worst results of unlike eyes are crosseye or squint, and its blindness and another blindness in which the eyes look all right even to the expert. Strange to say, a slight difference in the shape of the two eyes may cause these troubles, and worse still, it is usually the better shaped eye that suffers. In crosseye and cockeye the eyes are usually unlike in shape or size, and the strength of the two focusing muscles is always different.

About half of aged readers with unlike eyes have the full use of only one eye; the other has become more or less blind from suppression of retinal images and non-use.² This blindness comes from unlike eyes and lack of proper glasses. Every pair of peddlers' and store spectacles has the two glasses exactly alike, and cannot suit any unlike eyes, and so may cause this blindness which may come in unlike eyes unless glasses make fine print as distinct to one eye as to the other. If the aged use but one

eye, they are not particular about their glasses, just so they magnify too much.³

Three or four years ago refractionists thought all was known about correcting eye imperfections. Recent investigations show that more than half of the people have astigmatism, unlike eyes or both, and sooner or later have trouble in reading and in getting proper glasses. Astigmatism is easily overlooked in the most delicate tests, and is often confused with beginning amblyopia. It is often difficult to discover astigmatism, much less to determine its location and amount. Uncorrected or improperly corrected astigmatism causes more trouble to readers than all other eye troubles put together. Some read all day and others have pain and blurring after reading a few minutes. This difference comes from misshapen eyeballs and not often from weakness, as most believe. With the right spectacles, most with ill-shaped eyeballs can read about as much as those with perfect eyes. There is not enough known about fitting simple farsightedness and nearsightedness, and in complicated astigmatism and unlike eyes proper glasses are seldom or almost never obtained, for astigmatism is commonly overlooked or about half corrected. Correction of astigmatism is by far the most difficult problem and work in ophthalmology.

The standard text books contain remarkable statements about anisometropia. Different treatments are advised and theories given to support them. Some authorities say:

"With different glasses the two retinal images of the same object are different, and so cannot match one another, cannot perfectly superimpose, consequently, in unlike eyes, either give the same glass for both eyes, or correct only one eye and place a plane glass over the other." Others follow this:

"If the eyes are much unlike only the better one is used for vision; the other has not been used to clear images, consequently a glass which makes the sight normal will not be tolerated. In such cases the better eye should be fully corrected, and the worse eye should be partially corrected, fitted with a plane glass or given the same glass as that on the better eye."

People with eye imperfections amounting to deformity have never had good vision, yet these "tolerate" the clearest images if the right glasses are given. Those blind for years with cataract wear best glasses that give best sight. Many with eyes farsighted exactly alike, but with unlike focusing muscles, wear a different magnifying glass on each eye with perfect comfort. In an imperfect eye with a proper glass, and in a perfect eye, images are the right size. If "superimposing" amounts to anything, images of imperfect and unlike eyes ought to "superimpose" if glasses make them like the images of perfect eyes and make them both the same size.

If there is no disease and no deformity ametropia (astigmatism of more than 3.5 D, or farsightedness or nearsightedness of more than 7.D), there is nothing to prevent use of both eyes at the same time for reading or far vision, provided proper glasses are prescribed, each eye fitted right.⁴ The

1 Philadelphia Medical Journal, December, 1899, page 1254.

2 Ophthalmic Record, February, 1900, page 88.

3 Journal A. M. A. May, 1899, page 1032.

4 Journal, A. M. A. February, 1899, page 351.

reasons given in the standard text books for these different treatments are wrong. If the sight of an eye can be helped, the sight should be made as near normal as a glass can make it, otherwise the retina and the focusing mechanism may suffer from non-use. In unlike eyes there is but one treatment, difficult though it be, and that is to fit each eye on its own merits. If this is properly done, the eyes balance, see alike and act in harmony.

One diopter of farsighted astigmatism affects the size of the eyeball the same as one-half diopter of farsightedness. The eyes tend to be the same size, and, if one eye, the right eye, has one diopter of farsightedness and one diopter of farsighted astigmatism, while the left eye has half a diopter farsighted astigmatism, then, it is usual for farsightedness of a diopter and a quarter to be in the left eye, when spectacles with the two glasses, each of the same average convexity, will be required. Typical eyes may further simplify: If the right eye requires: $+ O. 75 S. = + O. 50 C.$; $+ O. 50 S. = + 1. C.$; $+ O. 25 S. = + 1.50 C.$; or $+ 2. C.$ then, as a rule, the left eye will require one of these four glasses, or even a $+ 1 S.$ All these glasses make different images and yet the average convexity of each is the same.

Size, shape and position of the crystalline lens are not considered in this paper.

JOURNAL DES PRACTICIENS.

March 30, 1901. (15me. Annee, No. 13.)

1. The Evolution and Treatment of Strabismus in Young Children. ROCHON-DUVIGNEAUD.
2. The Choice of Catheters and the Difficulties of Catheterization in Hypertrophy of the Prostate. S. BAN-ZET.
3. Surgical Analgesia by Sub-arachnoidal Injection of Cocain through the Lumbar Spine. H. MILHIET.

1.—**Convergent strabismus** in children may be congenital, it may occur suddenly with convulsions, or it may develop gradually, as is most common, between 2 and 3 years of age. The majority of cases of congenital strabismus disappear spontaneously. The absence of diplopia will distinguish strabismus from oculomotor paralysis. Vision cannot be determined until the age of 4 or 5 years and it is then found unequal in the two eyes, the fixing eye having far superior sight. Most such children show hypermetropic astigmatism. The squinting eye early develops amblyopia from disuse. While these cases generally recover about puberty, the amblyopia persists. In some cases divergent strabismus may result later. Atropine should be used in the fixing eye, so that the other eye must act functionally, for the good eye will have its accommodation paralyzed. This should be dropped into the eye for the first three days of each week, or for two weeks, alternating with two weeks of rest. But after the age of 4, correcting glasses should be used. Refraction is done under atropine, and the glasses ordered for constant wear. To continue the use of the squinting eye, the fixing eye should be bandaged at noon for the rest of the day. This will prevent amblyopia from disuse, and neither the one eye nor the other will become the permanent fixing eye. When the child grows older, stereoscopic exercises, tenotomy, or advancement may effect a permanent cure.

[M. O.]

2.—In hypertrophy of the prostate, regular evacuation of the bladder by repeated catheterization is the ordinary palliative method of treatment. For this a Nelaton rubber catheter or a Mercier elbowed catheter can be used. The former is preferable for the patient's own use, and can be easily sterilized. When the former can not be employed, the latter may. But this is hard to sterilize. Many sounds

will be tried before the correct curve is found. Besides, the fact that the prostatic urethra may change its form must not be forgotten. A catheter that has passed easily will not then pass, or *vice versa*. More attempts will then be necessary with different catheters. [M. O.]

3.—For this new method of producing analgesia, a 1 or 2% solution of cocain is employed, in injections of $\frac{1}{2}$ to 4 cc. Large doses cause distinct after-effects. The solution, the needle, and the patient's back, must all be well sterilized. The punctures should always be made below the second lumbar vertebra, preferably in the third interspace. The patient should be sitting up, and the needle should be 9 or 10 cm. long. A few drops of cerebro-spinal fluid is allowed to escape, and then a full minute is given to slowly injecting the cocain. A collodion dressing is applied. Analgesia begins in the feet, and gradually rises higher. It is general in 10 minutes. It lasts from 20 to 50 minutes, depending on the dose of cocain injected. Nausea, vomiting, thirst, headache, tremulousness, and anxiety are the common after-effects. Headache, insomnia, and mental troubles may persist for some time afterward, with fever. As small a dose of cocain should be used as possible, and an injection of caffeine and morphine given before operation. Men bear it better than women. It should never be employed in children under 16 years, in nervous or alcoholic subjects, nor when a long operation is necessary, in which case chloroform is to be preferred. But this method is especially useful in the debilitated and the depressed, those affected with pulmonary or cardiac lesions, nephritis or arteriosclerosis, and in those who object to general anesthesia. [M. O.]

April 6, 1901. (15me. Annee, No. 14.)

1. The Psychic Equivalent of Epilepsy. P. RAYMOND.
2. Enteroptosis. FRANTZ GLENARD.

1.—In epilepsy, in place of the usual convulsive attack, motor, sensory, or psychic equivalents may occur. Or psychic manifestations may appear with or after an ordinary fit. In a girl of 19, the attack would come on as usual, but convulsions were limited to the pharynx. She made the motion of swallowing a few times, then was herself again, ignorant of the attack. Another had hiccough, with vertigo, and also loss of consciousness for a few seconds. Another whose aura was always great hunger, would lose consciousness after feeling hungry. Another had erotic sensations, became unconscious, rubbed her abdomen vigorously, and again became conscious. One felt very happy during her attacks; another showed sudden sadness; and another became very much frightened. One suddenly observed that her surroundings were strange, unknown to her, though she had seen them for months; another told a friend that he was pale, then fell unconscious himself. A certain word pronounced, an incomprehensible idea, a souvenir, will all cause these psychic attacks, with or without convulsions. More interesting cases are reported. [M. O.]

2.—**Enteroptosis**, descent of the intestines, has been considered a morbid entity since 1885. Glenard says that it may occur in four separate conditions, nervous ailments, dyspepsia, disease of the liver, or general constitutional illness. It is very common, four-fifths of the cases being in women. The symptoms will be many, pallor, a sad expression, complaints of feeling badly all over, loss of memory, of the power of concentrating attention, irritability, etc. Symptoms of all kinds exist, of indigestion, weakness, emaciation, etc., and no treatment will prove beneficial. Examination of the urine, blood, gastric juice, etc., shows everything normal. Physical examination will reveal tenderness in the epigastrium, with a marked epigastric pulsation, great diminution in the tension of the abdominal wall, and the transverse colon will be felt crossing the aorta, about the size of a cord, freely movable under palpation. The rest of the colon will also be palpable, the cecum alone being found of normal size. The right kidney may be movable, and the right lobe of the liver elongated, thin, and low down. These are the three main symptoms, a stenosis of the colon which lies low in the abdomen, movable kidney, and deformed liver. The sustaining ligaments of the viscera are relaxed, and gastroptosis, enteroptosis, nephroptosis, hepatoptosis, splanchnoptosis, finally, follow. An abdominal binder, correctly applied, will aid in the treatment. [M. O.]

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Scientific Articles, Clinical Memoranda, News Items, etc., of interest to the profession are solicited for publication. Returns on Original Articles will be furnished gratis to Authors making the request.

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See Advertising Page 8.

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MAY 25, 1901

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The Therapeutic Monthly.—We are happy to announce the appearance of the first number of this new journal under the editorial charge of Professor Tyson, Dr. Coley and Dr. T. M. Tyson. In appearance it is not unlike the **Philadelphia Medical Journal**, and will constitute an important monthly companion to this journal for those of our subscribers who have availed themselves of the opportunity of obtaining it. There is not, of course, a more important field in scientific medicine than therapeutics, and the new journal will cover this field to the satisfaction of the active practitioner who wishes to keep himself and his practice fully abreast of the progress of the times.

The Proposed National Bureau of the Materia Medica.—The necessity of definite and concerted action on the part of the profession in order to regulate the introduction of new remedies of whatever class, may be regarded as one of the vital questions for discussion at the St. Paul meeting of the American Medical Association. Our *Materia Medica* stands in need of careful revision and cautious expansion. In the development of synthetic chemistry, with its tremendous possibilities in the field of treatment, we witness hundreds of products placed daily on the market, and to this class may be added the various "special formulæ" of well-known agents. The scientific work done in the well-equipped chemical laboratories of these firms is frequently of the highest order, and there can be little doubt that, as such, it is entitled to respectful hearing and full investigation. Along with the meritorious preparations are hosts of worthless ones duly proclaimed as of great value. The good and the bad alike are seeking endorsement. The question of the employment of proprietary products in general is a broad one. It is too vast in extent and importance to be ignored utterly. In this connection, we believe that the plan suggested by Dr. F. E. Stewart for the establishment of a National Bureau of the *Materia Medica* is a most excellent one in its general scope. It is Dr. Stewart's idea that such a Bureau should be empowered to examine carefully, and at length, the pharmacology of such new remedies as may be presented for its official sanction, as

well as to investigate the method of preparation, and by extended clinical trial determine the value of these new remedies. The duties of the Bureau would include the determination of a suitable method of standardization of all of the remedies of the *Materia Medica*. Its establishment would insure a greater amount of uniformity in our drugs, as well as supplying us with reliable information as to newly discovered products. This question was brought up at the recent meeting of the American Therapeutic Society in Washington, and a Committee was appointed to investigate the matter. This Society also took the initiative in the important matter of regulating the subjects to be discussed before it by passing unanimously the resolution declaring that: "Any therapeutic agent offered for discussion before the Society should be discussed under its chemical name, and not under its fanciful, patented, or copyrighted commercial name." It is our opinion that in this action the American Therapeutic Society has done a wise thing, and its example should be followed by medical bodies generally.

The Treatment of Sarcoma with Toxins.—Every practitioner of every branch of the medical profession must entertain an active interest in anything that pertains to the cure of that dread malady, sarcoma, and, therefore, we can commend to our readers the interesting account by Dr. William B. Coley, of the "Late Results of Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus," to be found on another page of this issue of the **Journal**. This method of treatment, introduced a number of years ago by Bull and Coley, has suffered, as have so many other new methods, in having too much expected of it by the profession at large, even more than was claimed by its originators. Hence there has been considerable criticism of the treatment because it did not relieve *all* cases of sarcoma in which it was employed, and oftentimes not thoroughly employed. Coley, however, has not been discouraged, but has continued his interesting work and now gives us his results after a number of years have elapsed since the treatment was instituted, and they are such as to impress upon any but a con-

firmed pessimist, not only the advisability, but the necessity of using this treatment in certain forms of inoperable sarcoma. He shows the danger of the treatment to be practically nil, and only recommends it in inoperable cases. If he and other surgeons can produce an occasional cure by the use of the mixed toxins, as has certainly been done, then it becomes our duty to a patient suffering from an inoperable sarcoma to give this method a thorough and conscientious trial. The profession certainly owes to Coley a debt of gratitude for his careful and painstaking work in the treatment of inoperable sarcomata, where all our former methods have proved so absolutely hopeless.

Auto-Inoculation of Cancer.—As a contribution to the subject of the causation of cancer, Dr. A. T. Cabot reports (*Boston Medical and Surgical Journal*, May 16, 1901) an interesting case of what appears to have been an accidental inoculation of cancer in a fresh wound. The patient was a man who was suffering from cancer high up in the anterior wall of the rectum. A Kraske incision was made and the cancer dragged down into this opening and removed through it. During this manipulation the fluid from the cancerous growth was rubbed over the wound made by the Kraske operation. At the end of four years the cancer had not recurred at its original site, but two years after the operation a hardening of the tissues was noticed behind the rectum, at some distance, of course, from the site of the original growth. Cabot operated for this second growth, which was about as large as a hen's egg. On microscopical examination it was found to be an adenocarcinoma with colloid degeneration identical with the original growth. The scar in which the secondary growth took place was separated by an interval of five or six inches from the seat of the original growth. As Cabot points out, this is not a case of direct extension of the disease. The lymphatic vessels from the seat of the original disease run upward of the lumbar glands, and not downward toward the point of recurrence. This anatomical relation, together with the absence of any lymphatic structure in the recurring nodule, removes any suspicion of this having been a secondary growth in a lymphatic gland. It seems, therefore, that this was a transplanation of cancer; in other words, a true autogenous inoculation. The conditions were certainly favorable for such an event, as the cancerous growth, torn and squeezed by the forceps, was incidentally rubbed for several minutes on the fresh wound.

Dr. Cabot points out the practical importance of taking great care in the removal of cancer to avoid such a contingency. From a pathological, or we may say theoretical standpoint, the case is certainly

an interesting and apparently conclusive one. It was an accidental experiment, such, of course, as would not be justifiable intentionally in any patient, and therefore of unique importance.

The Presidency of the New York Lunacy Commission.—The State of New York is fortunate in obtaining the services of Dr. Frederick Peterson as President of the State Lunacy Commission, and Governor Odell is to be congratulated on such a wise and discriminating use of the appointing power. The Lunacy Commission of that State in recent years has not altogether succeeded in holding public and professional confidence. Its wrangle with the Pathological Institute was an instance that proved that it had not the wisdom at least to extricate itself and one of its charges from an embarrassing situation. Whatever the merits of that controversy may have been, the one fact that remains most apparent is that the trouble should never have been allowed to reach the acute and aggravated stage in which the public came to know it.

Dr. Frederick Peterson is admirably equipped to step in at this juncture and bring harmony to both the administrative and scientific work which is to be done under the general supervision of the Commission. He is well known as a scientist, and he is almost equally well known by reason of his work for the Craig Colony of Epileptics as a practical man of affairs. He will have great opportunities now to do good work, for the field in New York is a great one, and by reason of its importance and prominence is always looked to for initiative and good example. We think the occasion is also opportune to express confidence in a Governor who has already given many proofs that he believes it to be his business to govern.

A Psycho-Physical Laboratory.—Efforts are being made to induce the United States Government to establish a laboratory of this kind in the Department of the Interior. If properly equipped and conducted by competent students of psychology, such a laboratory would be of distinct service. The present cry of "degeneracy" for every aberrant and vicious display of human nature does not have our sympathy, and we could only endorse the founding of such a laboratory if we felt sure that it would be conducted on strictly scientific and critical lines, and not merely to exploit the theories and fads of inexperienced and visionary compilers. A vast field remains to be explored in psycho-physics, but it is a most difficult and involved one. To conduct the investigations which are to be the object of such a laboratory, will require the skill of men who have high natural and acquired attainments. Such talent can be commanded in most fields by the United

States Government much more easily than it can be found in psycho-physics, and it will behoove the authorities at Washington, if they consent to undertake this scheme, to recall constantly the fact that not only money, but also men, are required to equip a laboratory.

The Treatment and Prophylaxis of Rabies.—The department for the treatment of rabies, of the institute for infectious diseases in Berlin, was opened in 1898, on the recommendation of Dr. Robert Koch. In 1896 there was a marked increase in the number of cases of rabies in Berlin, from 66, the incidence in 1895, to 128, the incidence in 1896. In 1896 the mortality was 3.13%. In 1897, there were 161 cases, with a mortality of 3.11%; in 1898, 263 cases with a mortality of 3.42%; in 1899, 287 cases with a mortality of 1.05%; and in 1900, 384 cases with a mortality of 0.27%. These figures demonstrate that although the number of cases of rabies has steadily increased since 1896, the mortality since the opening of this department of the institute has fallen until it has reached the remarkably low percentage quoted. In Germany, the majority of cases of rabies occur near the Austrian and Russian boundaries (Public Health Reports). The infected animals wander over into Prussia and there spread the disease. In Germany, an animal is killed as soon as it shows the first signs of rabies; but it will be impossible to banish that disease from Germany until the neighboring countries take the same precautionary measures against its spread as Germany has taken. In Berlin proper, no case of rabies has developed since the passage of a law, in 1873, requiring the muzzling of all dogs during the entire year. The experience of the medical authorities in Berlin is that the decrease of danger during the winter months is not sufficient to cause the law to be relaxed during that time. In the institute for infectious diseases rabies is treated according to Pasteur's plan with, as figures show, most excellent results. This showing should completely set aside all captious criticism concerning rabies as a morbid entity and the efficiency of the Pasteur treatment as a therapeutic measure. The compulsory muzzling of dogs while on the public streets seems to us, on the whole, to be a wise measure. Fortunately, rabies is a rare disease in the United States, but there are many persons who would feel much easier if, when they met some of our huge canine friends, they could feel sure that the animals were incapable of doing harm.

A Review of the History of Cardiac Pathology.—Dr. Alfred Stengel delivered an address before the Wisconsin State Medical Society on June 21, 1900, which was published synchronously in the *Univer-*

sity Medical Magazine and in the *Philadelphia Medical Journal*, on "A Review of the History of Cardiac Pathology with Especial Reference to Modern Conceptions of Myocardial Disease." In this valuable contribution to medical literature an excellent review of the history of this subject is given from the time of Galen, whose doctrines on pathology were taught for many centuries, and to whom is credited the first suggestion of the possibility of cardiac disease, up to the early part of the nineteenth century. Stengel outlines the many important events leading up to the knowledge upon which are based our modern conceptions of this subject, especially emphasizing Harvey's brilliant achievement, the demonstration of the circulation, the learned classifications established by the distinguished French physician, Corvisart, the important observations of Bouillaud on valvular disease, the valuable methods of physical diagnosis contributed to medical science by Auenbrugger and Laennec, and the later writings on cardiac diagnosis by Hope, Testa, Burns, and Kreysig. Accurate knowledge of myocardial disease had its origin about the middle of the nineteenth century, and was largely the outcome of careful and painstaking study by Gairdner, Weigert, Bamberger, Hasse, Rokitsansky, Bochkalek, Dittrich and Virchow. The names of Allbutt, Myers, Seitz, and DaCosta stand foremost amongst those who have added to our store of clinical knowledge.

The author states that experience and statistics indicate that circulatory diseases are on the increase. At the present day our efforts must be directed to determine the causes of one of these problems, namely, myocardial weakness and degeneration. Of great interest is the statement that troubled times and general unrest of mankind probably play a most important causative rôle. During the revolution of 1830 in France, and during the revolt in Italy in 1848, and in Sicily in 1860, there was an increase in the number of cases of heart disease.

In an account of the clinical considerations of myocardial disease Stengel alludes to some of the early symptoms which should attract attention, particularly loss of physical activity, a disposition to be less interested in affairs, and a peculiar yellowish pallor of the face with slight prominence of the venules. Often after sudden fright there occurs a distinct change of color which may persist for an unusually long time. Somewhat later manifestations are weakness and irregularity of the pulse, and a relaxed condition of the skin accompanied by sweating. The author is convinced, from his own clinical observations, that a changeable character of the specific gravity of the urine is a sign which exists in many cases of myocarditis combined with

arteriosclerosis. Gastric phenomena, especially gastralgie attacks, the probable explanation being a deranged nervous association, he regards as early signs.

Dr. Stengel believes that if myocardial disease can be recognized early the progress of many of these cases may be arrested. A positive diagnosis, however, is usually impossible until the disease has become incurable, and for that reason he has directed attention to the earlier signs.

Protection from the Malarial Mosquito in Italy.

—Assistant Surgeon J. M. Eager writes from Naples, Italy, to the Surgeon General of the Marine Hospital Service, that prophylactic measures are being taken on the railroads of that country for the protection of employes from the attacks of mosquitoes. Extensive areas of fertile land in Italy are almost wholly deserted in the malarial season. The shepherds who feed their flocks on these lands in winter go to the higher country in summer. The few peasants who are forced to remain behind go to the higher lands every night to sleep. But railroad employes must remain at their posts, and they form a class of fallow, fever-smitten men who have for a long time been a sorry sight to railroad travelers in Italy. The railroad companies now propose to furnish them protection as far as possible. Wire gauze is supplied, and the windows and doors of station houses are screened. Switch houses are made of wire gauze, and whole verandas of like material are built. Head-covering, similar to that used in America by men handling honey-bees, is provided for employes who are obliged to expose themselves. Special material, supposed to be impenetrable to mosquito bites, is supplied for clothing. Surgeon Eager does not express any skepticism about the efficacy of these measures, but we should suppose it would be difficult to have the average Italian workingman adopt such precautions. We know from personal inquiry that it is not easy to induce the American workingman to observe common-sense precautions, as, for instance, in lead factories, grinding establishments, etc. If the Italian workingman at home is more reasonable than the American in such matters, it is more than can be said of him when he comes to this country.

Dr. Eager says that not much is to be expected from drainage and the use of petroleum in ridding the Roman *campania* of the mosquito pest.

The Control of the Venereal Diseases.—There is now being undertaken in Greater New York the first systematic attempt that has been made to collect statistics of venereal diseases.—a large but neglected class of affections which have a most important relation to the public health. We

wish to call editorial attention to this work and to urge a general response upon the part of the medical profession in the metropolis. The work is under the supervision of the Committee of Seven, of which Dr. Prince A. Morrow is chairman, which has recently been appointed by the Society of the County of New York. A resolution empowered the President of the Society to appoint this Committee for the study of the most practical kind of Municipal and State legislation to repress or control prostitution with a view of reducing the morbidity and mortality of venereal diseases. The Committee seeks for information from every practitioner and every dispensary as to the number of cases of gonorrhea and syphilis treated. It is especially desirous of gaining the fullest possible information relative to the prevalence of syphilis *in-sontium*, of gonococcic infection in marriage, and of venereal diseases occurring in children. This is a most important subject, and we trust this investigation will result in the institution of some practical method of controlling the terrible ravages of the venereal diseases. We published recently, as will be remembered, a most instructive paper on this subject by Dr. Morrow.

Correspondence.

ERYSIPELAS IN ASIA

By CLARENCE D. USSHER, M. D.,
of Van, Turkey, Asia.

Editor Philadelphia Medical Journal,

Dear Sir.—

The Philadelphia Medical Journal has been a helpful and welcome friend since its second volume. This help I have received has led me to pass on a few items which have been helpful to me during the past two years.

First, a treatment for erysipelas. I have been through three fairly sharp epidemics besides the ordinary run of a medical missionary's practice. I cannot say how many cases I have treated, but probably more than 150. First I used equal parts of jaborandi and iron internally and externally, an idea learned from Dr. A. M. Wilson, of Kansas City, Mo. Then I tried bathing with hot water and painting with ergot. Then a combination of the two treatments with moderate success. Finally, knowing that the streptococcus of erysipelas was quickly destroyed by even weak solutions of bichloride of mercury I began to figure on getting it into the tissues. With Dr. C. S. Merriam's suggestion of hot bathing as a starter, I ordered bathing for an hour with water kept as near the boiling point as could be borne, followed by an application of 1-500 bichloride solution for 20 minutes, to be repeated four times. The erysipelas had disappeared by next morning. I have since modified it to 1-1000 solution, used after $\frac{1}{2}$ an hour bathing. Two applications generally sufficing, though in severe cases I ordered four, the last one followed by yellow oxide of mercury salve, 8 grs. in one ounce of vaseline. The only fatal case was one in which the disease had

reached the brain before I was called on the 8th day of the disease.

Among your therapeutic notes last year was a mention of creosote and olive oil rubbed into sides and chest as ideal treatment for malaria in children. My experience confirms it with this important point to note that "beech-wood" creosote acts perfectly, but synthetic creosote (Merk's and others) has given me absolutely negative results.

Antisymphilitic "mixed treatment" combined with iodide of potassium in progressive doses up to point of toleration works well in both tubercular and anesthetic forms of leprosy. One patient required $25\frac{1}{2}$ drams of a saturated solution daily to produce effect. 27 drams (1620 grains) produced marked coryza and pain in the limbs, but no eruption or pytalism. $25\frac{1}{2}$ drams caused no unpleasant effects. Is there any record of a larger dose being tolerated?

Reviews.

International Clinics.—A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M. D., of Chicago; Alexander D. Blackader, M. D., of Montreal; H. C. Wood, M. D., of Philadelphia; T. M. Rotch, M. D., of Boston; E. Landolt, M. D., of Paris; Thomas G. Morton, M. D., and Charles H. Reed, M. D., of Philadelphia. Volume I. Eleventh series, 1901. Philadelphia. J. B. Lippincott Company, 1901; price in cloth, \$2.00; half-leather, \$2.25.

This volume of the International Clinics is most excellent from cover to cover. Its contributors are widely known, and the subjects treated are of great general interest. We might mention especially the chapter upon: "Nervous Diseases and Psychoses following the Grippe," by William Broadus Pritchard; and that upon: "Sacculated Pleurisy, Bronchial Pneumonia, Anemia, Pernicious Anemia," by Francis Delafield, and the "Report of 100 Cases of Aortic Aneurysm with Details of Three Cases of Aneurysm of the Basilar Artery," by H. Batty Shaw, M. D. The chapter upon "Laboratory Methods," dealing with some practical methods in photomicrography, by W. H. Walmsley, is replete with excellent suggestions and accompanied by beautiful lithographs of his work. Edward Jackson contributes a chapter on "Points in the Diagnosis of Iritis and Glaucoma." This article will command the respect and attention of those interested in ophthalmology. Dr. A. Doleris treats of "Obstetrical Analgesia, Obtained by Cocain Injections into the Lumbar Arachnoid." On account of the present prominence of this subject this conservative article will be read with interest. Dr. A. A. Stevens has written a chapter on "Notes on New Remedies," which is comprehensive, progressive, and yet conservative. The work closes with a review of the progress of medicine during the year 1900 by Dr. N. J. Blackwood, U. S. N. In the department of therapeutics, this somewhat overlaps Dr. Steven's more thorough contribution, but this was scarcely to be avoided. We cannot do better in closing this brief review than to mention the chapter by Professor H. Hallopeau on "The Treatment of Eczema." It is pleasure to be able to commend this volume, both on account of the excellence of its subject matter, and as a good example of high-class book making. [T. L. C.]

Saunders' Medical Hand-Atlases. Atlas and Epitome of the Nervous System and its Diseases.—By Professor Dr. Chr. Jakob, of Erlangen. From the Second Revised German Edition. Edited by Edward D. Fisher, M. D., Professor of Diseases of the Nervous System,

University and Bellevue Medical College, New York. With 83 plates and copious text. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$3.50 net.

This authorized translation from the second revised German Edition is a useful work in the field which it covers. The plates are beautifully executed, and are copious enough to be of great value to the student. The diagrammatic interpretation of each plate is given upon the page facing it so that even those unfamiliar with the histology and pathology of the nervous system can readily observe the features to be pointed out. We find in this volume of 218 pages, 84 plates, and their excellence leaves but little to be desired. The work is considered under the following heads: First, Morphology of the nervous System, and in this chapter 14 plates are included; second, The Development and Structure of the Nervous System, Ontogenesis and Histology of the Nervous System, which is illustrated with 38 plates; third, the Anatomy and Physiology of the more important Nervous Pathways; the three plates accompanying this part are excellent diagrammatic explanations of the nervous pathways, done in color, and will greatly aid the student in mastering the intricacies of the subject. The General Pathology and Treatment of Diseases of the Nervous System follows. This is an important chapter, and in it are given the etiology of nervous diseases with plates of many of the pathologic alterations observed, as well as symptomatology and topical diagnosis of nervous diseases. Special pathology and treatment is handled with rare conciseness and yet admirable clearness. While of course in a work of this limited size the text is in no sense complete, yet it is wonderfully comprehensive, and is enlightened by the beautiful and artistic illustrations. The book closes with some general remarks on autopsy technique and the microscopic examination of the nervous tissues. We know of no one work of anything like equal size, which covers this important and complicated field with the clearness and scientific fidelity of this hand-atlas. [T. L. C.]

The International Medical Annual, A Year Book of Treatment and Practitioner's Index. E. B. Treat & Co. New York and Chicago. Price in cloth \$3.00.

This is the 19th edition of Treat's well-known Medical Annual. It has some especial features which deserve mention. The chapter on Toxins and Antitoxins is the work of Joseph McFarland and William Murrel, and the latter has also contributed a special article on the Light Treatment. X-Ray Work in Medicine and Surgery, is from the pen of Dr. Macintyre, of Glasgow. Dr. Eldridge-Green has written the chapter on Color Blindness; and Mr. Turner, F. R. C. S., is the author of that upon Dental and Oral Surgery. Professor Ruata, of the University of Perugia, Italy, has contributed the article on Tuberculosis. The dictionary of new treatment covering the whole range of medicine and surgery makes the work one of great value and convenience as a book of reference. That part of the work dealing with pharmacology in general should be found of interest considering the multiplicity of new drugs and the difficulty which at present confronts physicians in the effort to find out precisely what chemical combinations many of these preparations, sold under trade-names, really contain. We believe that the subject of organo-therapy has received less than its share of consideration. The work as a whole is of unquestioned value, and this 19th consecutive volume bears witness to the fact that its merits have been appreciated. [T. L. C.]

An Early Diagnostic Sign of Phthisis.—At the recent meeting of the Congrès des Sociétés Savantes, (*Revue Médicale de l'Est*, 1901, No. 8.), at Nancy, Dr. Finck, of the French Army, reported the fact that 20 c.c. of normal salt solution, injected into an individual in whom pulmonary tuberculosis is suspected, will cause marked febrile reaction in the nine hours succeeding the injection. This will occur in tubercular patients without fever, at the beginning of invasion, or after the process has developed. On the contrary, non-tubercular individuals will show no fever at all after injection. Should the reaction occur, the diagnosis of tuberculosis may be made with almost absolute certainty; if no fever occur, tuberculosis may nevertheless exist. [M. O.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

College of Physicians.—Abstract of the monthly report of the Honorary Librarian, Library of the College of Physicians of Philadelphia, April, 1901:

Books, pamphlets and journals received:

General Library: 447 volumes. 806 pamphlets. 3415 journals

Lewis Library: 11 " 0 " 0 "

S.D.Gross Library: 1 " 0 " 0 "

459 806 3415

Accessions, 378 volumes. Duplicates, 81 volumes

Donors, General Library, 67.

The College has acquired, by purchase, the valuable and perhaps unique collection of books and pamphlets known as the "J. Stockton Hough Library." About three thousand volumes, valued at eight thousand dollars.

Dr. Aloysius O. J. Kelly, instructor in clinical medicine in the University of Pennsylvania, recently was elected professor of the theory and practice of medicine in the University of Vermont. He leaves Philadelphia shortly for Burlington to begin his professorial duties, but he will return to Philadelphia in the early fall.

The Kensington Hospital for Women.—During the month of April seventy-four patients were under treatment. There were thirty-five patients in the Hospital April 1st, and thirty-five are under treatment at the present time. Nineteen sections and fifty-two other operations have been performed. In the Dispensary there have been thirty-nine new patients, who have paid one hundred and forty-nine visits.

Medical Society of the State of Pennsylvania.—The meeting of the Medical Society of the State of Pennsylvania in Philadelphia will be changed from September 17-18-19 to September 24-25-26.

Philadelphia Polyclinic.—Dr. Ralph Zeiss, who has been Professor of Diseases of the Ear for 17 years at the Philadelphia Polyclinic, has resigned his position and has been succeeded by Dr. Francis R. Packard, the present Dean of the Institution. Dr. Packard's place will be occupied in the fall by Dr. Randolph, of Richmond, Va., who is at present abroad studying Pathology. Dr. Randolph on his return will also take charge of the Pathological Laboratories.

Nathan Lewis Hatfield Prize.—The Committee on the Nathan Lewis Hatfield Prize, for original research in Medicine of the College of Physicians of Philadelphia has awarded to Prof. H. F. Harris, M. D., of Atlanta, Georgia, the sum of Five Hundred Dollars for an original research, conducted at the instance of the Committee, entitled: "A Study of the Alterations produced in the Large Intestines of Dogs by the Amoeba Coli, by Heat, and by Various Chemic Substances, with Notes on the Anatomy and Histology of the Viscus."

College of Physicians of Philadelphia: Section on Gynecology.—At the meeting of May 16, Dr. Charles P. Noble reported 3 cases. (1) A case of appendicitis complicated by diabetes and nephritis. The patient was 26 years of age. The sugar averaged about .75% but reached at one time 1.66%. The operation was performed under ether and recovery was good. This is the fourth case operated upon by Dr. Noble, when glycosuria was present. Three made good recoveries and 1 died of diabetic coma. Dr. Noble concludes that a moderate degree of glycosuria is not a positive contraindication to operation; (2) Hemorrhage following abdominal section. Hemorrhage occurred in this case because of the retraction of the uterine pedicle. This is the only case of secondary hemorrhage for 11 years, during which time 1275 abdominal sections have been made. Dr. Noble ligates the ovarian artery and the anastomosing branch between ovarian and uterine, when removing tube and ovary. Silk and catgut ligatures have given equally good results; (3) A cyst of inflammatory origin anterior to the uterus—a sequel of hysterorrhaphy. Dr. C. H. Judd reported conclusions based on 850 cases of etherization. He finds that ether is safe in any compensated heart lesion. He employs oxygen in every case and

uses a gauze inhaler. The time for inducing anesthesia varies between 10 and 15 minutes and the amount of ether from 1 to 2 ounces. Dr. Baldy said that every institution should have a pad anesthetizer and internes not allowed to give anesthetics. To become a good etherizer requires skill and training as well as to become a good operator. He prefers the Allis inhaler, gauze being bad in the hands of the ordinary anesthetizer. The finger should never be put in the patient's eye to determine the reflexes. Tongue forceps are very seldom needed, their use in the majority of cases being caused by faulty etherization. The majority of cases of pneumonia following operation are due to the ether and most such patients have been black in the face or giving trouble during the anesthesia. Dr. J. C. DaCosta said it was desirable to have a regular etherizer, but he had seen some unfortunate results under an expert anesthetist. He generally had better results from trained hospital residents, as his experience is that they are generally good etherizers. He always used oxygen after etherization.

Dr. H. D. Beyer read a paper on **Conservation of the ovary and functioning uterine tissue in the operation for hysteromyomectomy**. This refers to cases of myoma where the uterus is involved and the ovaries are normal. In such cases he leaves one or both ovaries and amputates the uterus as high up as possible. This prevents the artificial menopause. Cases were cited to show the good results of this procedure.

Vital Statistics of Philadelphia for the week ending May 18, 1901:

Total mortality	446	Cases.	Deaths.
Inflammation of the appendix 2,			
bladder 3, brain 14, bronchi 9, heart			
2, kidneys 21, larynx 1, liver 1,			
lungs 36, pericardium 1, periton-			
eum 5, pleura 3, stomach and			
bowels 16			114
Marasmus 9, debility 9, inanition 12			30
Tuberculosis of the lungs			69
Apoplexy 21, paralysis 9			30
Heart disease 29, dropsy 1, fatty			
degeneration of 4, neuralgia of 1..			35
Uremia 11, diabetes 1, Bright's dis-			
ease 4			14
Carcinoma of the bowels 1, breast			
4, stomach 5, face 1, leg 1, liver			
1, throat 1			14
Convulsions 9, convulsions, puer-			
peral 2			11
Diphtheria	59		12
Brain, congestion of 4, dropsy of			
1, softening of 1			6
Typhoid fever	102		12
Old age			9
Cyanosis			4
Scarlet fever	124		8
Influenza 3, abscess of ear 1, ab-			
cess of pelvis 1, aneurysm aorta 1,			
alcoholism 1, asthma 1, anemia 1,			
atheroma 1, burns and scalds 3,			
casualties 4, cerebro-spinal men-			
ingitis 1, congestion of the lungs			
4, cirrhosis of the liver 6, con-			
sumption of the bowels 1, croup,			
membranous 1, diarrhea 1, drowned			
3, epilepsy 1, gall stones 1, hem-			
orrhage from circumcision 1, hem-			
orrhage from stomach 1, indiges-			
tion 1, leukemia 1, locomotor			
ataxia 1, obstruction of the bow-			
els 5, edema of lungs 3, poisoning			
1, rheumatism 1, sclerosis, spine 1,			
shock, surgical 1, septicemia 5,			
smallpox 1, sarcoma, rectum 1,			
suffocation 2, suicide 2, tabes			
mesenterica 1, teething 1, unknown			
coroner case 1, whooping cough 9			

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NEW YORK.

Medical Society of the State of New York.—At the 95th Annual Session of the Medical Society of the State of New York, held at Albany, N. Y., January 29th, 30th and 31st, 1901, it was moved and unanimously adopted that in order

to increase the facilities for becoming permanent members of the State Society, each County Society should be allowed to send five times the number of delegates it had formerly sent. These delegates are elected for a term of three years, and are eligible for permanent membership when they have registered at two Annual Meetings. This will make the number of delegates sent by county societies 750 in all, or one delegate for every eight or nine members of county societies, without increase in expense to the county societies.

It was further agreed, in response to a widely expressed desire, that the Society hold a semi-annual meeting in the city of New York in the early autumn, to be devoted entirely to scientific work and to social intercourse. The officers of the State Society announce that they have engaged the New York Academy of Medicine for this meeting, which will be held October 15th and 16th, 1901. Members wishing to read papers are requested to communicate with Dr. Nathan Jacobson, Chairman, Business Committee, 430 South Salina St., Syracuse, N. Y., and information of any other nature can be obtained of Dr. Frederick C. Curtis, 17 Washington Ave., Albany, N. Y., or of Dr. Frank Van Fleet, Associate Secretary, 63 East 79th St., New York City. It is further announced that the Society will tender a reception to its members, delegates and guests, at Delmonico's, on the evening of October 15th. Tickets to this reception will be furnished without cost to all who register at this meeting, and to the society's guests.

Smallpox has broken out about four miles from Poughkeepsie, N. Y. The victims are colored people, one of whom is thought to have brought the disease from New York City two weeks ago.

The New Mount Sinai Hospital.—The corner stone of this magnificent structure was laid on May 22 in the presence of the Governor and representatives of the Municipal Administration, with the most imposing ceremonies. The estimated cost is \$1,335,000. A more detailed account of the ceremonies will be published in the next issue of this Journal.

Insurance Against Malpractice Suits.—A New York insurance company proposes to insure medical practitioners against losses by malpractice suits. It bases its action upon the assumption that when it becomes generally known that physicians, surgeons and dentists are thus protected, there will be less inclination than there is at present on the part of speculative lawyers to bring such actions against members of the profession.

(From our Special Correspondent.)

American Congress of Tuberculosis in joint session with the Medico-Legal Society. May 15th and 16th, 1901.—The initial session of the Congress was held on the morning of May 15th, Dr. A. N. Bell, of Brooklyn, in the chair on behalf of the American Congress of Tuberculosis; Clark Bell, of New York, presiding on behalf of the Medico-Legal Society.

The introductory paper on "Legislation and Tuberculosis" was read by Clark Bell, who referred to tuberculosis as being rightly considered the most prominent sanitary question of the day. The presence of delegates from far and wide—from our various States, from the Canadas, from the South and Central Americas—attested the fact. The questions which the Congress were to consider were summarized as follows: Is tuberculosis an infectious or communicable disease? How far can legislation avert it, framed with a view of arresting the spread of the disease, by regulations, the enforcement of which would result in diminishing the facilities for its communication from one person to another?

In discussing the paper, Dr. E. P. Lachapelle, of Toronto, said that he advocated certain legislative measures, to wit: Compulsory notification, compulsory disinfection of dwellings after the death of a consumptive, the proper regulation of the cubic space in buildings, the exclusion of all cows presenting tuberculosis of the udder, fixing a minimum air space for cow-sheds. In addition, co-operation of the public by education in the schools, by conferences and by the distribution of suitable literature and the multiplication of sanatoria would be desirable measures.

Dr. G. B. Johnson, of Richmond, Va., said the keynote of the question was education; that the best way of educating the masses was through the formation of associations in each community for the purpose of discussion of the subject and the dissemination of the correct ideas through

the medium of the press. In this way, the knowledge of what constituted preventive measures would be spread. Dr. V. Havard (U. S. Army) recommended that the States found sanatoria where the afflicted might be induced to go, and where they might be treated, either gratuitously or according to their means. Patients wishing to remain at home should observe prescribed regulations and be subjected to official inspection.

Dr. J. H. Pyror, of Buffalo, dealt with the question of the care of the consumptives in the State of New York. He deplored the fact that the State did not offer to take care of them until the sufferers were in the last stages—when it was too late. In the State there were 14,000 deaths annually from tuberculosis, aside from the question of humanity, and viewed entirely as an economical one, the State could much better afford to take care of the 60,000 afflicted with tuberculosis—as soon as the diagnosis was made—than to harbor the 14,000 dying ones. Legislation, Dr. Pyror said, must move with education. It would not do to wait until the last man was educated before insisting upon the passage of certain measures beneficial to the public health. In other words, it is absolutely necessary to compel certain things. We do know a few facts about tuberculosis: It is communicable, it is preventable, it is curable if taken in hand early enough. Under these conditions, it is the duty of the State to help the sufferer, not as is done today, when it is too late, but in the early stages when the afflicted can be made well. The mission of the State Sanatoria is three-fold: To treat the individual, to protect the community, to educate the people.

Dr. A. N. Bell read a paper entitled "The Prevention of Tuberculosis," dwelling at length on the part the veterinarian plays in this respect, and emphasizing the importance of the public inspection of the milk supply in all its details. In the discussion of this paper, Dr. W. B. Husted severely criticised the U. S. Government tuberculosis test for cattle as being quite inadequate in not furnishing the proper control tests.

Dr. C. F. Ulrich, of Wheeling, W. Va., in a paper entitled "Suggestions for the Prevention of Tuberculosis" rather startled the delegates by his reference to the treatment of confirmed consumptives. "In regard to confirmed consumptives, who have passed the years of childhood and for whom there is no hope for recovery, with nothing before them but a life of misery, I am going to say something that may be stigmatized as unfeeling and cruel. But on the principle of the greatest good to the greatest number, I regard the idea as humane. I do not refer to what was at one time advocated by many physicians under the title of 'Euthanasia,' because in this age of exaggerated humanity, it would not be permitted even if its general benefits to mankind were proved beyond a shadow of a doubt. What I wish to suggest is this: In every case of confirmed and hopeless tuberculosis, desist from all efforts to prolong life, devoting your entire energy to making your patient as comfortable as possible even if the means employed should have a tendency to shorten life. For if you lengthen out the span of a miserable existence, permitting the unhappy being to marry and send out into the world an infected progeny, to increase the aggregate of suffering in geometric progression until the earth is filled with pale, emaciated, unhappy, useless, life-marring men and women, do you feel you have accomplished a humanitarian work?"

A paper "On the Curing of Tuberculosis in Sanatoria," by Prof. Schrotter, of Vienna, was read by proxy. In the paper, the writer urges greater care in the compilation of statistics. Only cases which can positively be considered such, ought to be enumerated as cured and all cases where treatment in the sanatorium failed should be made the object of special study and special analysis. In the medical reports of the sanatorium at Alland, near Vienna, great care is made of the use of the term "cured;" most cases are discharged as improved or relatively healed. If possible, cases are kept under observation for years, so that the real outcome of the case may be watched and recorded. Patients are required to present themselves for examination regularly at either the sanatorium or at the central bureau in Vienna; there subsequent examinations are made by the same physicians who admit the patients. Comparisons with the written histories are thus possible and reliable statistics of positive cures can thus be obtained.

Papers by title were read as follows: "Prevention of

Tuberculosis," by Dr. E. Liceagua, of City of Mexico: "Treatment of Tuberculosis," by Dr. G. W. Brown, of Atlanta, Ga.: "A Contribution to the Surgical Treatment of Tuberculosis," by Dr. J. B. Socasa, of Nicaragua; "The Bacillus of Tuberculosis," by Dr. H. W. Mitchell, New York; "Transportation of Tuberculous Passengers," by Dr. G. Chaffee, Brooklyn.

Dr. Henry D. Holton, of Brattleboro, Vt., was elected President; Dr. A. N. Bell, of Brooklyn, the retiring President. He was elected Honorary President. The following were elected Vice-presidents: T. D. Crothers, M. D., Hartford, Conn.; C. K. Cole, M. D., Helena, Mont.; Col. E. Chancellor, M. D., St. Louis, Mo.; A. P. Grinnell, M. D., Burlington, Vt.; A. E. Osborne, M. D., Glen Ellen, Cal.; U. O. B. Wingate, M. D., Milwaukee, Wis.; Wm. Bayard, M. D., St. John, N. B.; W. L. Bullard, M. D., Columbus, Ga.; Henry B. Baker, M. D., Lansing, Mich.; Raley Husted Bell, St. Louis, Mo.; J. Mount Bleyer, M. D., New York City; Prof. Thos. Bassett Keyes, M. D., Chicago, Ill.; Dwight S. Moore, M. D., Jamestown, S. Dak.

The session of the Congress was brought to a close with a dinner held on the evening of May 16, at the Hotel Majestic.

WESTERN STATES.

Emergency Outfits in Mills.—Factory Inspector Moersch, of the State Labor Department of Minnesota, is endeavoring to place surgical emergency outfits in all mills, factories and shops of the State where there are many employees.

The *Northwestern Lancet* states that the Iowa State Board of Medical Examiners has refused to recognize diplomas from Barnes Medical College of St. Louis as entitling their holders to enter the examinations of Iowa.

The Fiftieth Anniversary of the invention of the ophthalmoscope will be commemorated at the meeting of the American Medical Association at St. Paul next month.

Arkansas Medical Society.—The Arkansas Medical Society, at its last session, beginning May 14, and lasting three days, elected the following officers: President, F. Vinsonhaler, Little Rock; first vice-president, C. R. Chennault, Helena; second vice-president, W. N. Yates, Batesville; secretary, J. B. Runyan, Little Rock; treasurer, R. C. Thompson, Pine Bluff.

SOUTHERN STATES.

A Bill has passed the legislature of Florida, making four successive years of insanity on the part of husband or wife a ground for divorce. The party obtaining the divorce must provide for the maintenance of the divorced party.

Clinical Society of the District of Columbia.—On Tuesday evening, May 28, 1901, the Clinical Society of the District of Columbia will give its annual banquet. An elaborate programme has been prepared by the Committee, of which Dr. W. M. Barton is Chairman, and Drs. Wells, James, Ramburgh and De Vries the other members.

The Baltimore County Medical Association has elected the following officers: President, Dr. J. F. H. Gorsuch; vice-president, Dr. R. Percy Smith; recording secretary, Dr. W. P. E. Wyse; corresponding secretary, Dr. R. C. Massenburg; treasurer, Dr. H. S. Jarrett; executive committee, Drs. H. B. Stevenson, J. E. Bensen, Charles I. Hill; committee of honor, Drs. William J. Todd, L. Gibbons Smart, B. F. Bussey; historical committee, Drs. Jackson Piper, H. L. Naylor, William J. Todd; medical jurisprudence, Dr. Charles G. Hill, Dr. P. F. Sappington and Judge N. Charles Burke.

The *Washington Star* states that the Commissioners of the District of Columbia have received from the controller of the treasury an opinion on the question raised by the auditor of the District as to the compensation which should be allowed to the visiting physicians of the Washington Asylum and the police surgeons for examining suspected lunatics. Both the visiting physicians and the police surgeons are salaried officers. The Act of Congress regulating admissions to the Government Hospital for the Insane provides that two physicians shall certify as to the lunacy of the patient, and that each shall be

compensated at the rate of \$10 per diem for his services. It often happens that the examining physicians in lunacy cases are the visiting physicians and police surgeons, and the question raised was as to whether they were entitled to double pay in the premises. The controller decides that the physicians are entitled to pay in both instances, saying that their duties in connection with the two services are entirely separate and distinct.

The National Association for the Study of Epilepsy and Care of Epileptics, was held in conjunction with the Conference of Charities and Correction at Washington, D. C., on May 14th.

Changes in the Medical Corps of the Navy for Week Ending May 18, 1901:

MEDICAL DIRECTOR J. C. WISE, appointed a member of a Board for the physical examination of candidates for appointment to the Naval Academy.
P. A. SURGEON W. B. GROVE orders appointing him member of the Examining Board at Annapolis, reached.
SURGEON O. DIEHL, detached from the Indiana, and ordered to the Philadelphia Navy Yard.
SURGEON C. BIDDLE, detached from the Philadelphia Navy Yard, and ordered to the Indiana.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 days ended May 9, 1901:

H. W. AUSTIN, surgeon, to proceed to Washington, D. C. for special temporary duty—May 2, 1901.
R. M. WOODWARD, surgeon, granted leave of absence for 10 days from May 7—May 17, 1901.
W. G. STIMPSON, passed assistant surgeon, to proceed to Coal-gate, I. T., for special temporary duty—May 4, 1901.
TALIAFERRO CLARK, assistant surgeon, granted 30 days' extension of leave of absence, on account of sickness, from April 2—May 3, 1901.
D. E. ROBINSON, assistant surgeon, to proceed to Port Townsend, Wash., to assume command of station and report to the medical officer in command for special temporary duty—May 6, 1901.
DUNLOP MOORE, assistant surgeon, that portion of Bureau order of April 25, 1901, appointing Assistant Surgeon Moore to proceed to San Francisco, Cal., revoked—May 6, 1901.
L. W. RYDER, hospital steward, granted leave of absence for 15 days from May 6—May 7, 1901.

Official list of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 days ended May 16, 1901:

JOHN GODFREY, surgeon, upon being relieved by Surgeon J. J. Kirtland, to proceed to Washington, D. C., and assume command of the service, relieving Surgeon T. B. Perry—May 11, 1901.
EUGENE WADSWORTH, surgeon, to proceed to Gardner, Ill., for special temporary duty—May 11, 1901.
Bureau order of May 14, 1901, directing Surgeon Washburn to proceed to Philadelphia, Pa., revoked—May 14, 1901.
T. B. PERRY, surgeon, upon being relieved from duty to Wilmington, N. C., to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters—May 11, 1901.
R. M. WOODWARD, surgeon, granted 10 days' extension of leave of absence—May 13, 1901.
G. B. YOUNG, passed assistant surgeon, granted leave of absence for 2 months and 22 days from May 30—May 9, 1901.
W. G. STIMPSON, passed assistant surgeon, to proceed to Guthrie, Okla., for special temporary duty—May 14, 1901.
J. A. NYDEGGER, passed assistant surgeon, granted leave of absence for 10 days from May 13—May 14, 1901.
J. B. GREENE, passed assistant surgeon, granted leave of absence for 10 days from May 13—May 14, 1901.
CARROLL FOX, assistant surgeon, to proceed to Sitka and Juneau, Alaska, for special temporary duty—May 10, 1901.
F. J. THORNBURY, assistant surgeon, relieved from duty at Chicago, Ill., and directed to proceed to Dutch Harbor, Alaska, to assume command of the service—May 14, 1901.
FRANCIS DUFFY, acting assistant surgeon, granted leave of absence for 2 days from May 21—May 16, 1901.
C. F. ULRICH, acting assistant surgeon, granted leave of absence for 10 days from May 14—May 15, 1901.
M. R. MASON, hospital steward, relieved from duty at San Francisco, Cal., and directed to proceed to Dutch Harbor, Alaska, and report to medical officer in command for duty—May 16, 1901.

Psycho-Physical Laboratory.—Efforts are being made to pass the following resolution: Resolved, That we are in favor of the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington for practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal pauper and defective classes and in hospitals and also as may be observed in schools and other institutions.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ending May 17, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

ARKANSAS:	Prescott	May 8	1		
CALIFORNIA:	San Francisco	May 4-11	1		
COLORADO:	Colorado Springs	May 4-11	1		
ILLINOIS:	Chicago	May 4-11	1		
IOWA:	Clinton	May 4-11	1		
KENTUCKY:	Lexington	May 4-11	1		
LOUISIANA:	New Orleans	May 4-11	10		
MASSACHUSETTS:	Boston	May 9	1		
	New Bedford	May 14	1		
MICHIGAN:	Detroit	May 4-11	1		
	Grand Rapids	May 11	6		
NEBRASKA:	Omaha	May 4-11	18		
NEW HAMPSHIRE:	Manchester	May 4-11	8		
NEW JERSEY:	Camden	May 4-11	1		
	Newark	May 4-11	3		
NEW YORK:	New York	May 4-11	197		
OHIO:	Cincinnati	May 3-10	8		
	Cleveland	May 4-11	32		
	Dayton	May 4-11	1		
PENNSYLVANIA:	Philadelphia	May 4-11	1		
	Pittsburg	May 4-11	1		
TENNESSEE:	Memphis	May 4-11	27		
	Nashville	May 4-11	8		
WASHINGTON:	Tacoma	Apr. 27-May 4	2		
WEST VIRGINIA:	Huntington	Apr. 13-May 11	27		
WISCONSIN:	Milwaukee	May 4-11	1		
PORTO RICO:	Ponce	Apr. 22-29	3		

SMALLPOX—FOREIGN.

CHINA:	Hongkong	Mar. 23-Apr. 6	22	17	
COLOMBIA:	Panama	Apr. 29-May 6	4	1	
FRANCE:	Paris	Apr. 22-27		20	
GERMANY:	Bremen	Apr. 13-20	1		
GREAT BRITAIN:	England—				
	Sheffield	Apr. 13-20	1		
	Scotland—				
	Glasgow	Apr. 26-May 3	3		
INDIA:	Bombay	Apr. 8-16	6		
	Calcutta	Mar. 23-Apr. 13	339		
	Karachi	Apr. 7-14	3	3	
	Madras	Mar. 30-Apr. 5	5		
ITALY:	Naples	Apr. 22-29	149	30	
MEXICO:	Mexico	Apr. 28-May 5	1		
RUSSIA:	St. Petersburg	Apr. 13-20	13	1	
SPAIN:	Coruna	Apr. 1-30	2		

YELLOW FEVER.

CUBA:	Havana	Apr. 28-May 4	1		
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CHOLERA.

INDIA:	Bombay	Apr. 8-16	3		
	Calcutta	Mar. 23-Apr. 13	194		

PLAGUE.

CHINA:	Lam Ko District	Feb. 14-Mar. 26	10000		
INDIA:	Bombay	Apr. 8-16	681		
	Calcutta	Mar. 23-30	2557		
	Karachi	Apr. 7-14	229	214	
JAPAN:	Nagasaki	Apr. 19—	1 case, 1		
		death on Japanese			
		steamship Taichu			
		Maru.			

Physical Fitness for Philippines.—The Civil Service Commission has received from the Philippine civil service board a communication regarding the question of physical fitness for service in the Philippine Islands, based on a report from Col. Charles R. Greenleaf, assistant surgeon general, United States army. In addition to the age limitations, minimum eighteen and maximum forty years, it reports that the following disabilities constitute disqualifications of Americans who seek civil service appointments in the islands:

Chronic skin disorders—Diseases of the eyes and errors of refraction, not susceptible of correction by glasses; also chronic diseases of the mucous surface of the eyelids. Catarrhal and purulent forms of ear diseases. Organic diseases of the heart or large blood vessels; all forms of tuberculosis or other pulmonary diseases. Chronic diseases of the gastro-intestinal tract, including diarrhea and dysentery. Diseases of any of the organs included in the abdomen. Venereal diseases. Chronic rheumatism; dropsy of joints; chronic diseases of the bones; varicose veins, if excessive. Habitual intemperance as to alcohol or drugs of any kind. Obesity or marked disproportion of height over weight.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from page 953.)

Second Day, Morning.—The morning session opened with a study of bubonic plague based upon the outbreak in San Francisco. L. F. Barker, of Chicago, discussed the clinical aspects of the subject. Plague belongs to the group of septicemic infections. The epidemic in San Francisco was not peculiar, but showed the same features as have been seen in nearly all places in the early stages of the outbreak. The epidemic was a sneaking one, with long intervals between the cases. It is not necessary that a severe epidemic follow this local manifestation of the disease. So far, in San Francisco, there has been no outbreak of plague among the rats; in all great epidemics a rat epidemic has preceded the general outbreak. The majority of cases in San Francisco occurred among the Chinese population, only 3 cases having been met with among the Caucasians. The majority of cases occurred between the ages of 31 and 40 years. This is explained by the fact that there are very few Chinese children in San Francisco. The majority of cases were in the male sex. This feature is explained by the small number of Chinese women in San Francisco. The bubonic type of the disease was the one generally met with; although one case of plague septicemia and one of plague pneumonia occurred. The cases usually begin suddenly with a chill, which is followed by intermittent and irregular fever, nausea, vomiting, nervous symptoms, including delirium and coma. The bubo usually develops in 24 hours. The disease progresses steadily to death in from 4 to 6 days. Chronic cases are accompanied by suppuration. The bubo develops rapidly, it is usually large and involves a group of glands together with the surrounding tissue, which presents hemorrhage and edema. The edema is characterized by a sense of elastic resistance on palpation. Pain is usually present in the neighborhood of the bubo; it is sometimes spontaneous and is always elicited by pressure. The buboes are found in the following situations in order of frequency: groin, axilla, neck, popliteal space and bend of elbow. Cervical bubo is often complicated by enlargement of the tonsils and by ulceration of the tonsils. The pathologists distinguish a primary bubo of the first order, which is the one in which the bacteria first multiply; primary bubo of the second order, which is due to direct extension of the primary bubo of the first order; and secondary buboes, which are due to embolic processes. Clinically, the only classification that can be made of buboes is into primary and secondary. The latter class includes buboes of the second order and secondary buboes. In the pneumonic form the bacillus develops primarily in the respiratory tract. This form presents the symptoms of pneumonia but the sputum contains great numbers of the plague bacilli and large amounts of blood. There is a secondary form of pneumonic plague due to the development of pneumonia in a bubonic case. In some cases the plague bacilli multiply in the skin, producing abscesses and, in some cases, true carbuncles. Cases of septicemic plague may be primary or secondary. Cases of pestis minor in which the patients recover without having been ill enough to have been in bed, are found at the beginning and at the end of epidemics. Such cases are often unrecognized and are a distinct danger to the community in which they occur, because the urine and the feces contain the bacilli. The safest plan is to call all cases of glandular swelling cases of plague until they are positively proved not to be such. The diagnosis is to be made positively by bacteriological examination and it is not necessary to have a living case in order to arrive at a definite conclusion that the condition existing is one of plague. The diagnosis can be positively made from the cadaver. The disease has been confounded with severe malaria, typhoid fever, relapsing fever, venereal bubo, anthrax of the skin, septic conditions without bubo, croupous pneumonia and dengue. Bacteriological examination of the following pathological products should be made: bubo juice, blood, spleen juice, sputum, urine and feces. The serum reaction is not to be depended upon for diagnostic purposes because it occurs late in the disease. When plague is present in a community, every case of fever and every cadaver should be considered to be of plague origin until positively proved by bacteriological examination not to be such. Roux's serum is the only hope in the treatment of the condition. F. G. Novy, of Ann Arbor, discussed the bacteriology of plague. The greatest importance is to be attached to the demonstration of the

bacillus pestis in cases of suspected plague. The bacillus can be detected during life, but it is often a difficult matter. Detection of the bacillus in the blood is not always successful. The American Commission recommended that every case of fever in an Asiatic in San Francisco and every dead body of an Asiatic should be considered a case of plague until proved not to be so by bacteriological examination. The bacillus can usually be easily demonstrated in a fresh cadaver, although inoculation experiments are often necessary before a positive conclusion can be reached. The inoculation should be made into rats if possible. Guinea pigs are not good animals for inoculation experiments on account of their resisting power to the bacillus. Involution forms of the bacillus are common. For ordinary purposes of diagnosis the direct microscopic examination of cover slips is usually sufficient. The San Francisco cases were cases of true plague as bacteriological examination showed, and the infection of a laboratory worker with acute pneumonic plague is a further confirmatory fact. Simon Flexner, of Philadelphia, discussed the pathology of plague. The bacilli of plague may pass through the skin without leaving an indication of their entrance and thence they extend through the lymphatics. The appearance of the lymphnodes in plague is pathognomic on account of the hemorrhage, the character of the edema and the foci of necrosis in the gland and the surrounding tissues. In the secondary buboes the hemorrhage and edema are less in amount and the foci of necrosis in the gland are less numerous. There is no lymphangitis except in the immediate neighborhood of the infected glands, so that no connection can be traced between the primary and the secondary buboes. On account of the irregular metastasis of the bacilli the glands on the opposite side become involved as well as the glands on the same side as the primary bubo, but to a less extent. The smaller glands show cellular proliferation, but the increase in size of the larger glands is due to the hemorrhage, the edema and the enormous number of bacteria that are found in the lymph-sinuses. The latter condition results in an obstruction of the flow of lymph within the glands. The necroses in the lymph-nodes are probably due to the presence of the bacteria occluding the bloodvessels. The obstruction of the lymphvessels with bacteria, however, may act by preventing the passage of lymph from the smaller bloodvessels. In the secondary buboes the enlargement is due chiefly to the proliferation of the cells. Plague pneumonia is usually lobular, although the number of affected lobules may be so great that their coalescence produces a condition similar to that of lobar pneumonia. The exudate contains few cells except red bloodcorpuscles; fibrin is absent, but the number of bacilli is so great that they produce the consolidation by filling the alveoli. The changes in the spleen are those of acute splenic tumor. There is in addition acute splenitis which is characterized by the presence of a large number of polymorphonuclear leukocytes which wander all through the trabeculae and reticulum of the spleen. The enlargement of the organ is chiefly due to the amount of blood which it contains. There are a large number of phagocytes containing red bloodcorpuscles. Metastases are occasionally found in the liver and kidneys producing lesions that resemble abscesses in appearance. The bacilli are thrown off from the glands, if these break through the skin; they are thrown off in the sputum in pneumonic cases; they are often passed in the urine, particularly when the kidney lesion is of a hemorrhagic nature; they are found in the feces when there are hemorrhagic lesions in the mucous membrane of the intestine. In animals, the lesions correspond pretty closely with those found in human beings. The author believes that the system of control in San Francisco is so much improved that when the statement comes that plague had disappeared we can believe it. George M. Sternberg, of the U. S. Army, said that if this small epidemic in San Francisco had occurred 30 years ago we might be reading in the daily papers to-day of 500 or more cases in San Francisco and of the extension of the epidemic throughout other parts of the country. The good results in this epidemic are entirely due to the presence of laboratories and of trained bacteriologists. William A. Park, of New York, said that he had met with 2 cases of plague on a Brazilian ship in New York harbor. Bacteriological examination of the pus from the buboes showed the presence of the *bacillus pestis*. Both patients, who had attended a fatal case of plague while at sea, re-

covered. F. H. Shattuck, of Boston, asked how soon the bacilli appeared in the urine in cases of plague. Victor C. Vaughan, of Ann Arbor, described the condition of the laboratory worker at Ann Arbor who contracted plague pneumonia. The initial symptoms in the case were headache, pain in the back like that of renal calculus, temperature 102° and later 104°, and vomiting. The patient and 2 fellow students who were caring for him were isolated, the door of the laboratory in which he had worked was locked, and his bedroom was thoroughly disinfected. The sputum was very carefully sterilized as soon as brought up. George Dock, of Ann Arbor, showed the temperature chart of the patient in question. The patient presented a pleural friction on the affected side and dulness similar to that elicited in the pneumonia of the aged. The patient had the appearance of a very sick man, which was entirely out of proportion to his physical signs. The spleen became enlarged and painful on the fourth day of the disease. After the last injection of Roux's serum, of which 120 ccm. were administered in the first 24 hours, the temperature fell but not as decidedly as it does in cases of croupous pneumonia. The patient's heart was weak and slow and he suffered from marked dyspnea at one period of the attack. He had ~~arterial and joint pains and a rise of temperature~~ after the injection of the serum. Each of those exposed to the disease received 10 ccm. of Roux's serum. In 2 of these cases urticaria, asthma and joint pains followed the injection. L. F. Baker, of Chicago, said that he did not know how early bacilli might appear in the urine in cases of plague. While all cases are probably contagious the pneumonic cases are the most virulent. It is dangerous to make autopsies in plague cases. The whole country is indebted to Kellogg and Kinyoun for their admirable work in San Francisco. He congratulated the Ann Arbor men on their speedy recognition of the case of plague and on their successful treatment of it. Simon Flexner, of Philadelphia, said that bacilli have been found in the urine in plague cases as early as the third day.

Walter Reed and James Carroll, of the U. S. Army, read a paper entitled *experimental yellow fever*. The authors tried to produce yellow fever in human beings (1) by the bites of *Culex fasciata* which had previously bitten a yellow fever patient. (2) By injecting the blood from a yellow fever patient into a nonimmune subject. (3) And by the exposure of individuals to fomites. The authors succeeded in infecting 4 out of 5 patients by injections of human blood. These cases confirm the presence of the parasite in the blood of the general circulation of patients suffering from the disease and confirms the possibility of its transference by the bite of the mosquito. Inoculation of blood from a case of yellow fever into suitable culture media produced no growth, thus depriving the bacillus *icteroides* of its position as the cause of yellow fever. The paper contains an account of 4 additional cases of inoculation of yellow fever by mosquito bites. One of the patients was bitten 57 days after the insects had been fed on a yellow fever patient. This patient contracted severe yellow fever. The parasite is present in the general circulation of the infected individual both before and after the intermission of the fever. All mosquitoes do not acquire the parasite on biting a yellow fever patient because the organism may not be present in the capillary circulation. The average period of incubation of yellow fever in 16 cases was 87.13 hours, or 3 days and a few hours. The period of incubation in one case was 7 days. The cases may be severe, mild or very mild. Mild cases are difficult to diagnose in the absence of complete data, but such cases may serve as a focus of infection through the bites of mosquitoes. All the cases in the series presented albuminuria with one exception. George M. Sternberg, of the U. S. Army, said that this demonstration of the infection of non-immune patients by the bite of the mosquito makes clear many apparently contradictory facts concerning the etiology of the disease. It explains the occurrence of yellow fever in stevedores when a ship appeared to have no yellow fever on board. It explains why sulphur fumigation disinfected these ships. It explains how the infection traveled from a ship anchored in the harbor to the neighboring land without communication with the shore. He considers the demonstration that the infectious agent is in the blood, and that it may be conveyed to a susceptible individual by the bite of a mosquito. William H. Welch, of Baltimore, said that it is fortunate that the authors had no deaths in their work. They were cognizant of the ex-

trime responsibility resting upon them and the young American soldiers who volunteered, without pay, for the work, were heroes.

James Ewing, of New York, read a paper entitled **a case of malarial nephritis with the massing of the parasites in the kidney**. Albuminuria is nearly always present in pernicious estivoautumnal malaria, and in some cases of severe tertian infection. The acute nephritis of malaria is seldom fatal. When a fatal case does occur, however, the lesions found have been, in the majority of cases, degenerations of the epithelium of the convoluted tubules with an exudate of albumin into the tubules and into the glomeruli, with few parasites in the vessels. The case reported by the author shows that the kidney lesion may be due to excessive accumulation of parasites in the renal capillaries. These parasites were demonstrated by staining the tissues by Nocht's method. The cells lining the tubules were degenerated and their detritus filled the lumen of the tubules. Many of the capillaries were ruptured, producing miliary hemorrhages. There was partial or complete suppression of the urine, which contained a large number of red cells, a large amount of albumin, coarse granular, epithelial and blood casts, with infected red cells and pigmented leukocytes adhering to the casts. The diagnosis was made during life.

Walter B. Jones, of New York, read a paper entitled **septic infection through the stomach and the duodenum**. The stomach and the duodenum contain at all times large numbers of micro-organisms that are capable of setting up a septicemia if a solution of continuity of the mucous membrane occurs. The case of a man, aged 56 years, was cited. The patient had lost weight, had had nausea and vomiting and anemia, from which he had apparently recovered. Then he was taken with a chill and intermittent fever that suggested septic thrombosis. At autopsy, an adenoma was found on the mucous membrane surface of the greater curvature. The surface of this tumor was eroded and inflamed. This was thought to be the original seat of the infection. The author advanced the opinion that such a complication might be seen in cases of gastric ulcer and gastric carcinoma, in both of which there is a solution of continuity of the lining of the stomach. Probably septic poisoning through breaks in the lining of the stomach and duodenum are more frequent than is at present believed. S. J. Meltzer, of New York, said that such cases might come under the head of terminal infections. Francis P. Kinnicutt, of New York, said that the cases of fever of septic type in which the patient recovered could hardly be called cases of terminal infection. The observations of cases in his own wards tend to make him agree with the opinion of James. Walter B. Jones, of New York, said, in answer to a question by Cabot, that leukocytosis had been found in some cases. Lowered resistance would undoubtedly render a patient more susceptible to such an infection.

John H. Musser, of Philadelphia, read a paper for himself and Norman B. Gwyn, of Philadelphia, entitled **two cases of streptothrix infection, one of bronchopneumonia, the second abscess of the brain**. The patient, who had an abscess of the brain, was a man, aged 22 years, who was poorly nourished and who had a family history of tuberculosis. He began to have convulsions with no other symptoms except hypesthesia of the right side. The convulsions recurred and coma appeared. Lumbar puncture was negative. At autopsy an abscess was found in the white matter of the brain behind the fissure of Rolando, somewhat involving the cortex. The abscess contained foul smelling pus in which a streptothrix was found in a cover glass preparation. Cultures were negative and animal inoculations were not conclusive. The other case presented a bronchitis with increased frequency of pulse and respiration. The condition went on to the production of a bronchopneumonia. The sputum showed a streptothrix. The patient died, but an autopsy was not permitted. These organisms may, of course, be one of the branching forms of tubercle bacilli. Simon Flexner, of Philadelphia, referred to a case simulating tuberculosis which he reported to the society several years ago. A. C. Abbott, of Philadelphia, said that he had seen a condition in one of the lower animals that resembled tuberculosis. From this animal he had obtained a streptothrix in pure culture, but was not able to inoculate it into animals.

McPhedran, of Toronto, showed a specimen of blue urine

that had been passed in his office by a neurasthenic patient. The coloring matter was pure indigo blue.

Edward L. Trudeau, of Saranac Lake, N. Y., exhibited some specimens of chemical substances obtained from the tubercle bacillus. These consisted of (1) a reddish coloring matter. (2) A wax, which constituted 30% of the tubercle bacillus. This wax is the ingredient that causes the bacillus to resist the action of nitric acid after it has been stained. It is possible that this wax is the cause of the resistance of the bacillus to the disintegrating action of the tuberculous processes. (3) The outside coating of the bacillus is composed of cellulose. (4) Three nucleoproteids, having different coagulating points and from which pure nucleic acid was obtained which had a high percentage of phosphorus. This nucleoprotein is probably the active ingredient of the tuberculin. (5) The tubercle bacillus contains glycogen.

A. C. Abbot, of Philadelphia, reported a product of the bacillus pyocyaneus that presented some of the reactions of cellulose and some of the reactions of mucin. This body was found in old cultures only and seems to be a degenerative product.

Victor C. Vaughan, of Ann Arbor, read a paper entitled **the toxin of the colon bacillus**. He has studied the toxin of the colon bacillus chemically, and is of the opinion that it is an intracellular product. He uses for his studies a large moist chamber for growing the organisms in which he can develop 20 square feet of culture. [J. M. S.]

Third Day, Morning.—Franz Pfaff, of Boston, read a paper entitled **some observations made in a case of diverticulum of the esophagus**. The patient suffered from loss of weight and regurgitation of food. The gastric digestion was shown to be normal and the motility of the organ was satisfactory. A tube was passed into the stomach with no difficulty, but it was possible to remove from the esophagus food that had been swallowed as much as 20 hours before. The patient was fed through a tube for 3 years and then, when he tried to pass the tube, it was arrested about 37cm. from the mouth. On one occasion 90ccm. of undigested food were evacuated from the esophagus, which contained lactic acid, but no pepsin and no hydrochloric acid. After this material was evacuated the tube could be passed on into the stomach with ease, and a fluid containing hydrochloric acid was obtained. The absence of saliva from the stomach, in this case, had no influence on gastric secretion nor on the motility of the organ. During the last year and 6 months the size of the diverticulum has not changed. The patient has to empty the diverticulum before he can introduce the tube into the stomach. Experiments have shown that carbohydrates are digested to considerable extent in the esophagus. Lactic acid is always present in the esophagus, but the amount is decreased by keeping the esophagus clean. There is practically no absorption from the esophagus of even readily diffusible substances like sodium chloride. Feeding by means of the stomach tube has resulted in a gain of 43 pounds in the weight of the patient. In a second case of diverticulum of the esophagus, tube-feeding resulted in a gain of 23 pounds in weight in a short time. In the first patient spoken of in the paper an X-ray photograph showed the diverticulum low down near the cardiac end of the stomach. S. J. Meltzer, of New York, said that the mucous membrane of the esophagus absorbs slowly. In cases of diverticulum the mucous membrane is altered in appearance so that absorption does not take place. In a patient suspected of having a diverticulum of the esophagus, vomiting from the stomach would be an indication that a diverticulum was present. If the condition was one of organic stricture fluids could pass neither from the esophagus into the stomach nor from the stomach into the esophagus. But in the case of a diverticulum, while fluid would not pass from the esophagus into the stomach, vomiting from the stomach would be possible.

(To be Continued.)

Abstract of Papers and Discussions at the Annual Meeting of the American Surgical Association, held in Baltimore on May 7th, 8th and 9th, 1901, the President, Dr. Roswell Park, of Buffalo, in the Chair.

MAY 7, 1901, MORNING SESSION

Immediately after calling the meeting to order, a short executive session was held and then the scientific business was commenced.

The President read his Annual Address, entitled "Some Phases of the Cancer Question," and stated that patholo-

gists, who study the condition purely from the dead-house point of view, have confronted some of the greatest problems which it has to offer, but have also missed some of its most important aspects. The parasites of cancer, be their nature what it may, are in all probability polymorphic in extreme degree and masquerade under many forms, changing with their different stages of reproduction. There is no other disease which is characterized by metastasis in which the pathologists decline to see evidence of parasitism. Every metastasis of cancer has the form and significance of an inoculation experiment only performed under the most favorable, because natural, conditions. The primary question after all, is the general one of parasitism but it has not yet been reduced to a question of just what parasites. In the author's opinion it may and probably will be found that cancer is not a question of any single organism, and possibly not even of a single class. The latest work of Roger Williams was then quoted at some length and reference was made to Demarquay, who collected one hundred and thirty-four cases of cancer of the penis, whereas in only one instance was the wife affected with uterine cancer. Numerous cases are now on record of cancer along the track of the trocar used in tapping for ascites due to cancerous disease, and surgeons now generally admit this traumatic dissemination of the disease by inoculation of wounds during operations. From studies already made in the New York State Laboratory it seems to be clear that death in cases of cancer comes about, as in so many other diseases, by a sort of terminal infection, which is a conspicuous feature of the disease and has not hitherto attracted sufficient attention. The exact nature of these terminal changes has not yet been made out beyond what is implied in the term "Hematogenous." The predictions of the Italians have failed in many respects, and it is by no means so easy to successfully inoculate animals with the yeast as has been generally supposed. By comparing tumors removed by operation with those removed post mortem, it became evident that the organisms either increased rapidly during the period just before death, or that they proliferate in the tissue immediately after death. In practically all scrapings from cancer could be seen either small hyaline refractive forms which in suspension possess a characteristic oscillating motion or larger forms with projecting pseudopodia or sacular forms containing very refractive spherical bodies.

The work of Dr. Gaylord, in association with the author was then referred to at considerable length, and reference was made to a number of publications by these gentlemen on this subject. It was mentioned that considerable difficulty is added to the work of investigation by the extraordinary polymorphism of many of the minute organisms found in cancer. Plimmer's work was referred to to a considerable extent and deductions drawn therefrom. It appears that the protozoa are capable of producing in man lesions of widely different nature from mere infection of epithelium, and Pfeiffer has shown that they might produce both in man and in animals. A full report was promised in a short time of the results of inoculating seventy-two animals with the technique employed.

Pfeiffer's work was quoted from at some length and various deductions were drawn therefrom.

That cancer begins as a purely local infection has been verified by the recent paper by the author in the laboratory at Buffalo, and also that it kills by becoming generalized, which is equally true of tuberculosis, and these constitute apparent exceptions to the above rule, but even they do not prove that the disease did not have a local beginning.

The author concluded his paper by stating, "I want to make it as evident as possible that carcinoma is an epithelial infection."

Dr. Thomas S. Cullen, of Baltimore, gave a lantern slide exhibition of The Early Signs of Carcinoma of the Uterus.

Dr. W. S. Halsted, of Baltimore, made a few remarks on a Brief Consideration of the Cases of Cancer of the Breast treated at the Johns Hopkins Hospital since 1839. He spoke of the difficulties of getting a good picture of the cancer, and stated that drawings are made in every case to file away with the records. He reported having operated on 320 cases of carcinoma of the breast and 450 cases of the breast tumor, as well as three cases of primary sarcoma of the breast. Intra-canalicular myxomata and fibromata are often spoken of as sarcoma, but in Dr. Halsted's opinion they are not. He referred at great length

to the difficulty of compiling statistics and demonstrated the method of grouping the cases at the Johns Hopkins in order to arrive at the proximate results. His experience is that the percentage of recurrences is very variable, and he reported that out of 129 cases operated upon, 51 had been cured.

Dr. W. B. Coley of New York read a paper entitled: "Late Results of the Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus, with a Report of Cases."

The writer referred to his paper published in August, 1898, (1) in which he gave the results of 140 cases of inoperable sarcoma treated with the mixed toxins of erysipelas and bacillus prodigiosus. In 24 of these the tumor completely or partially disappeared as a result of the treatment. In 84 cases of this series the sarcoma was round-celled; in 21 spindle-celled; in 9 melanotic; 2 chondrosarcoma; in 12 the type of cell was not stated, though the diagnosis was confirmed by the microscope; 6 were inoperative carcinoma, the diagnosis resting upon clinical symptoms, combined in most cases with a history of repeated recurrence.

In 40 cases of the round-celled, or slightly less than half, more or less improvement was shown by decrease in size or cessation of growth. In only 4 of these was the treatment permanently successful.

Of 21 cases of spindle-celled sarcoma 10 disappeared entirely; all the remainder showed marked improvement.

In no case of melanotic growth more than temporary improvement was noted.

At the time of this report 8 cases had remained well from 3 to 6 years; 9 from 1½ to 3 years.

In addition to these personal results, the paper contained a summary of results in 35 cases successfully treated by other surgeons employing the same method. Of these 35 cases 10 were round-celled; 10 spindle-celled; in 5 the diagnosis was clinical only; in 5 there was, in addition to the clinical signs of sarcoma, a history of recurrence after operation; in 4 the diagnosis of sarcoma was confirmed by microscopical examination, but the type not stated; 1 was an endothelio-carcoma.

Of these 35 cases 26 disappeared completely; 2 others decreased so much that only a small node was left, which was easily excised. One of the latter cases was well three years and the other 1 year at the time of the report.

Of the 35 cases referred to, 14 were well over two years, and 6 cases over 3 years.

The object of the present paper, the author said, was to determine, if possible, from a careful tracing of the successful cases, whether the action of the toxins upon sarcoma is to be regarded as of temporary or permanent value; in other words, whether or not it is entitled to be called curative.

While at the time of his report in 1898, 8 of his personal cases had remained well from 3 to 6 years, he stated that this number had now increased to 15 that had remained well from 3 to 8 years. Of these 2 recurred after 3 and 6 years, respectively; the second, after having remained well for 6 years, is now again under treatment. This being an exceedingly interesting case, the writer stated that it would shortly be published in detail. All the cases comprising the foregoing series were hopeless, inoperable cases and the diagnosis was confirmed by the microscope with two exceptions, and in these the history of the cases together with the clinical appearances, made the diagnosis of sarcoma unquestionable. The type of tumor in the fifteen cases that passed the three year limit, was as follows:

Spindle-celled sarcoma	8
Round-celled sarcoma	2
Mixed-celled sarcoma	2
Epithelioma	1
Sarcoma (clinical diagnosis only)	2

It is worthy of special note that two of the successful cases now well 3½ and 4½ years, respectively, are sarcoma of the parotid gland. Butlin, in his last edition of "Operative Treatment of the Parotid Gland" states that "up to the present time there are very few instances of cure by operation of undoubtedly malignant disease of the parotid." In the author's two cases treated by the toxins the diagnosis was not only confirmed by a competent pathologist, but further, by a history of repeated recurrence after operation. Another case still is also worthy of special mention, inasmuch as it shows that the toxins may be taken

for long periods of time without harm. The patient, a well-known physician, with eight times recurrent spindle-celled sarcoma of the soft parts of the chest (anteriorly) was treated with small doses of the mixed toxins with varying intervals of rest, for nearly three years. The patient regained his usual health, and has now been perfectly well over six years from the beginning and four years since the cessation of the treatment. The tumors, while originally pure spindle-celled, were becoming more mixed with round cells and more vascular with each recurrence. In other words, the disease, as so often happens, was increasing in malignancy until the toxins were begun.

(To be Continued.)

NINETEENTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

(Continued from page 954.)

Meyer, of Berlin, took the field to defend his diplostrep-tococcus as a specific organism. He described his experiments and emphasized the connection between the affection of the tonsils and rheumatism. He has found his organisms in 12 cases of angina which led to, or accompanied, articular rheumatism. Injection of the organism produced typical joint affections, and he obtained the coccus from the infected animals. Menzer of Berlin also opposed Singer, and claimed that he and Meyer have for the first time experimentally caused multiple arthritic rheumatism with the subsequent endocarditic affection. Glaser of Berlin also opposed Singer's views. Michaelis of Berlin defended Meyer and declared his belief that the organism found by Meyer is the specific cause of the disease. The discussion assumed a personal character and therewith lost scientific interest.

Glück, of Berlin: "The Development of the Surgery of the Lungs." Glück described his experiments, which prove that one can resect lobes of the lung, or even a whole organ, and reports 14 cases which he has successfully operated on.

Von Schrotter, of Vienna, reported "A Rare Cause of Outside Paralysis of the Recurrent—an addition to the Symptomatology and Diagnosis of open Ductus Arteriosus." In this case—congenital heart lesion—the autopsy showed that the recurrent was injured by being wedged in between the dilated ductus arteriosus and the aorta. Roentgen photographs showed clearly the pathognomic sign of persistence of the ductus, first described by Zinn; a shadow in the second left intercostal space. He considers the case of significance in the question of differential diagnosis.

Kraus and Graz reported a case of Recurrent Paralysis in Stenosis of the Mitral Valve, due to strangulation of the nerve following the topographical changes due to the dilatation of the right ventricle.

Vogt, of Berlin, described the advantages which could be gained if the work on the anatomy of the brain could be done at some central station, instead of being scattered as at present.

Hampaln of Riga: "The Hospital Mortality in Pneumonia" claimed that the means of transporting the sick is to blame for a large proportion of the hospital mortality; he failed, however, to suggest any improvement.

Rosenfeld, of Breslau, on "The Fatty Degeneration of the Organs," claimed that no such thing as fatty degeneration exists, but that fat wanders from other tissues into the organs—as from subcutaneous tissue into the liver in cases of phosphorus poisoning, etc.—in order to take the place of some substance which is lacking. In all cases of poisoning there is a lack of glycogen in the liver, and Rosenfeld thinks the fat destined to take the place of the lost glycogen. He denies in short that there is such a thing as fatty degeneration.

The Congress closed with a discussion following a paper by Moritz, of Munich, on "The Results of the Orthodiagraphic Determination of the Heart Boundaries and their Bearing on Percussion." Moritz concluded that percussion does not exactly determine the heart boundaries—in 68% of 89 cases he found the results of percussion correct when controlled by his Roentgen ray machine.

Third Session.

Rosenstein, of Leiden, in the chair.

The third session opened with a paper by Mendelsohn, of Berlin, on "The Recuperative Power of the Heart as a

Means of Judging the Heart Function." Mendelsohn described first the different methods which have been suggested to conclude from the amount of work necessary in a given case before the patient feels tired, whether the heart performs its normal function or not. It is, however, not always advisable to carry the test so far, and so Mendelsohn has endeavored to fix a new criterion. While a person is performing some work the normal heart changes the rapidity of its stroke, to return sooner or later to the normal rate, according to the amount of work done. If the heart is diseased, if it is not sufficiently nourished during the diastole, the pulse rate will remain high for a much longer time than the rate of the normal heart after performing the same amount of work. From this change in the pulse rate, and from the time required for the rate to become normal, Mendelsohn draws his conclusions as to the functional power of the organ. He advises the study of the heart function in this way, and to regulate the patient's mode of life accordingly.

Baeltz, of Tokio, Japan, thinks one cannot always judge from the pulse rate. He himself has a weak heart—often in mountain climbing a pulse rate of 120—yet he feels no bad effects. He mentioned the wonderful recuperative power of the Japanese couriers, who can day after day, cover 100 to 150 kilometers.

Bier, of Greifswald read, by special request, a paper on "The Place of Artificially Caused Hyperemia in Therapy." Bier has found his method—the causing of venous congestion by placing a rubber bandage around the limb—a method which he originally proposed for the treatment of tuberculous arthritis, of no value in cases of carcinoma, sarcoma or lues; he has been successful, however, in cases of arthritis following gonorrhea. He finds that it shortens the course of erysipelas, and that it aids in bringing a beginning phlegmon to resorption. He emphasized that one must use only the "hot congestion," "cold congestion," when the bandage is drawn too tight, or "white," or "lymph congestion" is directly injurious. The advantages of the method are: If used rightly it quiets pain—otherwise it is contraindicated—and aids in the resorption of pathological growths and exudates. This latter can best be obtained by combining hyperemia with massage. Bier reported a series of experiments made by Noetzel to ascertain whether the hyperemia has any direct effect on bacteria; 51 of 67 animals lived after injection, into the congested limbs, of doses of anthrax which are ordinarily certainly fatal. Bier described further the use of hot air and showed a simple apparatus long used by himself for applying the heated air. In spite of the discussion as to the value of hot air, Bier believes that it exerts an influence upon the deep-lying blood vessels. He recommends the method to the practitioner, especially in the treatment of rheumatism. Müller, of Würzburg, described the changes in the blood following artificial hyperemia. He claims that the red blood corpuscles increase in number.

Hoffman, of Düsseldorf, discussed "Paroxysmal Arrhythmia. Heintz, of Erlangen, has experimented on the effect of external irritation (chemical and thermal) on the deep-lying blood vessels. He concludes that temperature variations of several degrees can be produced by external changes.

Gumprecht, of Weimar; "The Importance of Iodine as a Vasomotor Stimulant." Gumprecht has found no other effect of iodine on the blood vessels than the toxic effect of large doses. Clinically he has found no influence of iodine on the pulse tension. He considers it false therapy to use iodine in cases of hemorrhage from the lung. Asher, of Bern, noticed the necessity of studying the effect of iodine on the heart nerves—not alone on the pulse tension. Lewy, of Berlin, emphasized the value of iodine in irregular pulse rate.

Strassburger, of Bonn, read a paper on "The Fermentation-dyspepsia of Adults."

Courmont, of Lyon, read in French two papers, the first on "The Hyperleukocytosis in clinical and experimental Rabies." He has found that an enormous increase in the number of the polynucleate neutrophile cells—up to 95%—takes place in all cases of rabies. He points out the great value of this symptom in diagnosing the disease, although hyperleukocytosis with increase of the polynucleated cells may occur in other diseases, a disease without this increase can never be rabies. This condition continues several hours after death; the fluid from the lungs of a normal dog contained 50% of polynucleated cells, while that from the rabied animal contains over 80%.

Courmont's second paper was on "Serum Diagnosis in Tuberculosis." Arlonig and Courmont have shown that the tubercle bacilli in serum from tuberculous patients be some agglutinated. Courmont described the difficulties in the way of the method, and emphasized especially the need of carefully examining the cultures, and of ascertaining their toxic equivalent. He then gives the results of a series of experiments carried out at the abattoir at Lyon; a large number of animals were tested with the agglutination test, and the results compared with the results of the examination made by a veterinary surgeon after the animals were slaughtered, the surgeon having no knowledge of the results of the serum test. In all but one case the serum diagnosis proved correct.

Volhard, of Giessen, communicated a valuable paper on "The Fat-splitting Ferment of the Gastric Juice." Volhard has found a ferment which rapidly splits fats when they are in the form of an emulsion.

The session concluded with papers by Reissner, of Bad Nauheim, on "Why is Free Acid Lacking in Cancer of the Stomach?" and one by Müller, of Würzburg, on "The Extent of Starch Digestion in the Human Mouth and Stomach."

The fourth session under the presidency of von Jaksch, of Prague, opened with a demonstration of a case of so-called idiopathic dilatation of the esophagus, by Strauss, of Berlin. Strauss also demonstrated a number of instruments which he has found useful in the diagnosis of the condition. Von Jaksch, of Prague, demonstrated preparations from, and described, a case of multiple periostitis with peculiar changes in the blood. A young girl suffered from a multiple inflammatory affection of the periosteum with fever and a continual increase in the number of the mononucleated neutrophil leukocytes, while the polynucleated cells continually decreased in numbers. Later large nucleated red blood corpuscles and cells showing polychromatic degeneration appeared. Shortly before death the number of the eosinophile cells increased. Patient died with well marked anemic symptoms. The autopsy showed a tumor of the spleen; the bone marrow in some of the bones had more or less disappeared. Although leukemia can be the cause of changes in the bones themselves, von Jaksch is inclined to consider the case peculiar to itself—a case of disease, the chief characteristic of which was the multiple inflammatory affection of the periosteum, the secondary characteristic being the changes in the blood.

Strufler, of Munich, and Hirsch, of Leipzig, presented patients with hernia diaphragmatica.

Franke, of Munich, demonstrated a new instrument for measuring pulse tension.

Von Hausemann, of Berlin, discussed and showed a large number of alcohol preparations of syphilis of the lung. He believes the cases were undoubtedly syphilis, since the patient gave a history of lues, and since he was unable to find tubercle bacilli in the nodules, and finally since the infection of animals with the material gave negative results.

Levy-Dorn, of Berlin, demonstrated an apparatus constructed on the same principle as the apparatus demonstrated by Moritz, of Munich, at last year's congress, for more exact work with the Roentgen rays. The principle is to cut off all rays from the tube except those which fall vertically upon the object to be examined, thus avoiding the magnification following the use of the whole cone of rays. Moritz defends his machine, (which by the way is of course patented), and claims that it does absolutely exact work.

Michaelis, of Berlin, described a case of Giant Cell Degeneration of the Blood-generating Organs, with Peculiar Changes in the Blood. A woman of 50 years had an attack of influenza 10 weeks previous to hospital treatment. When first seen she was very cachectic, and had an enormous tumor of the spleen, lymph glands were not swollen. The white blood corpuscles rapidly increased (1.220) with a large number of lymphocytes (75%) and 7% neutrophile myelocytes. The autopsy showed enormous tumor of the spleen, lymph glands not swollen. Bone marrow red, but not very soft, no changes in the bones. The microscope showed a great increase of the giant cells of the bone marrow, and giant cells in the lymph glands, liver and spleen; and in spleen and liver some small celled infiltration. Michaelis considers his case analogous to leukemia.

Jäger, of Königsberg i. P., gave a statistical paper on "The Spread of Epidemic Cerebrospinal Meningitis." Aside

from the great value of the bacteriological examination now often carried out, with the aid of lumbar puncture. Jäger considers a study of statistics of great value. He demonstrated a large number of maps, tables, etc., and comes to the interesting conclusion that the disease in Europe is imported from Africa, from the Eastern States especially New York and Massachusetts. Jäger concludes from his study that an endemic disease focus must exist in these states, notably in New York. According to his maps the disease in New York and Massachusetts is sharply defined by the very unnatural physical boundaries of said States—a fact which might lead to the probable conclusion that said States kept better statistics than their neighbors. Jäger also states that the disease is a disease of filth and unhygienic conditions. The cause of the disease is undoubtedly the Jäger-Weichselbaum diplostreptococcus.

Fifth Session.

Dehio, of Dorpat, in the chair.

Munzer, of Prague, discussed "Febris hepatica intermittens with remarks on the formation of urea." He decides that Febris hepatica intermittens is an independent disease, and from his study of one case that the liver is not to be considered the special organ for the formation of urea.

Rosenstein, of Leiden, points out that experiments on pathological livers are no proof of the normal function of said organ. Intermittent fever occurs in a number of different affections of the liver, so in hypertrophic cirrhosis. He does not believe that Fabris intermittens hepatica exists as an independent disease.

Hirsberg, of Frankfurt a. M., "The Operative Treatment of Hypertrophic Cirrhosis of the Liver." Hirsberg described at length a case in which he could arrive at no other diagnosis than hypertrophic cirrhosis: he decided to operate and drain the bile ducts; he performed laparotomy, found the larger bile ducts free, so opened the smaller bile ducts through the liver substance. A fistula was formed which discharged quantities of bile at first, later less and less, until it closed on the thirtieth day. Patient recovered and has remained well since operation, about one year. Maunyen, of Strassburg, considered the prognosis in cases of atrophic or hypertrophic cirrhosis by no means pessimistic; both affections may heal spontaneously. He expressed his doubts that Hirsberg's case was really an hypertrophic cirrhosis, especially because the liver tissues had not become hardened. He thinks it was an infectious cholangitis. Rosenstein, of Leiden, questions the diagnosis because there were no gastric symptoms at first, etc. He considers Hirsberg's case of no value as proving the advisability of operation in genuine hypertrophic cirrhosis: operation might be of value in cases where the distention of the bile ducts threatened to cause cirrhosis. Hirsberg answered Ewald, of Berlin, and states that the bacteria coli communis was found in the bile; he holds to his diagnosis until some one suggests a more probable one.

The second main topic of the congress, "Acute Myelitis," was treated from the clinical standpoint by von Seyden, of Berlin. Von Seyden first gave a brief history of the development of our knowledge of the disease; the same dates from the middle of the last century. The complex of symptoms was known long before the anatomical lesion was recognised. Myelomacia was the name first applied to all transverse lesions. Gradually the inflammatory process was separated from the whole sum of the diseases of the cord and placed aside as an independent disease. We now distinguish the following different forms of the acute process; (1) inflammatory softening, a severe form and also a result of inflammation not to be separated from the inflammatory process as was formerly done. (2) Hemorrhage (Hematomyelia) likewise not markedly differentiated from the inflammations, neither clinically nor anatomically. Myelitis occurs in four forms; (1st) transverse myelitis; (2) disseminated myelitis; (3) poliomyelitis. Degeneration following cachexia, anemia, diabetes, etc., is to be excluded. (4) Compression myelitis, especially that due to caries of the vertebra, which is clinically related to the acute myelitis, although there are certain differences. The inflammatory changes accompanying tumors of the cord are so clearly marked, yet these have resemblance to the acute forms. Degeneration of the cord is the chief part in the etiology of myelitis. These cases were to be sure, only certain in poliomyelitis; to be considered as casual factors are the diplostreptococcus of Jäger-Weich-

selbaum and the streptococci. Myelitis occurs principally after infectious diseases; influenza, typhoid, even simpler diseases, as angina, also in pregnancy and during confinement. Part of these cases following infectious diseases have been cured. Trauma must further be considered as an etiological factor, not only local trauma but also general shock. Alcohol, lead, arsenic, carbonic oxide can also act as etiological factors. Fright has been the cause in one case. The causes of chronic myelitis are tuberculosis, syphilitic and gonorrhea. The symptoms depend upon the location of the disease in the different segments of the cord-bulbar, cervical or dorsal segments. The initial symptoms are of importance. The disease appears sometimes so rapidly that we have the clinical picture of a myelitis acutissima or apoplectica, though even here there are often slight prodromal symptoms. Again the disease appears more gradually reaching its height after several days. We are unfortunately often unable to prevent the progress of the disease: it goes on either (1) ascending, with the dangerous result of acute bulbar paralysis, which is not always fatal, or (2), the disease progresses transverse directions; or (3), neuromyolytic symptoms appear—cystitis, decubitus and trophic disturbances which may lead to gangrene. Sometimes these complications recede, and then the prognosis becomes better as regards life, but not as regards complete recovery. Both the transverse and the disseminated myelitis are to-day considered curable, since exudates and hemorrhages can be resorbed. The treatment can only be symptomatic; von Seyden lays the greatest stress upon careful nursing. The pathological anatomical side of the question was treated by Redlich, of Vienna, who distinguishes with Leyden and Goldscheider transverse, disseminated, diffuse, and polymyelitis. These forms fuse into one another, polymyelitis into the disseminated form, and this into the transverse and the diffuse forms. Larger disease foci show always a change in the consistency of the cord, even to genuine softening, which is due in part to edema and hyperemia, in part to true necrosis of the tissues. Acute polymyelitis shows in its fresh stages all the characteristics of an inflammatory process, with the principal pathological changes in the blood vessels. These changes follow mostly, though not exclusively, the arteria spinalis anterior and the arteria centralis. It is, however, entirely possible that a poliomyelitis may be limited to the acute degenerations of the ganglion cells. Redlich believes it impossible to give an exact anatomical definition of acute myelitis, from the fact, if from no other, that we have no valid definition of inflammation in general. The question whether bacteria are the direct cause of acute myelitis is of great importance; bacteria have been found in a small number of cases, but in the majority of cases the disease is probably not due to the direct action of the bacteria, but to the prognosis and the therapy, it is to be kept in mind that the symptoms are not always due to a destruction of tissue, but to the pressure of edema, hemorrhage, etc.

Von Strümpell, of Erlangen, followed with a paper on the same subject. He would call only those affections myelitis which are caused by an external factor acting locally on the tissue, and where the primary change in the tissues is followed by the reactive, reparative, processes in the tissue, especially the processes in the blood vessels. It is especially difficult to find the cause of myelitis because we can neither observe the diseased focus itself, nor examine the pathological products of the same. The examination of the cerebrospinal fluid obtained by lumbar puncture can be of help. v. Strümpell has found lumbar puncture of value in the two cases in which he had occasion to try it. In the first case myelitis followed a panaris. Lumbar puncture gave a liquid turbid with leukocytes, which contained staphylococci in large quantities. The second case was one of disseminated myelitis, which began with a neuritis optica. The cerebrospinal liquid was perfectly clear and sterile. The first case was therefore bacteriogenic inflammation, the second hematogenotoxic. These latter cases are often recognizable from the elective character of the affection. v. Strümpell observed such a case following erysipelas, limited almost entirely to the posterior columns. The more chronic the action of the toxin, so much more the picture of the inflammation recedes, and we find degeneration of the nervous tissue with consequent hyperplasia of the connective tissue. In this sense one can speak of chronic myelitis, provided the disease is of exorganic origin. The hereditary endogenic affections

of the cord cannot be counted with the forms of myelitis; as also multiple sclerosis which v. Strümpell considers an endogenic affection. Schültze, of Bonn, emphasized the affection of the meninges which often accompanies myelitis, especially poliomyelitis. He considers lumbar puncture of great value in diagnosis. Von Kahlden, of Freiburg, emphasized his standpoint in pathology—that the primary changes in inflammation are not in the blood vessels, but in the parenchyma. Rothmann, of Berlin, recommended the method of Lanie for the study of the pathogenesis of myelitis—injection of bacteria, etc., into the cord from the lumbar artery. Goldscheider, of Berlin, upheld, in opposition to v. Kahlden, the old theory that the process first begins in the blood vessels. This explains easily the fact that the ganglion cells are affected in groups. Richter, of Berlin, reported 6 cases of myelitis in children, following scarlatina, diphtheria and lues.

Sixth Session.

Ewald, of Berlin, presiding. The first paper of the afternoon was read by Wiener, of Prague, on "The Synthetic Formation of Uric Acid in the Animal Body." Wiener fed hens with different substances which contained no nitrogen, at the same time injecting urea, and found an increase in the excretion of uric acid after feeding glycerine and those oxy-acids, ketone acids and dibasic acids which contain a chain of three carbon atoms. He found the largest increase in the excretion of uric acid after feeding the dibasic acids, which leads him to the supposition that all the other active substances are first changed to dibasic acids. He obtained similar, although quantitatively smaller, results in the human body. All of the compounds which he examined produced no increase of uric acid when added to the isolated liver of vertebrates except the tartaric acid and its ureid, the dialuric acid. From his experiments Wiener concludes, (1) That not only in birds, but also to a less extent in animals, a synthetic formation of uric acid occurs; (2) That the process consists in a changing of the active substances to dibasic acids with a chain of 3 carbon atoms, which acids then change to tartaric acid; a part of the radical of urea joins this latter acid, forming the ureid, and this passes by the addition of a second part of the urea radical into uric acid. In the human body this synthesis plays a small role, but it is possible it attains a higher significance in pathological conditions, especially in gout.

Mayer, of Karlsbad, "Experimental Researches on the Katabolism of Sugar in the Body," a paper which had already been read before the Medical Society of Berlin. Rosin, of Berlin, reported his researches on the quantitative relations of the carbohydrates in the urine and blood, especially of diabetics, which had also been treated before the Medical Society.

Wohlgemuth and Nerberg, of Berlin, "The Physiological Action of the Three Arabinoses." The authors have endeavored to find whether substances which differ only in the arrangement of their atoms, have a different influence on the mechanism of biological processes, and come to the conclusion that such is the case.

Bial, of Kissingen, "Observations and Experiments on Chronic Pentosuria." Authors are not yet agreed as to the pathological significance of the disease; some consider it a disturbance of the metabolic processes, others consider it dependent upon the nourishment. Bial considers that Blumenthal's experiments have excluded the latter supposition. Bial, working with Blumenthal, has found that grape sugar is completely oxidized in the bodies of patients suffering from pentosuria, likewise levulose and galactose. The injection of phloridzin causes a normal glycosuria. The normal amount of grape sugar in the blood proves also that the glycogen of the liver is changed to dextrose as usual. Therefore, there is no relation between pentosuria and diabetes; pentosuria is an affectio in generis. As regards the origin of pentose, it is produced neither from the albumen nor from the carbohydrates, since 500 gr. of thymus, rich in nuclein, did not increase the pentosuria. It must be produced in the body itself, and since it is to be found in the blood, it must be produced beyond the kidneys. Even for the pentoses themselves the patient possesses a normal oxidizing power.

Ellinger and Seelig, of Königsberg i. P., "The Influence of Lesions of the Kidney on the Course of Pancreas Diabetes in the Dog." If one cause an acute nephritis in a pancreas-diabetic dog by injecting cantharidin, one finds that the amount of sugar in the urine becomes less. Not only

the procental and the absolute amount of sugar becomes less, but the relation between the excreted sugar and nitrogen becomes much smaller. This influence of cantharidin on the excretion of sugar disappears much more quickly than the albumen disappears. If an acute nephritis develops spontaneously in a dog suffering from pancreas-diabetes, the same thing occurs; the sugar can completely disappear from the urine. This disappearance of sugar by a faulty excretion of sugar from the kidneys; the amount of sugar in the blood is found in such cases to be considerably increased. The main factor in the diabetic disturbance of the metabolism of the body, the hyperglycemia, persists, while the glycosuria ceases. Maunyn, of Strassburg, doubts the advisability of drawing conclusions from experimental studies, in regard to the human pathology. He has seen in cachectic conditions, for example following pulmonary tuberculosis, that the glycosuria disappeared, while no trace of a kidney lesion could be found.

Sommer, of Giessen, "The Analysis of the Motor Disturbances in those suffering from Nervous Disease, and in the Insane." He has constructed a series of very ingenious instruments for graphically recording and analyzing the motions characteristic of mental disease. The motion is analysed into its three dimensions. The value of the apparatus can best be seen by a study of the curves of knee jerks from patients suffering from tabes, and from hysterical patients. Sommer demonstrated curves, showing that the curves of hysteria show fixed characteristics which cannot appear when the motion is a pure reflex, as in tabes. The Congress listened to Sommer's description of the complicated instrument with marked interest, and it seems indeed that the apparatus will be of great aid in the diagnosis of obscure nervous diseases.

Seventh Session.

Kraus, of Graz, in the chair.

Rothmann, of Berlin: "Experimental Lesions of the Medulla Oblongata." Rothmann has found that a lesion of the pyriad in the dog or ape produces merely transitory symptoms, etc., whereas a double-sided lesion in the dog produced spastic, from which the animal did not recover. The symptoms produced by a lesion in one pyramid had disappeared after a few weeks.

v. Kahlden, of Prague, on "Parencephalia," considered trauma an etiological factor in this disease. He does not believe that the usual explanation for acquired parencephalia—thrombosis or embolism—is sufficient to explain all cases; nor have we sufficient reason to consider lues congenita a casual factor. v. Kahlden then described a case where he thinks trauma was the etiological factor; a child fell from a table and died 14 days later. The autopsy showed no lesion of the skull, but a double-sided parencephalic defect, which communicated on the left side with the ventricle. Benda, of Berlin, considers that trauma will also fail to explain all cases.

The following papers gave rise to an active discussion between the Vienna and Berlin schools, as to whether acute inflammatory rheumatism is caused by staphylococci and streptococci in general or by a specific organism. Singer, of Vienna, representing the one school, reported five cases of acute arthritic rheumatism and two cases of chorea rheumatica. In all cases of polyarthritis and in one of the cases of chorea he obtained from the joint fluids as well as from the different organs, pure cultures of the streptococcus pyogenes, which could also be found microscopically in the tissues. In the second case of chorea with purulent inflammation of the joints, following an angina follicularis, he found pure cultures of the staphylococcus pyogenes aureus. Singer then criticised the publications from the Berlin school, of Westphal, Wasserman, Malkoff and Meyer, who claim to have found organisms with specific characteristics. Singer claims that it is impossible from the standpoint of bacteriology to conclude that a microorganism which shows but small variations of growth, etc., variations which are common to the whole class of the streptococci—is a specific organism. Nor can the experiment be considered positive proof, since it is a well-known fact that inflammations of the joints can be caused by the most different streptococci.

Tuberculosis in St. Petersburg.—Dr. A. N. Rubel recently stated at a meeting of the Society of Hospital Physicians that 37,000 persons or 25% die yearly of tuberculosis in St. Petersburg.

THIRTIETH CONGRESS OF THE GERMAN SURGICAL SOCIETY.

Sixth Session, Friday Afternoon.

(Continued from Page 911.)

The session opened with a paper by Werckmeister, of Zittau on "The Extirpation of the Larynx." Werckmeister has collected 297 cases, 36 of which were fatal. Gluck records 26 total extirpations with a successful result in 23 cases. Werckmeister presented a patient successfully operated on two years ago. von Hacker, of Innsbruck, reported a case of mediastinal phlegmon following an esophatomy, successfully operated on by opening the 9 cm. long abscess early from the neck. Gottstein, of Breslau, described his experience with the esophagoscope in 100 cases, and warmly recommends the excision with the aid of this instrument of small pieces of a tumor as an aid in diagnosis. Kuster, of Marburg, demonstrated a case of osteoplastic resection of the foot and described his method, for which he claimed the advantage of but $\frac{3}{4}$ -1 cm. shortening as compared with Le Fort's method with 3 cm. shortening.

Schuchardt, of Stettin: "Operative Reposition of the Fractured Epiphysis of the lower end of the Femur." Schuchardt fastened the epiphysis with a pin and demonstrated Roentgen photographs and his patient.

Henle, of Breslau: "Pneumonia and Laparotomy," claimed that pneumonia is especially frequent after laparotomy, and that the lowering of the patient's temperature during the operation is the cause. He gives the results at the clinic at Breslau as a proof of his claim, showing that although the number of laparotomies has increased since 1899, pneumonia has decreased, due, he believes, to the methods introduced at Breslau during that year—operating on heated tables and treating the exposed bowel with hot douches. His experiments with animals have shown that animals which were cooled off during the operation recovered much more slowly from the narcosis than the animals which were kept warm, and further that the former always had an affection of the lungs. Henle reported the case of one patient who developed pneumonia on the day following an operation, in which a large cavity was washed out with a cold solution. He grants that aspiration and infection can of course also be the cause of pneumonia, but believes that the lowered temperature of the patient is the cause in the majority of cases. In the discussion following the paper, Czerny, of Heidelberg, asked whether the injection of Schleich's solution in Henle's case could possibly have been the cause of the pneumonia. Henle replied that he thought it might be possible, although only a small quantity of the solution was used. Kronlein, of Zürich, laid the blame upon the narcosis, especially on ether, and the quality of the ether. In his clinic no special precautions are taken against cooling off of the patients, and yet he has lost but one case from pneumonia, a man of 77 years. Kummell, of Hamburg, reported that he has had 40 cases of pneumonia in 1070 laparotomies, of which 40 cases he has lost 11; of these 11 cases 4 were ether pneumonias. The patients who developed pneumonia were very sick individuals, for the most part sufferers from cancer, and with marked cachexia. He consequently has all his patients who have a tendency to bronchitis get up very soon after the operation, or at least change their position. Stolner, of Breslau, mentioned fat embolism in the lungs, which can follow extended operations as well as fractures, as a cause of postoperative pneumonia.

Stamter, of Königsberg: "The use of v. Mikulicz Peritoneal Tamponade recommended the method as a support for the sutures and as a means of checking hemorrhage, especially in operations on the stomach and gall ducts. Kelling, of Dresden, described at considerable length his experiments on the cadaver to determine the mechanism of acute dilatation of the stomach. He finds that in many individuals a passive valvular closure of the cardia and the duodenum exists. In consequence of these valves the stomach can be dilated to its maximum and lose the power of spontaneously emptying itself. Narcosis acts in the latter way by lessening the motile power of the stomach: operations for gall stones by causing local peritonitis of the upper duodenum, and finally tight bandages can hinder the motility of the stomach. Gastropnoxis is an accessory factor. Acute dilatation can be caused in cases of hindrances in the lower duodenum or in the upper jejunum by this valvular closure of the cardia. Kelling criticises the general use of gastroenterostomy in cases of

acute dilatation. One must find and remove the hindrance.

Schmidt, of Cuxhaven, on "Hyperemesis Lactantium and its Relation to Congenital Hypertrophic Stenosis of the Pylorus, Respectively Pylorospasmus, and its Treatment by stretching the Pylorus." Schmidt treated and healed three cases by introducing forceps and forcibly widening the stenosis.

Lobker, of Bochum, Steintal, of Stuttgart, and Borchard, of Posen, discussed Schmidt's paper.

Seventh Session.

The 7th session opened with a paper by von Eiselsberg, of Vienna, on "The Technic of Uranoplasty." He discussed the different methods and their results. The operation often fails because a large fissure remains and a complicated method must be resorted to to close the same. Von Eiselsberg has finally resorted to a method with the aid of the forearm. He cuts a pediculated skin flap from the arm, as in the Italian method of rhinoplasty, using the Italian method of bandaging.

Wolff, of Berlin, thinks that the method proposed by v. Eiselsberg would be of value in cases of extremely large defects, but that one can do without it, as his series of over 200 cases shows. One must operate at two sittings, first forming the flaps and letting them hang in order to favor circulation, and then after a few days sewing them together. He believes that we can do away with Billroth's method. Von Eiselsberg believes that in spite of the operation at two sittings a large number will be unsuccessful. Czerny, of Heidelberg, operates extensively at one sitting, with the patient's head hanging below the horizontal; sutures with wire or silkworm. He has often used Billroth's method. Fistulae remain in about $\frac{1}{4}$ of the cases.

Wolff, of Berlin: "Arthrolysis and the Resection of the Elbow joint." Wolff demonstrated a patient. Von Eiselsberg, of Vienna, reported a case of ankylosis of the elbow following scarlet fever. He operated on one arm with success, using two lateral incisions. The operation on the other arm failed, due to an overproduction of bone. caused, he thinks, by the fact that he did not exactly strike the joint line. Cramer, of Wiesbaden, reported a case where he succeeded in freeing an adherent patella by using Halfarich's method.

Wolff, of Berlin: "The Treatment of Fractures of the Patella," presented a patient whom he had cured by fastening a miniature Malgaigne's screw into the fragments and drawing them together, after having removed the tuberosities of the tibia; he added an osteoplastic operation on the patella. Röntgen photographs taken later showed that the fragments had separated after all, and were only held by the bridge of bone formed by the osteoplastic operation. The fragments showed a separation of some 2 cm. and the patient had considerable difficulty in ascending the stairs. The congress indulged in unbounded merriment when one of the members who had sustained a fracture of the patella some 15 years ago, which had united with a separation of some 6 cm., showed how he could run up and down the stairs with ease.

Bunge, of Königsberg: "Further Additions to the Question of the Carrying Power of Amputation Stumps of the Diaphysis." Bunge would leave the question open whether the bone marrow itself is sensitive or not, but thinks beyond doubt that the callus formed from the marrow for 2 to 3 cm. high in amputation of the fibula, and careful removal of the periosteum.

Bier, of Greifswald, expressed his opinion that careful removal of the periosteum is necessary, yet he would not give up the osteoplastic method which gives the stump natural boundaries. Czerny, of Heidelberg, expressed his surprise that the author of the osteoplastic method now favors operation with the removal of the periosteum. Bier answered that he would still operate all aseptic cases according to the osteoplastic method, but that the method is not suited to infected cases.

(To be Continued.)

Medical Society at Mexico.—At a meeting of the Mexico and Audrian Medical Society in Mexico, May 7th, the following delegates were elected: To the American Association in June at St. Paul, Drs. J. Rule Fritts and G. P. Tolson, of Mexico. To the State Association at Jefferson City in May, Drs. J. Rule Fritts, E. Bridgeford and Eugene Hultz, all of Mexico.

GREAT BRITAIN.

Appointed Health Officer for the Transvaal.—Dr. George Turner has been appointed by Sir Alfred Milner Medical Officer of Health for the Transvaal. Dr. Turner, who prior to the outbreak of the war filled a similar position in Cape Colony, has been provisionally acting as Medical Officer for the Transvaal, and his services have been recognized by Lord Roberts.

Dr. Christian Fenger, of Chicago, has received the Cross of the Dannebrog from King Christian IX, of Denmark, in recognition of his contribution to surgical knowledge.

A Grave Epidemic of scarlet fever, prevailing in Shore-ditch and Bethnal Green, has been ascribed to infected milk.

CONTINENTAL EUROPE.

Dr. Pozzi, in a recent lecture in Paris, paid a glowing tribute to American surgeons, whom he characterized as "scientifically audacious and brilliantly cool."

A Society for the Investigation of Malignant Tumors.—A new society is being organized in Moscow for the purpose of investigating the question of cancer and other malignant growths.

The Governor of California Noted in Russia.—The *Vratch* is making merry over the actions and decisions of the wise governor of California. The assertion is made that he is possessed of a purely Russian spirit. Well may this official be proud of his fame.

A New Sanitarium for Tuberculous Patients.—The city council of St. Petersburg decided to open a sanitarium exclusively for the poor of the city.

A commission has been appointed by the Portuguese government to study the sleeping sickness in the Province of Angola. The commission, which will at the same time include amongst its scientific researches an inquiry into the etiology and the transmission of malaria, will be composed of the following members: Drs. Annibal Bettencourt, Ayres Jose Correa Pinto, Jose Gomes Rezende, Jr., Joao Braz Gouveia, and Annibal Celestino Correa Mendes.

Dr. J. G. Adami, Professor of Pathology at the McGill University, Montreal, has been appointed vice-president of the section of pathology and bacteriology of the International Congress on Tuberculosis, to be held in London in July, under the patronage of King Edward.

"Stomatite Erucique."—The *Medical Age* states that at a recent meeting of the Parisian Society of Biology, M. Artault gave an account of a curious form of stomatitis which he proposes to call "stomatite erucique," the origin of which had been hitherto unknown. It is, however, now known to be caused by eating fruits which have been in contact with the nest of certain caterpillars possessing an urticating property. The inflammation attacks the mucous membrane of the mouth, the lips, the gums, the cheeks, and the palate. The cause is the irritating hairs and secretions which the caterpillars leave in their nests. The disease, as a rule, attacks children who eat fruits which are taken into the mouth whole, such as cherries and gooseberries, and it is hardly ever seen except during the months of May and June, especially in dry years. A mouth-wash composed of tincture of "myrrh" generally cures the complaint very easily.

Anesthetic for an Elephant.—An elephant in the zoological gardens at Hanover, Germany, was recently found to be suffering from a growth upon the lower part of one of its hind feet, and it was decided to remove it. In order to make the animal insensible a dose of six hundred grains of morphia in six bottles of rum was administered. About an hour after the elephant had consumed this combination narcosis was complete, and the operation was performed without any trouble.—*Interstate Medical Journal*.

Foreign Body in the Maxillary Sinus Discovered by Radioscopic Examination.—Dr. Mignon, of Nice, reported in the *Internat. Archiv. de Laryngol.* an interesting case in which the patient, a young man twenty-one years of age, with suicidal intent discharged a revolver against his temple. A few days after the incident, as no symptoms of reaction occurred, an examination by the radioscope was attempted, and it was found that the bullet was lying loose within the left maxillary sinus.

The Latest Literature.

BRITISH MEDICAL JOURNAL.

May 4th, 1901.

1. A Clinical Lecture on Functional Nerve Diseases. GEORGE E. RENNIE.
2. On the Centralization of Medical Education by the University of London. A. D. WALLER.
3. Some Remarks on the Inheritance of Acquired Immunity. GEORGE OGILVIE.
4. Note on the Results Obtained by Antityphoid Inoculations in Egypt and Cyprus during the year 1900. A. E. WRIGHT.
5. Case of Secondary Anemia Becoming Pernicious; with Detailed Examination of the Blood. WILFRID EDGEcombe.
6. The Treatment of Two Cases of Nerve Leprosy in which Recovery Took Place. GEORGE THIN.
7. On Operating on the Subjects of Exophthalmic Goitre. J. DELPRATT HARRIS.
8. A Case of Descending Landry's Paralysis in a Child. LEONARD A. ROWDEN.
9. Two Cases of Severe Frontal Herpes. C. HIGGENS.
10. An Unusual Symptom in Secondary Syphilis. A. A. SCIT SKIRVING.
11. Whooping-Cough Cured by Irrigation of the Nares. ED. MARTIN PAYNE.

1.—In an attempt to understand the conditions accompanying functional nerve diseases the physician should always remember the immense influence exerted by the mind on the body. It is also important to recognize the influence of suggestion either from without or from within. The moral and emotional side of human nature and the strong desire for sympathy that exists in some individuals, particularly in young women, also has a bearing upon the causation of these diseases. The influence of heredity is a further important factor. Clinically, there are 4 types of functional nerve disease; (1) feigned disease, (2) hysteria, (3) neurasthenia, and (4) functional disease concomitant with or dependent upon organic disease. There may be a variety of motives to induce patients to feign or simulate disease, and in the investigation of any supposed case of this nature the motive should be sought for. In examining a patient supposed to be feigning disease the fact that pressure upon or manipulation of a tender or painful area leads to slight increase in the pulse-rate, to slight variation in the pulse-curve, to dilation of the pupils, and variation in the vasomotor reaction these may serve as diagnostic factors. If hemianesthesia be feigned, there will be no difference in the skin reflexes or in the reaction of the pulse, pupils or respiratory movements on the two sides. If epilepsy be feigned an important sign that would indicate the absence of true epilepsy is the condition of the toxicity of the urine. It is well known that the urine of epileptics is hypotoxic. Hysterical nerve disease should be regarded as partly mental and partly physical, the underlying psychical state being allied to the hypnotic state. Important assistance in the diagnosis of hysteria may be obtained from a study of the plantar reflex; in conditions of health and in purely functional nerve disease the flexor response is the rule; whereas, in cases of organic disease involving the pyramidal tracts, an extensor response is almost invariable. The symptoms of neurasthenia are more subjective than objective, though none the less real to the patient, and, in certain cases, neurasthenia approaches very closely to insanity.

Neurasthenics frequently complain of headache. One of the most frequent forms for this symptom to assume is the "helmet headache" of Charcot. The head feels as if a helmet were pressed down upon it, producing a feeling of tightness all around it. Prolonged mental or physical exertion probably by entailing formation of an excessive amount of waste nerve products with deficient excretion of the same and their injurious effects upon the nerve cells and fibers frequently determines, according to Rennie, the onset of neurasthenia. [J. M. S.]

3.—Ogilvie is of the opinion that a more thorough study of the tropical diseases in the colonies has somewhat shaken the unconditional belief in many statements regarding the inheritance of acquired immunity. The immunity enjoyed by colored races seems by no means so absolute as has been generally taught. In not a few cases, on close inquiry, the immunity of the adult natives

to a certain disease seems to have been the result of an attack of that disease early in life. Furthermore, no gradual immunization has ever been observed in the white races with regard to any of the infectious diseases from which they suffer. Until we have at least some clinical or experimental proof that infectious diseases lead by themselves to a gradually increasing immunity in the offspring the accumulation theory as an explanation of racial immunity will remain an unsubstantial hypothesis. [J. M. S.]

4.—During the year 1900 a record was kept of the incidence of typhoid fever among the inoculated British troops in Egypt and Cyprus. During this period there were, on an average, 2669 uninoculated troops and 720 inoculated troops. Among the uninoculated troops there were 2.5% of cases of typhoid fever. Among the inoculated troops 0.14. The death rate among the uninoculated cases was 0.4%, among the inoculated 0.14%. [J. M. S.]

5.—Edgecombe reports the case of a single woman, aged 38 years, who was highly neurotic and who had suffered almost continuously from anemia for 12 years. During the whole of this time she suffered from trouble in the nasal cavity attended by repeated discharge of blood and pus in small quantities. Examination of the blood showed 23% of hemoglobin, 475,000 red bloodcorpuscles, 1,400 white corpuscles, color index of 2.40 and the presence of nucleated red cells, both normoblasts and megoloblasts. Under treatment with Hommel's hematogen and inhalations of oxygen a great improvement resulted. Later, a recurrence of the blood condition was noted and death finally resulted. The author believes that this case is one of chronic secondary anemia which passed into the pernicious form. [J. M. S.]

6.—Thin reports the case of a boy, aged 11 years, a native of the West Indies, who was suffering from a fully developed and severe nerve leprosy. Three months after the institution of treatment with chaulmoogra oil considerable improvement had occurred and the patient was taking 21 drops daily without discomfort. Five months later there was apparently a slight setback.

Thirteen years later the patient reported that he had been in perfect health for a number of years and that he had been cured by chaulmoogra oil, which he had taken for nearly 3 years. The only evidence of his having had leprosy was found in the mutilation of the hands and feet and in the incomplete restoration of sensation on some parts of the limbs. The author also reports the second case in which nerve leprosy was detected at a very early stage in a youth that had been some years abroad. Complete recovery followed treatment with the local application of pyrogallol acid ointment and the internal use of gurgun oil and arsenic. [J. M. S.]

7.—Harris reports the case of a married woman, aged 46 years, who was the subject of exophthalmic goiter. The patient was operated on for the removal of a tumor in the left breast. In operations upon patients suffering from exophthalmic goiter the condition of the heart is from the first the great difficulty. The heart, which beats irregularly and at great speed probably has thin and dilated ventricles. The anesthetic at once produces acute embarrassment, while the unavoidable loss of blood causes temporary quickening of the already too quick pulsations producing general weakness and exhaustion, which, owing to the anesthetic sickness, cannot at first be remedied by food. Thus, before compensation can be restored the patient sinks, as did the patient whose case is reported. Therefore, in advanced cases of exophthalmic goiter, the author believes that every effort should be made to avert a serious operation. If, however, such an operation is absolutely imperative a course of treatment with remedies of the digitalis class should precede. If the heart does not respond to this treatment the operation should be reconsidered, for undoubtedly the risk in such cases is of the gravest possible character. [J. M. S.]

8.—Robin reports the case of a boy, aged 10 years, in whom a diagnosis of Landry's paralysis of the descending type was made on account of (1) progressive, symmetrical, motor paralysis, which effected the muscles of the neck and then extended to the arms, forearms, chest and legs; (2) non-disturbance of sensation until a few hours before death; (3) absence of rigidity, pain, twitching or spasm; and (4) the unimpairment of the mental functions and the persistence of control over the bowels and bladder. Although the patient had a fall of 10 or 11 feet into a pit, the traumatism seemed not to have any relation to the dis-

ease which caused death, as there was no sign whatever of damage to the vertebral column. The author does not consider the case to be one of infantile paralysis. The case was an extremely rapid one and ended fatally. [J. M. S.]

9.—Higgins reports the case of a married woman, aged 45 years, who had a severe attack of left frontal herpes. Also the case of a married woman, aged 49 years, who had had frontal herpes 10 weeks before. In the first patient there was extensive ulceration of the cornea and severe iritis, which resulted in corneal and vitreous opacity. In the second patient there was much scarring and ulcerative keratitis with complete paralysis of the third, fourth, ophthalmic division of the fifth and sixth nerves. [J. M. S.]

10.—During the last few years Skirving has seen several cases of secondary syphilis of the throat in which itching of the fauces was a prominent symptom. [J. M. S.]

11.—Payne reports the case of a boy, aged 9 years, who was suffering from a severe attack of whooping-cough. The author irrigated the nose of his patient with 1 to 40 solution of carbolic acid. Ten or 20 ounces of this solution were passed through the nose three times a day. At first, the irrigation caused a good deal of sneezing and coughing and the ejection of a considerable amount of gelatinous mucus, some of which was greenish in color. After the operation had been performed a few times there was less discomfort and the patient looked forward to the injection as bringing relief from his suffering. The cure was complete in about a week, but the treatment was continued a few days longer in order to prevent the recurrence. [J. M. S.]

LANCET.

May 4th, 1901.

1. A Clinical Lecture on Eczema in Relation to Age. MALCOLM MORRIS.
2. The Action of Arsenic as Observed During the Recent Epidemic of Arsenic Poisoning. Sir T. LAUDER BRUNTON.
3. Some Further Investigations upon Rheumatic Fever. F. J. POYNTON and ALEXANDER PAINE.
4. A Case of Perforating Gastric Ulcer with Rigors. ANTHONY A. BOWLBY and J. F. STEEDMAN.
5. On Serous Vaccinia in Connection with Cretinism and Rickets. ROBERT KIRK.
6. Three Cases of Sarcoma of the Uterus. E. OCTAVIUS CROFT.
7. A Case of Recovery after Operation for Diffuse Peritonitis from Perforation of the Appendix. RUSSEL COOMBE.
8. On the Uses of Diphtheria Antitoxin. T. B. BROADWAY.
9. The Respiratory Movements of the Precordial Area in Health and in Disease. J. AIKMAN.

1.—Morris delivered a clinical lecture at the Medical Graduates' College and Polyclinic on January 9, 1901, On eczema in relation to age. He classifies the subject as follows: Eczema in the infant; eczema in the young child; eczema in puberty; eczema in the adult; eczema in the adult woman at menopause; and eczema in the aged. [F. J. K.]

2.—T. Lauder Brunton writes on the action of arsenic as observed during the recent epidemic of arsenic poisoning. He gives a short classification of the symptoms and states the manner in which the general action of arsenic upon the body is brought about. It appears that arsenic interferes with the normal metabolism, but the exact nature of the chemical changes which occur is not understood. Arsenic, while beneficial in very minute doses, in sufficiently large quantities is able to produce inflammation in any part of the body, either applied directly or through the circulation. The stomach may be irritated by direct action, or after the arsenic is absorbed the stomach may become the seat of inflammation from the arsenic in the circulation. The arsenic in the circulation reaches all tissues. Almost all of the symptoms are produced by the action of the irritant in this manner. The author states that there can be little or no doubt that the cause of the recent Manchester epidemic was due to arsenic, because there was

an absence of any other sufficient cause; sufficient arsenic was discovered to produce the symptoms of poisoning; and that the symptoms were identical with those produced by chronic arsenic taken in other ways. Reference is also made to the discovery of selenium in beer, by Dr. Tunncliffe, as being the factor which is partly responsible for some of the symptoms, but before definite conclusions can be arrived at further investigation is required. [F. J. K.]

3.—Will be treated editorially.

4.—Bowlby and Steedman report a case of a woman 27 years of age who was operated upon for perforating gastric ulcer. In addition to the other symptoms the patient had 2 rigors before operation. The perforation was in the anterior wall near the cardiac end. The peritoneal cavity was wiped out with gauze and contained very little foreign material. The patient did well for three weeks when she developed tenderness, distension, restlessness and some temperature. The abdomen was again opened and a volvulus of the small intestine was found in the pelvic cavity. This was relieved and the patient made a satisfactory recovery. The volvulus occurred as a result of adhesions which had taken place within the pelvic cavity. Attention is called to the unusual symptom of rigors after perforation. The temperature here too was unusual reaching at one time 106 while the pulse never was very rapid. [J. H. G.]

5.—Kirk discusses serous vaccinia in connection with cretinism and rickets. The author states that the serous character, occasionally manifested by vaccine lymph, has received very slight consideration in connection with cachectic states, and for that reason he makes mention of this condition which he has observed in 4 cases. [F. J. K.]

6.—Croft remarks that primary sarcoma of the uterus is undoubtedly a very common disease but that in all probability its rarity is considerably overestimated. Such a large number of cases of malignant disease of the uterus come under observation only when the disease is so far advanced that anything more than palliative treatment is impossible and therefore a careful pathological examination of the nature of the growth is not made and it is possible that many of these cases may have been of sarcomatous rather than of carcinomatous malignancy. Williams in his recent book states that his analysis of 2649 consecutive cases of primary uterine neoplasms comprises only two examples of sarcoma to 1571 cancers. He does not state whether these were all confirmed pathologically. Croft records three new cases of this neoplasm, two of which were fatal. [W. A. N. D.]

7.—Russell Coombe reports a case of a boy aged 14 years upon whom he operated for diffuse peritonitis following perforation of the appendix. The abscess here was completely walled off from the upper portion of the abdominal cavity but there was no attempt at walling off below, the pelvis containing a large quantity of dirty brown fluid. The abscess cavity and the pelvis were carefully sponged out and drainage instituted. The appendix was not seen. The patient made a good convalescence except that about two weeks after the operation there developed an abscess of the right tunica vaginalis which was due to a patulous condition of this sac at the time of operation. [J. H. G.]

8.—Broadway, in an article on the uses of diphtheria antitoxin, states that the serum treatment of diphtheria, when used early, practically saves life and has generally placed the prognosis of this disease in a more favorable light. Abscesses may be avoided at the seat of inoculation by using proper antiseptic precautions. Its use should alone be justified by the almost instantaneous relief which follows the injection. The administration of saline solution with the antitoxin probably adds its efficiency. In children the author selects the gluteal or interscapular region for the seat of the injection, and in other individuals he prefers the loose tissues of the breast, unless the child dreads the operation, when he selects the gluteal region instead. In order to secure good results the serum should be used early, freely, and in all doubtful cases. [F. J. K.]

9.—Aikman discusses the significance of the **respiratory movements of the precordial area in health and in disease.** In health the left intercostal space rises and falls at its sternal and, during the respiratory act, to a lesser degree than the right. The respiratory movement does not extend beyond the junction of the cartilage of the rib. In children the restricted respiratory movement extends as high as the second intercostal space, and in adults downwards to the fourth intercostal space. In order to observe this sign the patient should lie flat on his back with his arms along his sides. Deformity of the chest obscures this sign. In acute pericarditis this area of stillness is increased in extent, and the decrease in the respiratory movement is pronounced. This sign precedes the stethoscopic manifestations of pericarditis by a period varying from one to four days. In endocarditis with compensatory hypertrophy of dilatation, the precordial stillness is wider than normal. [F. J. K.]

MEDICAL RECORD.

May 18th, 1901.

1. The Recent Buffalo Investigation Regarding the Nature of Cancer. ROSWELL PARK.
2. Contracture of the Neck of the Bladder. CHARLES H. CHETWOOD.

1.—In an address before the American Surgical Association at its Baltimore meeting, Dr. Roswell Park discussed the recent Buffalo investigations regarding the nature of cancer. His address covers practically the ground gone over by Dr. Gaylor, (See *Philadelphia Medical Journal*, May 4 and May 11, 1901), as to the nature of the cause of the condition and as to the results of the inoculation experiments which were performed on 72 animals. 14 guinea pigs inoculated in the peritoneum with peritoneal fluid containing the organism had an average life of 58 days; 4 inoculated in the peritoneum with cancer mush, an average length of 58 days; 11 inoculated into the peritoneum with dry cancer lymph nodes, 45 days, while 6 guinea pigs inoculated with material from these animals already infected gave an average life of 29 days. This clearly shows the increased virulence obtained by passing the organisms through even one animal. By other experiments organisms grown in a collodion sac within the peritoneal cavity of rabbits were so enhanced in virulence that a healthy rabbit inoculated in the ear vein died within 15 days of general hematogenous infection. The material used for the inoculation was in every case bacteriologically sterile, and consisted essentially of pure culture of the cancer parasite. All these animals rapidly emaciated, and presented on opening the abdominal cavity enlarged peritoneal lymph nodes, and increase in fluid, and enlargement of the spleen. Several also presented minute nodules in the lungs which were considered beginning adeno-carcinoma. Similar nodules were noticed in other instances in the liver and spleen. In all of the organs thus far examined by Plimmer's method large numbers of parasites were found in various stages of development. The lungs in all instances show that the parasites had penetrated the bronchial epithelium, causing a typical proliferation and epithelial nests beneath the basement membrane. Cancer begins as a purely local infection, and kills by becoming generalized. Operation, if done before general infection has occurred, is extremely promising if done thoroughly. Carcinoma as a type of disease, is in every instance an example of epithelial infection. Sarcoma on the other hand is an infection of connective tissue, probably by the same organisms, the tissue cells reacting somewhat differently. It would seem, as far as the investigations have gone, that different forms of parasites have specific tendencies in one direction or the other. [T. L. C.]

2.—Charles H. Chetwood presents a paper on **contraction of the neck of the bladder**, a subject which encroaches upon that of prostatic hypertrophy. Contraction of the neck of the bladder is a fibroid stenosis of the vesicle sphincter, or fibrous infiltration of the glandular and muscular tissue encircling the bladder neck, simulat-

ing symptomatically stone in the bladder and resembling senile prostatic hypertrophy, by producing mechanical hindrance to the urinary outlet. It is commonly, but not necessarily, of gonorrheal origin. The only satisfactory means of treatment, which has been tried, and which has accomplished the end in view, is free incision of the obstructing area through a perineal wound. The author employs an improved instrument in the operation which he describes. 16 cases (the author's own) in which operation was performed, are given. [T. L. C.]

NEW YORK MEDICAL JOURNAL.

May 18, 1901. (Vol. LXXIII, No. 20).

1. The Pathology and Bacteriology of Uretero-intestinal Anastomosis. ROBERT ZEIT.
2. Air, a Factor in Digestion. EDWIN W. MOORE.
3. The Proper Administration of the Schott Exercises. VICTOR NEESSEN.
4. The Use of the Suprarenal Capsule in Diseases of the Heart. Second Paper, with a Report of Cases. SAMUEL FLOERSHEIM.
5. Relations of Vascular Disease to Heart Disease. WILLIAM H. THOMSON.

1.—Zeit concludes in his article on **uretero-intestinal anastomosis** as follows: (1) Ureteral implantation into the rectum is always followed by ascending infection. The resulting pyelonephritis is caused by the *Bacillus coli communis*; (2) The primary mortality is very large, 84 per cent., no matter which operation is done; (3) Of 120 dogs operated upon, 90 per cent. died of peritonitis due to leakage of urine or general sepsis and pyelonephritis during the first ten days; (4) Dogs living a longer time died of pyelonephritis, pyelonephrosis, and pyemia; (5) Dogs which had fully recovered from the operation and the resulting pyelonephritis, and were, to all appearances, in perfect health and vigor again, all had granular contracted kidneys, due to induration and cicatrization of diseased areas. The rectum acts as a fair substitute for the bladder in such cases; (6) Dogs which had fully recovered after unilateral implantation were living by the other kidney. The kidney of the side operated on was atrophic and granular, the result of an early pyelonephritis. The functionally active kidney was of two to eight times the size of the atrophic one; (7) A review of the literature on uretero-intestinal anastomosis in man shows that no better results can be expected in man than in animal experiments; (8) The ureters are frequently dilated, but show very little or no disease, no matter how extensive a pyelitis or pyelonephritis is present; (9) The bladder is always infected by way of the urethra, whether it is emptied at the time of operation or not. A purulent cystitis was found in every case, caused by *Staphylococcus albus* and *Bacillus coli communis*; (10) Artificial immunity to infection by the so-called colon group of bacteria is the only hope of making uretero-intestinal anastomosis a feasible operation. [T. M. T.]

3.—Neesen states that the primary object of the exercises is not to develop the muscles, but to relieve the overburdened heart by (1) drawing blood away from it into the extremities and muscular structures; (2) accelerating the circulation (contraction of the muscles upon the blood-vessels); (3) Soothing the nervous mechanism of the heart by acting upon the motor nerves through the slow movements of the muscles. The rules laid down are as follows: (1) Each movement is to be performed slowly and evenly, without jerking or trembling; (2) Each movement is to be followed by an interval of rest (sitting); (3) Arm movements should alternate with leg or body movements; (4) No exercise should be performed which compresses the blood-vessels or interfere with the breathing; (5) The patient should be instructed to breathe naturally and regularly; (6) The patient should be watched closely for, (a) irregular breathing; (b) straining; (c) trembling; (d) flushing or pallor of face and lips; (e) dilatation of nostrils; (f) yawning; and, (g) drawing down of corners of the mouth. [T. M. T.]

4.—Floersheim observed in using suprarenal powder on a heart and found that the heart became stronger, the pulse became more regular, the blood pressure increased, and a loud, and rough mitral regurgitant murmur became local-

ized, smoother and lessened in intensity, while in some cases the murmur disappeared; (5) a murmur, which owing to the extreme weakness of the heart, could scarcely be heard, became more distinct, thus aiding in the diagnosis; (6) the normal cardiac sounds, when indistinct, became clearer and more easily distinguished; (7) in some cases a rapid pulse became less rapid; in other cases a slow pulse became faster; (8) patients who were very weak, with organic heart disease, were improved; (9) no effect was observed in organic heart disease when the pulse was strong and regular. [T. M. T.]

MEDICAL NEWS.

May 18, 1901. (Vol. LXXVIII, No. 20).

1. On the Modern Treatment of Acute Gonorrhea. GEORGE KNOWLES SWINBURNE.
2. Chronic Gonorrhea. JOHN VANDER POEL.
3. On Gonorrheal Conjunctivitis. WARD A. HOLDEN.
4. Treatment of Gonorrheal Stricture of the Urethra. —JAMES R. HAYDEN.
5. The Treatment of the Complications of Acute Gonorrheal Posterior Urethritis. JAMES PEDERSEN.

2.—Van der Poel describes chronic gonorrhea as one in which as a consequence of previous gonorrheal infection, there exists a secretion containing gonococci, composed of mucus and epithelial cells, manifesting itself (1) either by a drop of muco-purulent fluid at the meatus some hours after urination, or upon pressure, the so-called "morning drop," which may be increased in amount and be present at any and all times; (2) by gluing the lips of the meatus in case there is not sufficient discharge to form a drop; (3) simply by the presence of shreds in the urine, the so-called "clap-threads." He also states that the pathological changes consist of an inflammatory connective tissue formation or hyperplasia characterized (1) by round small-cell infiltration, usually localized about the glands and lacunae, representing, when advanced, the granulations seen in the endoscope; and (2) by an atrophy and shrinking of the new connective tissue with the formation of indurations. The process can be either superficial, a non-stricture forming scar; or deep, involving the cavernous tissues, a true cirrhotic formation or stricture. Anteriorly, this is generally the case, while posteriorly, the same process extends into the submucous tissues, causing swelling of the caput gallinaginis and chronic prostatitis. In addition proliferation of the epithelium and transformation of the cylindrical into flat, both upon the surface and the glands with eventual obliteration and destruction of the latter. [T. M. T.]

3.—The symptoms of gonorrheal conjunctivitis, given by Holden, are as follows: From one to four days after infection, the first signs manifest themselves in a swelling of the lids and in adults a discharge, thin and watery. The lids continue to swell until they become brawny, when eversion is impossible. The conjunctiva of the eyeball becomes edematous and flakes of mucus appear in the discharge, with considerable discomfort. A day or two later a thick, creamy, purulent discharge fills the conjunctival sac, floods the cornea and pours out through the aperture of the lids. At this time the nutrition of the cornea is interfered with and it some times sloughs and breaks down. After the purulent discharge is established, the swelling and tension of the lids diminish, but the conjunctiva remains swollen and velvety from a hypertrophy of its papillae. The parenchyma of the cornea may now become diffusely hazy or superficial ulcers may appear which rapidly extend deep and often lead to perforation of the cornea. The purulent discharge gradually decreases, and in the course of several weeks may cease, but a chronic papillary hypertrophy of the conjunctiva still persists. [T. M. T.]

4.—Hayden considers (1) stricture of the meatus; (2) stricture of the pendulous urethra; (3) the stricture of the bulbous portion, stating that the best routine treatment for recent and even fairly recent cases of gonorrheal stricture, is careful and gradual dilatation, combined with instillations or irrigations, and appropriate diet and internal medication to render the urine bland and non-irritating; if gradual dilatation fails, or for any reason cannot be employed, he then resorts to one of the cutting operations which he describes, being guided in his choice of procedure by the location and extent of the contraction, which is readily ascertained by the *bougie à boule*. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 16th, 1901.

1. The Treatment of Psoas Abscess by Incision. ROBERT W. LOVETT.
2. Infantile Scorbutus. JOHN LOVETT MORSE.
3. Neuritis recurring after Atrophy of Both Optic Nerves in a Case of Brain Tumor. EDWARD R. WILLIAMS.

1.—Lovett concludes that fever is not necessarily an accompaniment of psoas abscess formation. When fever does occur the prognosis is not so good as in cases in which it is absent. The best method of operation is by an iliac incision; the next most desirable method is by a lumbar incision. On general principles it seems desirable to put on a plaster jacket almost immediately after the operation so as to enable the patient to sit erect and to enable the abscess to drain almost from the first. [J. M. S.]

3.—Edward R. Williams reports a case of neuritis recurring after atrophy of both optic nerves in a case of brain tumor, in a woman 22 years old. There had been attacks of headache and vomiting followed shortly by failing of vision which was unimproved by glasses. One year thereafter there was marked atrophy of each optic nerve with signs of old hemorrhages about the maculae. Two days before death, which occurred three months later after progressive coma, ophthalmoscopic examination showed typical double optic neuritis worse in the left eye. The literature on the subject is freely referred to. [M. R. D.]

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 18, 1901.

1. Amputation Through the Hip-Joint, with a Synopsis of 267 Cases in Which the Author's Method was Employed. JOHN A. WYETH.
2. The Ocular Expression of Intranasal Lesions. ROBERT SATTLER.
3. A Brief Note on the Pathology, Diagnosis and Treatment of Nasal Accessory Sinus Affections. E. LARUE VANSANT.
4. The Reduction of Temperature in Fevers by Evaporation Baths; Warm Water Being Used for Baths. FRANCIS H. WILLIAMS.
5. The Streptococcus Pyogenes in Gynecologic Diseases. G. BROWN MILLER.
6. Ménière's Disease with Report of a Case. R. A. BACHMANN.
7. The Financial Relations of the Medical Profession to the People and Public. J. J. CONNER.
8. A Study of the Etiology and Pathology of Rheumatism with Special Reference to "Rheumatic Diathesis." A. P. STONER.
9. A Case of Acute Dermatitis Caused by the Use of Hair-Dye Having for its Base the Hydrochlorate of Paraphenylene Diamin. A. D. MEWBORN.
10. Difficulties and Dangers of Anesthetics. DANIEL N. EISENDRAETH.
11. The Vesicular Murmur and its Relation to Pulmonary Health and Disease. THOMAS NEIL McLEAN.
12. On the Relation Between the Variety of Micro-organisms and the Composition of Stone in Calculous Pyelonephritis. THOMAS B. BROWN.
13. Complete Inguinal Extraperitoneal Hernia of the Bladder; Recovery. J. F. BALDWIN.

1.—John A. Wyeth gives the history of hip-joint amputation and the various methods of controlling hemorrhage during its performance. His own method of using the large mattress needles was first employed in February, 1890. After the disarticulation is completed, in order to avoid subsequent oozing from the wound surfaces, it is the author's custom, before removing the pins and tourniquet to thoroughly dry the wound surfaces, to introduce the sutures and to apply a light dressing with a firm gauze bandage. The pins and tube are then removed and the dressing completed. Wyeth finds that this procedure with the elevation of the foot of the bed prevents the extensive oozing which is apt to take place after the operation. He thinks his method of controlling hemorrhage is simpler and safer than the intraperitoneal compression of either the

aorta or common iliac. The article is illustrated by several excellent cuts representing the steps of the operation and there is appended a table of 267 cases of amputation at the hip-joint, where the Wyeth method was used. These are divided into three classes; first, neoplasms, of which there were 137 cases with a mortality of 10.2% second, septic infections, of which there were 94 cases with a mortality of 17%; third, traumatism, with or without septic infection, of which there were 36 cases with a mortality of 63.9%. [J. H. G.]

2.—Robert Sattler in discussing the ocular expressions of intranasal lesions considers two classes. Among the first class are included certain chronic processes which affect the anterior portion of the middle meatus of the nose. Lesions in this region often perplex and disappoint the oculist. Persistent ocular phenomena may exist with symptoms on the part of the nose entirely out of proportion or even negative. Persistent injection of the vessels of the bulbar conjunctivae, distinction of the muscular branches and frequent accompaniment of retrolaral passive edema are some of the clinical expressions of these lesions. The palpebral conjunctiva is generally exempt from this vascular injection. Persistent neuralgic pain is present, and becomes manifest at any continued effort at close work. Pain on pressure can be elicited by passing and pressing the finger against the inner wall of the orbit. Congenital causes or those affecting early life, such as syphilis, rhachitis, scrofula, etc., frequently act as predisposing causes for the obscure intranasal processes and the ocular participations. The second class constitutes those cases where invariably a focal suppuration of the nose is present. The author describes the surgical procedures required in these cases. [M. R. D.]

3.—Vansant gives a brief outline of the pathology, diagnosis, and treatment of the nasal accessory-sinus affections. The most important etiological factors are nasal polyps, deviation of the nasal septum, swelling and thickening of the mucous membrane of the nasal openings of the sinuses, obstruction due to masses of granulation tissue or inspissated mucus. When nasal obstruction occurs pathological changes develop—inflammation or chronic congestion—in the mucous membrane lining the obstructed sinuses. The most prominent symptom, pain in the head, greatly aids in the diagnosis of this condition. The headache varies greatly in intensity, duration, and position; it is usually localized to a definite area. The diagnosis is frequently confirmed by inspection, and transillumination, while at times a valuable aid in the diagnosis, is not always a reliable one. The treatment should be directed so as to provide proper drainage for the affected sinus; the diseased membrane should also be treated. The author highly recommends forcible syringing of the sinuses with dry hot air under pressure. [F. J. K.]

4.—Williams states that a valuable method of reducing the temperature in fevers is the evaporation bath, warm water being used for the bath. Of 15 patients treated by this method there was an average fall of temperature per bath of 1.94°F. The following directions are given: The bath should be given whenever the temperature reaches 102 or 102.5°F.; the patient should lie on a blanket and be covered with one thickness of surgeon's gauze; the gauze should be sprinkled with water having a temperature of 115°F.; the duration of the bath should be guided by the amount of water evaporated. During the interval between the baths the patient should have as little clothing on as possible. [F. J. K.]

5.—Miller reports 11 cases of pelvic inflammation operated upon at Johns Hopkins Hospital, in which the streptococcus pyogenes was found to be the infecting agent. Nine of the 11 cases presented certain features which were indicative of the etiology of the infection. In 6 of the cases the peritoneal cavity was invaded at the operation, and 2 of the patients died. In the other 5 the peritoneum was not disturbed and all recovered. The high mortality in these cases in which the peritoneal cavity was invaded, in contradistinction to the almost uniformly favorable results in celiotomy in which the gonococcus is the infecting agent, should make the operator careful to distinguish between these two classes of pelvic infection. The history is of the utmost importance in making a diagnosis. In the large majority of cases of streptococcal pelvic inflammation the lesion is a parametritis. Of almost equal value with the history is the pelvic examination. The pelvic structures present certain characteristics which are

almost unmistakable. These are the situation of the mass, its consistency, and the intimate connection of the uterus to the walls of the pelvis. In nearly all the cases the streptococcus invades the surrounding tissues through the lymphatics. The parametric exudate lies in a connective tissue surrounding the uterus and vagina and beneath the pelvic peritoneum. It is deep seated, may be situated in either broad ligament, but is usually unilateral. It may lie posterior to the uterus, in the septum between the peritoneal cavity and the vagina, may surround the rectum, or may be ante-uterine, lying between the uterus and bladder. The mass is nearly always asymmetrical. Its consistency is of bone-like hardness. The immobility of the uterus is marked and the exudate can be felt directly from this organ to the pelvic wall. [W. A. N. D.]

6.—Bachmann discusses Meniere's disease and gives a report of a case. The author states that the disease occurs more frequently in the male sex at about the age of 30, and that syphilis and the rheumatic diathesis seem to be the most frequent direct causes. Other important etiological factors are senile changes, leukemia, simple anemia, hemorrhages, serous effusions, cerebral disturbances, parotitis, and influenza. While much of the pathology is still obscure, inflammation with or without hemorrhages is the chief lesion. The cardinal symptoms are vertigo, tinnitus aurium, progressive deafness, and gastric disturbances. Other symptoms are nystagmus, volitional tremor, loss of memory, and weakness of the extremities. The author gives the report of a case of Meniere's disease which occurred in a man, aged 67. The symptoms began 3 years before the patient came under the observation of the author. The patient improved, but not wholly recovered under the treatment, which consisted of the administration of potassium bromide, 7 grains, and hyoscin hydrobromate, 1-200 of a grain, given three times daily for over a month. He was then placed on salicylic acid, 10 grains, and potassium acetate, 5 grains, given three times daily. Pilocarpine injections were used weekly in addition to the salicylate treatment. [F. J. K.]

7.—Conner discusses the financial relations of the medical profession to the people and the public. The author urges that medical men should consider themselves friends, not rivals, and that there should be a better fraternal spirit in our dealings and associations with one another. He advises the establishment of a uniform fee-bill which should be rigidly enforced. Services rendered employes of companies and corporations should be compensated by these companies and corporations. Recognition and compensation for services should be demanded of public authorities. [F. J. K.]

8.—Stoner writes on the etiology and pathology of rheumatism, with special reference to rheumatic diathesis. He concludes that rheumatism is an infectious disease. The variations in the symptoms depend upon the position and the attenuation of the germs. Other diseases, for example, scarlet fever, may at times be complicated by infection of these micro-organisms, thereby causing rheumatic symptoms; he believes that the germs may be situated in the joints, in the heart, and in the muscles. Uric acid and lactic acid are products of the disease. Heredity is an important etiological factor in a large majority of the cases. He maintains that gout and rheumatism, while dissimilar diseases, possess many similar traits, which justifies their being classed in the same group, of diatheses. The author concludes the article with the report of a case of rheumatic fever in a girl, 4 years of age. [F. J. K.]

9.—Mewborn reports a case of acute dermatitis caused by the use of hair-dye. The base of this dye was found to be hydrochlorate of paraphenylene diamine. This dermatitis occurred in a married woman, 44 years of age. The eruption, occurring soon after the use of the hair-dye, covered the forehead, which was red and shiny, with a few vesicles near the margin of the hair, the eye-lids, the ears, the nose, and cheek, and the flexor and extensor surfaces of the forearms. The anterior and inner sides of the thighs were covered with numerous small slightly elevated papules and a few vesicles. The patient complained of a burning sensation and an itching of the face. [F. J. K.]

10.—D. N. Eisendrath discusses the difficulties and dangers of anesthetics. He stresses upon the necessity of observing the pulse rate and tension and the condition of the pupils during anesthesia. A dilated pupil which does not react to light is a sign of the

earliest symptoms of syncope. In case of heart failure during anesthetization the author has found König's method of massaging the heart to give most satisfactory results. It is accomplished by making regular pressure with the semi-closed hand over the heart with the object of stimulating a ventricular contraction. It is useless to give cardiac stimulants before the circulation has been re-established. The author has found that chloroform, as well as ether, will produce albumin and casts in the urine, although in cases of renal disease its effect is much less deleterious than the effect of ether. [J. H. G.]

11.—McLean believes that the vesicular murmur is dependant upon the tidal air imposed upon the residual air, the sound being produced by contraction and distinction of the vesicular walls. The rush of air into the lungs with inspiration stimulates the alveolar walls to contraction and thereby aids in the propulsion of the blood through the pulmonary capillaries. In order to bring about perfect contraction, the proper amount of air must be inspired. Incomplete pulmonary action leads to stasis and transudation of serum into the vesicular and bronchial structures and into the interstitial tissues. Impaired pulmonary function aids in the formation of the proper soil for the development of tuberculous infection. Any imperfect pulmonary function interferes with the production of the vesicular murmur. In the treatment of imperfect function, measures should be adopted that tend to strengthen the respiratory movements. The author holds that too much stress has been laid upon diagnosis by the aid of the microscope, and that of more importance is the absence of muffling of the vesicular murmur. He believes that the principle, governing the action of the pneumatic cabinet, is correct, and that this measure is indispensable in the treatment of many cases. [F. J. K.]

12.—Thomas R. Brown disposes of the former theories regarding the formation of renal calculi as unsatisfactory and submits a number of cases which go rather to prove the more recently advanced theory of the bacterial origin of calculi. In each case which he reports there was previous to operation a careful analysis made of the urine from each kidney obtained by ureteral catheterization. From the urine thus obtained cultures were made and in all cases excepting one the urine from the supposed healthy kidney was found absolutely normal, while from the diseased side were obtained various cultures. The reaction of the urine from the infected side depended entirely upon the variety of micro-organisms met with, being acid in one case, due to the colon bacillus, and alkaline in 5 cases in which there were found various micro-organisms possessing an ability to decompose urea. In 5 instances, where the urine was alkaline, nephrectomy was performed and the stone examined in each case. In 3 cases bacteria were found in the center of the calculus; in 3 other cases the stones were not examined. In only one case was the urine acid and here the micro-organism found was the *B. coli communis*. [J. H. G.]

13.—J. F. Baldwin reports an interesting case of hernia of the bladder. The patient was a man aged 51 years, weighing 245 pounds, who had suffered from an inguinal hernia for 8 years, which he was unable to retain with a truss. It was difficult at times to completely empty the bladder unless the hernia were elevated. When seen by Baldwin the hernia had been irreducible for about 48 hours. There were no symptoms of intestinal obstruction, but there was considerable pain and tenderness. A diagnosis of omental hernia with probably some involvement of the bladder was diagnosed. When operated upon it was found that the hernia consisted entirely of the bladder without any peritoneal covering. Because of the patient's obesity reduction was difficult, but ultimately the patient made a good recovery. Baldwin's case is the 11th to be recorded of hernia of the bladder only. [J. H. G.]

LA SEMAINE MEDICALE.

Februara 27th, 1901.

1. Operative Treatment of Balanitic Hypospadias. F. de QUERVAIN.
2. A Practical Means of Differentiating Human Blood from that of Animals. L. CHEINISSE.

1.—De Quervain describes the operation first employed by Beck of New York and independently by von Hacker. A Y-shaped incision, almost approaching a T-shape is made

upon the under surface of the glans. The straight portion of the incision being parallel to the urethra which is carefully dissected out. Then the operator has the choice of two procedures; either to make an incision in the line of the urethra in the head of the penis, practically grooving the head for the purpose of placing the urethra in this groove and then covering it in with the two flaps of the head, made by the surgeon in forming this groove, and fastening it there. The parts thus fashioned approximate the normal penis; or the operator may pass a straight bistoury from the position of the proposed meatus, tunnelling through the head. If this course is chosen a pair of forceps inserted through this canal may be used to bring the urethra, previously dissected out, into its proper position. The article is well illustrated and the author closes with a brief outline of post-operative treatment. [T. L. C.]

March 6th, 1901.

1. Severe Vomiting Complicating Pregnancy. CH. ACHARD.
2. The Value of the Presence of the *Bacillus Filiformis* in the Stomach in the Early Diagnosis of Cancer of that Organ. H. EHRET.

1.—Pregnant women frequently suffer from vomiting which can neither be classed as simple nor yet pernicious in form. In this variety of cases the spells are frequent and occasion great distress, but they are by no means uncontrollable. Achard classifies the condition according to its amenability to treatment. In his first case cited the patient was a young woman of 26 years, pregnant 3 months and had vomited from the sixth week. She was of hysterical temperament. The patient improved rapidly upon a mixture of equal parts of bicarbonate of soda and magnesia, taken in teaspoonful doses whenever the pains appeared. She was also placed upon an absolute milk diet. This patient was a sufferer from hyperchlorhydria. His two other cases mentioned were also of nervous taint but hyperchlorhydria was not present. In the second case the alkaline treatment was of no avail; nor did other remedial measures employed prove beneficial. Lavage was finally resorted to, and while at first the spasms of vomiting increased, after 14 washings the stomach symptoms quite disappeared, and the patient rapidly gained in weight. His third case was similar to the one just mentioned and was also cured by lavage. There was a decidedly neurotic factor in this case also. Achard believes that hysteria may play an important part in the development of this condition. There may be in these cases a hyperexcitability of the vomiting center, easily disturbed by reflex influences from the stomach itself as well as the sexual organs. [T. L. C.]

March 13th, 1901.

1. The Pathology Treatment of Obesity. DEBOVE.

1.—Debove considers obesity as a disease of the nervous system, either primary or secondary. It may be called primary when the cause is not discoverable, and secondary when it develops under the influence of an easily established cause such as gout, diabetes, chlorosis, the menopause, myxedema, arrest of development of the testicles, etc. The quantity of food ingested is not by any means proportionately adapted to the needs of the organism. We know that the needed quantity is utilized and the excess destroyed by processes of oxidation. If there was a total absorption by the economy of the ingested food there would be a steady increase in size. There must be a regulating force in the nervous system which moderates combustion and maintains bodily equilibrium during periods of fasting. Obesity is caused by the derangement of this nervous center. Its treatment comprises 2 periods. The first of which Debove calls the period of insufficient alimentation; and the second the period of voluntary regulation. No cure can be brought about unless the patient is willing to assist by carrying out the dietetic measures conscientiously. Debove determines the amount of food necessary to the body weight by the establishment of the thermic value of food. For instance, if we wish to determine this quantity in a

kilo. are required in a state of rest, and the simple multiplication will give us the number of calories necessary for the sustenance of this man. Physiology furnishes us with the thermic value of various foods, and we can so arrange the patient's alimentation that he receives whatever proportion of the 3010 necessary calories which we desire to give him. A sample diet upon which a patient lost 53 kilos in less than 5 months, is as follows: For breakfast, a cup of tea or milk; mid-day meal, one or two slices of meat, a few vegetables or a little salad, a hundred to a hundred and fifty grams of bread, a little cheese, fruits as desired, and a cup of black coffee without sugar. For supper, a glass of hot milk, sweetened, 30 to 50 grams of bread and fruits as desired. He believes that this treatment is best carried out in a sanatorium and that above all the patient should not eat at table with the family. Exercise is not of any special value in the treatment of obesity for the reason that it causes an increased appetite, which will more than compensate in weight increase for the amount lost. He believes that mineral waters are apt to produce serious digestive disturbances. Thyroid feeding is of value only in those cases in which myxedema can be regarded as a cause. He has observed serious dangers arising from thyroid treatment, and in one case sudden death of the patient. The principle upon which Debove's treatment depends is that we shall supply the deranged automatic control of the nervous center by voluntary control, and so induce the proper regulation of body weight. [T. L. C.]

VRATCH.

March 24th, 1901. (Vol. XXII, No. 12.)

1. Balantidium Coli the Cause of Chronic Diarrhea. N. S. SOLOWJEFF.
2. On the Action of the Alkaloid Johimbin on the Animal Organism and its Utility in the Treatment of Impotence. N. P. KRAWKOFF.
3. A Case of Intestinal Invagination. A. P. KRIMOFF.
4. Fibromyoma and Pregnancy. I. S. KALABIN.
5. On the Excision of the Retrotarsal Fold. N. A. KAN.
6. A few Words on the Question of Heredity of Tuberculosis. E. E. MILLER.

1.—Will be abstracted when completed.

2.—Krawkoff has made an exhaustive investigation of the physiological effect of johimbin, an alkaloid first isolated by Spiegel from the bark of the tree *jambehou* which grows in South Africa. An infusion of the bark is very popular among the natives as an aphrodisiac, and the alkaloid has been claimed to possess marked aphrodisiac properties, almost approaching a specific action. Among the observers who classed this new drug with the very best and safest of the aphrodisiacs were Oberwarth, Loewy and Mendel. The experiments performed by the author show that on frogs johimbin exerts a paralyzing effect. At first the cerebrum, then the respiratory center and finally the spinal cord are affected. The heart's action stops owing to the paralysis of the cardiac ganglia; this being followed by paralysis of the cardiac muscle. The general paralysis is preceded by a brief period of excitement. On rabbits, the same effects are produced. After a brief period of stimulation characterised by excitability and increased respiration there develops general paralysis of the central nervous system. The temperature is markedly lowered owing to the paralysis of the vasomotor and consequent increased radiation. The pronounced antipyretic action of johimbin was demonstrated on rabbits as well as birds, the fall of temperature amounting to 1-2 degrees. Owing to the vasomotor paralysis, the penis becomes greatly overfilled with blood. This engorgement of the blood vessels may lead to occasional erections, but the latter are not brought about by a stimulation of the sexual centers. In dogs the same effects were observed. Six physicians having offered themselves for experiment, the drug was also tried on them. Some of them suffered from partial impotence as a result of neurasthenia. In one 10 drops of johimbin taken on an empty stomach produced dizziness, disturbance of locomotion, nausea, sweating,

sensation of heat, engorgement of the conjunctiva and migratory pains. A general mental depression, inability to concentrate the mind, aversion to work and weakness added to the disagreeable effects of the alkaloid. There was not the least indication of any specific effect on the sexual centers. In the second case 10 drops after a light breakfast produced heaviness in the head, irritability, nausea, salivation, fainting sensations, a feeling of heat in the abdomen, engorgement of the conjunctiva and slight flow of tears. Such a wretched state of the mind was produced that the doctor did not care to continue the experiment. No effect on the sexual center was observed in this case; on the contrary, the last sparks of sexual desires were completely extinguished. Similar effects were observed in the third case, while in the rest the manifestations were much milder. In neither was any aphrodisiac action noticed. On the ground of his experiments on animals and observations on man the author comes to the conclusion that johimbin possesses no aphrodisiac properties whatever, and, moreover, it is not an altogether harmless drug. [A. R.]

3.—Krimoff reports a case of invagination in a soldier 24 years old. The diagnosis was established only 7 days after the onset, and an operation performed about 5 weeks later. In the meantime the patient suffered from repeated attacks of severe abdominal pains and obstipation which could be relieved with difficulty by calomel and high enemas. The suffering becoming unbearable, the patient agreed to an operation. A laparotomy disclosed an invagination of the cecum and ascending colon into the transverse colon, bringing the end of the ileum close to the latter. Owing to the numerous adhesions formed, the removal of the invaginated gut could not be accomplished and intestinal anastomosis between the ileum and the descending colon was performed. Convalescence was complicated by bronchitis and suppuration, but the patient finally made a complete recovery. Indican was present in the urine in excess before the operation, disappearing entirely after it. [A. R.]

4.—Kalabin reports a case of a primipara, 36 years old, in whom pregnancy was complicated by two uterine fibroids. Gestation was frequently interrupted by threatened abortion which was prevented by the use of rest, opium, *viburnum prunifolium*, hot compresses and bromides. The woman was finally delivered of a healthy child, the labor having lasted for 34 hours. When examined a year later, the uterus was found somewhat enlarged, one of the fibroids much smaller in size, while the other disappeared entirely. [A. R.]

5.—Kan points out the excision of the retrotarsal fold as the best method of treating trachoma. The operation has always proved successful in his hands and can be performed without difficulty. Some points in the technic of the operation are discussed. [A. R.]

6.—Miller asks whether the facts in every-day life substantiate the universal claim that tuberculous parents transmit a predisposition to the disease. He answers this question by presenting in a tabulated form data obtained from 71 cases of tuberculosis. The table shows that in only 11 was there tuberculosis in one or both parents. In the other 60 the disease was evidently acquired. All these cases occurred in well to do families, and there can, therefore, be no suspicion of even an acquired predisposition. In other words, these were cases of primary infection. Admitting that tuberculous parents may transmit to their offsprings a special vulnerability of the cells, there is no reason to apply this transmission specifically to tuberculosis. Such persons are susceptible to any other infectious disease. Again, tuberculosis is more apt to run in families not so much on account of the so-called heredity but owing to the direct or indirect exposure to infection which the various members of the family suffer. The author makes a plea for restrictive measures on the part of the individual, society and the state. He emphasizes especially the necessity of cleanliness, as a preventive measure. [A. R.]

Original Articles.

THE SURGICAL TREATMENT OF CHRONIC ULCER OF THE STOMACH.

By A. W. MAYO ROBSON, F. R. C. S.,

of Leeds, England.

Senior Surgeon to the General Infirmary at Leeds, Emeritus
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of the Victoria University.

Mr. President:—

I must first thank you, sir, most sincerely for the kind invitation which you, personally, and the Council of the American Surgical Association have extended to me in asking me to take part in your proceedings, an honor which I very highly appreciate. The subject of the "Surgical Treatment of Ulcer of the Stomach" is one that has for some time, and is now, attracting the attention of surgeons all over the world, so that I hope I shall need to make no apology for ventilating my views on its treatment before this important Surgical Association.

The treatment of gastric ulcer is at first essentially medical, and when properly carried out and for a sufficient length of time it is usually completely successful. Leube says that one-half or three-fourths of all cases will be cured by 4 or 5 weeks of treatment, but that if not cured in that time they will not be cured by medical treatment alone, a view in which I thoroughly concur. Unfortunately, however, in many cases, treatment is stopped as soon as relief to pain is obtained and long before the ulcer is healed. In some cases this may be due to the uncertainty of diagnosis or from the impatience of the patient; perhaps in others, to ignorance as to how long it takes to secure the healing of a gastric ulcer. The earlier in the course of the disease, that radical treatment, in the shape of dieting and rest, is adopted, the less prolonged will the treatment need to be and the more likely is it to be effectual; but probably the very earliest time that a patient should be allowed to be out of bed is from a fortnight to a month after all pain and tenderness have disappeared.

Failing this thorough treatment, relapses will be certain to occur, and in the long run complications will supervene or the ulcer will become chronic, when, though medical treatment may relieve in some cases, cure can only be looked for, in the greater number, by surgical methods.

In considering the treatment of ulcer of the stomach, it is useful to hold in view the course of an ulcer of the leg, which, directly the healing stage has arrived, becomes free from pain; but this neither indicates that healing is completed nor that care may cease, and should treatment be abandoned and the ulcer become chronic, though it may even then be painless, it is at any time liable to become inflamed or to extend; moreover, the surrounding tissues become infiltrated with lymph which tends to organize, and this in a hollow viscus soon ends in stricture, as in the leg it tends to drag on the surrounding skin and produce constriction of the limb.

The surgical treatment of intractable or relapsing gastric ulcer is in the greater number of cases the only satisfactory method of dealing with these re-

fractory cases, and operation should be resorted to at a much earlier period than has hitherto been the custom; and always before the patient is so far reduced by pain and starvation or the supervention of serious complications that weakness and anemia render any operative procedure hazardous.

Ulcer of the stomach is a much more serious matter than is generally recognized, for, according to various authors it has a mortality, when treated by general and medical means only, of from 20 to 50 per cent.

Dr. Einhorn, in his well known work on Diseases of the Stomach (p. 223), says: "At first glance it would appear that the prognosis of gastric ulcer is quite good, especially nowadays, when the diagnosis of the affection is usually made at an early date. However, if we take into consideration the tabulated statistics given by Debove and Rémond (p. 276), in reference to the outcome of all cases of ulcer, we become more careful in our favorable predictions. This table gives in a hundred cases of ulcer:

Perfect cure	50
Perforations and peritonitis	13
Foudroyant hematemesis	5
Pulmonary tuberculosis	20
Inanition	5
Different complications	7

The excuses of a few years ago that there is a great responsibility in recommending surgical treatment either from the uncertainties of diagnosis or from the risk of operation, can no longer avail, since the diagnosis of gastric ulcer, thanks to the researches of Ewald, Hemmeter, Einhorn and others, has been brought to a greater state of perfection than exists in many other obscure diseases, where radical treatment has to be adopted on much more slender foundations; and, fortunately, now that the mortality in operations for simple diseases of the stomach, including perforation and hemorrhage, has been reduced in the hands of experienced surgeons to about 5 per cent, the great risks of surgical treatment cannot be advanced even by its most ardent opponents.

We have to consider, not only the treatment of gastric ulcer itself, but also that of all its complications, which are no less numerous than serious, and before describing each separately, it may be well to name them collectively. They are as follows:

1. Local peritonitis or perigastritis, ending in adhesions.
2. Local peritonitis ending in suppuration and a localized abscess.
3. Subphrenic abscess.
4. Abscess of liver, pancreas, or spleen.
5. Fistula between the stomach or pylorus and adjoining organs, or with the surface of the body.
6. Acute perforation of the stomach wall.
7. General peritonitis.
8. Hematemesis and melena.
9. Dilatation of the stomach.
10. Tumor of the stomach or pylorus.
11. Cicatricial stenosis of the pylorus.
12. Hour-glass stomach.
13. Spasm of the pylorus producing intermittent narrowing (Reichmann's Disease).

14. Atonic motor deficiency.
15. Severe gastralgia.
16. Persistent vomiting.
17. Tetany.
18. Acute or chronic pancreatitis.
19. Profound anemia resembling the pernicious form.
20. Pressure on or stricture of the bile ducts with jaundice.
21. Catarrh of the gall-bladder from adhesions producing attacks like those of cholelithiasis.
22. Great loss of flesh and strength, ending in phthisis.
23. Cancer secondary to ulcer. "Ulcus carcinomatosum."

We are not prepared to subscribe fully to the views of Tricomi (*Riforma Medica*, 1899), who draws a parallel between the treatment of hernia and that of ordinary gastric ulcer, and proposes that as hernia is treated radically with success, so gastric ulcer should be treated radically by the performance of gastro-enterostomy. Heydenreich (*Sem. Med.*, Feb. 2nd, 1898) argues: "The death rate from all cases of gastric ulcer is from 25 to 30 per cent., but from gastro-enterostomy, only 16.2 per cent.; therefore, the operation has less danger than the disease."

The question of medical versus surgical treatment in this class of cases is, however, one that can be much simplified by a careful study of statistics.

At the time I delivered the Hunterian Lectures, in March, 1900, I had been able to collect from various sources 188 operations on the stomach for gastric ulcer (excluding those for perforation and hemorrhage), of which 157 recovered and 31 died, thus giving a mortality of 16.4 per cent. These included 34 personal cases.

Now, although the deaths from gastric ulcer medically treated, averaged 25 per cent., taking a low estimate, and those from even the worst and most inveterate cases of ulcer when treated surgically, only 16 per cent. at the time of those lectures, yet, the difference did not then appear so great as to make it desirable or prudent very strongly to advocate surgical treatment until the disease had become chronic, or until serious complications had ensued.

To-day, however, the facts are very materially altered by the all-round improvement in operations on the stomach, and the contrast of 25 per cent. of deaths in cases treated medically and 5 per cent. as shown in our latest statistics in those treated surgically, in the worst and most complicated cases, is so striking, that we feel it incumbent to urge most strongly, that although cases of gastric ulcer should first be submitted to medical treatment, yet, if such treatment fails to cure in a reasonable time, or if relapses occur on the resumption of solid food, then medical should give place to surgical treatment: for it is unfair to the surgeon to hand over to him almost moribund cases, and it is unjust to the patients to persist in dosing them with medicine, or otherwise treating palliatively, cases that can only be benefited or cured by surgical means.

Operative Treatment.—Before the abdomen is opened, it is quite impossible to say what operation or operations will be required, and the surgeon must be prepared to adapt himself to circumstances on discovering the position of the ulcer and

the conditions associated with it, especially as to the presence or absence of adhesions and other complications.

Any one of the following operations, or a combination of one or more, may be called for in each individual case: *Exploratory Gastrotomy*; *Gastro-enterostomy* to secure physiological rest to the stomach and relieve the hyperchlorhydria, or, in other cases, to short circuit a stenosis; *Excision of the ulcer*; *Pylor-rectomy*; *Pyloroplasty*; *Gastro-plasty*; *Gastro-Gastrotomy*; *Gastrololysis*; *Pylorodiosis*; *Gastroplication*.

The Preparation of the Patient.—It has been the custom with many surgeons to put stomach patients through a long course of preliminary treatment, such as frequent lavage of the stomach and abstinence from food before operation; this, as a rule, is quite unnecessary and certainly inadvisable in the greater number of cases, first, because the treatment is depressing and debilitating in the case of patients already exhausted by a long illness; secondly, as proved by Dr. Harvey Cushing's bacteriological investigations, the stomach contents speedily become aseptic if the mouth be cleansed and aseptic foods administered, and thirdly, as proved by ample clinical experience, elaborate preliminary treatment is unnecessary to success.

If the stomach is greatly dilated and the contents are foul, then lavage with simple boiled water night and morning is adopted for two days before operation. The careful cleansing of the mouth and teeth and the administration of foods sterilized by boiling is advisable. The last meal is given the night before, about 12 hours, the stomach is washed out about two hours, and a nutrient enema given about an hour before operation.

In other cases no lavage is adopted, but the same care is exercised in cleansing the mouth, giving sterilized food and administering a nutrient enema consisting of 1 oz. of brandy, 1 oz. of liquid peptonoids, and 10 oz. of normal saline solution. Every patient is enveloped in a suit of cotton wool made by the nurse out of Gamgee tissue, and each has an injection of 10 minims of Liquid strychnia B. P., administered subcutaneously before the operation is begun. The preparation of the skin and other aseptic details of the operation differ in no respect from those observed in operations generally.

Exploratory Gastrotomy, or opening the stomach by a free incision of its anterior wall, is an operation occasionally called for in the surgical treatment of ulcers.

(a) In order to verify the diagnosis of ulcer when there is so much thickening of the stomach walls as to suggest the presence of cancer.

(b) When, although the symptoms have pointed to ulcer as the cause of the gastric trouble, the stomach, on exposure, betrays no evidence of puckering or other characteristic signs, and when in order to verify the diagnosis and ascertain what is best to be done, it is felt desirable to examine the interior of the organ.

(c) In certain cases of gastrorrhagia, it is desirable to perform exploratory gastrotomy in order to find and ligature the bleeding vessels or to otherwise arrest the hemorrhage.

(d) It necessarily forms part of any operation for the excision of ulcer of the stomach.

It is not necessary for me here to enter into any

detailed description of the operation, which must be so familiar to all my hearers, and which requires to be varied according to the object in view. The following are examples of exploratory gastrotomy for ulcer:

Man aged 38. Symptoms of chronic ulcer extending over several years; on exposure of stomach no evidence on surface to indicate accuracy of diagnosis; exploratory gastrotomy; discovery of large ulcer $1\frac{1}{2}$ inches by 3 inches on posterior wall of stomach; posterior gastro-enterostomy; recovery.

Acute gastrorrhagia; no evidence on exposing stomach; exploratory gastrotomy; numerous bleeding ulcers seen, two of which were bleeding freely and were ligatured 'en masse'; gastro-enterostomy; recovery.

Excision of the Ulcer is, as a rule, unnecessary, but not always to be avoided, as in some cases of bleeding ulcer, and in others where the thickening and induration render it difficult to decide on the absence of malignant disease; this was the case in a man of 54 on whom I operated in 1891, when, finding the pylorus the seat of diffuse induration, excision of the whole indurated area was performed successfully. A careful examination of the removed mass showed that the growth was inflammatory around a chronic ulcer.

In another middle-aged man in whom the diffuse induration was suggestive of cancer, the pylorus was opened and a deep ulcer on the posterior wall successfully excised, the edges of the original incision as well as the margins of the posterior wound being brought together in a direction transverse to the axis of the pylorus over a bone bobbin, as in the modified operation of gastro-enterostomy.

Rydygier prefers excision of the ulcer to gastro-enterostomy, because he believes that carcinoma not infrequently develops in the scar of an old ulcer.

It is impracticable to give any specific description of the operation of excision of an ulcer, seeing that the procedure will vary according to its size and position.

After excision of an ulcer, the bleeding from large vessels must be controlled by ligature, but the oozing from the smaller vessels will be stopped readily by the continuous suture employed to bring together the edges of the wound. If the excision involve the serous coat, a Lambert's continuous stitch with a silk or celluloid suture will be necessary. Should the excision have been near the pylorus, the line of suture must be placed transversely to the axis of the canal so as to avoid stricture.

The following cases are examples of gastric ulcer treated by excision:

Ulcer of Pylorus, Stenosis, Dilatation of Stomach, Excision of Ulcer and Pyloroplasty.

John W. R., aged 38, admitted to the Leeds Infirmary with the history of stomach trouble for thirteen years. Pain after food and vomiting were the initial symptoms. Severe hematemesis occurred 6 years after the commencement of symptoms. Great loss of flesh and weakness were followed by inability to work, although he had stomach lavage and other appropriate treatment. On admission the patient was very thin and profoundly weak. He weighed 8 stones. A swelling could be felt below the right costal margin. The stomach reached three inches below the umbilicus and there was visible peristalsis. Free HCl present. Operation November 15, 1900. The pylorus was found much thickened, forming a nodular swelling adherent to the gallbladder and liver and to the abdominal wall by omental adhesions. After separating the adhesions a small perforation was discovered in front of the pylorus evidently the site of a perforation which his medical man who was present said he remembered occurring

some months previously and which was then treated successfully by rest and rectal feeding.

The pylorus was freely laid open and found to be the site of a round perforating ulcer in front and another on the posterior wall; the latter had perforated into the substance of the pancreas; both were excised thus practically constituting a pyloroplasty. The edges of the posterior wound were brought together transversely to the axis of the stomach. The anterior wound was prolonged into the duodenum and stomach and its edges were brought together transversely to the axis of the stomach over a bone bobbin, thus leaving a capacious channel between the stomach and duodenum surrounded by healthy mucous membrane.

Recovery was uninterrupted and he was discharged on December 12th, weighing 8 stone, 5 pounds.

On January 9th, 1901, he returned to report himself well and then weighed 9 stone, 11 pounds.

Pyloric Ulcer Treated by Excision of Ulcer and Pyloroplasty.—Mrs. M. K., aged 44, well till two years ago, when she had colic and loss of flesh. Under treatment recovered and regained some of lost weight. September 15, '97, recurrence of attacks similar to that of a year before, but with pain at the right side over the pylorus. Loss of weight and strength. The patient had for some time been an invalid and had been continuously under medical treatment for months. Her weight was 6 stone, 11 pounds. There was visible peristalsis towards the pylorus, which was fixed to the gallbladder; no pain or tenderness. Liver 2 inches below costal margin but no nodular, and no jaundice present.

Operation 23.7.98. An ulcer at the pylorus was found adherent to the liver, which formed its base. Stenosis of pylorus. Pyloroplasty performed after excision of ulcer, the opening being sutured transversely over a bone bobbin.

3.12.98. Had gained 1st, 8 pounds in weight. No trouble in digesting anything.

23.12.99. Reported as "very well" and of normal weight.

The operation of Pyloroplasty for ulceration of the pylorus may be conveniently mentioned under the heading of excision of ulcer. Dr. Rodman (*Philadelphia Medical Journal*, June 9, 1900) has collected from literature and personal correspondence, detailed reports of 40 pyloroplasties, partial gastrectomies and excisions for ulcer, with 6 deaths. This includes cases since 1881, but later operations under improved technique contrast favorably with the earlier ones. I have myself performed the operation of excision of gastric ulcer 6 times, all the patients recovering.

Nevertheless, the mortality after excision will probably always be higher than the more simple operation of gastro-enterostomy. The more severe and radical operation should, therefore, be reserved for cases that are not suitable for the less severe operation, or in which the suspicion of cancerous degeneration is entertained and cannot be disproved on naked eye inspection. The following case is an example:

Tumor of Pylorus and Chronic Hematemesis due to ulcer. In 1891 I was asked by a medical friend to see a man of 54, who for 6 months had suffered from pain coming on an hour after food, and more recently from vomiting blood of coffee-ground character in considerable quantities, so that he was not only reduced in flesh and strength, but had also been rendered profoundly anemic by the loss of blood.

A tumor of the pylorus could be easily felt, and the stomach was markedly dilated.

As he was rapidly losing ground an operation was performed, and the pylorus was found thickened and nodular, with adhesions to the liver and omentum.

After separating the adhesions, the pylorus was excised and the open end of the duodenum was fixed to the opening in the stomach by means of two lines of sutures without the use of a bobbin, the rest of the stomach aperture being closed by a double layer of sutures. The tumor proved to be inflammatory around an open ulcer, which had been the source of the hemorrhage. The bleeding was not repeated, and the patient rapidly gained flesh and returned home within the month.

The subsequent history of this case is interesting on account of cicatricial contraction of the new pyloric aperture which led to the invention and employment of a decalcified bone bobbin to act as a temporary splint over which to apply the sutures and thus to secure a large aperture which has little tendency to contract.

Gastro-enterostomy, in the absence of special complications, is the operation to be relied on in the treatment of ulcer of the stomach; it acts by securing physiological rest by means of drainage, thus allowing the ulcer to heal without being subjected to the irritation of acid secretion, accumulation of food, or frequent stomach movement. It also, while remedying the hyperchlorhydria, relieves pyloric spasm, and while preventing stagnation of fermenting fluids, materially diminishes gastric dilatation. The posterior operation is the one I personally prefer, the junction of the posterior wall of the stomach with the first part of the jejunum being effected by two continuous sutures with or without a decalcified bone bobbin. The use of a bone bobbin not only secures an ample and immediately patent opening between the two viscera for the passage of the stomach contents, but protects the line of union from the irritation of the stomach contents.

The whole operation can be easily completed in half an hour, and it may even be done in half the time. Along with my colleague, Mr. Moynihan, I have given my full experience of the operation and of stomach surgery in general in book form, now in the hands of the publishers, Messrs. Baillière, Tindall & Cox.

Our experience with the posterior operation has been very favorable, not only in the rate of recovery of the patients, but in the smoothness of the recovery, many of the patients recovering without even once vomiting, and only on two occasions have we seen regurgitant vomiting of bile, which in the anterior operation is much more frequently seen and at times becomes serious or even leads to a fatal issue.

We have performed the posterior operation on 40 patients with two deaths, or an average mortality of 5%, but as the deaths were from more or less accidental causes which should be avoided in the future, and occurred respectively on the 10th and 11th days after operation, during the whole of which time the patients had been able to take and assimilate food, the gastro-enterostomy "per se" cannot be blamed for the result, which might under similar circumstances have occurred after any operation.

Dr. Fantino (*Archiv. fuer Klinische Chirurgie*, xlii, 1 and 2) examined Professor Carle's cases of gastro-enterostomy as regards the following points:

(1) Changes in the peristalsis of the stomach.
(2) The ability or non-ability of the new sphincters to close the outlet.

(3) The capacity of the stomach.

(4) The secretion of hydrochloric acid.

In the cases examined, the operation immediately improved the peristaltic power of the stomach, though it did not render it normal. The stomach could generally empty itself, but did so gradually. Systematic examinations of the stomach contents were made after test-meals, etc., and showed that after an irregular period the stomach regained completely its power of emptying itself; in fact, as a rule, after gastro-enterostomy the stomach would be found practically empty in three to five hours after a meal.

Generally it was found that the stomach decreased in size soon after gastro-enterostomy, so that the formerly distended organ became normal in size. Examinations of the stomach by means of distension with carbonic acid and by other methods showed that a sphincter was developed at the new opening, and that its power increased with time. The secretion of hydrochloric acid after operation was studied: In cases where there was formerly hyperacidity, this condition was lost, and though the degree of acidity in any individual case varied from time to time, yet these variations did not depart from physiological limits. In the same examinations it was found that regurgitation of bile into the stomach took place, but it was of no importance so long as the outlet from the organ was sufficient. Cases of hypo- and anacidity showed no change in their gastric juice after operation, showing clearly that this condition is not dependent on obstruction, but on previous changes in the mucous membranes, these changes being probably in the nature of an atrophy of the peptogastric glands.

The following cases are given as examples of the treatment of gastric ulcer by gastro-enterostomy:

CASE 1.—Mrs. W., aged 32, pyloric ulcer treated by pyloroplasty, with subsequent contraction. Gastro-enterostomy (anterior). Pyloroplasty during active ulceration of pylorus in December, '95. Great relief for a time, but later recurrence of dilatation, vomiting, pain, and other symptoms. Very considerable loss of flesh. Patient thin and anemic; pulse feeble and rapid; marked dilatation of the stomach reaching well below the umbilicus.

4.10.98. Operation. Gastro-enterostomy, (bone bobbin employed). In October, 1899, patient well and active. February, 1900, had gained 1 stone, 10 pounds.

CASE 2.—Mr. M. A., aged 28. Pyloric ulcer, tumor of pylorus, gastro-enterostomy. (Anterior). Two years ago weighed 12 stone, 12 pounds (now 9 stone, 6 pounds). Pain 2 hours after food. For last two months vomiting on an average 5 times a week, twice coffee-ground vomit. Enormous dilatation of stomach. Pyloric tumor movable, visible peristalsis.

4.8.99. Operation. Large mass at pylorus evidently thickening due to active ulceration, glands large but not matted. Gastro-enterostomy. (Bone bobbin used).

27.8.99. Good recovery. Weighs 9 stone, 7 pounds.

20.9.99. Weighs 10 stone, 13 pounds. Can eat anything. Well, 1901.

CASE 3.—Mr. D. B., aged 31. Extensive ulceration of stomach with large tumor. Gastro-enterostomy (anterior). Dyspepsia 17 years. More severe last 20 months. 16 months ago vomiting recurred and from the outset large quantities ejected but never containing blood. Recurrence occasionally of similar attacks always relieved by treatment. December, 1897, stomach reached pubes and visible peristalsis seen. Relief followed dieting and lavage till March 1898, since which time pain almost constant. Pain not materially worse after food, nor relieved by vomiting. Loss of weight from 10 stone to 8 stone, 6½ pounds. Great feebleness.

6.5.98. Operation. Large irregular tumor at pylorus and along lesser curvature, but glands though large, dis-

crete. Gastro-enterostomy, bone bobbin employed. 8 stone in weight when he left the Home, 7.6.98.

17.8.98, weighs 9 stone, 3 pounds. Letter dated 12.2.1900, to say: "My health continues perfect. I have not lost a day's work through illness since I recovered."

CASE 4.—Miss H., aged 32, sent to me with a history of stomach symptoms extending over several years. She had had hematemesis in '92 and '96, since which time she had suffered from flatulency and pain after food. For two years epigastric pain constant but increased by food. A year ago vomited daily, then relief for a time, but for some months only milk could be retained. Epigastric tenderness was well marked and on distending the stomach with CO₂ it reached half an inch below the umbilicus and far over to the right of the middle line.

5.10.00. Posterior gastro-enterostomy performed, a bone bobbin being employed.

Recovery uninterrupted. Returned home within the month, taking solid food without any discomfort and gaining flesh.

On November 8th Dr. A. wrote: "I have seen Miss H. since her return and there is every reason to be pleased with her condition. She has lost all her pain and is taking food well. Allow me to thank you for her restoration to comparative health."

Report of weight February, 1901, 8 stone, 6 pounds, at time of operation 6 stone, 12 pounds.

CASE 5.—Mr. H., aged 52, began to suffer in 1897, from symptoms of ulcer of stomach which were relieved by restricted diet and general treatment, but in July 1899 the symptoms returned with great loss of flesh and strength. Well marked dilatation of the stomach was discovered and operative treatment advised.

Lavage and other treatment were carried out in London and in Scotland, but without material improvement.

When first seen by me there was visible peristalsis with well marked stomach splash and a tender spot under the right costal margin. Although tall, the patient only weighed 8 stone, 10 pounds, and he was extremely weak and palid.

12.10.00. Operation. Hour-glass stomach found, but the stricture was not extreme. Puckering on anterior wall of the stomach with well marked thickening. Free HCl discovered in the stomach contents. Posterior gastro-enterostomy performed. Good recovery.

March 4, 1901, patient wrote from Bournemouth, saying: "I am pleased to be able to tell you that I have had no return of my former complaint and that I eat, drink and sleep well. Have got back to my former weight."

CASE 6.—History. J. S., aged 45, residing at Batley, gave the history of two years' pain about an hour after food, with great loss of flesh. For nine months he had vomited every day or every second day, a large quantity of yeasty material, but no blood, though he was very anemic.

There were well-marked signs of dilatation, with tenderness over the pylorus. Operation 12.6.00. On opening the abdomen the pylorus was much thickened and adherent, forming a tumor, and through the centre of the mass a No. 10 catheter only could be passed, over a roughened, ulcerated surface. A posterior gastro-enterostomy was performed.

After History.—An uninterrupted recovery followed. Food was begun the second day, and solids could be taken in the second week without pain. He rapidly gained flesh and strength, and is now well. The following case illustrates the value of gastro-enterostomy in acute hematemesis.

Chronic Ulcers; Hematemesis; Gastro-enterostomy.

Mr. F., a farmer residing in Essex, was sent to me by Dr. A. J. T. White, on the 26th of March, and he kindly furnished the following history.

"I first saw Mr. F. 5 years ago. He had then occasional pain in the epigastrium, with much flatulence and at times vomiting. This kept on at intervals more or less for three years. 18 months ago Dr. G. saw him with me. At that time instead of his former weight of 16 stones, he only turned the scale at 12 stones. He then improved gradually for about three months and gained about a stone in weight. Six months later or about a year ago, he, while out driving, had some abdominal pain and vomited considerable quantities of blood. He continued being sick and suffering for some time with slight hematemesis and melena, but again improved. About 3 or 4 months ago, he got worse, and has been vomiting and suffering considerable pain on and off ever since. I have very little

doubt but that this original trouble was gastric ulcer, but my fear now is lest malignant ulceration should have supervened and some time ago I asked him to see you. He could not go then as he had various business matters to set right, but now is willing. He is a man of iron will and constitution though terribly pulled down." On Mr. F.'s arrival in Leeds he went direct to a surgical home. His weight then being 10 stone. He was then suffering severe pain but was able to take a little milk, which was in fact the only form of food he had been able to digest for a long time. Within a few hours he was seized with violent hematemesis and vomited 5 pints of clots and dark fluid mixed with mucus. Rectal feeding was at once adopted and an ice-bag applied to the epigastrium. The next day much coffee-ground material was vomited and on the third day the bleeding ceased. An operation, which was clearly demanded, was arranged for March 22nd, but on the night of the 21st he again vomited two pewters full of pure dark blood which clotted soon after being vomited. The stomach was quite empty of food, as after the night of his admission feeding had been entirely rectal. He was now extremely weak, but as the vomiting and bleeding were continuing Dr. White agreed with me that it would be better not to postpone operation, for he was rapidly losing ground and clearly could not stand a greater loss. An hour before operation he vomited blood freely again. On the morning of March 22d, on opening the abdomen, the lesser curvature of the stomach was found to be much indurated, forming a tumor. There was also much puckering of the surface of the stomach and the glands in the greater and lesser omentum were enlarged but discrete. A posterior gastro-enterostomy was performed, a bone bobbin being used. In order to guard against shock he was enveloped in cotton wool, had 10 minims of liquid strychniae (B. P.), given subcutaneously before operation and had a pint of saline fluid with an ounce of brandy given into the bowel. Immediately after operation, which was finished within the half hour, nearly a pint of saline fluid was injected into the subcutaneous tissues of the axilla and another pint together with an ounce of brandy administered per rectum. During the day three injections of 5 minims of liquid strychniae were given and the rectal enemata were repeated.

Very little shock was felt and the after progress was uninterrupted. The bowels were moved on the third day and the wound was dressed and found healed on the 10th. No more blood was parted with and stomach feeding was begun four days after operation. By the end of the week he was taking as much as 5 pints of fluid nourishment in the 24 hours. He said he had never had any pain since the operation and was feeling better than he had done for a long time. He had lost all the acid eructations, the constant burning at the epigastrium and the flatulency. He returned home within the month very well and as showing the state of his digestion he had gained 4 pounds in the week before he left the surgical home.

Pyloroplasty as a curative measure in this class of cases has certain very definite limitations, but where it is feasible it is a method of great utility which can be performed rapidly and with very little exposure of viscera. Pyloroplasty, if the pylorus be stenosed, free from extensive adhesions, easily drawn forward and not actively ulcerating, is a simple and short operation, and in quite a number of cases of both gastric and pyloric ulcer I have found it to answer well. It must not be relied on, however, where active ulceration of the pylorus itself is found, unless at the same time the ulcer be completely excised; otherwise cicatricial contraction will follow. It acts in the same way as does gastro-enterostomy, by affording a free exit to the stomach contents and thus securing physiological rest to the stomach.

The histories to be related exemplify the complete success which attended the operation in appropriate cases and also the disappointment which followed its employment in one of the earlier examples, which, owing to experience, was not properly selected.

Profs. Carle and Fantino (*loc. cit.*) compare the

operation of gastro-enterostomy and pyloroplasty. Out of fourteen cases in which the latter operation was performed only one died.

The results of pyloroplasty, as regards function, have been little noticed in literature. To the author's fourteen cases, three may be added where the operation was by tearing, but the results were the same. In all the seventeen cases the results were excellent, in thirteen of them perfect and permanent, as it is now from three to seven years since operation. In these the condition of the secretions and of the peristaltic power of the stomach was the same as after gastro-enterostomy for non-malignant stenosis. Diminution in size of the stomach was not so marked as would be expected in the presence of such remarkable recovery of the general health and of the stomach's power to empty itself. In all cases, with one exception, the gastric capacity was more or less diminished, but in no case did it become normal in size.

A few cases must be excepted where operation was performed for hyperacidity with gastric atony. In these, four or five months after operation, there was delayed evacuation of the stomach and a feeling of weight. Although the general improvement was considerable, yet the authors were persuaded that a posterior gastro-enterostomy would have given better results. In one of the cases a subsequent gastro-enterostomy gave a perfect recovery.

In cases in which there was hyperacidity before the operation, there was a rapid return to the normal, but *not to below* normal, as was found after gastro-enterostomy. The authors believe that the rapid and great diminution in hydrochloric acid after the latter operation is due to the very rapid evacuation of the stomach after a meal, and do not deny the possible influence of a regurgitation of bile into the stomach. Both these conditions are absent after pyloroplasty, hence the difference in secretion.

In cases of hypo- and anacidity, operation produced no change in this particular, and yet health was restored. The results of pyloroplasty may be summarized:

(1) Regurgitation of bile into the stomach is prevented.

(2) Secretion of hydrochloric acid, when it has been excessive, becomes normal.

(3) If the secretion of hydrochloric acid has been diminished or absent before operation, it remains "in statu quo" after operation.

(4) If there has been primary gastric atony, peristalsis is but little improved.

(5) This function improves rapidly or reaches perfection if the muscular contractility has been normal or increased, and when the obstruction was due to fibrous stenosis or pyloric spasm.

(6) In all such cases evacuation of the stomach is accomplished in its physiological period. Only in rare cases, and these only in the first months, after operation, may it be delayed.

(7) The capacity of the stomach always decreases, but rarely becomes as small as normal.

(8) The pylorus recovers tone.

Points of difference between the results of pyloroplasty and gastro-enterostomy are:

(1) The absence of regurgitation of bile, and hence the absence of any possible biliary influence on the gastric secretions.

(2) The evacuation of the stomach is not accelerated, hence the difficulty the stomach has in reaching its normal size.

(3) The slight or negative result obtained by pyloroplasty in obstruction from primary gastric atony compared with the positive results from posterior gastro-enterostomy.

Pyloroplasty is too dangerous in cases where there is extensive induration of the tissues, much peripyloritis and adhesions to liver, gall-bladder, colon, etc., and in cases of duodenal stenosis. It is indicated in cases of spasmodic stenosis, and in slight annular stenosis from ulceration accompanied by muscular hypertrophy.

Statistics. In the Hunterian Lectures I collected 318 cases of pyloroplasty from all sources, of which 269 recovered, which equals a mortality of 15.4%; this included 14 cases of the lecturers, of which 12 recovered a mortality of 14.2%. As in the earlier operations, many were performed on cases that would be now treated by gastro-enterostomy, the mortality in properly selected cases should not exceed 5% at the outside estimate, and of the 12 cases I have operated on since 1897, there is no fatality to record.

CASE 1.—9.3.95. Mrs. W., aged 29. "Spasms" for 10 years, but pain more on left side. Attacks two or three times a week, start without apparent reason, last an hour or two, but may persist 24 hours, relieved by vomiting. Severe cramps in legs, loss of 2 stones in weight; no jaundice, marked constipation. Rigid right rectus, no rigidity but tenderness to left. Dilatation of stomach well marked, 22.11.95. Relief under treatment followed by relapse, now vomiting daily. Weight, 9st. Operation. Adhesions of pylorus separated. Active ulceration at pylorus and tight stricture. Pyloroplasty (Bone Bobbin). 24.7.96. Weight 9st. 5 pounds, very much better. Relapse in '98, possibly from recurrence of ulceration. I then performed gastro-enterostomy. Quite well in 1900, and former weight fully regained.

CASE 2.—13.1.97. Mr. M. B., aged 52. Ulcer of pylorus with stricture. Pyloroplasty. Bad health for 20 years with dyspepsia worse since enteric fever 9 years ago. Last 2 years much worse, pain, sickness and vomiting 2 to 3 hours after meals relieved by vomiting of large amounts. Never vomited blood. Loss of flesh. Weight 9st. 3 lbs. Emaciation, dilatation of stomach. No tumor. Operation. Stricture of Pylorus. Pyloroplasty (Bone bobbin used). 19.9.98. Dr. W. writes: "For some time little improvement, stomach now works well. Looks better than I have ever seen him." Well February, 1901. Had gained normal weight.

CASE 3.—Mrs. W., aged 46. Stricture with active ulceration at pylorus. Pyloroplasty. Gastralgia for several years, relieved by food. In November, 1894, vomited dark fluid, since then frequent vomiting, longest interval 2 or 3 weeks. Pain in stomach accompanied by hard lump and often followed by vomiting. Great loss of flesh and strength. Operation. Pyloroplasty for contraction and thickening of pylorus, passage only admitted No. 2 catheter. Good recovery. Well 1899. Considerable gain in weight.

CASE 4.—24.5.97.—Mr. H., aged 39. Letter dated May 14, 1897, to say: "During the last 18 months I have suffered much pain, which has caused me to be bedfast for two, three or four weeks at a time, and it has required another month or more for me to gain strength enough to move about." Eighteen months ago epigastric pain several hours after food, relieved by vomiting. Since then health never good. 3½ months ago similar attack, very severe with collapse. Vomit contained blood. Fourteen days ago another severe attack normal weight 10 stones 10 pounds, now 9 stone 3½ pounds. Stomach "weak" since childhood. Marked dilatation. No tumor. Operation. Deep ulcer at pylorus. Extreme stricture barely admitting ordinary dilator. Pyloroplasty. (Bone bobbin used). Complete recovery from operation and rapidly regained normal weight. Letter dated 10.2.1901 says: "I am well."

you would like to know that I am able to attend business as usual and have done so without interruption since July 19th, 1897.

CASE 5.—12.7.97. Mrs. W., aged 46. Said to have had ulcer of stomach 20 years ago. Since then subject to attacks of pain, loss of flesh, and vomiting. Pain, for 3 or 4 months vomiting 3 times a day, lost a stone weight in that time. Leading life of an invalid and for a long period under medical treatment without benefit. Dilatation of stomach, visible peristalsis, tenderness over stomach, especially at the pylorus. No tumor could be felt. Operation. Stomach much dilated, thickening at pylorus. Pyloroplasty. (Bone bobbin used). Good recovery.

8.1.98. Weighed 11 stone, a gain of over two stones.

CASE 6.—27.7.97. Mr. C., aged 23. Vomiting and loss of flesh for 2 years. Once was 10 stone, now is 7 stone in weight. Dieting and lavage give only temporary relief. Emaciation, pallor, dilatation of stomach. No tumor. Operation. Much contracted pylorus, great hypertrophy, the walls more than one-third of an inch thick. Pyloroplasty with bone bobbin. Good recovery. 23.12.97, weight 9 stone 13 pounds. Well.

CASE 7.—W. F., aged 52, had suffered from indigestion for two years. This, however, had not interfered much with his general health till the previous Christmas, when the indigestion was accompanied every second day by acute pain and vomiting, coming on about two hours after food. The vomited matter was in large quantity, offensive and sour, and at times coffee-ground in character. From this time the patient became extremely weak and pale, and rapidly lost flesh to the extent of 1½ stone in five weeks. He had pain on pressure over the pylorus, but no distinct tumor was felt. There was marked dilatation of the stomach, and during the attacks of pain it could be felt to harden under the hand.

On April 8th, 1895, the abdomen was opened by an incision in the middle line above the umbilicus, exposing the pylorus, which formed a distinct tumour adherent to and under cover of the liver, and which, after being freed from adhesions to surrounding structures, was found to be tightly strictured, so as only to admit the passage of a No. 12 catheter; the mucous membrane being extensively ulcerated, and the walls thick and almost cartilaginous. The stricture was incised longitudinally and sutured transversely over a bone bobbin by a double row of sutures. The stomach was much dilated and atonic. Though the pyloric tumor gave rise at the moment to a suspicion of cancer, there was no evidence of growth, and the glands were not affected.

October 30, 1896, he called to report himself, looking robust and well. He had gained 3 stones in weight since his operation.

Gastro-plasty is an operation that I have successfully employed in a number of case of chronic ulcer leading to hour-glass stomach. It consists in making a longitudinal incision through the strictured part of the stomach and bringing the edges of the wound together transversely, thus obliterating the stricture.

A convenient method of performing the operation is by the use of a large decalcified bone bobbin, as described in the cases appended. If the strictured part of the stomach be actively ulcerating, the ulcer must be excised at the same time, otherwise subsequent contraction may occur; or possibly the ulcer, already chronic, may persist and lead to a continuance of the symptoms; in such a case, if excision be impracticable, gastro-enterostomy must be performed, or if the pylorus be free from disease the operation of *gastro-gastrostomy* may be done in order to short circuit the constriction.

I have operated on 13 cases of hour-glass stomach due to chronic ulcer, with 12 recoveries.

The following are good examples:

CASE 1.—M. B., aged 29, gave a four years' history of ulceration of the stomach, with vomiting of blood on one

occasion, and the presence of a melaena several times. As the pain was always easier when the patient was lying on the back, an ulcer on the anterior surface of the stomach was diagnosed.

This was confirmed at the operation, as the anterior wall of the stomach was so puckered that the cavity was divided into two, which were connected by a narrow channel, which was laid open by a free longitudinal incision, in which was laid a large bone bobbin, the wound being then brought together transversely over it, thus leaving a channel of nearly two inches between the two cavities.

The patient went home within the month, and has completely recovered her health and strength.

CASE 2.—Mr. D. H., aged 44, admitted with well-marked dilatation of the stomach, and a history of twenty years' stric trouble.

The constriction in this case was two and a half inches from the pylorus, the cavity between the stricture and the pylorus being very much smaller than the proximal one. The treatment was by gastroplasty over a large bone

Recovery was delayed by an attack of pleurisy, but the patient is now quite well, and has gained rapidly in weight.

CASE 3.—Double hour-glass contraction of stomach. Gastroplasty and Gastrolysis.

Miss M. P., aged 20. There had been attacks of pain and vomiting for 15 years. The pain began at the left side and passed to the epigastrium and through to the left subscapular region. There had been severe hematemesis 10 years before. Occasionally, both before and since the vomit had been streaked with blood, which was sometimes "coffee-ground," but it had contained no large quantity of blood for eight years. The patient vomited large quantities at times and had lost flesh steadily for the last five years. There were dilatation of the stomach, and peristalsis. No tumor could be felt but the pylorus was felt to harden from time to time.

Operation. 6.6.99, at a surgical home in Leeds. Double hour-glass contraction discovered. One-third of the distance from the cardiac extremity adhesions caused a marked diminution of calibre, and two inches from the pylorus a contraction only admitting the tip of the little finger was found. The adhesions were divided and gastroplasty was performed, the wound being sutured over a large bone bobbin.

After history. The patient made an uninterrupted recovery, and in two months she had gained 2 stone in weight.

CASE 4.—Extreme hour-glass contraction. Gastro-plasty.

Miss H. D., aged 48. The patient had had constant indigestion and flatulence for 20 years with a feeling of pulsation and tenderness at the epigastrium. There had been free hematemesis two years before and vomiting occasionally since, but lately the patient had ceased to take much solid food. She had noticed slime and blood in the motions, possibly due to constipation, which was extreme. There had been great loss of flesh. No tumor was present, but there was tenderness in the epigastrium and a well-marked splash on succussion.

Operation. 28.7.99. Extreme contraction one-third way from pylorus, just admitted tip of little finger. Gastroplasty was performed, a large bone bobbin being used.

After history. The patient made a good recovery from the operation and the digestion was relieved. There was an increase in weight of about a stone and improvement in the general health, but the stomach remained dilated and she continued anemic and weak. This was at first thought to be due to bleeding from piles, but after they had been ligatured the weakness still continued, and although there was no vomiting, flatulency and discomfort after meals with loss of appetite led to a suspicion of recurrence of disease in the stomach, which on being distended with CO₂ reached 3 inches below the umbilicus and on being washed out after a test meal, showed impaired motility.

January 24, 1901. The abdomen was opened again through a median incision above the umbilicus, when marked dilatation of the stomach was seen with contraction and some thickening over the pylorus, but where the hour-glass contraction had been operated on 18 months previously, it was interesting to note that neither scarring

possible to tell by the naked eye appearances that anything had been done.

A posterior gastro-enterostomy was performed, a bone bobbin being employed. Recovery was uninterrupted, and before the patient left the home at the end of the month she was taking ordinary food with relish and without any discomfort. She had then gained several pounds in weight.

Adhesions of the stomach to adjoining organs are so common in chronic stomach ulceration that *gastrolysis*, or the detaching or otherwise treating bands and short adhesions to adjoining viscera or to the abdominal wall, is performed in by far the greater number of cases. Such adhesions are frequently only the remnants of ulcers that have healed; at other times they have been left by perforation of the stomach wall by an ulcer, from the direful consequences of which they have saved the patient. In many cases they give rise to symptoms resembling ulcer, though the adhesions may be due to causes, such as gall-stones, outside the stomach itself; in such cases the operation of gastrolysis may be entirely curative. I have performed gastrolysis in 56 cases, all of which have recovered.

The following case is given as an example:

Gastrolysis for adhesions caused by chronic gastric ulcer.

Miss M. B., aged 42. Twenty-two years ago had symptoms of ulcer in the stomach, since then has suffered from vomiting attacks every week or two, and from pain after food. During the last 3 years symptoms were more marked. Under medical treatment, with rest in bed, no improvement. Vomit large in quantity and fermenting, sometimes containing blood. Loss of weight to the extent of three stones. Great tenderness over stomach, especially to the left. Stomach dilated, reaching below umbilicus and well over to the right.

Operation. On anterior surface of stomach scar of an old ulcer is visible. Lesser curvature of stomach closely adherent to the liver. Pyloric extremity and first part of duodenum attached to gall-bladder and cystic duct. Adhesions separated and omentum interposed between pylorus and gall-bladder.

After-history. Perfect recovery. March 7, 1900, can eat anything without discomfort and is rapidly putting on flesh. Has gained 20 pounds since her operation. March, 1901, quite well; had gained over two stones in weight. Many other examples of gastrolysis might be given where the benefits derived from operation have been quite as great.

Pylorodiosis, by which name is understood the operation of stretching the pyloric sphincter, either by means of the fingers invaginating the stomach wall, when it is known as "Hahn's operation," or by digital or instrumental stretching after having made an opening into the stomach, when it is known as "Loreta's operation," is a method of little practical value in the treatment of ulcer, and in some of the cases where I performed the operation, though the immediate results were good, relapses subsequently occurred. If performed by invagination without opening the stomach cavity, it is an operation unattended by risk. It may possibly be of service in simple spasm of the pylorus, but I have not much faith in its effects being lasting.

Did the time permit of it, it would be easy to give from my own experience examples of operations for all the complications of gastric ulcer that I have mentioned, and as many of the cases are of great individual interest, I think they would have proved interesting to my audience, but it is quite impossible to do more than refer to them unless I am to occupy

the whole of the afternoon, and this I have neither the desire nor the intention of doing.

I will, however, mention the results of my experience in operations for simple diseases of the stomach out of over 200 operations that I have performed.

In 56 cases I have performed gastrolysis for the separation of adhesions which were producing disabling conditions, all the patients recovering. In 13 cases I have operated for hour-glass stomach due to ulcer, 12 of the patients recovering and being now well.

In 6 cases I have operated for hematemesis, with five recoveries; in 4 cases for fistula, due to chronic ulcer, all the patients recovering.

Of the 18 cases in which I have performed pyloroplasty, 16 have recovered, the two deaths being in the earlier cases, one being due to perforation in the second week after operation.

Of the posterior gastro-enterostomies, previously referred to for simple diseases of the stomach, in 40 cases there were two deaths, both due to accidental causes, one being pneumonia in a phthisical patient.

Of the anterior gastro-enterostomies, including cases operated on 10 years ago, in 19 cases there were 4 deaths, one from an accident at the time of separation of a Murphy's button, one from shock in a patient very exhausted at the time of operation (Senn's plates being used), one from perforation of an ulcer on the 12th day, when apparently convalescent, and one from peritonitis extending from the abdominal wound.

Of the 2 gastroplications, both recovered.

Of the three cases of pylorodiosis, all recovered.

In 8 operations for perforating gastric ulcer there were two deaths directly following on operation in cases treated when peritonitis was general.

Of the 6 cases in which I directly excised a gastric ulcer or ulcers after opening the stomach by gastrotomy, all recovered.

Of one case of gastrotomy for the removal of foreign bodies and one for perforating wound of abdomen with hematemesis, both patients recovered.

It will be seen that out of 177 operations for simple diseases of the stomach, including perforation and hemorrhage, 165 patients recovered, or 93.2 per cent.

Description of the method of employing the decalcified bone button.—In the course of my paper reference has been made to a method I have been systematically pursuing since 1891, not only in stomach operations, but in nearly all the operations which involved the making of an anastomotic opening between the hollow viscera. I mean the method of suture over a decalcified bone bobbin.

I have adopted it in a very large number of cases and in a great variety of operations, and as a result of this extensive experience I am more than ever convinced that it is a reliable procedure which I can thoroughly recommend to others. It is more easily demonstrated than described, and at the end of this discussion or at such other time as you, sir, may think it desirable, I shall be pleased to show the method either on the cadaver or on a model. It is really very simple, and only involves two continuous sutures, one of chromicised catgut to unite the

mucous margins of the two openings and one of celluloid thread to unite the serous surfaces about a quarter of an inch away from the new opening. Pagenstecher's thread or spun celluloid has replaced silk in my practice, it being stronger, easily sterilized by boiling, and less absorbent.

The bobbin, which is made for me by Messrs. Down Bros., of London, in various sizes, from the small one required for cholecystenterostomy or for the union of the small viscera of children, to the large one employed for gastropasty or for the end to end union of large intestine in the adult, is nothing more than a cylinder of decalcified bone with raised ends, which is placed in the new anastomotic opening, around which the sutures are applied.

The advantages claimed for the method are:

1. That it secures the opening, being of the exact size intended, and that there is no possibility of the passage being made too small by the drawing up of the sutures before the knots are tightened.
2. That it secures an immediately patent channel between the two anastomosed viscera.
3. That the bobbin protects for from 24 to 48 hours the new line of union from pressure and from the irritation of the visceral contents.
4. That it facilitates the application of the sutures and so adds to the expedition of union by sutures.
5. That no foreign material is left in the alimentary canal, which may irritate or cause subsequent trouble, for the bobbin rapidly dissolves in the alimentary juices.
6. That the method has now been proved by ample experience to be rapid, easy, efficient and safe.

For stomach operations it is used in gastro-enterostomy, in pyloroplasty, in gastropasty, and in pylorotomy or partial gastrectomy, and in the latter operation it is unnecessary to use more than two continuous sutures for the whole operation.

In adopting the method, it is convenient to begin with the serous suture, which is applied around the posterior half of the circle. The needle still threaded is then laid aside till the final stage; the openings into the viscera are then made, and any redundant mucous membrane cut away; the mucous suture is now applied uniting the posterior half of the circle; the bone bobbin is now inserted and the mucous suture continued around the anterior half circle until it reaches the point where the mucous stitch was begun and where the loose end will be found; these two ends are then tied firmly: the serous suture previously laid aside is now picked up and continued around the anterior half circle until the loose end of the celluloid thread is reached, when the two ends are tied firmly.

The two hollow viscera are now united by a hollow cylinder of decalcified bone surrounded by two continuous threads, one uniting the mucous margins and one the serous surfaces, about 1-4 or 1-3 of an inch away from the anastomotic opening.

LATE RESULTS OF THE TREATMENT OF INOPERABLE SARCOMA WITH THE MIXED TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS.

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of New York.

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In May, 1894, I was highly honored by an invitation of the American Surgical Association to read my first paper upon the treatment of inoperable malignant growths with the mixed toxins of erysipelas and bacillus prodigiosus. The results up to that time, though remarkable, covered a comparatively small number of cases, and had not stood the test of time. Yet, the words of kindly encouragement then received from the members of the American Surgical Association did much to stimulate my enthusiasm and helped me to persevere during the period of doubt and discouragement that necessarily attend the introduction of any new method of treatment of malignant tumors, and especially the treatment of malignant tumors already pronounced inoperable and hopeless by competent authorities.

Seven years have passed since the reading of the paper referred to, and just a decade since the beginning of the experiments of Dr. Bull and myself with the living cultures of erysipelas in inoperable sarcoma, and the practical question may well be asked by the profession: "Has the toxin method fulfilled any of the early hopes and claims? In other words, just what—in brief—is its proper place in the therapeutics of malignant tumors?"

This question is certainly a fair one, and I shall attempt to answer it in the briefest possible way and do so after the manner of the judge rather than the advocate. The results of this method during the last three years have given me no reason to change the conclusions expressed in my earlier papers, and I have nothing new to add in the way of improvement in technique or in preparing the toxins. While the results are far better in spindle-celled sarcoma than in any other form, there has been a sufficient number of round-celled sarcomas successfully treated to make it advisable to give every patient with inoperable sarcoma the benefit of a brief trial. If no improvement has occurred at the end of 3 or 4 weeks of daily injections, the treatment is not likely to be successful. If improvement does occur, the treatment should be kept up, either until the tumor has entirely disappeared or until it has become evident that the injections have lost their inhibitory influence. The toxins may be given for long periods in moderate doses without harm to the patient. The risks of the treatment are practically nil, if proper precautions are observed. In upward of two hundred cases I have had but two deaths, both of which occurred more than five years ago. It should be remembered that the method is advised only in inoperable tumors, and practically only in sarcoma; in other words, in the entirely hopeless cases. As above indicated, the percentage of probable cures depends largely upon the type of cell, varying from perhaps four or five per cent. in the round-celled, to nearly fifty in the spindle-celled variety. Up to

the present time I have had no success with the toxins in the treatment of melanotic sarcoma, although I have tried them in about a dozen cases. In some of these cases the disease was held in check for some time, but after a longer or shorter period the inhibitory action of the toxins was in some way lost. Lympho-sarcomas of the neck form another class that, up to the present time, justifies a prognosis almost as bad as that in melanotic growths. Although I have treated a large number of such cases most carefully and for long periods of time, I have not as yet had a single permanent success. These cases are nearly all of very rapid growth, and very highly malignant. It should be borne in mind that these lympho-sarcomas of the neck are also practically hopeless from the start, from an operative point of view. Butlin states that he has been unable to find a record of a single case in which a cure has resulted from operation. In spite of these discouraging results in melanotic sarcomas and lympho-sarcomas of the neck, the remarkable inhibitory action of the toxins that I have observed in certain tumors of these varieties, justifies us in advising a thorough trial of the treatment in all such cases, unless the disease is very far advanced or has already become generalized. After generalization has occurred—whatever be the variety of sarcoma—I doubt that any permanent result can ever be obtained by the toxins.

In August, 1898 (*Journal of the Am. Med. Ass'n*), I published my results in 140 cases of inoperable sarcoma treated with the mixed toxins. In 24 of these the tumor completely or partly disappeared. Eighty-four of this series were round-celled sarcoma; 21 spindle-celled; 9 melanotic sarcoma; 2 chondrosarcoma; 12 were sarcoma (diagnosis confirmed by the microscope, but type of cell not stated); 6 were inoperable sarcoma resting on clinical diagnosis combined with a history of repeated recurrence in most cases.

In 40, or slightly less than half of the round-celled cases, there was more or less improvement, as shown by decrease in size and cessation of growth. In only three of these was the treatment successful.

Of the 21 cases of spindle-celled sarcoma, ten disappeared entirely, and all the remainder showed marked improvement.

In melanotic sarcoma, as I have stated, I have had no successes. It should be noted, however, that Dr. George R. Fowler, of Brooklyn, has reported one case of melanotic sarcoma of the tonsil and fauces, which entirely disappeared under the use of the mixed toxins. The patient remained well for two years, when a local recurrence followed and proved fatal.

In addition to these personal results, the paper contained a summary of results in 35 cases successfully treated by other surgeons employing the same method. Of these 35 cases, 10 were round-celled; 10 spindle-celled; in 5 the diagnosis was clinical only; in 5 there was, in addition to the clinical signs of sarcoma, a history of recurrence after operation; in 4 the diagnosis of sarcoma was confirmed by microscopical examination, but the type not stated; 1 was an endothelio-sarcoma.

Of these 35 cases, 20 disappeared completely; 2

others decreased so much that only a small node was left, which was easily excised. One of the latter cases was well three years, and the other one year at the time of the report.

Of the 35 cases referred to, 14 were well over two years, and 6 cases over three years.

At the time of my report (Aug., 1898), 8 of my cases had remained well from 3 to 6 years. I have made a very great effort to trace the after-histories of these patients, with the following results:

CASE 1.—Recurrent, inoperable spindle-celled sarcoma of the neck and tonsil, treated with the injections of the living cultures of erysipelas, in May, 1891, for four months, during which time a severe attack of erysipelas occurred. The tumors nearly disappeared and the patient recovered perfect general health. He remained well for eight years, at which time the malignancy reappeared and proved fatal during the following year.

CASE 2.—Recurrent mixed-celled sarcoma (round, oval and spindle) of the back and groin. The patient was first treated in April, 1892, with the living bouillon cultures of erysipelas. The tumor entirely disappeared. It recurred two months later and finally disappeared under the mixed toxins. During the treatment the patient had four attacks of erysipelas, artificially produced. He remained well for 3½ years, then had an intra-abdominal recurrence, of which he died in about six months.

CASE 3.—Inoperable spindle-celled sarcoma of the abdominal wall and pelvis, 7x5 inches in diameter. The tumor entirely disappeared under four months' treatment with the mixed filtered toxins. The boy was in perfect health when last seen, between 7½ to 8 years after treatment. The diagnosis was confirmed by Dr. H. T. Brooks, pathologist at the Post-Graduate Hospital.

CASE 4.—Large, inoperable sarcoma of the abdominal wall. The patient, female, aged 28 years, had an exploratory laparotomy performed in August, 1893, at the Massachusetts General Hospital, by Dr. Maurice H. Richardson. Such a large portion of the abdominal wall was found involved, that removal was considered impossible. A portion of the growth was excised for microscopical examination, and pronounced spindle-celled sarcoma by Dr. W. F. Whitney, pathologist of the hospital. The treatment with the mixed toxins was begun in October, 1893, and was continued for about four months, with the result that the tumor entirely disappeared. The patient remains in perfect health at the present time, nearly eight years after treatment.

CASE 5.—Spindle-celled sarcoma of the leg and popliteal space, three times recurrent. The tumor disappeared under the toxins, but recurred 1½ years later. Amputation below the trochanter was performed, but a growth soon appeared in the gluteal region. This grew in size very rapidly and was quite inoperable. The toxins were administered for a number of weeks; the greater portion of it was removed under ether. The toxins were continued after the operation, with intervals of rest, for nearly a year. The remaining portion of the tumor disappeared and the patient is at present—more than four years afterwards—in perfect health, without any sign of return.

CASE 6.—Spindle-celled sarcoma of the scapular region involving the soft parts of the left half of the thoracic wall. The patient, a girl of 16, was admitted to the N. Y. Cancer Hospital, June 20, 1894. The tumor had started in the left scapular region four months before, and had grown very rapidly, until it measured 13 inches vertically behind, 7 inches in front. The growth seemed adherent to the scapula and the ribs; it was about two inches in thickness in its most protuberant part. A portion from this region was removed, under cocaine, for microscopical examination, and the diagnosis of spindle-celled sarcoma was made by Dr. H. T. Brooks, pathologist of the Post-Graduate Hospital. The tumor entirely disappeared by absorption, without breaking down, under about three months' treatment. The after-history of this patient is of great interest, and will very shortly be published in detail by Dr. Buxton and myself. She remained well for six years and then developed a papillary growth in the region of the right scapular and right pectoral muscles. A portion of the tumor, removed from the pectoral region in October, 1900, seemed histologically to be fibrous tissue, infiltrating the pectoral muscle. The diag-

nosis of progressive, muscular fibrosis was made by Dr. Buxton. Shortly afterward, a piece of new bone, about 2 inches long and $\frac{1}{2}$ inch in diameter, was removed from the pectoral muscle. A little later, a new bony formation occurred in the region of the sterno-mastoid muscle and was removed under ether. A portion of soft tissue was also removed from the scapular region, and microscopical examination showed the characteristic changes of myositis ossificans.

CASE 7.—Round-celled sarcoma involving omentum, colon and lobe of small intestine. The diagnosis was made by Dr. Willy Meyer, confirmed by exploratory laparotomy and microscopical examination of a portion removed, by Dr. F. Schwyzer, pathologist to the German Hospital. The toxins were begun in September, 1894, and continued for about four months. The tumor slowly disappeared in size and finally disappeared. A year later, several calculi were removed from the gall-bladder, with no evidence of a tumor to be found. The patient was in perfect health four years after treatment.

CASE 8.—Inoperable angiosarcoma of the breast, treated in spring, 1895, at the New York Cancer Hospital. The growth became sufficiently reduced in size to be easily removed. The patient was well when last seen, about six months later.

CASE 9.—Recurrent, spindle-celled sarcoma of the palm of the hand. The growth entirely disappeared under two months' treatment. The patient remained well for about 2½ years, when there was a local recurrence. This at first responded to the toxins, but later they evidently lost their control. Amputation of the arm was advised. The patient refused operation and chose the Christian Science treatment for a period of eight months, during which time the tumor increased from the size of a small walnut to that of a coconut, and extended nearly to the elbow. Amputation just below the shoulder joint was performed, but with no hope of doing more than removing the foul and sloughing mass, as evidence of generalization had already appeared. She died in 3 months.

CASE 10.—Recurrent, spindle-celled sarcoma of the thigh and groin, in a female, aged 48 years. The tumor was partially removed in March, 1896, at the New York Hospital, by Dr. Bull. A large mass remained in the inguinal region, and there was marked edema of the whole leg. The toxins were begun on May 30, 1896, and continued for about three months, at the end of which time the tumor had entirely disappeared and the left leg had become normal in size. The patient remained well for about a year, when she had a local recurrence. The toxins were again administered with temporary improvement, but later the disease returned and proved fatal in less than a year.

CASE 11.—Spindle-celled sarcoma of the iliac fossa, probably starting in the ilium. The patient, Mrs. D., aged 40 years, first noticed a growth in the right iliac region in the early part of 1895. This increased steadily in size, until October, 1895, exploratory laparotomy was performed by Dr. Johnston, of Boston. The tumor was about the size of a coconut, attached to the ilium as well as abdominal wall and was totally inoperable. It seemed to start from the crest of the ilium. The diagnosis of spindle-celled sarcoma was made by Dr. W. F. Whitney, of the Massachusetts General Hospital. The treatment with the mixed toxins was begun by Dr. Farrar Cobb, of Boston, in November, 1895. In a letter the doctor stated that, at the end of six weeks' treatment, the growth had entirely disappeared. In May, 1896, six months later, the patient came to me with a well-marked recurrence, extending from the crest of the ilium nearly to the level of the umbilicus and as far to the left as the median line. The toxins were again begun and continued with intervals of rest, for three months, when the patient was discharged from the hospital for a few months' rest. When she left, the tumor was less than one fifth of its original size. She was readmitted to the hospital in November. The tumor had increased considerably in size during the interval of rest, but under the treatment began to diminish rapidly. She left the hospital in June, 1897, after six months, when the tumor had markedly decreased in size and her general health was good. Owing to a change of address, I was unable to trace her and believed that she had probably died, until I received a letter in December, 1900, 3½ years after the cessation of the treatment, more than four years from the beginning, in which she stated that she had been

in good health and been supporting the family during the entire time. She has noticed no evidence of a return of the growth.

CASE 12.—Inoperable sarcoma of the sacrum. The patient, male, 38 years, had a rapidly growing tumor in the upper portion of the sacrum, which could be easily felt on rectal examination. His weight had fallen from 175 pounds to 134 pounds within three months. He had lancinating pains in the legs with marked lameness. The clinical diagnosis of sarcoma was made by Dr. Francis P. Kinnicutt and confirmed by physicians and surgeons who examined him at St. Luke's Hospital. No microscopical examination was made. The toxins were begun in May, 1895. The injections in this case were all made in the gluteal region, remote from the tumor. The prognosis given was extremely bad. However, the patient began improving immediately after the beginning of the treatment and the patient had gained 28 pounds in weight two months later; his lameness had entirely disappeared and six months later no trace of the tumor could be detected on rectal examination. The patient was in perfect health, weighing 175 pounds, when last seen, nearly four years after the treatment.

CASE 13.—Inoperable sarcoma of the iliac fossa. E. S., male, aged 14 years. A year and a half previously he had been dragged under a trolley car, causing contusions about the pelvis. In January, 1895, he began to feel pain in the right groin and a tumor soon developed in the right iliac fossa. Exploratory laparotomy by Dr. George R. Fowler, of Brooklyn, on March 7, 1897, showed a vascular tumor, filling up the whole right iliac fossa, extending upward three inches above the crest of the ilium and Poupart's ligament. The tumor was so vascular that Dr. Fowler did not think it wise to remove a portion for examination. He closed the wound and regarded the case as entirely hopeless. The condition continued to grow rapidly worse after the operation and on April 10, 1897, the mixed toxins were given as a last resort. The treatment was carried out under my direction by Dr. G. H. Davis, of Brooklyn, and continued for several months. The improvement was immediate and rapid. At the time it was begun, the patient was extremely emaciated, with marked cachexia and could not have weighed more than sixty pounds. Within the next three weeks he was walking about and had gained at least ten pounds in weight. Examination of the abdomen showed that the tumor had almost entirely disappeared. The injections were not made into the tumor, but into the gluteal region and upper thigh. A few months later he developed a fluctuating swelling over the ilium behind. The skin became broken, and a slight infection occurred, causing some temperature. I incised the swelling, evacuating several ounces of degenerated, broken down tissue. No bare bone was detected at any time. The curettings of the walls of the cavity were carefully examined and not the slightest evidence of tuberculous disease could be found, practically verifying the original diagnosis of sarcoma. Another, similar operation was performed on April 10, 1898. The boy has remained in good health up to the present time, four years later.

CASE 14.—Spindle-celled sarcoma of the abdominal wall. The patient, a girl of 18 years, was admitted to the New York Cancer Hospital, December 29, 1896, with a tumor in the lower part of the abdomen of several months' duration. Exploratory operation performed by Dr. Joseph Brettauer and Dr. George W. Jarmon. A large mass was found in the abdomen, both intra- and extra-peritoneal. It was regarded as entirely inoperable. A portion was removed and the diagnosis of spindle-celled sarcoma confirmed by Dr. Buxton, pathologist of the hospital. After thirty injections—the largest dose being 6 minims—of the filtered toxins, the tumor had entirely disappeared. Very little pain and discomfort resulted from the treatment, and but four chills occurred during the entire time. The patient was in perfect health, without recurrence, 1½ years later, when she returned to Germany.

CASE 15.—Spindle-celled sarcoma of the parotid gland. The patient, a man of 40, was carpenter by occupation. The tumor was first noticed early in 1897. It grew rapidly and in March, 1897 was removed by Dr. J. W. Wright, of Bridgeport, Conn. A second and a third operation were performed in April, but the growth was found too extensive for removal. The submaxillary glands of the same side were involved. In July, 1897, the patient was treated with the mixed toxins at the Bridgeport Hospital, for three

weeks, with little improvement. He was sent to me by Dr. Wright, August 10, 1897, for advice and treatment. Believing that perhaps the toxins had not been pushed to their full limit, I began with daily doses, increasing to the point of producing a chill and temperature of 103-104° nearly every day. The patient's excellent condition enabled him to withstand this severe treatment without loss of weight. He was up and about the ward the entire time. Some improvement was evident at the end of two weeks and although this was not great, it continued constant until the middle of October, when the disease had entirely disappeared. The patient was shown before the N. Y. Surgical Society in March, 1898, in perfect health. I received a letter from him, dated April 29, 1901, stating that he was still in good health, without recurrence, nearly four years after treatment.

CASE 16.—Three times recurrent mixed-celled (round and spindle celled) sarcoma of the parotid. Female, aged 34 years. The tumor had been removed three times by Dr. William T. Bull, and further operation was deemed inadvisable. Dr. Bull kindly referred the case to me for treatment with the toxins. The injections were begun in January, 1897, and continued for seven months in very small doses. The patient was extremely nervous. The tumor became much reduced in size and very movable, so that most of the tumor could be easily removed under ether anaesthesia. It would have been impossible to remove all of it without sacrificing the facial nerve. The toxins were continued after the operation for a considerable time, in very small doses, nearly sufficient to produce a chill. The patient is still well and free from recurrence, more than four years later.

CASE 17.—Twice recurrent round-celled sarcoma of the lower lip. The patient, a little girl, 5 years of age, daughter of a physician in Tacoma, was referred to me in February, 1897. The diagnosis of round-celled sarcoma was confirmed by the pathologists of the Cancer Hospital, Drs. Dunham and Buxton. In this case the mixed toxins were used for about 6 weeks, with the result that the growth entirely disappeared. The patient has remained well up to the present time, more than four years after the treatment.

CASE 18.—Eight times recurrent spindle-celled sarcoma of the chest wall, soft parts. The patient, male, himself a surgeon of prominence, had been operated upon eight times, for rapidly recurring spindle-celled sarcoma of the chest wall, soft parts. The intervals between operation and recurrence were becoming shorter and shorter, and the character of the growth more vascular and more malignant. The toxins were begun in November, 1894, and used in small doses for 3½ years with intervals of rest. The patient gained in weight under the treatment and continued to perform his daily duties. Two to three small nodules were removed during the treatment. He has had no injections now for nearly four years, and there has been no evidence of return.

CASE 19.—Inoperable sarcoma of the tibia. Male, aged 25. The patient was admitted to the General Memorial Hospital in February, 1899, with a recurrent tumor of the tibia, for which amputation had been advised. A portion of the growth removed had been examined by Dr. John Caven, Professor of Pathology at the University of Toronto, and pronounced spindle-celled sarcoma. In view of this report I believed it to be wise to give him the benefit of a short period of toxin treatment, before amputating. After about two months, the tumor had apparently disappeared and the injections were discontinued. The tumor disappeared partly by sloughing and the granulating area left behind became infected with erysipelas, there having been a case in the ward some months before. The patient had a very severe attack of erysipelas, extending over the whole leg and portion of the body, and after recovering from this he returned home. He remains in perfect health at the present time, and has continued his occupation as farmer.

CASE 20.—Very large recurrent sarcoma of gluteal region. Inoperable. The toxin were administered for two months in 1893. The tumor slowly decreased in size and after several months became very small and all evidence of malignancy disappeared. Five years later she was in good health. I then removed two hard, fibrous nodules from site of growth, and they proved to be pure fibrous tissue.

CASE 21.—Large chondrosarcoma of the ilium, which

disappeared under the treatment. The patient remained well for seven months, when a recurrence took place, which proved fatal in about a year's time.

CASE 22.—Fibro-angioma of the lip. Recurrent in operable was well when last heard of, over two years after treatment.

CASE 23.—Inoperable epithelioma of the chin, lower jaw and floor of mouth. The growth disappeared entirely under four months' treatment with the mixed toxins. The patient was well, without recurrence, when last seen, four years after treatment. The case was referred to me by Dr. Geo. R. Fowler, of Brooklyn, who regarded it as entirely inoperable.

CASE 24.—Spindle-celled sarcoma of the palm of the hand—three times recurrent—the toxins as a prophylactic measure immediately after the last operation. The patient is in good health 1½ years after operation. The patient, a boy aged six years, was operated upon by Dr. J. D. Bryant, in 1898, for acute traumatic sarcoma of the palm of the hand. A small operation was first performed, and later a more radical one, with removal of the ring and little fingers and their metacarpal bones. Recurrence quickly followed after each operation, and finally, in the fall of 1899, a sarcomatous tumor appeared in the axillary region. This was removed also by Dr. Bryant, and as soon as the wound had closed, the patient was referred to me for the toxin treatment. The injections were given in small doses, two or three times a week for about three months. The boy has remained in good health up to the present time, without recurrence.

The following cases of carcinoma are of special interest:

CASE 1.—Extensive recurrent carcinoma of the breast following amputation of both breasts for carcinoma. The toxins were used continuously for nearly four years. The patient is still alive, 4½ years after treatment.

This case is of great interest, as it shows that in certain conditions the toxins may be used to advantage even in carcinoma, especially as an aid to partial operation. The patient, Mrs. W. H., 56 years, was operated upon by Dr. Maurice H. Richardson, of Boston, for carcinoma of both breasts, October 8, 1895. Recurrence was first noticed in June, 1896, nine months after the primary operation. Dr. Richardson advised against further operation and referred the patient to me for opinion as to the propriety of using the toxins. I stated that I believed the treatment would prove of only temporary value, and might have no effect. I urged the removal of the carcinomatous area which, at this time was about 3 to 4 inches in size, infiltrating the skin, and as soon as the wound was healed to begin the toxins in the hope of delaying recurrence. Dr. Richardson removed the diseased area November 27, 1896. On January 1, before the wound had entirely healed, new nodules appeared in the outlying skin near the anterior axillary line. The toxins were begun on January 10, 1897, and continued in small daily doses for one month. The small nodules in the skin disappeared. After a short interval of rest her general health was much improved compared to what it was prior to the beginning of the treatment. She returned to her home in Massachusetts, and with occasional intervals of rest, the treatment was continued in moderate doses upwards of three years. On three or four occasions some minute localized skin infiltrations, not more than ¼ inch in diameter, were removed under cocaine. About a year ago, she developed ascites, and has been tapped by Dr. Richardson a number of times. No tumor has been felt in the abdomen, although it is quite possible that generalization of the disease has taken place. The fact remains that life has been unquestionably greatly prolonged by the continued use of small doses of the toxins in a most unpromising case of double recurrent carcinoma of the breast.

CASE 2.—Another case of rapidly growing recurrent carcinoma of the breast in a comparatively young woman, aged 40 years, with involvement of the axillary glands, was kept in good health with complete control of the disease from 2½ years by the administration of small doses of mixed toxins, two or three times a week.

While at the time of my report, in 1898, eight of my own cases had remained well from 3 to 6 years. I am now able to report sixteen cases that have remained well from 3 to 8½ years. Of these two recurred after 3 and 8 years respectively, one dying of

metastases in the abdomen; the second, after remaining well for 8 years, died of local recurrence.

The cases were all hopeless, inoperable cases, and the diagnosis was confirmed by the microscope with two exceptions. In these instances the history of the cases, with the clinical appearances, made the diagnosis of sarcoma unquestionable. The type of tumor in the fifteen cases that passed the three-year limit was as follows:

Spindle-celled sarcoma	9
Round-celled sarcoma	2
Mixed-celled sarcoma	2
Epithelioma	1
Sarcoma (clinical diagnosis only) ..	2

It is worthy of special note that two of the successful cases, now well $3\frac{3}{4}$ and $4\frac{1}{2}$ years, respectively, were sarcoma of the parotid gland. Butlin, in his last edition of "Operative Treatment of Malignant Tumors," states that: "Up to the present time there are very few instances of cure by operation of undoubtedly malignant disease of the parotid." In my two cases treated by the toxins, the diagnosis was not only confirmed by a competent pathologist, but, further, by a history of repeated recurrences after operation. Another case still is also worthy of special mention, inasmuch as it shows that the toxins may be taken for long periods of time without harm. The patient, a well-known physician, with eight times recurrent spindle-celled sarcoma of the soft parts of the chest (anteriorly) was treated with small doses of the mixed toxins with varying intervals of rest, for upwards of two years. The patient regained his usual health, and has now been perfectly well over six years from the beginning and four years since the cessation of the treatment. The tumors, while originally pure spindle-celled, were becoming more mixed with round cells and more vascular with each recurrence; in other words, the disease, as so often happens, was increasing in malignancy until the toxins were begun.

In addition to these sixteen cases that have passed the three-year limit, in eight others the tumors disappeared. One, a spindle-celled sarcoma of the abdominal wall, was well $1\frac{1}{2}$ years, when the patient returned to her home in Europe and was lost sight of. Another, an extensive round-celled sarcoma of the iliac fossa, was well one year and then lost sight of. A third, a spindle-celled, recurrent sarcoma of the leg, is now in perfect health, without recurrence, two and one-quarter years after treatment. A fourth, a twice recurrent, spindle-celled sarcoma of the palm of the hand, disappeared, and the patient remained well two and a half years, when the tumor recurred. Refusing amputation of the arm, she was under the care of a Christian scientist for eight months, during which time the tumor in the hand reached the size of a cocoanut and extended above the elbow. I then amputated the arm just below the shoulder joint, but she died of metastases three and a half months later. Though the patient was an especially intelligent girl, 22 years of age, while under the Christian science treatment, she watched a small tumor, the size of an English walnut, grow to the size of a cocoanut, and yet was made to believe it was actually getting smaller and improving. She also stated that she felt no pain. This is a good illustration of the utter impossibility of placing any value upon

personal statements of patients in regard to improvement or cure of malignant tumors by Christian science.

A fifth case, a chondro-sarcoma of the ilium, of large size, disappeared, and the patient, after remaining well for seven months, had a recurrence, which proved fatal in about a year's time. A sixth, a round-celled angio-sarcoma of the breast, was well six months later, when the patient was lost sight of. A seventh, a recurrent fibro-angioma of the lip, was well when last heard of, over two years after operation; and an eighth, a recurrent, spindle-celled sarcoma of the thigh, disappeared, but the patient, after remaining well for a year, had a recurrence locally and in the groin, which no longer yielded to the treatment.

In addition to these 24 personal cases, I would mention two other cases in which I directed the treatment, although it was carried out by another surgeon. One case (Johnson's), a large, spindle-celled sarcoma of the pharynx, entirely disappeared, and the patient was well more than six years later. The second (Storr's and Griswold's) inoperable sarcoma of the breast and axilla, disappeared under 78 injections of the mixed toxins, and is now well more than four years after treatment. The diagnosis in both of these cases was confirmed by microscopical examination, in the latter case by the highest authority in this country, Prof. William H. Welch, of Johns Hopkins University.

The results thus far, he stated, seem sufficient to warrant advising the treatment as a routine measure after all operations for primary sarcoma. While the treatment is not recommended in carcinomatous growths, it has been the experience of the writer that in many cases the toxins exert a marked inhibitory influence in carcinoma, although it is rarely curative. The only cases of carcinoma in which the toxins are likely to prove of much value, I think, are those in which they are used after primary or secondary operation, as a prophylaxis against recurrence. Up to the present time sufficient experience is lacking to justify one in making any definite statements as to how much may thus be accomplished.

The writer still believes that the action of the toxins upon malignant tumors can be explained only upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recently expressed opinion of Czerny.

TRAUMA AS AN EXCITING CAUSE OF PARALYSIS AGITANS.*

By F. SAVARY PEARCE, M. D.,
of Philadelphia.

Read before the Section on Diseases of the Nervous System,
at the National Medical Association, Philadelphia, 1900.

The subject of *commotio cerebri* as an exciting cause of definite organic lesion of the neuron, was forcibly brought to the writer's attention in a case of Friedreich's disease terminating fatally, which was reported by Dr. John M. Swan and myself in the *Philadelphia Medical Journal* for May 26, 1900. In this case, definite exacerbation of the disease followed a "fall." Repeatedly following such injuries,

*Read by title before The Pan American Medical Congress, Havana.

conditions of tremor have been observed by the writer in cases not otherwise hysterical. The latter have recovered after the adoption of rest and nutritional measures. The subject, therefore, in the writer's experience, has lead him to suspect that disorganization of the glia and the neurons may have its starting point from undue concussion of the central nervous system. In this contribution, it is meant to bring more forcibly before the profession the fact that some of the degenerations of the nervous system are at least excited by concussion; and that trauma should be given place in etiology along with infectious diseases and other well-known causes. The above statement is re-enforced, too, by the knowledge of wide difference of opinion as to pathology in the so-called Traumatic Neuroses, as shown by the various papers read at the Symposium on this subject before the Section of Nervous and Mental Diseases of the American Medical Association, June 6, 1900. In this one gentleman took the ground that most of the tremors, rigidity of the back, and general nervous symptoms were largely of malingering, in some cases hysterical, and that there was no ground for suspecting the border line of organic spinal disease in any instance of this affection. The other speakers were more conservative in their statements, admitting a widespread functional disturbance to be excited by the injury, and Lloyd reported a case with an undoubted organic basis. Of course, we are barring all cases of actual fracture or displacement of the vertebra. The writer feels from the clinical evidence at hand, that many cases of traumatic neuroses are functional; and not a few, expressions of malnutrition with incipient secondary degeneration of the spinal axis, which, with rest and hyper-nutrition after months and even years, may ultimately recover, leaving the individual in good health. Other cases may go on to development of a system sclerosis.

But, as to our subject. Paralysis agitans is a disease found more frequently about mid-life, and whose pathology is indefinite; yet it is known that interstitial plaques of sclerosis, and hardening of the blood vessels do occur. Therefore, in the etiology of paralysis agitans, it could be that sudden concussion might excite connective tissue proliferation and an irritability of the motor neurons already in a condition of malnutrition; and I have no doubt that not a few cases of this disease date their onset of actual tremor from the time of a fall or other sudden concussion. I should say the older the case, the more likely is trauma to be a cause of the onset of paralysis agitans; and that even the senile tremor, so-called and so much simulating that of paralysis agitans, is often precipitated by some sudden cerebro-spinal concussion. Thus excitation of the afferent axons may cause an increase of irritation of motor neurons, the reflex message being carried back accentuated, producing tremor of the muscles and therefore of the extremity involved. The following case is illustrative of this source of tremor which obeys all rules of paralysis agitans, though aberrant in type, inasmuch as no other part of the body is involved excepting the woman's left arm.

CASE 1.—M. R., white, aged 65, fell from her porch, a distance of eight feet, producing quite a severe "shaking up," but with no marked concussion of the spine. She also

sustained by the accident, a fracture of the neck of the right humerus. This was on May first, 1898. The bone healed kindly after being set by her physician, but was followed by subacute arthro-neuritis involving the shoulder joint and brachial plexus. This I treated by galvanism, and later massage was administered. From this time on, the right shoulder troubled her, the range of motion remaining quite up to the normal, although there was slight stiffness in the movements of the arm. The patient remained in good health for a year, but about June 1st, 1900, she noted a fine tremor taking place in the left thumb and index finger when the arm was at rest. This would be made worse by over exertion or excitement of any sort, finally becoming at the end of a few months, a well marked and quite continuous dynamic tremor, always under control by intention. The hand is now distinctly held in the pill-rolling attitude but does not interfere with needle work. There is no nerve trunk tenderness or apparent weakness in this extremity. There is absolutely no tremor anywhere else in the body. There is a certain mask-like expression, however, but no festination is present.

I take it, the tremor in this case is due to the reflex transference of irritation from the right to the left motor neuron in the cervical region of the spinal cord, not an unknown but an unusual condition and is likened to the transference of trophic disturbance from one extremity to the opposite one by a severe burn as of the fingers. The tremor mentioned has been almost continuous since November, 1900. The facies of the patient as stated is somewhat expressionless, with head drooped slightly forward. These are the only other evidences of Parkinson's disease. On December 28, 1900, this patient was seen with me by Dr. S. Weir Mitchell who suggested the diagnosis given. There has been very little improvement with the prolonged use of galvanism and massage, and she is now taking increasing doses of Tr. Hyoscyamus. I cannot feel any doubt of this unusual origin of the tremor which is not due to a primary commotio-cerebri, per se, but to the secondary irritation of the spinal neurons from an afferent irritative impulse as indicated and transmitted to the opposite extremity as tremor.

The conclusions which seem to be the more definite as regards trauma as an exciting cause of paralysis agitans, are that the later the origin of the disease, is trauma more apt to have been the exciting cause; in any event, it is more apt to produce an aberrant type of the *malady*, especially when the insult to the nervous system has been primarily in the periphery of the body rather than of the central neurons.

Treatment would differ essentially in one particular of less widespread extent of the tremor, and therefore of less disturbance to the individual, although later the affection may become general. The downward course is, perhaps, less rapid than in so-called idiopathic cases.

Treatment would differ essentially in one particular to obtain better results of therapeutics. Nerve stretching seems to be a rational procedure in cases as here reported, where the tremor is localized, and especially where the reflex origin below the cerebrum seems to be pretty definitely the cause of the irritation of the motor neurons. I have advised this operation in the case in question, but as yet have not received the consent of the patient.

CASE II.—Pseudo-paralysis agitans following scoliosis of the cervical spine. M. S., aged 58, white woman in my wards at the Philadelphia Hospital, suffering from periods of mental excitation and fine tremor involving the right upper extremity; obeying the laws of a tremor of paralysis agitans. There is no other evidence of Parkinson's disease. The peculiarity of the case, therefore, is that at some remote period following this posterior cervical curvature of the spine, with more or less fixation, probably of rheumatic origin, we here have an instance most likely of irritation of the sensory motor roots of the nerves leading to the brachial plexus; and in this way, the localized tremor has perhaps been brought about. The rheumat

ic element in the case, too, is also shown by a slight arthritis recently occurring in the right knee joint. I am interested in the possible result upon the tremor, of treatment which we have directed to the rheumatic poisoning in this case and also, too, of probable relief of tremor we may get through prolonged head extension to the possible straightening of the curvature mentioned.

CASE III.—A third case of paralysis agitans in a man, due to trauma, is given me by my friend, Dr. Guy Hinsdale. A brief history is as follows: Male, white, age 45, fell upon his thumb some years ago, the digit bending under in extreme flexion. This was followed immediately by secondary ascending neuritis of the same arm that defied all treatment including nerve stretching which was done by Dr. H. A. Wharton. The case has gone on to a general symptomatology in all typical aspects of shaking palsy, and the man is now in the Home for Incurables, practically bed-ridden.

This latter case pretty positively proves the traumatic origin of a case that ultimately became general and typical of the disorder under discussion.

The two preceding cases, result of trauma or local irritation, I feel will progress in the same fashion unless some happy treatment as yet not resorted to as indicated in the foregoing notes, may possibly stay the advance of so serious a disorder of the motor neurons.

TWO CASES OF LOBAR PNEUMONIA FOLLOWING ETHER ANESTHESIA, WITH UNUSUAL COURSE.

By W. S. SCHLEY,

of New York.

Assistant Surgeon, Trinity Hospital, Assistant Surgeon, St. Luke's Hospital, Out-Patient Service.

The following cases of lobar pneumonia occurred after the administration of ether for surgical operation, ventral suspension of the uterus and herniotomy. There was nothing unusual of note in anesthesia, operation or condition of patient preceding operation. The *post* operative course of each seems worthy of record; both cases developed typical lobar pneumonia upon the 1st and 3rd days respectively following operation. In each case the right lower lobe was the portion of lung involved. There were in both cases subsidence of temperature within 16

hours and beginning resolution within 2 days after the administration of a single large dose of calomel (20-25 grs.) The mercury was given within 16 hours of the initial rise of temperature and dry on the tongue. The cases occurred upon the surgical division of St. Luke's Hospital, one each in the services of Dr. Robert Abbe and Dr. F. H. Markoe, to whom I am indebted for permission to report the same. They were the only cases of pneumonia occurring upon the division after several thousand anesthetics extending over a period of about two and one-half years. A resume of the bedside notes and temperature charts is appended.

A. B. Hospital No. 48,066. Quite well nourished but neurotic female, aged 26, married, the mother of one living child with one still birth at term. Admitted to St. Luke's Hospital November 21, 1898. Her history was entirely negative except for the trouble for which she entered; retro-displaced and retro-flexed uterus with chronic endometritis. Physical examination of the chest entirely negative, urine negative, operation two days later, nitrous oxide followed immediately by ether, curettage and cellotomy with anterior fixation of the uterus. Duration of anesthesia about three quarters of an hour. The anesthetic was very well taken—pulse 90, respirations 24, at the close of operation. During the two succeeding days the patient complained of slight pain in the right chest anteriorly and there was an occasional cough with some white mucus expectoration. She appeared nervous and anxious about her condition. One the third day "chilly sensations" in the early morning, more followed by a temperature of 104.4-5° and a respiration of 52 by 8 A. M. A yellowish purulent expectoration with frequent suppressed cough had replaced the mucus. By the afternoon a perfectly typical picture of a pneumonia, with an involvement of the right lower lobe, was present. There was a general bronchitis of the larger and smaller bronchi, moderate dusky color of skin. At 12 midnight she was given 20 grs. of calomel dry on the tongue (see chart). At 4 P. M. the succeeding day she was sweating profusely, the signs in the chest were unchanged and the temperature still elevated. From this time the pulse and temperature elevation began to fall. The leukocyte count showed 15,000 the following day when resolution began. Two days later the count showed 11,000. Resolution progressed slowly—twelve days later the lung had not cleared up. The patient (finally) made a perfect recovery with primary union in the abdominal wound.

ST. LUKE'S HOSPITAL

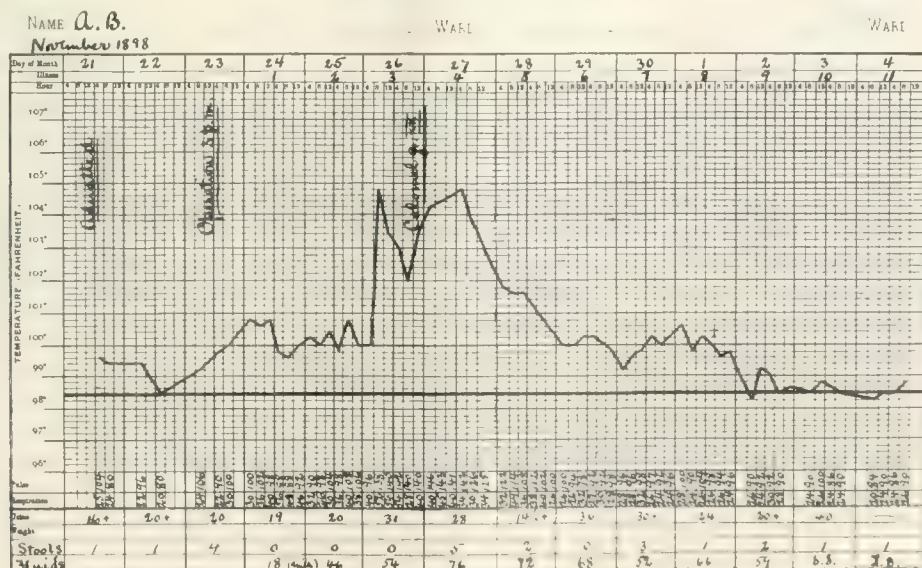


Figure 1

There was no purgation from the calomel. The expectoration was purulent throughout and contained no blood. Three days following defervescence it had largely ceased. The bronchitis cleared up long before the signs of the exudate into the lung. Labial herpes present. Chlorides in the urine were diminished during the attack. Albumen varied from a trace to 1%.

E. C. Hospital No. 48,727, male aged 31. Admitted March 4, 1899. History negative except for right inguinal hernia of several years duration. Physically he was an unusually well developed and muscular man and in good condition. Operation two days later—gas followed by ether anaesthesia of three quarters of an hour duration—pulse 72—respiration 18 on return to the ward. Between 8 and 12 midnight the temperature rise began, there was no chill—by 12 midday the signs of a right lower lobe pneumonia were present. There was a general bronchitis with moderately frequent cough—expectoration thick and purulent—skin very dusky—respiration apparently not however proportionately accelerated. At 5.50 P. M. he was given calomel grs. XXV. By 8 A. M. the next day he was perspiring profusely, the temperature had fallen to 100.3-34, the signs in the chest were unchanged. Expectoration the same—resolution began the following day but progressed slowly—expectoration ceased in about 5 days. In both of these cases there was a perfectly normal condition of the chest preceding the anesthetic as far as could be determined by the physical examination. There was no undue exposure before, during or following the operation. The anaesthesia was uneventful, the open Allis inhaler was used

The fall in the count in the case examined was slow, corresponding to the delayed resolution. The above cases are reported because they seem sufficiently interesting. The marked and *persistent* physical signs, characteristic temperature, behavior of the patient and leukocyte count make, I think, the diagnosis very certain. The use of mercury in this connection is very old, comparatively little literature has appeared upon the subject in the last 50 years. There is reason to believe that a certain number of patients have been benefited by such treatment. A large class undoubtedly will not be. Whether the measure is one that should be tried in the majority of cases, or whether the subsidence of the disease in these cases was due to the drug or spontaneous abortion are matters with which this article does not attempt to deal.

Discipline in Tuberculosis.—In the *Journal de Médecine de Bordeaux* (1901, No. 16), Dr. Portes, Director of the Sanatorium of Gelos, Pau, describes the discipline necessary in tuberculosis. Every individual with phthisis must be taught what is best for him. This can be best accomplished in a sanatorium, which Professor Landouzy calls

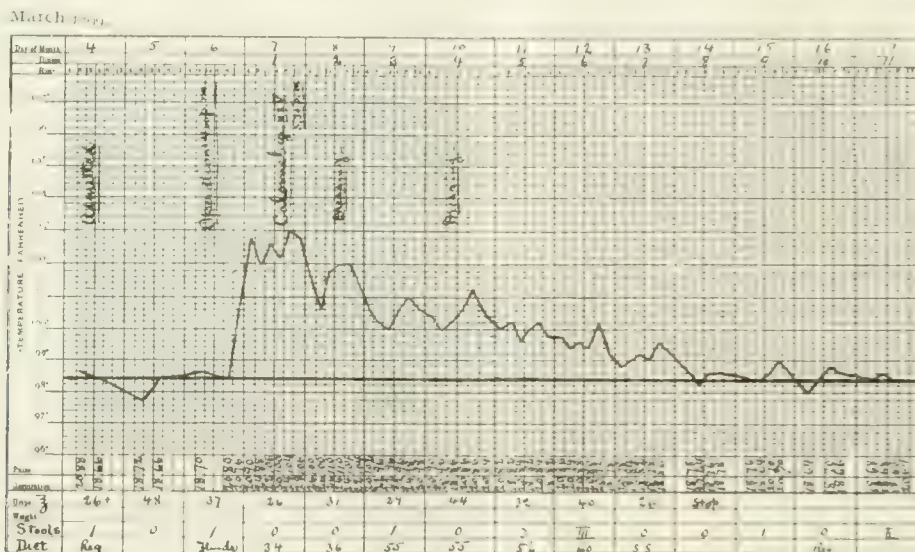


Figure 2

after narcosis was induced. The clinical picture was typical of lobar pneumonia. The physical signs showed an involvement of the right lower lobe in each instance and sharply defined. The calomel was given early in the disease. There was no purging or salivation following the mercury. One case required a saline and enema additionally. Resolution began about 2 days after defervescence in each case and was somewhat prolonged, changes in breathing and especially dullness on percussion persisted for some days over the lobe. The bronchitis cleared up 5-6 days following defervescence. The pulse, characteristically full at the beginning, remained of good force—there was no irregularity of rhythm or intermittent character preceding defervescence.

The apparent early cessation in the progress of the disease so soon after the administration of a comparatively large dose of calomel seems significant and worthy of consideration. The disease developing in cases already under observation made it possible to administer the mercury at an early date. It is to be regretted that no leukocyte count was recorded in the second case until the temperature was nearly normal, and that more were not made.

the school for the tuberculous. This is especially necessary for those who have never taken care of themselves, those who are treating themselves, with the advice of friends, and those who have acquired the bad habit of living isolated, absolutely alone. They will be encouraged in a sanatorium, will rest, receive good advice only, find good air, amusement and atmosphere of gaiety and companionship new to them. Naturally, some patients cannot long live happily in a sanatorium. But they will have learned how to live when they leave; hygiene, diet, rest, exercise, etc., having been regulated to suit each individual case.

[M. O.]

A Case of Natural Small-pox in an Infant of 3 Days Old.—B. P. Voitseehowski reported to the Pediatric Society of *Ann. Leitch, Vol. VIII, No. 1*, the case of an infant who developed on the **third day** of its birth an elevation of temperature and an eruption which became pustular on the sixth day. A diagnosis of **small-pox** was established. The mother had been vaccinated and was at the time perfectly healthy. The period of incubation being 10 to 14 days, the author believes that intrauterine infection took place in this case. He is also of the opinion that vaccination of the mother does not protect the fetus *in utero* against small-pox. [A. R.]

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The Reorganization of the American Medical Association.—We had no adequate idea, until we read the report of the Committee on Organization, that the American Medical Association is such a loosely organized body that it is hardly capable of attending to its business. It is, in fact, so unwieldy and so uncertain in its membership and has such a limited time at its disposal, that it is in part deprived of its true usefulness and influence as a great national representative of the medical profession. According to the Committee, it has less than seven hours a year in which to transact its business. Its potential membership depends largely upon the locality in which it happens to meet, for this is one thing in Atlantic City, another in St. Paul, and still another in San Francisco. Finally, the Association is so hurried that it has not had time in the last ten or twelve years even to reform itself; this is shown by the Committee in its narrative of the former abortive efforts at reorganization. The trouble with the Association is that it is too large and too unstable. It urgently needs reorganization, and its best friends demand it.

We can approve without hesitation the scheme of reorganization now proposed. Minor details may be criticised, but the main plan is broad and statesmanlike. This plan proposes a House of Delegates, which shall be the Legislature of the Association. In effect, this body will be a Section on Business and will have nothing to do but to attend to business, and will have sufficient time in which to do it. If the American Medical Association has wisdom (and time), it will surely consider this proposition or some simple modification of it, favorably. Such a legislative body being elected by the State Societies on a basis strictly of numerical strength, would be purely representative and responsible, and would not be a fluctuating and indeterminate body, such as the main Association is too apt to be. Such a plan is closely in accord with the ideas which have created the best representative bodies in the world—as, for instance, in the State and in the church. For a body which may soon number 20,000 members to proceed on the old plan, somewhat like an old-fashioned town meeting, with a

referendum, is simply absurd. The Association needs a Legislature and should have it.

Concerning minor details, we should perhaps doubt the expediency, or at least the popularity, of conferring upon this House of Delegates the whole elective power of the Association. We believe that, in the main, it is the best for a society (medical or political) to elect its own officers and not have them elected for it. But this is a detail for the American Medical Association to settle for itself. The central, pivotal idea is that the Association must be better organized than it is at present.

Pancreatitis.—Mr. Mayo Robson, in his valuable article upon pancreatitis, published in another column of this week's issue, calls attention to the ignorance of this subject that exists in the profession as a whole, an ignorance fostered, we fear, by the studious neglect of this organ in the current textbooks of medicine and surgery. Although we undoubtedly know more of the physiology of the pancreas than of the thyroid, for example, yet the symptomatology of its diseases is so indefinite and confused that it has hitherto been a very unsatisfactory field of research. If Mr. Robson will accomplish for it what Kocher has accomplished for the thyroid gland, he will deserve the lasting gratitude of the medical world.

Mr. Robson calls attention to the importance of injury as an etiological factor. We have long suspected that the sickening sensation following a blow on the epigastrium was the result of bruising the pancreas rather than the solar plexus, as it is the fashion to believe. But our author believes that gall-stones are even more important in this connection. A priori, this seems not unlikely, for anything setting up an inflammatory condition of the common bile duct would naturally involve secondarily the duct of Wirsung.

The data upon which Robson relies for the diagnosis of pancreatic disease are very scanty. An abnormal amount of fat in the stools (a small amount is, of course, normal) is only a contributory symptom. Pain in the epigastrium and rapid emaciation are common to many conditions; for example, gastric carcinoma. Jaundice is merely the

symptom of a common complication. He apparently is unfamiliar with or does not value the disappearance of the ethereal sulphates from the urine. We should be inclined to place considerable value upon this sign. His remarks upon hemorrhage are of great interest. Admitting a pronounced hemorrhagic tendency, he does what few have hitherto attempted, and suggests an explanation. It is that the glycerin liberated in the process of fat necrosis is absorbed by the blood and interferes with coagulation. To our mind it would be more reasonable to suppose that the pancreatic juice that escapes into the tissues gives rise to the formation of peptones or albumoses, whose anticoagulant action is well known. In the treatment of the hemorrhagic tendency he employs chloride of calcium before and after operation, and for periods and in doses quite contrary to the prevalent teaching; that is, there is no stopping at the end of three days. He does not seem to be aware of the very excellent results obtained by Kehr in the treatment of cholemic hemorrhage by gelatin injections nor of the advantages claimed for the prophylactic injections of the same substance by Jaboulay.

Finally, we wish to express our heartiest admiration for the courage Mr. Robson has shown in breaking away from the old tradition, and classifying pancreatitis under the acute, sub-acute and chronic forms. Why the inflammation of this organ should differ so greatly from that of other glands has always been a mystery, and, like most other mysteries, apparently solely of human making.

Trichinosis as an Economic Problem.—At a recent meeting of the Philadelphia Pathological Society an important paper on this subject was read by Dr. Charles Wardell Stiles, of the Bureau of Animal Industry at Washington. Dr. Stiles' evident object was to demonstrate the futility of the German method of microscopic inspection of pork, and to prove that the presence of trichinosis in Germany is due to the German habit of eating raw meat. If the Germans would cook their pork they would not have trichinosis, and if they do not cook it they will continue to have the disease whether they eat American pork or some other pork and whether they inspect it or not. In other words, *trichinella spiralis* is not confined to American hogs, and it cannot be eliminated by microscopic inspection. In the first place, the disease is much less prevalent in America than in Germany. Dr. Stiles collected only about 900 cases in this country from 1860 to 1895, although he thinks the disease is rather more common than these figures indicate. The significant fact is that of 274 American cases in which the nationality could be determined, only four were in American-born persons, while 208 were in German emigrants.

This tells the whole story. Again, during the years 1883-1891, when American pork was prohibited in Germany, there were 4093 cases of trichinosis reported in the Empire with 274 deaths. The mortality for eighteen years was about 5%.

Dr. Stiles presents elaborate tables to prove that the system of meat inspection in vogue in Germany is not a success. He denies that the systematic attacks on American pork in the German agrarian press find any support in the accessible German health statistics. He points out that Virchow has not admitted some of the evidence against American pork as valid. Many cases occur due to faults in the inspection methods, and this fact leads Dr. Stiles to condemn the method by microscopic inspection as unreliable and extremely expensive. Prussia alone employed in 1896 an army of 27,602 inspectors at a great expense, and an adequate corps of inspectors for the United States would probably mean a tax upon the people of \$3,000,000 or \$4,000,000 per annum. The inspection method tends to foster a false sense of security, and hence encourages the people in their habit of eating raw pork. The only safety is in cooking the meat, and to this custom he attributes the comparative immunity of the American people. The *trichinella spiralis*, it will be remembered, was accidentally discovered in a ham-sandwich by Professor Leidy, of Philadelphia, in 1847; and Dr. Stiles does full justice to the fame of this eminent man and the momentous importance of his discovery.

A Trolley Ambulance Service.—The thought has probably occurred to not a few persons that a trolley car might be made into an ideal ambulance. The smoothness with which it can be run, and, above all, the quick time that can be made with it, are features which make it far superior to the horse-ambulance. Then it is much more roomy—a matter of importance in some emergency cases. Instances have occurred in this city in which the trolley has been used for ambulance service with most gratifying success. A few months ago a physician had occasion to bring a bed-ridden patient to her home in West Philadelphia from a location far out on the York Road. The distance was more than ten miles, and by horse-ambulance the journey would have been a long, painful and somewhat risky one. The happy thought occurred to the doctor to have a trolley car; and this was secured, and the patient moved with speed, comfort and safety. It is due to the Traction Company to say that in this case a very moderate charge was made—less, in fact, than was asked for the service of a hospital ambulance, although two men, a motorman and a conductor, were required. Probably not one-half the time was taken that would have been needed for

the ordinary ambulance, while the comfort (both physical and mental) to the patient was far greater. We think it would be a good idea for the Traction Company to have a completely equipped trolley ambulance. We have no doubt it would be patronized, were it once known.

Cryoscopy.—Cryoscopy may be defined as the determination of the osmotic pressure of liquids at their freezing-points. The lowering of the freezing-point is directly proportionable to the osmotic pressure of the liquid. Cryoscopy is a method introduced by Raoult, of Grenoble, for the purpose of measuring the urinary toxicity as well as furnishing enlightenment upon the metabolic changes in the blood, cerebrospinal fluid and pleural fluid. It has been found that the determination of the freezing-points of these fluids of the body present certain appreciable differences in certain diseases. The method has a wide field of usefulness both in experimental research and in the diagnosis and prognosis of disease. At present it is in its infancy, but the increasing reports of work done in cryoscopy bear out the originator's claims of its value. According to Cushny, osmotic pressure may be defined as the resistance offered by a non-permeating salt to the passage through the membrane of the fluid in which it is dissolved. When both salts in solution on the opposite sides of the membrane are unable to pass through it, the movement of the fluid is determined by the relative osmotic pressure on the two sides, water tending to pass from the solution of the lower osmotic pressure (*hypotonic solution*) to that of the higher (*hypertonic solution*). When an equilibrium is established between the two solutions they are said to be *isotonic*. In the animal body there is an analogue to the membrane and the salt solutions in the fact that the body-cells consist of colloid substances containing fluid and diffusible bodies, and are surrounded by liquids which are practically salt solutions, isotonic with the contents of the cells. Any changes in the cells or surrounding lymph give rise to certain movements of the fluids in the same manner as if each cell were surrounded by a membrane. The red blood corpuscles have been studied carefully in their action to certain salts. They are found to be permeable to ammonium chloride and impermeable to sodium chloride and other salts of the fixed alkalies. The study of metabolism involves a consideration of renal secretion, and it is in this work that cryoscopy has a physiological scientific value as well as a practical application to the physician. By its means we are enabled to determine the question of renal sufficiency or insufficiency. And it is found that in cases of nephritis there is a lowering of the cryoscopic point, and an elevation of that of the blood. Normal urine freezes

at about 1.35 C, indicating a mean molecular weight of 62-63 (Bouchard). Extremes in health vary from 60 to 68. In pathological conditions the mean molecular weight may vary from 68 to 112, sometimes the higher value indicates the presence of disease, such as syphilis, which otherwise might often be overlooked. The freezing-point of the blood varies little from -0.56°C . It is elevated in grave anemias and the cachexias, but lowered by accumulation of carbon dioxide in the blood and by the retention of excrementitious products. In the latter case oxygen does not cause the freezing-point to return to normal, while in the case of the accumulation of carbon dioxide, oxygen makes the freezing-point again -0.56°C . Acetone is found to lower it markedly, and the diet must be uniform in performing this method.

From the results of his experiments in cryoscopy, Léon Bernard believes that the renal permeability is normal, or even increased, in the early stages of parenchymatous nephritis, but the kidney has probably other functions, as yet unknown, which when disturbed cause the production of uremia. Waldvogel, examining the blood in typhoid fever, concludes that the higher freezing-point of the blood is not necessarily indicative of uremia. It is evidently not so much the quantity as the quality of the toxic substances retained in the blood that causes the disturbance in uremia. The freezing-point is higher in certain cases of typhoid fever, and Waldvogel makes the interesting observation that this is probably a phenomenon connected directly with the formation of antitoxin. In the cases in which the freezing-point is only slightly above normal—below -0.7°C .—the prognosis of the disease is generally unfavorable. Repeated cryoscopy of the fluid of a pleural effusion, it is claimed, will reveal the indication for intervention.

A Remedy for Sleeplessness.—Irreverent readers may smile when they learn that a college president has written a discourse on insomnia. Every clergyman is supposed to carry a simple remedy for this dread malady in his sermons, but the Rev. William DeWitt Hyde, of Bowdoin College, bravely ignores the possibility of jokes at his expense and writes very entertainingly in the *Outlook* about how to go to sleep. His method is somewhat complicated, and we will not spoil the description of it by paraphrasing it here. Sufficient to say, it consists in a sort of rhythmical breathing, with alternate closing and opening of the eyes. Dr. Hyde pleasantly says that he has not patented the process and intends to collect no fees for it, but he would like to hear by mail from all persons who find it efficacious. It is based upon a rather well-known fact that the quality of rhythm, or the monotonous repetition of

an act, has a soporific effect. Counting in imagination a flock of sheep, one after the other, jump over a fence, is based on the same principle.

A Philadelphia Specialty.—The *New York Sun* has recently been having a little fun with this city on the subject of appendicitis. After quoting from a prominent Philadelphia surgeon, it comes to the conclusion that the Quaker City is the center and capital of that disease. This is a distinction which we will try to support with becoming modesty. We do not doubt for a moment that by reason of the brilliant work of her surgeons, Philadelphia is the capital not only of appendicitis, but of all kinds of surgery as well. This has ever been so and doubtless will continue to be so. The fact that a metropolitan newspaper has discovered this truth is greatly to its credit. The *Sun* says that rich Philadelphians can afford to have appendicitis, and they do have it; but they seldom die of it. This, we affirm, is evidently because they have Philadelphia surgeons to attend them. The causes assigned for the prevalence of appendicitis here and hereabouts are the low-lying land (home of "miasma, hay-fever and grip"), and the athletic pursuits of the inhabitants. Golf, cricket, and bicycling in excess, disturb the equilibrium of the appendix. But the *Sun* affirms that a little appendicitis is not too high a price to pay for out-door sport, and it evidently believes that the proper thing for the victims everywhere to do is to resort to the "capital" of the disease for care and treatment.

The New Medical Laboratories of the University of Pennsylvania.—The problem of the combination of undergraduate instruction with post-graduate research work is always a difficult one for any institution to solve satisfactorily. A school that is concerned in giving elementary instruction to undergraduates places a great strain upon instructors and professors and makes a great demand upon its financial and material resources. With the system of concentration of the curriculum recently introduced by the faculty of medicine of the University of Pennsylvania, a step toward the practical solution of this problem has been taken. By condensing the time during which the undergraduates claim the energies of the teaching staff, that staff is freed for a portion of the year to devote its energies to research and to the direction of original work by advanced or graduate students. This step is now to be followed by another step of great importance. The trustees of the University have decided to provide the necessary laboratories in which this advanced work can be carried on, as well as modern and commodious laboratories in which the undergraduates may work, together with lecture halls

and demonstration rooms under the same roof. The new building, according to the plans submitted, is a two-story, oblong structure, with a central courtyard, the long sides of which face north and south, thus securing a maximum amount of the best light. The first floor will be devoted to laboratories of physiology, pharmacy and pharmacodynamics. The arrangement of the building is so carried out that the rooms for advanced work are entirely separate from those used by the undergraduates. There are separate rooms for professors and demonstrators, as well as the necessary store-rooms, etc. The entire second floor is to be devoted to pathological laboratories. In the front of the building, along the entire north side, there are small private rooms for research, as well as a room for the professor. In the back of the building there is a large laboratory for the study of pathological histology, as well as smaller rooms devoted to neuropathology, comparative pathology and surgical pathology. The west end contains the laboratory for advanced bacteriology, a pathological museum, a room for demonstrations in morbid anatomy, a room for microphotography, and store-rooms for supplies and microscopes. In the east end there is a large laboratory for experimental pathology and a laboratory for advanced pathology. The lecture rooms occupy a separate extension from the south side of the building and the demonstration rooms are in the center of the courtyard between the north and south sides of the oblong. It is the purpose of the trustees of the University of Pennsylvania to equip these laboratories with all the apparatus that modern knowledge has shown to be necessary to the successful pursuit of these branches of medical education. This plan will put the University of Pennsylvania in possession of a plant that will be without a rival in this or other countries, so that the undertaking is one not only of local, but also of national importance. We look forward with much pleasure to the completion of this elaborate scheme and extend our best wishes for complete success to the University of Pennsylvania in its undertaking.

The Fate of the Uterus in Abdominal Section.—A matter which, like Banquo's ghost, constantly recurs to haunt the pelvic surgeon, is the question of the disposal of the uterus after the operation of double salpingo-oöphorectomy. Again and again do we see the disconsolate victims of pelvic disease returning to the office or clinic room with the recurrence of all their distressing symptoms—minus the formation of pus-sacs—after the removal of their uterine appendages. In a small, and a very small, proportion of these cases will recovery ensue after a tedious course of intrauterine treatment covering a period of months or years. Many of these unfor-

fortunate women wander from hospital to hospital and from surgeon to surgeon, in the vain quest for health, and become the deplorable subjects of chronic hospitalism, an eye-sore to the doctors and an incumbrance to themselves, their families and the community. Discouraged by the failure of the first operation, they often refuse, even when urged, to submit to another abdominal section. Pelvic surgery suffers in repute from these failures to cure, and the individual surgeon loses thereby a portion of his prestige. Naturally, we ask, what is the remedy for this matter? Should the uterus be removed whenever the appendages—tubes or ovaries—are removed? Or are there certain cases only in which the more extensive extirpation may be performed? It would be as dogmatic to lay down a positive statement in one direction as in the other. The surgeon who states that the uterus after extirpation of the appendages is a useless organ, a menace to the woman, and therefore should be removed when its adnexa are lost, is making just as sweeping a statement as is his colleague, who claims that in the absence of marked apparent uterine disease the organ should always be retained. In other words, there is a radicalism that is too radical as there may be a conservatism that is dangerous and therefore reprehensible. A close investigation into the uterine condition in the unfortunate class of women referred to almost invariably shows a chronic form of endometritis and metritis very often associated with an extensive parametritis, that can be remedied only by removal of the offending organ. Often it will be found to be of gonorrheal or tuberculous origin. Now it stands to reason that a local tuberculosis wherever found is a menace to health, and should be removed as quickly as detected. A tuberculous endometritis is as dangerous as a cheesy lymph-gland or a tuberculous testicle. The local disease may at any time light up a general conflagration that will quickly destroy the patient. Again, the curious anatomical relationship of the utricular glands makes the eradication of gonorrheal infection practically impossible, while a streptococcic invasion of the parametrium, resulting in the development of tubal or ovarian abscess, may so deteriorate the vitality of the tissues around the uterus that a cure is possible only after extirpation of that organ, whereby thorough evacuation and drainage of the infected region will be secured. Unfortunately, the pelvic conditions are so obscure that it is beyond the power of the operator in every given case to state positively what is the degree of infection and what the probable outcome of a simple removal of the appendages will be. A careful study of the scrapings of the uterine cavity will solve the question in a certain portion of the cases. The condition of the

parts at the time of operation will be the guide in another proportion. The operator must in other cases be influenced by the ability of his patients to stand the graver operation of hystero-oöphoro-salpingectomy. The following rules may, however, be laid down as safe to follow: 1. The uterus should be removed in every case in which the tubercle bacillus is discovered in the uterine scrapings. 2. In every grave double tubal affection of gonorrheal origin, extirpation of the uterus would seem to be indicated, since the simple excision of the appendages removes but a portion of the diseased tissue and leaves the balance to become a source of trouble and suffering to the patient. 3. In extensive involvement of the broad ligament by the streptococcus subsequent to parturition at term or premature expulsion of the ovum, the uterus should be removed in order to afford free pelvic drainage.

The Trouble at Gallipolis.—It is much to be regretted that pathological laboratories, established and supported by the State, cannot be conducted without disastrous factional fights. Following hard upon the trouble in the New York Pathological Institute, there now comes word of a violent quarrel over the pathological laboratory in the Ohio Hospital for Epileptics at Gallipolis. Each faction is led by a medical man, and each of these at our request has sent us his own version of the affair. Dr. A. P. Ohlmacher, who is favorably known for his scientific work at Gallipolis, states that he was summarily discharged by Dr. H. C. Rutter, the manager of the Hospital, for the alleged but false reasons that he had failed to publish anything for a year past, and that the expense of his salary was too great. He claims that he has made seven contributions to science within the year, but he does not give their titles. Dr. Rutter charges broadly that Dr. Ohlmacher has neglected his work, and that he does not contribute enough to science to justify the expense of his salary. Each man charges that his opponent is identified with a political faction in an effort to keep control—and this is the one point upon which they both entirely agree. Dr. Rutter asserts that he himself has been the virtual founder and supporter of the laboratory, securing appropriations for its maintenance and meeting the criticisms of the politicians—a thankless but indispensable office, and one which is too little appreciated by impractical editorial critics.

Governor Nash, of Ohio, has very abruptly settled the trouble by refusing to allow Dr. Ohlmacher to be discharged, and by discharging Dr. Rutter instead. It thus appears that Dr. Ohlmacher is triumphant, and he claims that the result is a victory for science, while Dr. Rutter says that it is a victory for politics. The duty now seems incumbent upon

Dr. Ohlmacher of meeting the charge that he has been neglecting his work—a task which we should suppose not to be difficult. His reputation is excellent, and he owes it to himself and his specialty to keep it so. We do not presume to sit in supreme judgment on the case. The exact merits of the quarrel, we confess, are not entirely clear to us, but we wish sincerely that it had not happened. It weakens the cause of science.

The Cause of Rheumatic Fever.—The older theories, that rheumatic fever is due to lactic acid, advanced by Prout, and its nervous origin advocated by John K. Mitchell, in 1831, have given place to the more generally accepted view, that the disease is of an infectious character. The frequency with which the disease occurs in the same house and its prevalence in large communities have been emphasized by many writers to support the latter theory. News-holme, in 1805 (Milroy Lectures), advanced important statistical evidence to prove its infectious nature and showed that the mortality and frequency of rheumatic fever fluctuate in a manner similar to those of erysipelas and scarlet fever.

In 1891 Bouchard and Charrin claimed to have often found the staphylococcus pyogenes albus in the affected joint-fluid of subacute and chronic cases. In 1893 Saint Germain succeeded in producing joint inflammation with cultures of staphylococci by intravascular inoculation. The following year Sacaze suggested that the tonsils were the channels through which infection occurred. Singer, in 1895, reported a number of cases, in which staphylococci were found in the urine in ten cases and twice in the blood; streptococci in the urine in three instances and the streptococcus pyogenes with the staphylococcus pyogenes albus in the urine in two cases; while in one instance he found the staphylococcus pyogenes aureus. Chbostek did not succeed in finding micro-organisms in the urine in nine out of twelve cases. Sahli isolated the staphylococcus pyogenes citrus from the blood, synovial membranes of the joints and the pericardial and endocardial exudates of a fatal case of rheumatic fever. Sternberg sustained the view that pus cocci are responsible for the disease, the infection occurring when the natural immunity of an individual is lost.

We especially wish to direct attention to the important investigations of Poynton and Paine (*Lancet*, May 4th, 1901). These observers have isolated a diplococcus from sixteen cases of rheumatic fever. In a brief summary of their work they state, that in three rheumatic nodules, taken from two cases, they have demonstrated this diplococcus; in one instance they succeeded in isolating the micro-organism from the nodule in pure culture, and

that intravenous inoculation of this culture in a rabbit produced polyarthritis, pericarditis, and valvulitis. The diplococcus was again isolated from the joint-exudate of this animal. They maintain that the rheumatic nodule should be regarded as a highly characteristic manifestation of the disease. They also suggest the association of this infection with the commencement of rheumatic chorea. In October, 1900, these investigators reported a case which they believed to be chorea in a rabbit, due to the intravenous injection of this diplococcus. The animal presented definite, sudden, involuntary movements, which are so characteristic of rheumatic chorea, and also developed polyarthritis and valvulitis. In the brain of the animal were found diplococci,—in the endothelial cells of the blood capillaries of the motor cortex and in the pia mater. In the last named structure there was also slight cellular proliferation and cellular swelling. From these observations Poynton and Paine conclude that the presence of this diplococcus lends strong support to the view that it is the specific cause of rheumatic fever.

Hospital Contagion in Typhoid Fever.—The possibility of direct contagion in typhoid fever has again been discussed at a recent meeting of the Medical Society of the Paris Hospitals (*Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris*, 1901, No. 4). Troisier reported the case of a patient with dilatation of the stomach, in whom lavage with unboiled, filtered water, was performed daily. 37 days after admission, typhoid fever developed. As there were 9 cases of typhoid in the ward, it is possible that direct contagion occurred, though the water used for washing out the stomach might have been contaminated. Le Gendre, in his thesis, in 1886, noted that dilatation of the stomach was favorable to the invasion of infectious diseases, especially typhoid. In a surgical ward, in the same hospital, three cases of typhoid also developed. Troisier could find no possibility of contagion here, and believes that these cases were due, probably, to drinking contaminated water. Ballet reported the case of a patient in his charge, who, with her nurse, frequented a public bath. During the struggling in the water, not only the patient, but the nurse also frequently swallowed water. Both developed typhoid at the same time. Letulle reported 7 cases occurring in persons who had been a long time in the hospital, three maternity patients, and four nurses. Two of the nurses were on duty in the typhoid ward. In none of the other cases was any mode of contagion found. Catrin (*Medecine Moderne*, 1901, No. 16.) has reported two cases in which direct contagion seems probable. A nurse in attendance upon a typhoid fever patient was accustomed to sleep with her head

resting upon the patient's bed. She was taken ill three weeks after she had begun nursing the case. A friend of hers, who often came in to speak to her and shook hands, developed typhoid a month afterward. None of the patients in the neighboring ward were affected. There is no doubt that sporadic cases of typhoid fever may appear in hospitals just as they do elsewhere, for direct contagion can be proved in but a small number of cases. Yet, as contagion is possible, Catrin pleads that every case of typhoid be isolated. He believes, as in mumps, that all that is necessary is a closed door.

On the Influence of the Cervical Sympathetic on the Frequency of the Movements of the Heart in Man. F. Wertheimer and H. Gaudier, *L'Echo Medical du Nord*, Feb. 24, 1901, 50me. Annee, No. 8.

In the case of a woman, aged 24 years, who was suffering from exophthalmic goiter, Gaudier resected both cervical sympathetics at an interval of 7 days. The authors found in this patient that the cervical sympathetic had no action upon the heart. It may be objected that the frequency of the heart's action was already augmented and that the excitation of the accelerator nerves could add nothing to it. But the tachycardia in the patient was not exaggerated. [J. M. S.]

Three Cases of Poisoning by Cannabis Indica.—Kossobudski, (*Medycyna*, Feb. 24, 1901; *Vratch*, Vol. XXII, No. 11), reports the following cases: (1) A woman of 36, suffering from chronic metritis and salpingitis, received an infusion and subsequently fluid extract of *cannabis indica* in doses of 10 drops twice daily. After taking the infusion the woman felt gastric pain which became unbearable after a repeated dose of the fluid extract. She became greatly excited and uncontrollable, prayed loud and called for help. Washing out the stomach and internal administration of bromides relieved her. (2) A woman of 20, suffering from a flexed uterus and perimetritis, received 5 drops of *cannabis indica* 3 times daily. In a few days she developed extreme irritability and a maniacal state, accompanied by trembling of the extremities and burning in the stomach. She was relieved by lavage and bromides. (3) A woman of 20 with an endometritis was treated by *cannabis indica* in doses of 8 drops of the fluid extract 3 times daily. Symptoms of poisoning developed after the first dose. In view of the above cases the author advises that the dose of the infusion of this drug should not exceed 5 to 7 drops. [A. R.]

Spinal anesthesia. 1. W. M. Mintz reported before the Society of Russian Surgeons which had its first meeting in Moscow (*Medicinskoie Obshrenie*, February, 1901,) 4 successful cases of medullary anesthesia. 1% solution of cocaine was used. Anesthesia appeared within 6-8 minutes and lasted for one hour. In one case, however, the internal abdominal viscera failed to become anesthetized and chloroform had to be resorted to. No complications or untoward effects were noticed. 2. At the same meeting I. Ia. Meerovitch reported 78 cases. The strength of the solution used was from one-fifth to 4%. In 17 the operation was performed on the extremities, while the other 35 were gynecological and included several laparotomies. In 50% of the cases the anesthesia was followed by headache lasting for 2-3 days. Vomiting was less frequent than with chloroform. Retching was quite frequent and interfered considerably with the operation. An elevation of temperature lasting for 6-8 hours was observed in a number of cases. Herpes labialis was another complication, and in a few instances involuntary discharge of urine took place. In a few cases clonic and tonic spasms of the lower extremities occurred 6-7 hours after the injection and lasted for 18 hours. By using strong solutions of cocaine together with sodium bromide better anesthesia was obtained and the untoward effects were slight. [A. R.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

New Quarters for a Children's Hospital.—The Children's Hospital, which has been located on East Price street, Germantown, for nearly two years, will remove shortly to No. 47 West Penn street.

The University of Pennsylvania is about to erect, at a cost of more than \$500,000, exclusive of grounds and equipment, a medical laboratory building which will be unexcelled in every respect. The subject is treated editorially in the Philadelphia Medical Journal.

Location of Hospital Causes Protest.—At a special meeting of the Pay Hospital for Contagious Diseases held at Philadelphia May 24, a protest from prominent property holders at Narberth against the locating of the institution in the borough was considered. The ground on which the protest is made is that the institution would injure property values. It is urged on the other hand that all possible precautions to prevent danger to outside persons would be taken, that there could not be any danger, and that the arrangements would be passed on by the State Board of Health.

Colleges will Nominate Candidates.—At the meeting of the Department of Charities and Corrections, May 24, a resolution was adopted which provides that hereafter the eligible lists of applicants for positions of resident physicians in the Philadelphia Hospital shall be submitted to the various medical colleges of the city, and that the University of Pennsylvania, the Jefferson College and the Medico-Chirurgical College be requested each to nominate seven candidates, and the Woman's Medical College three candidates, for election by the Board. John M. Scott took his seat in the Board as successor to Mr. Dingee, resigned.

Jewish Hospital Association.—At the thirty-sixth annual meeting of the Jewish Hospital Association, held on May 26th, the following officers were elected to serve during the ensuing year: President, William B. Hackenburger; Vice-President, Hon. Mayer Sulzberger; Treasurer, August B. Loeb; Secretary, Ephraim Lederer; Corresponding Secretary, Herman Jonas; Directors, Dr. L. W. Steinbach, Maurice Bamberger, Joseph L. Greenwald and Hyman H. Ginsburg. Jacob Wiener, having completed ten years of continuous service as a member of the Board, became an honorary Director.

Philadelphia County Medical Society.—The meeting of May 22 was devoted to the address of the retiring President, Dr. John H. Musser, his subject being *Streptothrix infections*. Dr. Musser said that actinomycosis and madura foot were no longer the only infections of that class which were recognized. He reviewed the literature and gave the results of investigations of various observers. The lungs, brain, and skin are the organs most often the seat of these infections. In the lung they give rise to broncho-pneumonia, bronchiectasis, abscess, empyema, etc. In the nervous system they are chiefly the result of metastasis and in the brain they give rise to abscess, meningitis, softening, etc. From the clinical standpoint there is but little that is new in these cases. The pulmonary cases are often hidden under tubercular symptoms or those due to other infections. The finding of the streptothrix settles the diagnosis. Bacteriologically the streptothrix is between the moulds and bacteria. Of the most importance to the clinician is the finding of mycelial tufts or granules in the lesions or the sputum. Many instances are probably unrecognized. Dr. Musser reported 2 cases of streptothrix infection. Case 1 was a nervous case in whom there was at first an unaccountable rise of temperature. The pulse was quickened, but the only lesion found was that of a moderate bronchitis. There was a moderate degree of anemia with no leukocytosis. Sputum was obtained with difficulty. The physical signs of broncho-pneumonia developed, the temperature rose to 105° and death followed. The sputum was found to contain a few thin tubercle bacilli and in addition branching filaments and rod-like bodies which showed some tendency to branching. These were undoubtedly the streptothrix but were very few in number and were found only when stained by Gram's and the Ziehl-Neelson methods. Case II was important, as showing how large areas of the brain may be affected without producing

localizing symptoms. The patient was seized with headache and soon afterward fell unconscious for a time, a second attack, both resembling epilepsy, ensued. Other than a slight hypesthesia of the right side there was no evidence of brain involvement as shown by localizing signs. The patient finally went into collapse. Lumbar puncture gave relief, no bacteria being found in the fluid. A repetition of the puncture produced no change and the patient died one week from the date of the first convulsion. Autopsy revealed an abscess cavity in the brain $3\frac{1}{2}$ cm. in diameter and contained a chocolate-colored, foul-smelling fluid. Examination showed no tubercle bacilli in the fluid, but one bunch of long thin filaments with suggestion of branching was detected. A careful study of the abscess wall was made, 100 sections being made before a mass of the same streptothrix filaments was found. At least 150 more were made before a second bunch was seen. Otherwise the pus and cavity wall were sterile. This shows how the streptothrix may be overlooked, as it probably is in many cases. Two thoughts suggested by these cases were given by Dr. Musser in conclusion: (1) Many of the so-called sterile abscesses may be due to a streptothrix infection. (2) Abscesses of various forms, especially in the brain, occur without fever. These also may be due to the streptothrix.

Philadelphia Pathological Society.—At the regular meeting held May 23, Dr. M. P. Ravenel exhibited: (1) **scabies in rats.** Scales containing the characteristic parasites were found on the tip of the nose, the ears, and the tail of the animals. The several varieties of the disease are all probably due to one organism but differ in the manifestation according to the mammal infected and the thickness of the skin. (2) **Unusual types of tubercle bacilli.** Two cultures on dog's blood serum and glycerin were shown. The first contained a great amount of fat. To get a spread from this culture it was necessary to first melt the growth. It however, stained but slightly with sudan III and not at all with osmic acid. The second culture showed a jet black and also a greenish growth from absorbed pigment from the media.

Drs. W. M. Welsh and J. F. Schramberg exhibited specimens from a case of variola. The first was an area of skin taken from a patient who died on the twelfth day. The pustules were discreet and all umbilicated. It was stated that the old view of the umbilication being caused by the resistance of the hair follicles and sweat ducts was now being discarded for the view that it is caused by a difference in the rapidity of necrosis. The stomach and esophagus were also shown. These were interesting from the fact that the former was deeply injected, almost hemorrhagic, while the esophagus was extremely pale. The line of junction of the two conditions was very distinct at the cardiac orifice. The esophagus also contained small ulcers which were probably vesicles.

Dr. R. M. Pearce spoke of the increase of connective tissue in the lung in chronic passive congestion. Dr. Pearce said that the increase in the lung in cases of chronic congestion is an increase in the elastic tissue. The studies demonstrating this fact are made possible by Weigert's stain. The increase in elastic tissue is most marked at the points where it normally exists. The function of the new tissue is to support the blood vessels (thus aiding circulation) and the air vesicles. Dr. Flexner said that the increased rigidity of the lungs in cases of chronic heart disease was due to an increase in elastic tissue. Dr. Pearce said that this increase of elastic tissue could be found in all viscera which were the seat of chronic passive congestion.

Drs. F. A. Packard and Simon Flexner exhibited a specimen of probable primary intestinal tuberculosis in an adult with multiple metastases. The appendix was greatly enlarged and metastases were found in every viscus of the body. Some doubt as to the lesion being primarily intestinal was occasioned by the fact that at the apex of the left pleura there was a marked thickening, although no caseation was found in the adjacent lung.

In the meninges very young tubercles, macroscopically invisible, were found. There was also a tuberculous area in the left optic thalamus.

Dr. W. F. Hendrickson exhibited a Teratoma of the testicle.

Drs. W. S. Wadsworth and W. F. Hendrickson exhibited a specimen of Tuberculosis of the Heart.

Vital Statistics of Philadelphia for the week ending May 25, 1901:

Total mortality	421	Cases.	Deaths.
Inflammation of the appendix 2,			
bladder 1, brain 15, bronchi 7,			
heart 2, kidneys 22, liver 1, lungs			
49, peritoneum 5, pleura 1, stom-			
ach and bowels 19, uterus 1,			
spine 2		127	
Marasmus 5, debility 9, inanition 15		29	
Tuberculosis of the lungs		55	
Apoplexy 13, paralysis 6		19	
Heart-disease of 25, fatty degenera-			
tion of 1		26	
Uremia 8, diabetes 3, Bright's dis-			
ease 12		23	
Carcinoma of the breast 4, colon 1,			
stomach 3, uterus 1, liver 2, larynx			
1, mouth 2, rectum 1		15	
Convulsions 16, puerperal 1		17	
Diphtheria	66	8	
Brain—dropsy of 1, softening of 2,			
tumor of 3		6	
Typhoid fever	142	9	
Old age		12	
Cholera		4	
Scarlet fever	108	5	
Influenza 1, abscess, psoas 1, aneu-			
rysm aorta 1, alcoholism 1, asthma			
3, anemia 1, atheroma 1, burns			
and scalds 3, casualties 6, cerebro-			
spinal meningitis 2, congestion of			
the lungs 3, cirrhosis of the liver 3,			
consumption of the bowels 1, di-			
arrhea 1, drowned 1, dropsy, ab-			
dominal 1, epilepsy 2, erysipelas			
1, gangrene 4, homicide 2, intussus-			
ception of bowels 1, measles 1, ob-			
struction of the bowels 2, sclerosis,			
arterial 1, spine 1, shock, sur-			
gical 2, septicemia 2, sarcoma,			
stomach 1, suffocation 1, suicide 2,			
teething 1, tumor, addominal 1, ul-			
ceration of the stomach 1, whoop-			
ing cough 3		25	

NEW YORK.

The New Mount Sinai Hospital.—The corner stone of the new Mount Sinai Hospital buildings, Fifth avenue and One Hundredth street, New York City, was laid on May 22 with beautiful ceremonies. After the presentation of a silver trowel, Mr. I. Wallach, president of the Mount Sinai Hospital, pronounced the corner stone of what promises to become one of the finest hospital structures in New York City, "well and truly laid." Governor Odell, of New York, who was to have been present and deliver an address, was prevented from so doing on account of illness in his family. Addresses were held by Hon. Seth Low, of Columbia University, Hon. Randolph Guggenheimer, president of the Council of the City of New York, and Hon. Edward Lauterbach. No distinction of race or creed will be made.

The American Orthopedic Association will meet at Niagara Falls, N. Y., on June 18th, 19th and 20th.

Appointment.—At a recent meeting of the Board of Hospital of Buffalo, N. Y., Drs. Lucien Howe and Julius Pohlmann were appointed oculists.

The Library of the Medical Society of the County of Kings, of Brooklyn, N. Y. which was founded A. D. 1845, reports that on May 19, 1900, the Library contained over 30,000 volumes, 15,000 pamphlets and some 500 current medical periodicals, all of which were free to the public. In addition to the very best publications, the collection is especially rich in classics. The earliest printed volume is a folio published A. D. 1474. The first donation to the permanent library was the "Dr. John Lloyd Zabriskie Memorial Library Fund," presented in 1899 by Mrs. Zabriskie as a memorial of her husband, the late Dr. John Lloyd Zabriskie.

New York Neurological Society.—Stated Meeting May 7, 1901.—John Collins, M. D., President.—A Case of Successful Mental Treatment of a Form of Hysteria.—Dr. Mary

Putnam Jacobi reported this case. The patient was a woman of twenty-four, belonging to a neurotic family. Her symptoms had begun four years before coming under observation by an endometritis and uterine retroflexion. She had been subjected to a good deal of local treatment, including curettage and an Alexander's operation. The latter procedure had relieved the dysmenorrhea, but had been followed by a fixed pain in the abdomen not increased by pressure. She claimed to be unable to walk or stand because of severe pain in the back and abdomen which it induced. Examination showed no motor inability, and when started to walk she could walk very readily and energetically. The uterine disease had entirely disappeared. She was moderately anemic and quite constipated. The speaker said that at some portion of the cerebrospinal tract an area of nerve tissue must be so nearly on the border of exhaustion that an attempt at function carries it beyond this line. It was conceivable that with the exhaustion of the cerebral centre the very thought of the movement would be followed by pain. According to Sanier such hysterical pains point to a partial anesthesia in the brain. Apart from the intermittent pains excited by the sense of walking there seemed to be a permanent and distressful sense in the back, requiring support. In a previous experience with a bed-ridden patient she had succeeded in making her walk within a week by the application of a Taylor spinal brace. This simple device had given great relief. The necessary nerve stimulus has been secured by the application of static electricity. This remedy seemed to be almost a specific for hysterical pains. The subject of the present report had been persuaded to leave her home and take a room near Dr. Jacobi's office. At first, it was not difficult to get her to walk a portion of a block, but when finally asked to walk a whole block she obstinately refused. All sorts of changes in the treatment and methods of management were necessary in order to conquer the patient's wilfulness, yet this was essential to further progress. Her mode of life for each day was mapped out most minutely. By the most persistent and painstaking efforts exerted for a period of four months the patient was finally conquered. During the last eighteen months she had been living a fairly normal life. Dr. Jacobi said that in hysterics the habitual dependence upon fellow minds is immensely intensified. To get rid of a false idea it must be starved out and atrophied by an entire lack of support from the minds of those around the patient. The essential element of the treatment of this case was the bringing of the personality of the patient under the control of another mind.

Dr. B. Sachs commended the general plan of treatment described in this paper, though admitting that it required far too much expenditure of time and attention to detail to make it generally available.

The Morbid Anatomy of a Case of Progressive Muscular Atrophy which was Clinically one of Amyotrophic Lateral Sclerosis.—Dr. Carlin Philips read this paper. He said that the patient was a woman of thirty-six, who had come under Dr. Collin's observation for the first time on June 17, 1897. She had then complained of severe frontal headache, inability to lift the head from the pillow without the help of the hands, tremulousness of the hands, and easily induced fatigue. She had lost thirty pounds. Examination showed atrophy of the supraspinatus and of the right shoulder girdle, and these muscles showed fibrillary twitchings. The knee jerks were increased; there was ankle clonus on both sides; there was no affection of the special senses. Six months later she had complained of dyspnea and had shown loss of will power and suicidal impulses, together with some difficulty in swallowing. The atrophy of the muscles was more marked, and extended to the trapezius muscle. She began about this time to have attacks of major hysteria, and the atrophy increased rapidly. The gait became spastic and the body rigid. She had the use of her limbs up to about six weeks before death on May 25, 1899. An autopsy was allowed only upon the brain and spinal cord. The weight of the body was forty-eight pounds. The meninges of the brain were anemic. The brain was normal in gross appearance, as was also the spinal cord. The latter was carefully segmented and prepared in various ways for examination. In the second cervical segment was a concentric zone encircling each anterior horn and involving the anterior mesial and anterior lateral portions of the fundamental columns, while the tracts of Gowers and the pyramidal tracts were left intact. Corresponding to the degenerated areas in this segment the neuroglial proliferation was very slight. The fourth cervical segment showed

a sinking in of the periphery just at the margins of the anterior roots, and this change of contour extended down several segments. The gray matter extended laterally, giving a sickle-shape to the degenerated area. While there was no evidence of the destruction of the cells, the most striking feature was the extensive destruction of these cells. The fifth cervical segment was practically the same as the fourth. The sixth segment showed a tongue-shaped area of degeneration extending almost to the posterior horn. In the seventh segment the anterior roots showed more marked degeneration. From the first to the fourth dorsal segments inclusive there was a zone of degeneration encircling the anterior horns, and becoming less intense until almost invisible in the fourth segment. The disappearance of the motor cells throughout these four segments was more difficult to determine than in the case of the cervical segments but apparently there was about the same amount of atrophy of these cells. From the fifth to the eighth segments there appeared to be an increase in the neuroglial tissue. From the twelfth dorsal down to the end of the cord the area occupied the peripheral lamina of the ventral half of the cord, and extended around to a point opposite the apex of the lateral horn, where it expanded into a lateral mass. The lumbar and sacral regions were found to be as severely involved as the cervical. Throughout the cord the blood vessels were apparently normal. Nissl preparations of the medulla showed small areas of periarthritis with small cell infiltration of the adjacent gray matter. The anterior roots were found to be atrophic. The crossed pyramidal tracts were apparently unchanged.

NEW ENGLAND.

The National Association of Life Insurance Medical Directors will hold their annual meeting at Hartford, Conn., May 28-29.

New Hospital.—By the will of George Griffin, of Shelton, Conn., two-thirds of the residue of his estate, amounting to about \$25,000, is left to establish a hospital for the benefit of Shelton and the towns of Seymour, Ansonia and Derby.

WESTERN STATES.

The International Association of Railway Surgeons will meet at Milwaukee, Wis., on June 10th, 11th and 12th.

The American Dermatological Association will hold its twenty-fifth annual meeting at the Beach Hotel, Chicago, Ill., May 30 and 31 and June 1, 1901. Twenty-five papers and reports are on the program of the first two days. The morning session of the third day will be devoted to the exhibition of patients.

Dr. Winslow Appointed.—Gov. Yates has appointed Dr. Frederick C. Winslow, of Jacksonville, to be superintendent of the hospital for incurable insane, now nearing completion at South Bartonville, a suburb of Peoria, the appointment to take effect as soon as the hospital is opened to patients, which will be about October 1. Dr. Winslow is at present superintendent of the Jacksonville asylum, and is an insanity expert.

The California Eye and Ear Hospital, San Francisco, established four years ago, has outgrown its present quarters, and will erect a new \$20,000 building. Dr. Tension Deane is President, and Dr. Redmond W. Payne, Secretary.

Appointment.—Henry Sheridan Keys, M. D., has been appointed Surgeon-in-Chief to the Emergency Hospital, now building at Los Angeles, California.

A "Healer" in the Meshes of the Law.—The Coroner's Jury in Chicago which for two days had been listening to the testimony of witnesses in the case of Mrs. Emma Lucy Judd, who was associated with John Alexander Dowie's Zion, returned a verdict holding Dowie, H. W. Judd, husband of the woman, Mrs. Sprecher and Mrs. Bratsch to await the action of the Grand Jury. The two women named in the verdict were in attendance upon Mrs. Judd prior to her death. The charge against them is "criminal responsibility" for the death of Mrs. Judd. The evidence given at the inquest by some of the leading physicians of the city who had examined Mrs. Judd's body after it had been exhumed, was to the effect that the most simple surgical care would have prevented the woman's death. They testified that she was allowed to die when the slightest attempt to save her life would have been successful. Papers were at once made out and officers sent to arrest Dowie, Judd and the two women.

SOUTHERN STATES.

The *Chicago Inter Ocean* states the following: Dr. Dudley S. Reynolds, one of the founders of the Louisville Hospital College of Medicine, and a member of its faculty from its inception, has been dismissed from the institution because of his antagonism to cigarette smoking. He is now suing Central University, of which the medical school is a part, for \$15,000 damages. Dr. Reynolds, in his lectures to his classes, denounced cigarette smoking and smokers in unqualified terms. The students took offense and refused to attend his lectures unless an apology was made. This he declined to do. At this juncture the faculty joined with the students and requested his resignation. Again he declined, and his dismissal followed.

Richmond.—Among the recent changes which have taken place at the close of the session of the University College of Medicine, Richmond, Va., are the election of Dr. H. I. McLean to the Chair of Histology and Pathology, vice Dr. M. D. Hoge, Jr., resigned, and that of Dr. A. L. Gray to the Chair of Physiology.

The *Savannah Academy of Medicine* has recently been permanently organized in Savannah, Ga., with the following officers: President, Dr. A. A. Morrison; vice-president, Dr. Frederick Wahl; secretary, Dr. J. Oliver Cook; treasurer, Dr. G. L. Harman.

CANADA.

(From Our Special Correspondent).

The Ontario Medical Council has extended the time limit to another month to those physicians who have been negligent in the past in paying their annual assessments. As a consequence of their first circular to the profession so in arrears there are now only some three or four hundred physicians in this province who have not met the demands of the Medical Council. The law against unregistered practitioners will most assuredly then be put in operation if compliance with this second mandate be not executed at once. The action of the Council has called forth innumerable letters to the lay press, and hot shot has been poured out *ad libitum* at the offending heads of this body. We may look for squalls after the 19th of June.

The **Grave Robbing Case** in which Mr. William Patterson, a third year student in medicine at Queen's University, was concerned last February, was disposed of on the 22nd day of May by his Honor, Judge Waller, of the Petersboro County Court. On the charge of opening the grave Patterson was adjudged "not guilty," the prosecution failing to prove that he had any connection with that part of the affair. On the charge of indecently interfering with a dead body, however, he was found guilty and fined \$200, or, in event of his failing to pay the fine, he was to be gaoled for the term of one year. The Ontario law provides for such misdemeanor a sentence of five years in the penitentiary or a fine at the discretion of the judge. Patterson's previous good character saved him from the heavier judgment. This is the first case of its kind ever before the Ontario courts.

A Suit for Malpractice.—It is very gratifying to notice the magnanimous manner in which the profession throughout Canada are coming to the assistance of Dr. J. M. Conerty, of Smith's Falls, Ontario, who has had to bear a prolonged defence in a suit for malpractice brought against him by the father of the boy, who had neglected following the doctor's instructions in the treatment of a case of Colles' fracture. That Dr. Conerty is wholly innocent of any malpractice has been abundantly proven to the satisfaction of the profession, and their financial sympathy bears full testimony of the fact. The statement has recently been circulated that Dr. Conerty, who has been financially crippled in defending this suit, had compromised for \$600. This is incorrect. He purposes continuing the fight to the bitter end. The Montreal Medico-Chirurgical Society, the Toronto Clinical Society, Dr. R. W. Powell, of Ottawa, and others, have come to his aid, and thus fortified, Dr. Conerty can continue the fight with vim, confident that his action is upheld by his professional brethren. This case particularly emphasizes the importance of immediate action being taken in establishing the long-talked-of Medical Defence Union in the Dominion of Canada.

The **Monthly Report of the Provincial Board of Health of Ontario** shows 2,247 deaths in April, as compared with

2,525 in March and 2,311 in April of last year. The deaths from contagious diseases were as follows: Consumption, 236; diphtheria, 39; scarlatina, 17; whooping cough, 14; typhoid fever, 12. The deaths from consumption and diphtheria show increases, the figures in April, 1900, being 203 and 24 respectively. Six deaths have occurred from smallpox so far during the present outbreak in a total of 600 or more cases. This means only one per cent. of those afflicted during the present epidemic. The per capita percentage is infinitesimal. Brides seem to think they have special immunity from smallpox. A wedding at Sault Ste. Marie was the cause of seven or eight cases: while a young girl recently escaped from quarantine at Havelock, Ont., fled to Auburn, N. Y., and was there married, but subsequently quarantined.

Bishop's Medical College, Montreal.—A number of changes have recently been made in the teaching staff of this institution and several new appointments made. Dr. F. W. Campbell, the dean, will in future give a special course of lectures in insurance law in addition to his regular lectures in medicine and neurology. As professor of medicine he will have associated with him Dr. J. B. McConnell, vice-dean, the chair being further assisted by Dr. W. E. Deeks, lecturer on internal medicine; Dr. A. G. Richer, specialist in pulmonary diseases, and Dr. W. Grant Stewart. Dr. Deeks is a new member of the staff. Dr. James Perrigo will continue to have charge of gynecology, and will have associated with him Dr. A. Laphorn Smith, who remains also professor of clinical gynecology; Dr. H. L. Reddy and William Burnett retain their professorships. Dr. George T. Ross, professor of laryngology and rhinology, who up to the present time has been registrar of the faculty, has been replaced as such by Dr. James M. Jack, a new member of the staff who will also lecture on dermatology. The chair of surgery is to be occupied by Dr. F. R. England, with whom will be associated as lecturers, Dr. F. J. Hackett and Dr. Rollo Campbell, and as instructors Dr. George Fisk and Dr. Herbert Tatley. Dr. Louis Laberge, Montreal's health officer has been appointed lecturer in hygiene to replace Dr. Richer. Dr. W. G. Reilly has been appointed to the chair of anatomy.

Winnipeg General Hospital.—The regular monthly meeting of the Board of Governors of the Winnipeg General Hospital was held in the hospital on the afternoon of the 20th of May. The report of the Committee appointed to arrange for a pathologist and bacteriologist was received and adopted. Arrangements were made whereby Dr. Gordon Bell, the provincial bacteriologist of Manitoba, should undertake all of this work connected with the hospital at the yearly salary of \$500. Dr. Bell to furnish at his own expense an assistant who must be present at the hospital daily for such hours as may be found necessary for carrying on this work. Dr. Bell will assume his duties on the first of June. Dr. Chestnut, the medical superintendent asked to be allowed to resign. This was permitted and Dr. Jasper Halpenny, who has been acting as assistant medical superintendent since February last, was appointed to the position of medical superintendent for one year from the 1st of June. Dr. Popham, secretary of the Board of Examiners, reported that nine nurses had passed the final examination in the training school. Nurse Macdonald received the Ogilvie prize for the highest general proficiency.

Public Works Health Regulations have just been adopted by the Dominion Government. They will provide for the preservation of health and the mitigation of diseases among persons employed in the construction of public works. Some few months ago an inspector was appointed to enforce the Act, and these new regulations define his duties. He is to act as chairman when present, of meetings of health boards, notify the Minister of Agriculture and secretary of the provincial board of health wherein public works are being carried on of all cases of infectious diseases in such works. Contracting persons or companies must engage a medical officer, who will attend the employes where the number is over 100, and does not exceed 500. An additional medical man is to be appointed where the number exceeds 500, the idea being to have a medical officer for every 500 men, each properly supplied with medicine and means of conveyance. The health board on such works will consist of the inspector, the medical officer or officers and the engineer. The regulations further provide for the establishment of hospitals in connection with such works to accommodate at least six patients. Isola-

tion hospitals for infectious diseases must also be provided.

Montreal General Hospital.—The annual meeting of the Governors was held last week. The Committee of Management recommended that on and after June 1st, 1901, a charge of ten cents should be made for the first bottle of medicine and five cents for each subsequent bottle in the out-door department. Dr. John McCrae was appointed resident assistant pathologist, and the engagement of Dr. Von Eberts as medical superintendent was extended to the 1st of May, 1902, his staff to consist of ten resident house doctors and a lady superintendent with seventy nurses. A complete new sterilizing apparatus with all the latest improvements has been put in at a cost of \$500. Dr. Finley, the secretary, reported that at the end of the year the expenditure had amounted to \$84,280; the income, \$75,994; indicating an excess of expenditure of \$8,286 for the year. This with last year's deficiency of \$14,149 makes a total deficit of over \$22,000 against the hospital. During the past year there have been in the hospital 3,178 in-door patients, of whom 2,823 were treated to a conclusion. The out-door patients numbered 41,606 against 33,373 the year previous. Two hundred and fifty died in the hospital during the year, 105 deaths occurring within three days of admission. The average number of patients per day was 178, and the average cost per patient per day was \$1.37.

The Ontario Medical Association will meet in Toronto on the 19th and 20th of June.

The Canadian Medical Association will meet in Winnipeg on the 28th, 29th, 30th and 31st of August.

Appointment.—Dr. Harriet Cockburn, Toronto, has been appointed physician to the new Victoria Asylum for Women at Cobourg, Ont., the first instance of a lady physician being appointed to a similar position in Canada.

Dr. T. H. Little died at Toronto, Canada, on April 25th, from hemorrhagic smallpox, contracted while attending one of his patients. He was a graduate of the Toronto School of Medicine, and had been in active practice in Toronto for twelve years.

Dr. Thomas Ritchie Almon, one of the foremost physicians of Nova Scotia, died in the city of Halifax, on April 25th. He was a graduate of King's College and also of the College of Physicians and Surgeons, New York.

Medico-Chirurgical College Commencement.—At the commencement exercises of the Medico-Chirurgical College, held at the Academy of Music on May 25th there were 69 graduates in medicine. The following medals were awarded:

Faculty gold medal, for highest general average, Senior Class, to Dr. Evan W. Meredith.

Faculty gold medal for best thesis, to Dr. Morris C. Thrush.

Faculty gold medal for highest general average, Junior Class, to Hardie Lynch.

Faculty gold medal for highest general average in Sophomore Class, to Donald G. McCaa.

Faculty gold medal for highest general average in Freshman Class, Robert J. Hunter.

Gold medal given by Professor James M. Anders for the best report of his medical clinics, to Dr. Harry Lowenberg.

Gold medal by Professor Ernest Laplace for best report of his surgical clinics, to Dr. Ignatius L. J. Fitzpatrick.

Gold medal by Professor L. Webster Fox for best report of his ophthalmological clinics, to Dr. Morris C. Thrush.

Gold medal by Professor W. Frank Haehnien for best report of his obstetrical clinics, to Dr. Louis H. Jacob.

Prize given by Professor Elwood R. Kirby for best examination in genito-urinary surgery, to Dr. Clarence E. Gardner.

Prize for best examination in hygiene by a member of the Sophomore Class, to Warren C. Batroff.

The graduates honored by medals in the Department of Dentistry were:

Faculty medal to Arthur R. Dray for the highest senior average.

Faculty medal to Peter McAneny for the highest junior average.

Faculty medal to Frank W. Miller for highest freshman average.

Robert H. Nones medal to Arthur R. Dray for highest senior average in prosthetic dentistry.

Robert H. Nones medal to Warren H. Stover for highest junior average in prosthetic dentistry.

Robert H. Nones medal to Richard Souder for highest freshman average in prosthetic dentistry.

Walter H. Neall medal to Arthur R. Dray for highest senior average in operative dentistry.

George W. Cupit medal to Joseph Scott for highest senior average in dental pathology and therapeutics.

The award of medals in the Department of Pharmacy was as follows:

Faculty gold medal for highest general average in final examinations for graduation, to William F. Hennings.

Faculty gold medal for highest general average in Junior Class, to Lloyd W. Conrad.

Official List of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the Seven Days ending May 23, 1901.

C. T. PECKHAM, surgeon, granted leave of absence for 30 days from April 19, on account of sickness—May 16, 1901.

Granted 30 days' extension of leave of absence, on account of sickness from May 20—May 21, 1901.

A. H. GLENNAN, surgeon, to rejoin station at Habana—May 21, 1901.

C. P. WERTENBAKER, passed assistant surgeon, to proceed to Meridian, Miss., for special temporary duty—May 18, 1901.

J. B. GREENE, passed assistant surgeon, granted 5 days' extension of leave of absence—May 19, 1901.

C. E. DECKER, assistant surgeon, granted leave of absence for 10 days from May 11, on account of sickness—May 20, 1901.

TALIAFERRO CLARK, assistant surgeon, granted leave of absence for 30 days from May 22—May 22, 1901.

G. M. CORPUT, assistant surgeon, to proceed to South Atlantic quarantine—May 16, 1901.

Granted leave of absence for 1 month—May 16, 1901.

J. C. RODMAN, acting assistant surgeon, granted leave of absence for 4 days—May 18, 1901.

A. W. SLAUGHTER, acting assistant surgeon, granted leave of absence for 4 days from June 4—May 22, 1901.

Board Convened.

Board convened to meet at Washington, D. C., May 20, 1901, for the purpose of making physical examination of applicants for cadetship in the Revenue Cutter Service. Detail for the Board: Surgeon L. L. Williams, chairman; Assistant Surgeon B. S. Warren, recorder.

Changes in the Medical Corps of the Navy, week ending May 25, 1901.

P. A. SURGEON R. M. KENNEDY, ordered home via public conveyance.

ASSISTANT SURGEON M. V. STONE, detached from Buffalo, and ordered home to wait orders.

ASSISTANT SURGEON C. N. DELANCY, detached from Bancroft and ordered to the Buffalo.

ASSISTANT SURGEON F. M. FURLONG, ordered home by public conveyance.

ASSISTANT SURGEON D. B. KERR, ordered home by public conveyance.

ASSISTANT SURGEON E. J. CROW, ordered home by public conveyance.

ASSISTANT SURGEON A. C. CRUNWELL ordered home by public conveyance.

ASSISTANT SURGEON D. C. BEEBE, ordered home via public conveyance.

ASSISTANT SURGEON C. D. LANGHORNE, ordered home by public conveyance.

ASSISTANT SURGEON J. STEPP, detached from the Castine and ordered to the Isla de Luzon.

ASSISTANT SURGEON F. J. CROW, detached from the Isla de Luzon, and ordered to the Castine.

ASSISTANT SURGEON E. THOMPSON, detached from the Solace and to the Petrel.

ASSISTANT SURGEON R. W. PLUMMER, detached from the Petrel and ordered to the Nashville.

ASSISTANT SURGEON F. N. FURLONG, order detaching from the Brutus, and ordering him forward to Guam, L. I.

Abstracts of Papers and Discussions at the Annual Meeting of the American Surgical Association, held in Baltimore on May 7th, 8th and 9th, 1901, the President, Dr. Roswell Park, of Buffalo, in the Chair.

(Continued from Page 993.)

In addition to these fifteen cases that have passed the three-year-limit, 8 were mentioned in which the tumors disappeared entirely. One, a spindle-celled sarcoma of the abdominal wall, was well 1½ years, when the patient returned to her home in Europe and was lost sight of. Another, an extensive round-celled sarcoma of the iliac fossa, was well one year and then lost sight of. A third, a spindle-celled, recurrent sarcoma of the leg, is now in perfect health, without recurrence, nearly two years after treatment. A fourth, a twice recurrent, spindle-celled sarcoma of the palm of the hand, disappeared under the toxin treatment and the patient remained well 2½ years, when the tumor recurred. Refusing amputation of the arm, she was under the care of a Christian scientist for eight months, during which time the tumor in the hand reached the size of a coconut and extended above the elbow. Amputation of the arm just below the shoulder joint was then performed, but the patient died of metastasis 3½ months later.

A fifth case, a chondro-sarcoma of the ileum, of large size, disappeared and the patient, after remaining well

for seven months, had a recurrence which proved fatal in about a year's time. A sixth, a round-celled angio-sarcoma of the breast, was well six months later, when the patient was lost sight of. A seventh, a recurrent fibro-angioma of the lip, was well when last heard of, over two years after operation; and an eighth case, a spindle-celled sarcoma of the thigh, disappeared, but after a year's time recurrence took place locally and in the groin, which no longer yielded to the treatment.

In addition to the 24 personal cases, the writer mentioned 2 other cases in which he directed the treatment, although it was carried out by another surgeon. One case (Johnson's) a large, spindle-celled sarcoma of the pharynx, entirely disappeared, and the patient was well more than six years later. The second (Storr's and Griswold's), an inoperable sarcoma of the breast and axilla, disappeared under 76 injections of the mixed toxins, and is now well more than four years after treatment. The diagnosis in both of these cases was confirmed by microscopical examination, in the latter case by the highest authority in this country, Prof. William H. Welch, of Johns Hopkins University.

The writer stated that the results of this method during the last two years had given him no reason to change the conclusions expressed in earlier papers. His further experience has confirmed the opinion that spindle-celled sarcoma yields far better results than any other variety, although there have been a sufficient number of round-celled cases successfully treated, to make it advisable to give every inoperable case the benefit of a brief trial. If no improvement has occurred at the end of 3 to 4 weeks, with daily injections, the writer does not believe the treatment is likely to prove successful. If improvement does occur, the injections should be continued either until the tumor has entirely disappeared, or it has become evident that the toxins have lost their inhibitory influence. The toxins may be given for long periods in moderate doses, without harm to the patient. The risks of the treatment are practically nil, provided proper precautions are observed. In upwards of 200 personal cases there were but 2 deaths, both of which occurred more than 5 years ago. The percentage of probable cures depends largely upon the type of the cell, varying from perhaps 3 to 4 per cent. in the round, to nearly 15 per cent. in the spindle-celled.

Thus far, no permanent successes have been obtained in melanotic growths, nor in lymphosarcomas of the neck. The writer stated his belief that the toxins administered in small doses immediately after primary operations for sarcoma, offer a most valuable prophylactic measure against future recurrence. The results thus far, he stated, were sufficient to warrant advising the treatment as a routine measure after all operations for primary sarcoma. While the treatment is not recommended in carcinomatous growths, it has been the experience of the writer that in many cases the toxins exert a marked inhibitory influence in carcinoma, although it is rarely curative. The only cases of carcinoma in which the toxins are likely to prove of much value, he believes, are those in which they are used after primary or secondary operation, as a prophylaxis against recurrence. Up to the present time sufficient experience is lacking to justify one in making any definite statements as to how much may thus be accomplished.

The writer still believes that the action of the toxins upon malignant tumors can be explained only upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recently expressed opinion of Czerny.

Dr. Joseph D. Bryant, of New York, read a paper entitled "The Influence of Mental Depression on the Development of Malignant Diseases," in which he dwelt at length on the history of cancer as affected by mental depression. Pare, in 1510, was the first man to refer to mental perturbation, anger and the like, as making a cancer "more fierce and raging," while the same authority under the head of treatment, insists that the patient must eschew fasting, watching, sorrows, cares and mourning. Sir Astley Cooper was of the same opinion, while Velpeau thought otherwise. Grant and Napoleon have been referred to as examples of cancer following reverses, and Paget and Virchow gave a qualified allegiance to the passive side of the question.

The foundations of the different phases of the contention rest on the beliefs (1) that cancer may result from the direct influence of mental depression (2) that cancer may

arise indirectly from mental depression because of the defective nutrition attendant upon it, and (3) that mental depression exercises in no respect influences that admit of sufficient proof to warrant serious discussion.

The author referred to the infrequency of cancer in insane patients, and stated that females suffered twice as often as males. Statistics were given from a number of institutions which showed that the death rate in the female was nearly double that of the male, although there were more male melancholics, but melancholia in the male does not seem to exercise any distinctive effect on the death rate. Neither is melancholia in the male more often associated with cancer than with other forms of malignant growths.

Many authors were quoted and the following division of the cases was suggested: (1) Cases in which mental depression is not associated with the idea of cancer; (2) Cases in which mental depression is associated with the idea of impending cancer of primary or secondary occurrences, and (3) Cases in which the depression is the outcome of common causes.

Afternoon Session.

Dr. J. Collins Warren, of Boston, in discussing the foregoing papers, stated that there were several different ways of approaching the question as exemplified by different writers, and referred to the geographical, statistical, histological, experimental, blastomycetic. The experimental was divided into chronic irritation and inoculation, and reference was made to the fact that two papers had appeared during the year in favor of the protozoan theory of the disease.

Reference was made to the experiment of Lack in producing peritoneal cancer in a rabbit by scraping the ovaries, which observation, so far as known has not been confirmed by any other observer.

Dr. Cullen closed the discussion on the foregoing papers and stated that in order to prove conclusively that a given organism is the cause of cancer it is necessary (1) to find or isolate the organism (2) to produce cancer by inoculating the organism into another body and (3) to recover the organism from the cancer thus produced.

He commented at considerable length on the work of Dr. Gaylord and hoped that he and his associates would not be discouraged in their work.

In closing the discussion Dr. Park stated that he had not said one-half of what he would like to say but he promised to give more details of the work in the future in a paper to be prepared by Dr. Gaylord and himself, dealing particularly with the methods and results of inoculation.

Dr. J. C. Bloodgood, of Baltimore read a paper on "Blood Examination as an Aid to Surgical Diagnosis," and illustrated the subject with a large number of statistics and tables.

The Clinical Value of Blood Examinations in Appendicitis: A Study Based on the Examination of One Hundred and Eighteen Cases in the German Hospital, Philadelphia, was the title of a paper read by Dr. J. C. DaCosta, Jr. The author discussed the subject under the heading of (1) Methods and Technique, (2) Classification and (3) the Anemia of Appendicitis. The details under each one of these headings were discussed at great length and a large number of blood counts were given both actual and comparative.

Drs. J. B. Blake, J. C. Hubbard, and R. C. Cabot read a paper entitled **Blood Examination in Relation to Surgical Diagnosis**, and divided the subject into six headings. (1) the leukocyte count in fractures, (2) Post operative leukocytosis, (3) Etherleukocytosis, (4) the effect of fear on the leukocytes, (5) Regeneration of the blood after operations on malignant tumors and (6) Blood examinations in relations to intestinal perforation in typhoid fever.

Dr. J. Chalmers Da Costa and J. L. Kaltefleiter, of Philadelphia read a paper entitled "The Effect on the Blood of Ether as an Anaesthetic." The paper reviews the rather meagre literature of the subject, dwelling particularly upon the writings of Mickuliz, J. Chalmers Da Costa, Oliver, Hamilton Fish and Bloodgood.

They dwell on the great difference which exists as to whether or not ether causes blood destruction. They hold that it does cause blood destruction and that those who affirm the contrary have been misled by the blood concentration which results from the preliminary treatment and which is often added to by sweating during the anesthetic

state. This blood concentration may mark the fall of hemoglobin; in fact in some cases will cause an apparent rise. The important facts to note are that the color index practically always falls and that the number of corpuscles increases. These facts prove marked blood destruction and increased production of corpuscles deficient in hemoglobin, resulting from ether anesthetic. The authors report upon 50 cases in which blood examinations were made and subdivide these cases into numerous tables for purposes of examination and comparison. In 49 of the cases the color index was lowered. The writers also showed sections of the marrow of a rabbit's femur, the animal having been etherized to death. These sections show mocked erythroblastic proliferation.

The authors conclude that the hemoglobin is absolutely reduced after the administration of ether, this reduction being manifest in the individual corpuscular hemoglobin value. The increased hemolysis which occurs in nature's effort to rapidly replace the destroyed corpuscles and the regenerated cells are imperfectly supplied with hemoglobin. The authors urge that whenever possible one or two blood examinations should be made before ether is administered and these examinations should be made before preparatory treatment has been instituted. If less than fifty per cent. of hemoglobin is present an anesthetic is dangerous and should only be given in a surgical emergency, which threatens life. In malignant disease a percentage of under fifty per cent. contraindicates operation. Mickuliz says no general anesthetic should be given under any circumstances if the hemoglobin is under thirty, but the authors believe that forty per cent. is probably the lowest justifiable limit. If operation must be performed when the hemoglobin is under forty per cent. a local anesthetic should be given. It is true cases with under forty per cent. of hemoglobin are occasionally etherized successfully, (for instance, one case was recalled with only twenty-four per cent.), but such instances are rare, are not sufficiently numerous to set aside the rule and are only justified by the imperative necessities of a vital emergency. Whenever the percentage of hemoglobin is low the administration of the anesthetic should be entrusted only to an experienced man, as little ether as possible should be given, the surgeon should operate quickly and proper measures should be adopted to bring about reaction promptly and to remove the ether from the lungs and blood as quickly as possible.

Dr. John B. Deaver, of Philadelphia, read a paper entitled "Examination of the Blood in Relation to Surgery of Scientific Value, but Too Often of no Practical Value and May Misguide the Surgeon."

The subject of appendicitis was discussed in detail and the value of the microscope in bedside diagnosis was referred to, but the author felt that too much importance should not be attached to this as compared with the weight given to other signs of the disease, some of the latter possessing in his opinion greater merit as aids to the surgeon.

In his discussion on the foregoing papers Dr. B. Farquhar Curtis, of New York, remarked the frequency of leukocytosis following either anesthesia and stated that it occurred quite as often after intraspinal anesthesia. He did not believe that leukocytosis should be considered as demonstrating the existence of infection, but rather that it should be looked upon as a fixed factor following anesthesia, illustrating this point by reference to a case. While he considered this point of great value, he felt that the temperature and pulse record were equally so.

Second Day, Morning Session.

This session was held at the Johns Hopkins Hospital and addresses were made by Drs. Osler and Welch. Demonstrations were also given by Dr. Kelly in the employment of the newer methods of diagnosis in rectal and urinary disease and by Dr. Young in catheterization of the male urethra. Dr. Osler's remarks referred to the clinical and Dr. Welch's to the laboratory methods of teaching employed at the Johns Hopkins.

Dr. Oscar H. Allis gave a demonstration of fractures of the pelvis. He demonstrated upon the cadaver the effects of violence directed against the pelvis through the medium of the femur, being a comparative study of the relative strengths of the neck of the femur and that of the pelvis. The application of force was by means of a lever driving the head of the femur against the acetabulum, directed

(a) at right angles to the long axis of the trunk and (b) parallel to the long axis of the trunk.

Afternoon Session.

Dr. A. W. Mayo Robson, of Leeds, England, read a paper entitled "Pancreatitis with Especial Reference to Chronic Pancreatitis." The author commented on the fact that he thought it strange it had not until recently dawned on the minds of clinical observers that whatever obstructs the common bile duct at its lower end must also of necessity lead to obstruction in the pancreatic duct. When the common bile duct is obstructed the objective signs of jaundice at once demonstrate the fact but hitherto no pathognomonic sign has been discovered which will show conclusively that the pancreatic ducts are occluded, unless it be the extremely rapid loss of weight. When it is borne in mind that the pancreatic duct opens along with the common bile duct into the second part of the duodenum it is not a matter for surprise that pancreatitis should be met with. The essential and immediate cause of the various forms of pancreatitis is bacterial infection, which has been positively proved both clinically in the human subject and experimentally in the lower animals. The association of gall-stones with chronic pancreatitis was absolutely forced on my mind by the frequency with which I found inflammatory enlargements of the head of the pancreas when operating for gall-stones in the common duct.

Taking up the subject of fat necrosis it was stated that this condition is commonly found in association with pancreatitis and the relationship between the two conditions has given rise to much speculation.

Hemorrhage in pancreatic diseases was dwelt upon and it was mentioned that death from collapse may occur either immediately or some hours after spontaneous hemorrhage. Several illustrative cases were cited, together with the symptoms and results, the following conclusions being reached: (1) that in certain diseases of the pancreas there is a general hemorrhagic tendency, which is much intensified by the presence of jaundice; (2) that hemorrhage may apparently occur in the pancreas unassociated with inflammation or with jaundice or with a general hemorrhagic tendency; (3) that both acute and chronic pancreatitis can and do frequently occur without hemorrhages, and (4) that some cases of pancreatitis are associated with local hemorrhage.

It was suggested that pancreatitis should be divided into the acute, sub-acute and chronic and that the hemorrhagic be considered a variety of the acute. The glycerine set free in the tissues by the fat necrosis was looked upon as a possible cause for the local hemorrhage and some details on this point were gone into. In addition, the results of blood examinations with a view of discovering, if possible, the cause of the hemorrhagic tendency were given.

The treatment of the three stages of the disease was then discussed fully and examples given of each, together with the results of treatment, as well as of post-mortems.

Dr. George E. Brewer, of New York, in discussing Dr. Robson's paper on Pancreatitis, stated that he believed the disease to be of far more frequent occurrence than is generally supposed and in support of this assertion he cited the records obtained from the autopsy table, as showing its serious nature, frightful mortality and obscure symptomatology, as well as the fact that certain surgeons, as the author of the foregoing paper, have had a large personal experience with the disease and, where it has been extensively discussed, a fairly large number of cases have annually been reported. The fact of its non-recognition by the profession at large is established by the fact that, in other localities, no cases are reported. He stated that in going over the recent annual reports of fifteen or twenty of New York's largest hospitals he found but one which recorded surgical treatment of the disease, and in this one institution four cases are reported as having been operated upon during a single year.

He believed the profession failed to recognize this disease more readily for two reasons; (1) their attention has not been directed to it by reports of cases and monographs on the subject and (2) sufficient data have not been collected on the subject and (2) sufficient data has not been collected accurate and complete catalogue of the characteristic symptoms. He dwelt upon the importance of constant vigilance being maintained for this disease and the value of recording and publishing the clinical histories and results of operations, together with the autopsy findings of all cases of this dis-

order coming under the surgeon's observation. This, he felt, would be of great value to the profession at large, enabling them to diagnose the condition much more readily. The anatomy of this region could be renewed with great interest not only in regard to the clinical history and pathology of the disease, but might furnish some very valuable suggestions in reference to treatment. At a very early period in the development of the embryo pancreas is formed by two offshoots from the intestinal tube just below the gastric dilatation between the two layers of the posterior mesentery. These two branches rapidly develop and again divide and subdivide, forming an innumerable number of fine twigs, each one ending in a small epithelial-lined sac. These are surrounded by minute plexuses of blood vessels, nerves and lymphatics and held together by areolar tissue which divide the gland into a large number of segments or lobules. The further development of the pancreas was then discussed at some length and the development of another outgrowth which afterwards forms the liver was noted. The different stages in the development of the bile duct and the two pancreatic ducts were recognized and the fusion of the lower pancreatic duct with the bile duct forming the ampulla of Vater, which opens into the duodenum in the adult subject was remarked. He referred to the fact that the older anatomists taught that the upper pancreatic duct gradually atrophied and only remained patent in a few instances, but later investigation resulted in the discovery that it could be injected from the main pancreatic duct in about fifty-six per cent. of the cases and still later investigation by improved methods demonstrated the fact that the duct of Santorini is practically always present in the human subject. He then presented five or six photographs furnished him by Dr. Carlton Flint of the anatomical department of Columbia University, showing the arrangement and accessory in some of the lower animals as compared with those of the human body. He then called the attention of the society to the fact that in the early stage of its development the pancreas is completely invested by the peritoneum and only becomes a retroperitoneal organ by the absorption and conversion into areolar tissue and fat of the several layers of the posterior mesentery. The attention of the society was directed to the four different routes by which the pancreas may be reached, namely: by dividing the gastro-hepatic omentum just above the lesser curvature of the stomach, (2) by dividing the gastro-colic omentum just below the greater curvature of the stomach, (3) by dividing the transverse mesocolon, and (4) by reflecting the parietal peritoneum through a lumbar incision until the peri-renal fat is reached, which is continuous with the areolar tissue surrounding the pancreas. He then mentioned the fact that in his opinion a probable causative relationship existed between an enlarged and relaxed duodenal orifice of the ampulla of Vater due to the frequent passage of biliary calculi and inflammatory diseases of both the bile duct and the pancreatic duct, stating that he based his opinion upon observations regarding the existence of like conditions in other portions of the body of ducts emptying into septic cavities in other portions of the body. In concluding he mentioned the probable digestive action of the pancreatic juice when allowed to percolate into the connective surrounding the gland as a cause of erosion of the blood vessels and extensive necrosis in addition to the well known power it has of producing fat necrosis.

(To be Continued.)

Obituary.—Dr. Frank C. Hoyt, at Kansas City, Mo., on May 21.—Dr. Marie J. Mergler, at Los Angeles, Cal., on May 18, aged 50 years.—Dr. Hugh Stockdell, at Petersburg, Va., on May 23, aged 66 years.—Dr. R. A. Gottsleben, at Mayville, Wis., on May 23, aged 50 years.—Dr. Conrad Weinges, at Jersey City, N. J., on May 23, aged 53 years.—Dr. John T. Hagan, at Baltimore, Md., on May 23, aged 51 years.—Dr. Jane Kendrick Culver, at Boston, Mass., on May 23.—Dr. Thomas F. Rumbold, at St. Louis, Mo., on May 23, aged 71 years.—Dr. George Washington Whitney, at Chicago, Ill., on May 23.

Smallpox Delays Troops.—Further cases of smallpox have been discovered on the United States transport Indiana, and the Ninth Infantry Regiment, which left Pekin May 22, on its way to Manila, has gone into camp at Taku.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from Page 991.)

Edward L. Trudeau, of Saranac Lake, N. Y., read a paper entitled the importance of a recognition of the significance of early tuberculosis in its relation to treatment. The search for the tubercle bacillus should be begun early and continue as long as the symptoms remain obscure. The absence of the tubercle bacillus from the sputum is not conclusive evidence of the absence of the disease, particularly in its early stages, and too much stress should not be laid upon the negative finding. The tuberculin test is of value in reaching a conclusion when the bacilli are not found. The results of the tuberculin test are most reliable when the patient has no fever. Early diagnosis is of the first importance in the treatment of the disease, because it is in the incipient stage that the greatest amount of good can be done. Although the open-air treatment of tuberculosis gives renewed hope to physician and to patient, disappointment will result unless the importance of early diagnosis is realized. In answer to a question by McPhedran, of Toronto, the author said that a regular rise of temperature to 99.5° at a definite time of day is of significance in a case of suspected tuberculosis. A. Jacobi, of New York, said that mouth temperature in cases where accuracy is a desideratum is unreliable. Rectal temperature is the only one that can be absolutely relied upon. Even in the rectum there is a difference of ½° between the lower and the higher portions of the rectum. Rectal temperatures of 99.5° are normal. Some cases with prolonged expiration and impairment of resonance are due to interstitial pneumonia of long duration. Edward L. Trudeau said that in a case such as cited by Jacobi the tuberculin test would give conclusive demonstration as to the nature of the disease. He begins to inject one mg. of tuberculin for diagnostic purposes, then gives 3 mg.; and finally, 6 mg. In surgical cases it is often necessary to use between 5 and 15 mg.

J. George Adami read for J. McCrae, of Montreal, a paper entitled a study of a series of cases of burns. The paper is based upon the study of 13 cases of burns, 4 of which came to autopsy. In burns it is possible that a toxemia is produced which is similar to the toxemias of bacterial origin.

Focal necroses are not a constant accompaniment of burns. The lymph-nodes sometimes present a clear central portion with a cortex closely packed with cells; and, in other instances, there is degeneration throughout. The proliferated endothelial cells in the lymph-nodes are phagocytic and the author interprets the clear center that he has seen as a later stage than the necrotic center described by Bardeen. The lymphocytes in such a lymph-node have disappeared by a combination of toxic and phagocytic action. In cases of severe burns the kidneys were the seat of degenerative changes. The liver, also, showed various changes that were similar to the condition seen in other toxic states. The pathological processes present a similarity to the diseases characterized by the presence of toxins in the blood. The damage to lymphatics in burns is constant but not necessarily focal. The focal lesions are not true necroses but are due to the proliferation of the endothelium of the capillaries. Simon Flexner, of Philadelphia, said that Bardeen's investigations were suggested by the similarity of the lesions found after burns and those accompanying diphtheria. The changes in burns are more proliferative than degenerative. The appearances of degeneration may indeed be due to phagocytosis but in the toxemias the degenerative changes are complete. A. Jacobi, of New York, asked whether there was any relation between the changes described and the physical changes such as the conversion of hemoglobin into methemoglobin. The kidneys are usually the seat of a hemorrhagic nephritis when methemoglobin is present in the blood. William H. Welch, of Baltimore, said that probably the toxin elaborated in a burn is due to the action of heat on the blood in the superficial capillaries. He could accept the granules found in the lesions of the lymph-nodes as the result of the digestion of lymph-cells by endothelial cells. The process then would be that the manufactured toxin stimulates the fixed endothelial cells to proliferation and they take up the lymphoid cells by phagocytic action. It would seem more reasonable to suppose, however, that these phagocytic cells were utilized to remove lymph-cells already damaged by toxin.

S. J. Meltzer, of New York, read a paper entitled **hemolysis**. The author has found that immunized serum consists of 2 substances: one of which is stable, the other of which is destroyed by heating to 55°C. The latter substance is a ferment-like body, which causes a precipitate in fresh serum. Hemolytic serum, during its stay in the peritoneal cavity, loses its enzyme-like complement.

The following papers were read by title: **Slow pulse with special reference to Stokes-Adams' disease**. By Robert T. Edes, of Boston.

Exhibition of a cardiograph and a kymographion for bedside use. By Alfred Stengel, of Philadelphia.

A case of acute leukemia presenting some interesting features. By D. D. Stewart, of Philadelphia.

Masked malarial infection. By Morris J. Lewis, of Philadelphia.

Sarcosporidia of the mouse (*sarcocystis muris*) transmitted directly by feeding muscular tissue. By Theobald Smith, of Boston.

A further report on a case of presystolic mitral murmur associated with systolic tricuspid murmur complicating pregnancy reported to the association in May, 1899. By James Tyson, of Philadelphia.

The extension of aortic aneurysms into and between the walls of the heart and dissecting aneurysm of the heart. By Ludvig Hektoen, of Chicago.

A study of bacteria isolated from cases of dysentery. By F. F. Westbrook, of Minneapolis.

The relative prevalence of Bright's disease in New York, London and Berlin. By Hermann N. Biggs, of New York.

Lithemic or recurrent coryza. By B. K. Rachford, of Cincinnati.

Report of a case of spondylosis rhizomelia with autopsy. By Charles L. Dana, of New York.

The relation of the tracheal tug to fixation and elasticity of the left lung. By Henry Sewell, Denver.

The following officers were elected for the ensuing year: President, James C. Wilson, of Philadelphia; vice-president, J. Stewart, of Montreal; recorder, S. Solis-Cohen, of Philadelphia; secretary, Henry Hun, of Albany; treasurer, J. P. Crozer Griffith, of Philadelphia; councillors, Frank Billings, of Chicago, and Francis P. Kinnicutt, of New York; member of the executive committee of the American Congress, William Osler, of Baltimore; alternate, Francis H. Williams, of Boston. [J. M. S.]

Second Day, Afternoon.—William A. Park, of New York, read a paper entitled **To what extent is urine a suitable soil for bacterial growth?** The paper is based on the study of 50 urines to determine their fitness to be used as a culture medium for microorganisms. The author found that in highly acid urines the majority of microorganisms would grow with difficulty and that some would not grow at all. He suggested that if a urine was rendered highly acid by suitable medicinal substances it might help to prevent infection and be of assistance in the therapeutics of cystitis.

Francis P. Kinnicutt, of New York, read a paper entitled **orchitis complicating typhoid fever**. He reported 2 cases that he had seen in his wards in the Presbyterian Hospital in New York. One of the patients was a man, aged 24 years. The orchitis developed after convalescence was established and was accompanied by phlebitis of the long saphenous vein of the same side. The spermatic cord was involved. The second patient was 34 years old. The disease was apparently cured and then recurred. During the recurrence an abscess developed, the pus of which contained the bacillus of Eberth. It is possible that the bacilli reached the testicle through the blood current as well as through the vas deferens from the bladder. The condition is a rare complication of typhoid fever; the testicle seldom contains microorganisms; it usually occurs late in the course of the typhoid fever and is usually unilateral. William Osler, of Baltimore, spoke of a case of orchitis complicating typhoid fever that illustrated its late occurrence. F. H. Shattuck, of Boston, had seen one case in his hospital service recently and at the same time there were 3 cases in the service of his colleague, John H. Musser, of Philadelphia, had seen a case of orchitis in a boy who had not been sick in bed. The presence of the serum reaction explained the nature of the condition. While the patient was under treatment for the orchitis he had a relapse of his typhoid fever. Francis H. Williams, of Boston, said that he had seen a similar case to the ones

reported by Kinnicutt. Baumgarten said that he had seen one case accompanied by phlebitis of the internal saphenous veins during a relapse in typhoid fever. The vein was involved before the testicle.

Francis H. Williams, of Boston, read a paper entitled **notes on the treatment of some forms of cancer by the X-rays**. In employing X-rays for the treatment of carcinoma of the skin, great care should be taken not to produce burns. The cases treated by the author include epithelioma of the lip, of the hand and of the eyelid. The advantages of the treatment are (1) that there is no pain, (2) that there is no delay on account of dread of the knife, (3) that healing can occur without caustic effect, (4) that the results from a cosmetic standpoint are excellent and (5) that the treatment is ambulatory. The disadvantages of the method are (1) that great care is required, (2) that it is expensive and (3) that the treatment must be continued for some time.

In reply to a question from Charles S. Bond, of Richmond, Indiana, the author said that the X-rays are the active agent in the treatment and not the cathode rays. There is no disadvantage in placing a cloth between the growth and the Cooke's tube. In answer to a question by Peabody, of New York, he said that all cases except one had been submitted to microscopic examination. The cases were consecutive.

Frederick A. Packard and J. Dutton Steele, of Philadelphia, read a paper entitled **osteitis deformans**. The patient was a German, aged 62 years, who had a large box-shaped head with a projection in the frontal region and a tumor at the junction of the frontal, parietal and temporal regions. The circumference of the skull was increased. The clavicles were thickened and projected backward. The attitude of the patient was like that of an Orang Outang. At autopsy the calvarium was much thickened, the diploe were absent except in the frontal and occipital regions. The pituitary body and supranasal bodies were unaltered. The clavicle cut and decalcified easily. The processes of bone absorption were taking place in localized areas in both the calvarium and the clavicle. The tumor was a giant-celled sarcoma and nodules from the pia mater of the brain and the pleura presented the same lesion.

William Osler, of Baltimore, read a paper entitled **the spinal form of arthritis deformans**. There are 2 varieties of spinal involvement in arthritis deformans: one described by Bechterew, is characterized by rigidity of the vertebral column, kyphosis in the thoracic region and nerve-root symptoms. The other form was described by Marie and is characterized by involvement of the large joints at the proximal extremities of the limbs and the absence of nerve root symptoms. The author has seen recently 2 cases of the former and 3 of the latter type. In the 2 cases of Bechterew's type, the nerve-root symptoms were agonizing. In the 3 cases of Marie's type, complete thoracic immobility was present. The ligaments in the vertebral column may be completely ossified. The cases, in the opinion of the author are a variety of arthritis deformans and are not examples of separate diseases. Charles G. Stockton, of Buffalo, showed the skeleton of an intemperate man who had suffered from gonorrheal rheumatism which rendered him so diseased that he was unable to move. The skeleton is an excellent example of the changes found in the second type of case described in Osler's paper. The thorax is absolutely immobile, the right temporomaxillary joint is ankylosed, the segments of the vertebral column, the ribs and the hip joints are firmly ankylosed. Lamb, of Washington, showed a prehistoric skeleton from Alaska, obtained from the communal house, in which the spinal column was completely ankylosed, and in which there were kyphosis and complete bony union between the spinous processes in the lower thoracic and lumbar regions. The ribs were not ankylosed. He also showed specimens of bones from a skeleton in which all the bones were involved in the process except those of the vertebral column. B. Sachs, of New York said that he considered these cases to be a varieties of arthritis deformans. He referred to a case illustrating the early stages of the Bechterew type. J. P. Crozer Griffith, of Philadelphia, referred to the case of a woman, aged 71 years, who had had enlargement of the head since the age of 64. He showed the calvarium, which was very much thickened. The bones of the pelvis were thick and friable and the bones of the upper and lower extremities were thickened. He also referred to the case of a child, aged 8 years, who had a large head

and in whom the limbs were involved. The case was diagnosed syphilitic osteitis, but that diagnosis is not satisfactory. Cabot, of Boston, thinks that the productive and the destructive lesions are 2 distinct diseases. He spoke of the great advantage to be had by supporting the spinal column for the relief of the spinal symptoms. James J. Putnam, of Boston, spoke of a case that seemed to have had its origin in gonorrheal rheumatism. He also thinks that mechanical support of the vertebral column is of great value in the treatment of the condition.

B. Sachs, of New York, read a paper entitled **certain trophoneuroses and their relation to vascular disease of the extremities**. Erythromelalgia, scleroderma and Raynaud's disease often merge into each other. The author cited the case of a man, aged 27 years, who was suffering from Raynaud's disease, involving the feet and when he changed his occupation to one in which he had to use his hands, Raynaud's disease developed in his upper extremities. In this case there was an obliterating phlebitis in both the upper and the lower extremities. In a second case, a man aged 31 years, erythromelalgia was present. Following an operation for ingrowing toe nail an infectious process developed and amputation was necessary for gangrene. In this case there were arterio- and phlebosclerosis. There were slight changes of neuritis in the anterior and the posterior tibial nerves. The relation of vascular disease to trophoneuroses seems, from these instances to be apparent. Whether the vascular changes are primary or secondary is open to discussion. E. G. Janeway, of New York, referred to a case in which the patient who had pain in the hands with loss of the nails was advised to ride a bicycle. As soon as he began to ride systematically the same symptoms appeared in the feet. In this case the urine contained a trace of albumin and a few casts, but no sugar. The vessels were diseased. He is of the opinion that the vessels play an important part in the course of such affections. William Osler, of Baltimore, said that an important point in the study of these cases is to determine the relation of the pains in the extremities to the arterial disease. He had seen such combinations followed by gangrene, particularly in cases of paresthesia of the extremities in elderly women and in numbness in old men with vascular change. James J. Putnam, of Boston, said that although the diseases under discussion seem to merge, still they are fairly distinct. B. Sachs, of New York, said that he would admit that all cases of this class of diseases were not due to disease of the blood-vessels, but some of them are undoubtedly due to such changes, and some are due to disease of the nervous system. Examination of the dorsalis pedis artery in addition to the examination of the radial and the ulnar arteries often give valuable information concerning a case.

J. Stewart, of Montreal, read a paper entitled **a subcortical glioma of the lower part of the ascending frontal convolution; a contribution to the nature of the speech disturbance arising from the lesions in this situation**. The patient was a man, aged 37 years, who became mute for $\frac{1}{2}$ hour or so every day or every other day for several weeks. He had headache, twitching of the muscles of the lower half of the right side of the face, dysarthria and later anarthria. He understood what was said to him and he could read printing and writing. There was bilateral optic neuritis and weakness and paralysis of the muscles of the right upper extremity. There was tenderness on percussion over the left side of the skull. Later, dysgraphia appeared. A diagnosis of intracranial new-growth situated at the lower part of the ascending frontal convolution was made from these symptoms. The tumor was removed and recovery followed.

James J. Putnam, of Boston, read a paper entitled **personal experiences in cases of Jacksonian epilepsy with special reference to the question of treatment by operation**. The therapeutic value of operation is undoubted. Cortical excision is of somewhat more value than other varieties of operation. There are, however, some cases in which this form of operation has been followed by failure. Simple exposure of the cortex has, in some cases, been followed by satisfactory results. The objects of cortical excision are (1) to remove gross lesions; (2) to remove sources of irritation in the cortex not visible to the naked eye and (3) to remove epileptic discharge centers. The author thinks that in some instances excision serves to check the discharge of the epileptic impulse for awhile and, before the patient can recover his former habit, new

habitual impulses can be created or medication may have a chance to effect a cure. A. Jacobi, of New York, said that of all the forms of epilepsy, the Jacksonian variety is less likely to be influenced than any other. It seems that operations are less frequent in epilepsy than they were formerly. In many cases no lesion can be found when operation is undertaken and he thinks that operation is not now so promising as it was. B. Sachs, of New York, said that neurologists were becoming more conservative in advising operation in cases of epilepsy and that the Jacksonian type was the only form in which operative interference was justifiable. If operative treatment is to be instituted in a case of Jacksonian epilepsy it should be applied in the early stage of the disease. If the portion of the cortex excised presents no gross lesion microscopic examination should be made of the excised portion; then evidence of focal lesion may be found. He quoted a case in which operation had been followed by cessation of symptoms for $8\frac{1}{2}$ years. Even with this feature known, the operation was justifiable because it has allowed the patient to earn his own living during a period of $8\frac{1}{2}$ years and his life has been more pleasant to him. It is possible that ordinary medication will be able to stop his convulsive seizures now.

John K. Mitchell read for himself and Simon Flexner and David L. Edsall, of Philadelphia, a paper entitled **the chemical, clinical and physiological results of the examination of 3 cases of family periodic paralysis**. During the attacks the urine of 2 of the patients had a high degree of acidity. The authors had already determined the absence of toxicity of the urine. The ammonia output was low in the intervals of the attack as well as during the attack. The stomach contents of one patient showed anacidity and there was entire suspension of the digestive functions during the attacks. The excretion of creatinin was studied for 3 weeks in one of the patients. This substance was found to be much increased just before the attack while just after the attack its excretion returned to normal. The attacks are probably due to a metabolic disturbance possibly seated entirely in the muscles. In one of the patients potassium citrate prevented and relieved the attacks, but considerable daily use of this substance did not postpone them. Two of the patients were able to ward off an attack when they felt it coming on. James J. Putnam, of Boston, referred to a case in which the use of potassium citrate had no effect. The cases are much alike. S. J. Meltzer, of New York, said that it appeared that the involuntary muscles such as the diaphragm and those supplied by the cranial nerves were not involved. He questioned why, if the disease was due to a poison affecting the muscles, the poison should be thus selective. John K. Mitchell, of Philadelphia, said that the involuntary muscles are involved in the paralysis. A. Jacobi, of New York, said that the cases appeared to him like cases of hysteria.

F. Forchheimer, of Cincinnati, read a paper entitled **the heredity of appendicitis**. He described the genealogy of one family in which, out of 25 members, 5 had appendicitis. In a second family of 52 members, 9 had appendicitis. In a third family, of 20 members, 6 had appendicitis. A. D. Blackadder, of Montreal referred to a neurotic family in which many of the members suffered from appendicitis.

THIRTIETH CONGRESS OF THE GERMAN SURGICAL SOCIETY.

(Continued from Page 1034.)

Nils Sjöbring, of Lund, a guest of the society, read by special invitation of the society, a paper on "The Parasites of Cancer." The paper was very long and it was next to impossible to understand Sjöbring. President Czerny suggested that some of the members who had examined Sjöbring's preparation express their opinion of the same. Israel, of Berlin, declared that he could see nothing more than one can find in any tissue which is kept in unsuitable culture fluids, and nothing which one could consider ameba. Gussenbauer, of Vienna, has known the bodies demonstrated by Sjöbring for years and years, but has never been able to cultivate them. Jürgens, of Berlin, says that Sjöbring demonstrated the same bodies in the bodies of cancer, calling them the cause of sarcoma. He does not think that they deserve any more attention. Czerny asked Sjöbring from the reproach of having imposed upon the society, reminding that Sjöbring has been at the congress for years on the subject. He then stated that he had seen

"A New Method for the Reposition of a Dislocated Humerus," a modification of the well known methods of gradually increasing traction on the arm by means of weights and pulleys, until the muscles relax, etc. Hildebrand (Basel) described several cases of "The Operative Treatment of Habitual and of Old Dislocations." Payr (Graz) discussed "The Technic of Operative Reposition of Dislocations of the Hip in Adults." He considers Mikulicz's proposal to remove the trochanters a very severe operation, and only suited to cases where there is very little shortening. In the discussion Schede (Bonn) described a case of double luxation. Drehmann (Breslau) praised the method of Mikulicz because the removal of the trochanter with the muscle attachments gives a much better view of the field of operation. Rotter (Berlin) presented an interesting case of Resection of the Entire Upper Arm. The patient had a tumor of the humerus; R. resected the muscles of the upper arm and the entire humerus, and attached the remains of the capsule of the elbow to the shoulder capsule. After $\frac{3}{4}$ of a year the radialis was able to perform its function, and the patient could use the hand for many purposes. Katzenstein (Berlin) demonstrated two cases of Spina bifida occulta. In one of the patients symptoms appeared at the period of most rapid growth, and Katzenstein believed them caused by the traction of the cord of tissue which is regularly found connecting the skin and the dura mater of the cord. K. removed this cord, dissecting it from the dura mater, and the symptoms, incontinence of urine and feces disappeared. Heusner (Barmen) discussed "The Treatment of Contraction following Inflammation of the Knee Joint." In two cases he has obtained good results by changing the insertions of different muscles. Steiner (Berlin) presented a patient who had Multiple Sarcoid Angioma of the Sole of the Foot with Numerous Phleboliths. S. removed the entire sole of the foot, forming a new sole by taking large flaps from the back of the foot, covering the defect with Thiersch's transplantation. Joachimsthal (Berlin) demonstrated a number of preparations showing the conditions in congenital dislocation of the hip; also a large number of skiagraphs of the several patients whom he also presented.

Franke (Braunschweig) reports several cases of Extirpation of the Pancreas for Carcinoma. The first case showed a tumor of the head of the pancreas; he extirpated the entire organ. For 18 days the patient had diabetes, up to 3% sugar, but no stools and no other disturbances. The patient lived 6 months. Autopsy showed only metastases in the lymphglands, so that it was probably a case of primary carcinoma of the pancreas. F. mentions two further cases where he removed but a part of the pancreas, since metastases were already present. He arrived at the result that diagnosis of tumor of the pancreas has made advances. The first symptoms are extreme pain in the abdomen and rapid cachexia. He recommends an early exploratory laparotomy. Körte (Berlin) referred to two cases of extirpation of pancreas tumors. One patient died from extensive hemorrhage, the other in coma; the latter case showed diabetes, yet the autopsy showed only a part of the pancreas affected. Hildebrandt (Basel) questioned whether in Franke's case the entire pancreas was removed. Franke, although he did not perform the autopsy himself, answered in the affirmative. Ahrens (Bonn) described a case of Fetal Inclusion in the Mesocolon Ascendens. A girl of 16 came under observation with a history of having had a swelling of the abdomen while a child; she showed the symptoms of hydronephrosis, but the operation disclosed a tumor in the mesocolon ascendens. Punction gave 4 liters of a dark brown fluid found to be blood. The preparation which Ahrens demonstrated has the form of a stomach, with pylorus and cardia, and shows a microscopical structure of the stomach, except that all the different forms of epithelium were to be found. Pepsin was found in the contents. Further this extra stomach had a true peptic ulcer. Ahrens explains the curiosity by assuming that the cells, or part of the cells, destined to form the digestive tract and its outgrowths become dislocated at an early period of fetal life.

Goldmann, of Freiburg; The Pathogenesis and Treatment of the Keloid."

Goldmann believes he has found the cause of the keloid in the disappearance of the elastic fibers of the cutis, and compares the origin of the tumor to an aneurysm, due to the loss of the elastic tissue. Contrary to what others claim, he has found medullated nerve fibers in these tu-

mors. He recommends excision and closure of the defect by transplantation.

Lauenstein, of Hamburg, reported a case in which incisions which went through the cutis were followed by keloid degeneration.

Eighth Session.

The 8th session of the congress was devoted principally to the discussion of the surgical treatment of acute appendicitis. An impartial observer was forced to the conclusion that the German surgeons had reached, at the end of their discussion, the point where American surgery stood some ten years ago. Rehn, of Frankfurt a. M., believes that his results show him the only proper method to be early operation, as soon as the diagnosis is fixed. Sprengel, of Braunschweig, agrees with Rehn. Roller, of Berlin, recommended highly the recto-vaginal route for opening Douglas abscess. He claims extraordinary results. Hirschberg, of Frankfurt a. M., believes that Rehn's method of opening the abdomen as soon as possible can only be carried out in hospitals of large cities. Kummell, of Hamburg, enters the lists for conservative treatment. Of the 1042 cases in the Hamburg-Eppendorfer hospital only 1.6% ended fatally. To be sure he believes in the old principle "Ubi pus ibi evacua," with the exception of the peritoneum.

The vote for the President of the next Congress resulted in a tie between Kuster, of Marburg, and Kocher, of Bern. A second vote elected Professor Kocher.

GREAT BRITAIN.

The British Medical Association will meet at Cheltenham, England, July 30th to August 2nd, inclusive.

Appointment.—Dr. Samuel West has been appointed Joint Lecturer on the Principles and Practice of Medicine in St. Bartholomew's Hospital Medical College.

Monument to Professor Huxley.—It is proposed to erect, at the place of his birth, a memorial to Professor Huxley. The form it will take is not at present decided upon. Subscriptions to the fund may be forwarded to Mr. T. Simpson, Fennymere, Castle Bar, Ealing.

Gift to the Royal Hospital.—Alfred Harmsworth, of the *Daily Mail*, is credited with having donated £10,000 to the Royal Hospital for the purpose of installing a plant for the electric light cure of lupus.

Mr. Frederick Treves, C. B., F. R. C. S., was Knighted by his Majesty the King, on May 4th, and invested with the insignia of a Knight Commander of the Royal Victorian Order.

Dr. Lillie Saville is the first woman doctor who has received the decoration of the Red Cross during the present reign. The distinction was conferred on her on account of her services while under fire in Pekin.

CONTINENTAL EUROPE.

French Gynecological Congress.—The third meeting of the French National Periodical Congress of Gynecology, Obstetrics and Pediatrics will be held this year at Nantes under the general presidency of Dr. Sevestre, of Paris, who will also preside over the Section of Pediatrics. Dr. Segond, of Paris, will be President of the Section of Gynecology, and Professor Queirel, of Marseilles, of that of Obstetrics.

A French philanthropist.—Mlle. de Noualhier has a hobby for caring for consumptives in the last stages, found in Paris, from which city she has them taken to a villa in Limoges, not far away, to be eased in their last moments. She works only among destitute consumptives, taking them to her chateau, where they are cared for and buried at her expense. She began her work some five years ago.—*Exchange.*

New Children's Hospital.—St. Petersburg has decided to erect a new children's hospital in that city in commemoration of the coronation of the Czar. The hospital is to consist of eight pavilions, containing in all 402 beds. The estimated cost is 1,700,000 roubles.

Physicians for the Newfoundland Sealing-Fleet.—For the first time in the history of the Newfoundland sealing-fleet, says the Canadian correspondent of *The Lancet*, physicians accompanied it. The fleet numbers about six thousand sailors, and left St. John on March 9th.

The Latest Literature.

BRITISH MEDICAL JOURNAL.

May 11, 1901.

1. An Address on Pancreatitis. A. W. MAYO ROBSON.
2. Notes on a Mild Type of Small-Pox (Variola Ambulans?) F. MONTIZAMBERT.
3. Note on the Probable Relationship of Vaccinia to the Inoculated Form of Small-Pox in Man. S. MONKTON COPEMAN.
4. Note on a Case of Enormous Dilatation of the First Part of the Duodenum. GILBERT BARLING.
5. A Case of Gastro-Jejunostomy for Complete Rupture of the Intestine at the Duodeno-Jejunal Flexure. B. G. A. MOYNIHAN.
6. A Case of Sarcoma of the Stomach. A. CHRISTY WILSON.
7. Perforated Gastric Ulcer; Operation Twenty-eight Hours after Perforation; Recovery. H. WYNTER SHETTLE.
8. A Case of Tuberculous Disease of the Cecum. J. MAITLAND.
9. The Spontaneous Cure of Hydatid Cysts. W. M. STEVENS.
10. Experiments upon the New Specific Test for Blood. G. H. F. NUTTALL and E. M. DINKELSPIEL.
11. Responsibility and Crime. ALEXANDER ROBERTSON.

1.—See this issue of the *Philadelphia Medical Journal*.

2.—Montizambert describes the epidemic of small-pox that is at present affecting the inhabitants of Canada, which he believes was imported into that country from the United States. The patient, as a rule, has but little initial fever, a very sparse and discrete eruption and no secondary fever. He is usually not confined to bed and, in many cases, not even to the house, so that no physician sees the disease. In the country the disease is called chicken-pox or German measles; while in many of the lumber camps it is spoken of as "cedar itch." Those affected travel in public conveyances from one part of the country to another during the period of incubation and with the eruption in its early stages visible on their faces and thus spread the disease. [J. M. S.]

3.—In 3 series of experiments Copeman inoculated small-pox lymph or pulp directly into calves with negative results in every instance. When the same substances were inoculated into monkeys success was invariably obtained and when, after one or more passages through this animal, the contents of the local inoculation vesicles were employed for inoculation into the calf, a result was produced which, after one or more removes in that animal, was indistinguishable from typical vaccinia. Moreover, from the contents of vesicles produced in this manner on the calf a considerable number of children have, in turn, been vaccinated and afterward kept under observation for about 2 months. Every such vaccination took normally and in no case was any bad result observed. It would thus seem as though there was some relation between vaccinia and the inoculated form of small-pox in man. [J. M. S.]

4.—Barling reports the case of a man, aged 31 years, who for 4 years complained of pain and sickness after eating. Three and one-half years before his admission to the hospital, when his symptoms were of the same character, an exploratory operation with gastrojejunostomy was advised. The operation of an exploratory nature was done but was followed by no appreciable benefit. The pain following this operation was greatly increased and the patient, in consequence, took so much morphin that he developed the morphin habit. The patient was now admitted to the hospital and was operated on a second time. There was marked dilatation of the stomach but no definite obstacle to explain the condition. Dense adhesions were found, however, uniting the pylorus of the stomach to the surrounding structures. Gastrojejunostomy was done and progress for the first 4 days was satisfactory. On the fifth day the patient became suddenly worse and died of general peritonitis. At the autopsy it was found that fluid was escaping into the peritoneal cavity from a tear in the extremely dilated duodenum. The first portion of the duodenum was so dilated that it would hold about a half pint. The communication between this cavity and the stomach was free, but the opening into the second portion of the duodenum

was guarded by 3 flap-like projections of mucous membrane. The walls of the dilated duodenum were extremely thin and consisted almost entirely of thin, almost transparent, fibrous tissue. The increased difficulty of emptying this dilated portion of the duodenum, due to the establishment of communication between the stomach and the jejunum was undoubtedly the cause of the rupture. [J. M. S.]

5.—B. G. Moynihan reports an interesting case of rupture of the small intestine at the duodeno-jejunal juncture in which it was necessary to excise $4\frac{1}{2}$ inches of the jejunum and in which it was impossible after this resection to do an end-to-end anastomosis because the duodenal end was inaccessible. This end was then inverted and the jejunum united to the anterior wall of the stomach by a Murphy button. The condition of the child was such that no lateral anastomosis could be made between the duodenum and jejunum below. The patient made a good recovery. On the 104th day after the operation the child suddenly became seized with an acute abdominal pain and died within a few hours. The postmortem showed death to be due to perforation of the duodenal stump from pressure exerted by the Murphy button which had become lodged here. The case is an interesting one because it shows that for 104 days this child was in perfect health although the bile and pancreatic juice flowed into the stomach. [J. H. G.]

6.—A. C. Wilson reports an interesting case of sarcoma of the stomach which involved the greater curvature and a considerable part of the duodenum. The growth was isolated with some difficulty and was then excised with a considerable portion of the stomach and duodenum. An anastomosis was then made between the remaining portion of the stomach and bowel by means of Allingham's bobbin of decalcified bone. The patient made a good recovery and had returned to his work two weeks before this report was made. The growth was found to be a sarcoma of the mixed cell type. [J. H. G.]

7.—H. Wynter Shettle reports a case of a young girl upon whom he operated 25 hours after perforation of a gastric ulcer. At the time of the operation there was general abdominal pain and pain in the back; the abdomen was rigid and tender. The distension was moderate and liver dulness was present. Upon opening the abdomen the perforation was found to be in the anterior wall of the stomach near the lesser curvature just below the esophageal opening. The toilet of the peritoneum consisted in careful wiping with dry sponges. The patient made a satisfactory recovery. [J. H. G.]

8.—Maitland reports the case of a Hindu, aged 44 years, who complained of abdominal pain and constipation. Eight years previously, the patient began to suffer from attacks of severe pain which occurred at irregular intervals in the right side of the abdomen. The patient thought he could feel a lump at the seat of pain and stated that the condition was accompanied by constipation. When he was admitted to hospital a tumor could be felt in the right iliac region, and a diagnosis of chronic disease of the cecum or ascending colon causing thickening of the intestine and possibly stenosis was made. At operation the bowel was found to be much thickened and embedded in a mass of considerable thickness. The diseased area was excised, the end of the divided large intestine was closed and the cut end of the small intestine was united to the large intestine by a lateral anastomosis with a Murphy's button. The excised portion of the bowel consisted of ileum, cecum and ascending colon. The wall of the intestine was thickened and hypertrophied, the mucous membrane of the cecum presented an ulcerated surface and there were 5 small ulcers in the ileum. Recovery was uninterrupted. The ulcerations in the intestine were tuberculous in nature. [J. M. S.]

9.—Stevens describes a liver in which there were 2 hydatid cysts in different stages of degeneration. Both cysts were situated in the peripheral parts of the liver and projected considerably beyond its surface. There was no evidence of pus in the contents of either cyst. The capsules of both cysts were globular and tense with no signs of puckering or contraction. Neither cyst contained bile. There was a general fibrotic condition of the liver. The author believes that in the majority of cases the death of the parasite in an hydatid cyst is due to changes in and around its capsule, and that these changes are most likely to occur in organs in which fibrous overgrowths are common. The author believes that early removal of the entire cyst contents is the only rational treatment of the disease. [J. M. S.]

10.—Nuttall and Dinkelspiel have injected rabbits by the peritoneal route with horse, dog, ox, sheep and human serum and have been able to observe the formation of specific precipitins in their blood. The antisera have been tried on 24 different bloods with, with few exceptions, uniformly negative results. Bloods which have been dried for 2 months gave a positive reaction when tested with their particular antiserum. The authors conclude that these precipitins are specific although they may produce a slight reaction with the serums of allied animals. The substances in the serum which brings about the formation of a precipitin, as also the precipitin itself, are remarkably resistant. This test can be applied to a blood which has been mixed with that of another animal. The authors believe that this is the most delicate test for detecting and differentiating bloods and hope that it will be put to forensic use. [J.M.S.]

11.—Robertson describes 3 cases which seem to show that epileptics often commit criminal acts of which they are entirely unconscious and for which they are of course not responsible. [J. M. S.]

LANCET.

Mar 11th, 1901.

1. The Erasmus Wilson Lectures on the Pathology and Diseases of the Thyroid Gland. WALTER EDMUNDS.
2. An Address on the Importance of the Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Insanity. ROBERT JONES.
3. Local v. General Anesthesia in Certain Cases of Abdominal Surgery. THOMAS H. MORSE.
4. The Etiology and Treatment of Convergent Squint. CLAUD WORTH.
5. Diseases of the Maxillary Antrum, their Symptoms, Causes and Treatment. ADOLPH BRONNER.
6. Mental Fatigue in School Children. JOSEPH BELLEI.
7. Three Cases of Myxedema of Varied Type. WILLIAM WYLLYS.
8. Medical Notes on the Life of Edward Gibbon, the Historian. WILLIAM H. HORROCKS.

1.—Abstract will appear when the lectures are concluded.

2.—Jones delivered an address before the South Eastern Division of the Medico-Psychological Association on April 24th, 1901, on the importance of the teaching of insanity to the medical student and practitioner. In Great Britain and Ireland there is on an average one insane person to every two hundred and sixty-six persons of the population. The law pertaining to insanity imposes a great responsibility upon the medical men in certification. On an average each member of the medical profession in England has issued five certificates. The author states that this duty of the physician is of far less importance when compared with the duty of prevention and treatment of insanity. He suggests that the teaching of mental disorders should be a part of the curriculum of every medical school. One of the chief reasons why the student should be familiar with the study of insanity, is that the disease can be most successfully treated in its early stages, and therefore its recognition at this time becomes most important. He also suggests that every public asylum should become a school for post-graduate teaching. [F. J. K.]

3.—Thomas H. Morse advises the use of local anesthesia in those cases of acute peritonitis, internal hemorrhage and intestinal obstruction where the patient's condition is so bad that the effect of a general anesthetic is to be feared. He reports 5 cases in which he has used local anesthesia in making an abdominal section and in three instances the patient recovered. Two of the cases which recovered were ruptured tubal pregnancies. Very little pain was complained of during the operations excepting in the cases just referred to, where dragging upon the tube produced some pain although the ligation caused none. The author thinks that pain is less acutely felt when the patient is *in extremis*. He refers to a case of strangulated umbilical hernia which died after operation under general anesthesia, due to the fact that some of the fecal vomit found its way into the air passages. [J. H. G.]

5.—Adolph Bronner discusses the diseases of the maxillary antrum. Up to the 6th or 7th year the antrum should always be opened through the middle nasal meatus and not through the alveolus. Cases of acute empyema of the antrum were rare prior to the recent epidemics of influenza. The pain in these cases is intermittent and depends greatly upon the amount of fluid in the antrum. The teeth are painful and will frequently cause the attendant to suspect that they are diseased and the cause of the empyema. These cases usually recover spontaneously. Chronic empyema is very common and the idea that this condition gives rise to distressing symptoms, such as distension of the cheek, severe pain, etc., is a mistake, the subjective symptoms being in truth very slight. Intra-orbital neuralgia, and more frequently pain over the nose and orbit, are very common. The condition is frequently mistaken for disease of the frontal sinus. A blocking of one nostril and nasal discharge and a bad smell are frequent symptoms, particularly the latter. The discharge and the smell are more marked when the patient bends the head forward or to one side. The irritation of the pus gives rise to polypi, hypertrophy of the middle turbinated, and dryness of the throat. The so-called incurable cases of ozena are usually those in which the antrum is involved. Where the cheek is distended the cause is usually a cyst and not an empyema. In these cases an opening should be made into the lower meatus with a trocar and the cavity washed out. The author does not think transillumination of great benefit. He denies the existence of "hydrops" of the antrum, these cases always being cysts. Cysts of the antrum are nearly always of dental origin caused by the retention of unerupted teeth or due to inflammatory changes in the root membrane of an already erupted tooth. Carcinoma is the most common form of neoplasm found in the antrum and its first symptoms are severe pain in the cheek and nasal discharge. Nasal polypi are frequently present and bleed freely. Removal of the entire upper jaw should be the treatment and the prognosis is fairly good. Morse says that inflammatory conditions of the antrum are rarely due to the teeth and nearly always have their origin in the nasal cavity. The treatment of empyema consists in opening the antrum at lowest point and keeping up the drainage. Morse prefers to open through the alveolus excepting in cases of polypi, large cysts, and when the teeth are all sound, when the canine fossa is preferred. The drainage should be kept up for at least 4 to 6 weeks after all discharge has ceased. [J. H. G.]

6.—Bellei writes upon mental fatigue in school children and draws conclusions upon this subject from 2760 dictations, which observations he collected in 2 months. He found that at the end of the afternoon lessons the worst results were obtained and that at 12.30 P. M., that is, just after the mid-day rest, the best results were obtained. He believes that the morning lessons do not produce great mental fatigue and that the rest at mid-day is of great benefit to the children, the mind, just after this period, being in the best condition. The application, to study, for an hour or so in the afternoon produces marked mental fatigue. [F. J. K.]

7.—Willis reports three cases of myxedema of varied type. The first case was that of a woman, 60 years of age, who presented many of the typical symptoms of myxedema, developed delusions and hallucinations after thyroid treatment had been instituted for a short while. The treatment was then discontinued but the mental excitement did not subside, and finally the patient developed acute mania. She was removed to an infirmary and died within a few weeks. The second case was that of a woman, 45 years of age, the case being of special interest on account of its very insidious onset, making the diagnosis very difficult for a time. The third case occurred in a married woman, 52 years of age, and was instructive from a diagnostic standpoint, because of its marked resemblance to Bright's disease and of its similarity to brain disease. The last two cases improved under treatment with tabloids of thyroïdin. [F. J. K.]

MEDICAL RECORD.

May 25, 1901.

1. Orchitis and Epididymitis in Typhoid Fever. FRANCIS P. KINNICUTT.
2. The Operative Treatment of Umbilical Hernia in Adults. JOSEPH A. BLAKE.
3. The Borderland of Insanity; Where and What is It? HENRY WALDO COE.
4. Recurrent Oculomotor Paralysis; Report of a Case with Remarks. WILLIAM M. LESZYNSKY.

1.—Francis P. Kinnicutt gives a history of two cases of orchitis and epididymitis occurring in typhoid fever. He believes that epididymitis or orchitis occurring in the course of the typhoid fever is a rare lesion, is of typhoid origin, and is only exceptionally due to secondary microbic infection. It develops at a late period of the disease. The lesion is as a rule unilateral. Effusion into the tunica vaginalis is rare and the termination is most often by resolution. Suppuration occurs in 25% of all cases. Localized necrosis and extrusion of testicular tissue is not uncommon, exceptionally there is obstruction of the entire organ, and atrophy of the testicle may occur. The lesion gives rise to very little constitutional disturbance and death from the lesion has not been noted. [T. L. C.]

2.—Joseph A. Blake discusses the operative treatment of umbilical hernia in adults, after first reviewing the pathology of umbilical hernia, and its palliative treatment. Umbilical herniae are divided into two classes,—those in which there is no separation of the recti muscles and those in which these muscles are separated. Lack of muscular tone and fat, by diminishing the contractile power of the recti muscles, tend to the production of this form of hernia in adults. The stretching is not confined to the linea alba but the sheaths of the muscles also participate in the process. Blake thinks that strangulation in umbilical hernia is more frequent than is generally supposed and that when it does occur the prognosis is more grave than in either inguinal or femoral hernia. The results from operation, particularly in large herniae, have not been very satisfactory. The smaller the hernia the better the chance of a radical cure. The condition of the contents will greatly influence the diagnosis. The various methods of radical cure are discussed and the one of lapping the abdominal wall is preferred by the author; he reports three cases operated upon in this way. This method is particularly applicable to the cases in which there is a separation of the recti muscles. It consists in the overlapping of the entire abdominal wall on one side by that on the other. [J.G.H.]

3.—Henry W. Coe discusses the borderland of insanity. His paper in the main is taken up with the sexual phase of the subject. He deplores the erroneous belief that sexual expenditures are necessary for the maintenance of good health, and believes that this fallacy has had much to do with the encouragement of sexual excesses and the consequent prevalence of the class of cases discussed. [T. L. C.]

4.—William M. Leszynsky reports a case of recurrent oculomotor paralysis occurring in a woman 29 years of age and a type-setter by occupation. When 12 years of age the usual paroxysms and ptosis of the right eye occurred, recovery taking place in two weeks. The second attack of oculomotor paralysis occurred in her 19th year, and the third attack in her 22nd year. A fourth attack occurred when she was 27 years of age and the fifth attack three weeks before the patient was seen by the author. Examination at this time showed slight drooping of the right upper eyelid, paralysis of the superior rectus muscle and paresis of the inferior and internal recti muscles. There was no diplopia, as the image of the right eye was suppressed. The excursions of the external ocular muscles of the left eye were normal. The author calls attention to the comparative rarity of this variety of oculomotor palsy and its pathology. He refers to the two authentic cases that have been studied postmortem. Electrical treatment in this case caused recovery in three weeks. [M. R. D.]

NEW YORK MEDICAL JOURNAL.

May 25, 1901. (Vol. LXXVIII, No. 21.)

1. Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); a Clinical Study. H. ILLOWAY.
2. Nasal Condition observed in the Aged. BEAMAN DOUGLASS.

3. What Route shall we Adopt in Examining the Eye Muscles? ALEXANDER DUANE.
4. Ossiculectomy for Chronic Suppurative Otitis Media. J. A. STUCKY.
5. The Importance of the Early Recognition of Abdominal Infections. W. D. HAMILTON.
6. Antistreptococcus Serum in two cases of Puerperal Septic Infection. A. J. PRIMROSE.

2.—Douglass tries to explain why fewer old people complain of nasal catarrh than do younger or middle-aged people, in the following manner: (1) The physiological activity of the nose has been increased so as to overcome the damage from the lesions; (2) That the lesion, with its resulting discharge and reflex pain, is in some way less active, and allows the nose to resume its physiological functions. It is possible that as the system grows older elimination is decreased and there is less demand on the part of the inspired air for heat and moisture to satisfy the physiological function of the respiratory tract. The symptoms of pain, together with those of reflex phenomena, he thinks, depends not so much on the quantity of inflammation or upon the degree of circulatory disturbance and lymphatic obstruction as upon a certain condition of the nervous structures that are distributed through the nares. [T. M. T.]

3.—Duane gives the diagnosis between habitual binocular fixation, an alternating fixation and a uniocular squint as follows: (1) If in binocular uncovering *but one eye moves*, we have heterophoria and not squint; (2) If either *both eyes move* or, in spite of there being an evident deviation, *both eyes remain steady*, there is a squint; (3) In the latter case, if, when the left eye is uncovered, the eyes behave in the same way as they do when the right eye is uncovered (both alike moving or both alike remaining steady, no matter which eye is uncovered, the squint is *alternating*; (4) If, when one eye (for instance, the right) is uncovered, both eyes move, and when the other eye (in this case the left) is uncovered, both eyes remain steady, the squint is *uniocular* (confined in this case to the left eye). [T. M. T.]

4.—Stucky recommends in cases of chronic suppurative otitis media which have existed for a long time, the removal of the necrotic ossicles and part or all of the tympanic membrane and the cavity thoroughly curetted. He also removes the anterior attic wall which will give free drainage and open the way for remedial applications. He gives the advantages of this method as follows: (1) It gives free drainage; (2) It affords an opportunity to successfully combat the suppurative process; (3) It is free from danger to life and health; (4) In a large percentage of cases the disease is arrested, the hearing improved, only rarely made worse; (5) There is no deformity or scar. He does not believe in dry treatment of this disease, as it is inadequate because of the debris collecting around the ossicles and thinks conservative surgery is justified because this hindrance is removed. [T. M. T.]

MEDICAL NEWS.

May 25, 1901. (Vol. LXXVIII, No. 21.)

1. Some Notes on Medical Diagnosis. WILLIAM N. BERKELEY.
2. The Mineral Waters of Mt. Clemens, Michigan, as Viewed and Compared with those of European Watering Places. RICHARD LEUSCHNER.
3. The Treatment of Chronic Purulent Otitis Media. JAMES F. MCKERNON.
4. Tuberculosis of the Iris. WILLIAM F. ...

4.—Mittendorf states that tuberculosis iritis may start in the iris itself or in the ciliary body and the choroid. It spreads very soon from one to the other involving the entire eyeball, or at least its inner parts. It is usually a secondary affection, but sometimes primary. The author divides it into (1) The solitary form, and (2) Multiple form. The multiple he also divides into acute and chronic. It is generally a disease of the young or early middle life and only affects one eye, differing from tuber-

culous affections of the choroid, which attacks both eyes at the same time. In the solitary form the disease assumes a more or less acute stage at once, characterized by the formation of one or more grayish nodules developing on the iris tissue. It consists of inflammatory products with a small number of bacilli and is marked by the early appearance of ciliary infection and is accompanied by intense pain in the eye and forehead. The pain is sometimes so great that enucleation of the eye becomes necessary. In this form there is impairment of vision or destruction of the entire eyeball and not infrequently death, which is brought about by similar simultaneous attacks of the meninges or lungs, or by direct extension of the disease to the brain. The multiple form is not so violent in its onset and there are not so many bacilli present in the deposits. This occurs generally in the earlier stages of pulmonary tuberculosis. We find in the iris this form more than one or two tubercular deposits. There are also pain and photophobia and more or less invasion of the pupillary border of the iris, which in turn leads to the formation of the posterior synechiae. This form runs a much slower course and iritis may be relieved entirely if the general condition of the patient improves, or it may result in occlusion of the pupil with eventual shrinking of the eyeball. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 23, 1901.

1. Municipal Care of the Consumptive Poor. S. A. KNOPF.

1.—In an address before the clinical section of the Suffolk District Medical Society, Knopf emphasized the fact that **pulmonary tuberculosis** is a curable disease as well as a preventable one, provided it is diagnosed early. The mortality from tuberculosis is most frequent between the ages of 17 and 35, just at a period when the individual should be a most useful member of society, a breadwinner and, if possible, a supporter of a family. This is a great economic loss to the community as well as a calamity to the family of which the afflicted person is a member. The most essential requirements for the treatment of a consumptive are good pure air and plenty of it, sunshine and plenty of it, medical supervision and plenty of it. A city tenement house is not a place in which these conditions prevail. Sanatorium treatment, besides including the administration of drugs, teaches the patient to control his cough, except when he has to expectorate; to be rigorously clean and careful with his expectoration and other secretions; how not to take cold; what to do in case of accident; what to avoid and what to do in order to continue on the road to recovery. The regular life that he leads and the hygienic training that he receives are of inestimable value to the patient as well as to his family. One objection to the establishment of a sanatorium for consumptives comes from property holders in the neighborhood, who believe that the disease will spread and that the value of their property will decrease. It can be proved by official statistics that the mortality from tuberculosis in 2 German villages where consumptive sanatoria now exist has been reduced one-third since the establishment of these institutions. An instance was also cited in which the establishment of a sanatorium for the treatment of tuberculosis resulted in an increase in the value of the adjoining property. Each city should have an especially constructed building that should serve as a reception hospital for tuberculous patients whence cases for the city hospital or state sanatorium should be selected. A sanatorium should be established near the seashore for the treatment of tuberculous and scrofulous children. The managers of maternity hospitals should set apart the best-lighted and best-ventilated wards and rooms for the exclusive treatment of tuberculous pregnant women. A tuberculosis commission should be formed composed of physicians and laymen. The duties of this commission should be (1) to determine the applicant's condition by a medical examination and

to assign him to the proper hospital or dispensary for treatment; (2) to visit the home of the patient and to institute such hygienic measures as seem necessary to prevent further contamination; (3) to examine the other members of the family in order to determine whether any of them have contracted the disease and to counsel proper treatment; (4) to make full report to the sanitary authorities as to the condition of the patient's dwelling; (5) to distribute literature and to give advice concerning the prevention of tuberculosis and hygiene in general; (6) to determine the financial condition of the applicant for treatment and the condition of other members of the family if it is the father who is removed. [J. M. S.]

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 25, 1901.

1. The Pathology of Active Tuberculosis of the Pericardium. H. GIDEON WELLS.
2. Tuberculosis of Fascia. J. CLARK STEWART.
3. Sarcoma of the Pancreas. GEORGE A. BOYD.
4. A Case of Epithelioma Developed on the Basis of a Healed Lupus Vulgaris Treated by X-Rays. DAVID LIEBERTHAL.
5. Urethral Implantation into the Bowel for Diversion of the Urine. An Experimental Research. JACOB FRANK.
6. An Overlooked Nasal Factor in Ear Disease. CHEVALIER JACKSON.
7. Compound Fracture of Olecranon with Dislocation of Both Bones of Forearm. E. N. TORREY.
8. Tubercular Disease of the Knee-Joint and Hip-Joint in Children. Diagnosis and Treatment. EDWARD A. TRACY.
9. Cough Due to Reflex Irritation in the Upper Air-Passages. FRANK S. MILBURY.

1.—Wells gives an account of the pathology of active tuberculosis of the pericardium and reports ten cases. Three of these cases were of the chronic miliary variety accompanied by fibrous adhesions. In three there was an acute miliary eruption accompanied by a serous or bloody fluid, mixed with fibrin, in the pericardial sac. In three cases caseous masses and fibrous synechia were found, and in one case acute inflammation of the pericardium was present, without tuberculous lesions, due to tuberculous toxin. A general tuberculosis, of the lungs and of the abdominal viscera, was found in this case. Wells states that the bacilli may be carried to the pericardium with the lymph stream, this being the most common manner in which infection takes place; or the bacilli may gain entrance through the blood stream or by extension—from the mediastinal glands, the pleura, the myocardium, and the vertebrae. As a rule, tuberculous pericarditis terminates in death, but it is possible for healing to occur. Commonly death, in cases of tuberculosis of the pericardium, is not due to causes relating to the heart, but results from tuberculosis of some other part of the body. Rarely is tuberculosis pericarditis recognized during life as the condition is generally unaccompanied by symptoms referable to the heart. [F.J.K.]

2.—Stewart discusses tuberculosis of fascia and concludes that this condition occurs with sufficient frequency to entitle it to more general attention. He recognizes two varieties, (1) primary acute cases, the most important feature of these being an extensive cheesy degeneration; (2) chronic cases, which are, as a rule, secondary, accompanied by hyperplasia of connective tissue with disseminated areas of caseation. He maintains that it is essential to distinguish these forms in order to properly institute surgical treatment. Inoculation experiments may be necessary to demonstrate the tuberculous character of the fibrous tissue, and he believes that the fibrous tissue resulting from tuberculous infections should be regarded as tuberculous tissue, and therefore should be treated accordingly. [F.J.K.]

3.—Boyd reports a case of sarcoma of the pancreas which occurred in a male, 47 years of age. The patient was admitted to the Policlinic Hospital, Chicago, on November 16, 1898. His family and previous personal history did not throw any light upon his condition. The patient noticed a lump in his abdomen and complained of a pain in that region in June 1898. An exploratory laparotomy was made on November 23d by Dr. Harris. It was found that the case was inoperable, so further procedure was aban-

done. The patient died a short time after the operation. A complete autopsy was not performed, however, the abdomen was opened and the tumor removed, which, upon microscopical examination, proved to be a sarcoma. [F. J. K.]

4.—Lieberthal gives an account of a case of epithelioma developed on the basis of a healed lupus vulgaris. The patient developed lupus when two years of age and suffered from this condition until he was 12, then for a period of 38 years he enjoyed comparatively good health. About 8 months ago a painful nodule appeared on the left side of the lower jaw. This mass increased in size very rapidly; the diagnosis of epithelioma of the face was confirmed by microscopic examination of the tumor. The application of the X-Ray was suggested, and it appears that the growth of the neoplasm was not checked. The mass had flattened somewhat but it spread towards the chin about an inch. [F. J. K.]

5.—Jacob Frank discusses ureteral implantation into the bowel which he thinks should never be an operation of choice but only one of necessity. It is preferable to nephrectomy, and is justifiable in certain cases of cancer of the bladder in which the outlets of the ureters are encroached upon. Unilateral implantation is indicated where the ureter is wounded high up in case an anastomosis or repair cannot be made. The author reports 10 experiments which he has performed on dogs. The technic of the operation is minutely described and illustrated. An incision is made longitudinally through the peritoneal coat which is then loosened and retracted. The muscular and mucous coats are then divided longitudinally, the ureters inserted and fixed to the mucous membrane below this incision, which is then closed transversely. The transverse closing of this longitudinal incision tends to lessen any compression of the ureter. The peritoneal coat is then sutured. This method prevents any possible infection of the peritoneal coat by means of the sutures, as those entering the bowel are entirely enclosed below the peritoneal coat. In a large majority of dogs operated upon inflammatory changes in the kidneys took place. [J. H. G.]

6.—Chevalier Jackson thinks that a much overlooked nasal factor in ear diseases consists in the hypertrophic thickening which takes place at the posterior margin of the vomer and which results in a deflection of the inspired air against the Eustachian eminences. The author has found this hypertrophy of the vomer to be present in 25% of his private ear cases and in 11% of his nose and throat dispensary patients. Operations are frequently done upon the inferior turbinals when the real cause of the trouble lies in the vomer. It is urged that where this hypertrophy exists with ear disease that it should be completely removed and that wherever it is found alone it should be removed in order to prevent subsequent ear disease. In relieving stenosis it is a mistake in removing the posterior turbinal hypertrophy to take away so much as to expose the Eustachian eminence to the direct blast of the inspiratory current. [J. H. G.]

8.—Edward A. Tracy urges upon the general practitioner the great necessity of being able to diagnose early tubercular lesions of the joints, since the early institution of treatment has so great an influence upon the prognosis. Since slight injuries of the knee-joint in individuals with a tubercular tendency are so apt to give rise to serious trouble, the family history and predisposition of the patient should always be carefully inquired into in case of injury to joints. The chief diagnostic signs of tubercular knee-joint diseases are limitation of motion, enlargement of joint measurements, tenderness on pressure and muscular spasm elicited by attempting passive motion. In acute cases heat is often present. The treatment of this condition consists in immediate fixation of the joint and rest, together with the proper hygienic and constitutional treatment. The author thinks that plaster-of-paris is an ineffectual method of producing fixation and recommends instead the wood-plastic material. This should be moistened and applied next to the skin. As improvement takes place the patient should be gotten out of bed and, if over six years of age, should be made to use crutches, but if younger than this a Thomas splint should be applied. The early symptom of tubercular hip-joint disease is limitation of the normal motions of the joint together with the usual well-known symptoms, such as pain and limp. The principle of the treatment here is the same as in diseases of the knee-joint, fixation and rest, and here again the wood-plastic material

is recommended after any flexion of the thigh which may be present, has been overcome. [J. H. G.]

9.—Milbury maintains that when cough is spasmodic or when cough is unaccompanied by physical signs of pulmonary disease, or when cough persistently resists all medication for permanent relief, it is of reflex origin. He further states that when there is comparatively little disturbance of the general health, and when upon removal of the cause the cough ceases, it should also be regarded reflex in origin. [F. J. K.]

AMERICAN MEDICINE.

May 18th, 1901.

1. Diseases and Deformity of the Knee: Etiology, Diagnosis and Treatment. DANIEL W. MARSTON.
2. The Cause of Cancer. THOMAS S. CULLEN.
3. Slow Pulse, with Special Reference to Stokes-Adams Disease. ROBERT T. EDES.
4. The Toxin of the Colon Bacillus. VICTOR C. VAUGHAN.
5. A Plea for Uniformity of Technic in Widal's Reaction. RANDLE C. ROSENBERGER.
6. The Effect on the Blood of Ether Used as an Anesthetic. CHALMERS DE COSTA and J. KALTEYER.
7. Blood Examinations as an Aid to Surgical Diagnosis. JOSEPH C. BLOODGOOD.
8. Fractures and Dislocations of the Spine. STEPHEN H. WEEKS.

1.—Will be abstracted when concluded.

4.—Victor C. Vaughan has found in his work on the bacteriology of cheese that the colon bacillus is present in practically all samples of American green cheese, and has determined that cultures of this germ may be boiled without destroying its toxicity. The facts that he has learned may be summed up as follows: The toxin is not contained within the germ-cell from which it does not, at least under ordinary conditions, diffuse into the culture media. The toxin is not extracted from the cell by either alcohol or ether. Very dilute alkali do not extract the toxins from the cells. The germ substance may be heated to a high temperature with water without destruction of the toxin. Boiling with a 2% solution of hydrochloric acid, has but little if any effect upon the germ cell or its contained toxin. The toxin as separated from the cell wall by digestion of the latter with HCl and pepsin is markedly active.

[T. L. C.]

5.—R. C. Rosenberger makes a plea for uniformity of technic in the Widal reaction. He emphasizes the following points: (1) The use of a uniform dilution. (2) A definite time limit. (3) An agreement as to what constitutes a positive reaction. (4) The use of a culture of definite age and a clear statement as to incubation or non-incubation. (5) A decision as to whether dry blood, fresh blood or serum is to be used. (6) A stated number of tests to be made in a given case. (7) To drop the terms "doubtful" and "pseudo-reaction," and (8) To use the terms "positive" and "negative" only. [T. L. C.]

7.—Joseph C. Bloodgood presents the abstract of his paper on blood examinations as an aid to surgical diagnosis. Observations have shown that there is a leukocytosis of 15,000 to 24,000 following hemorrhage. There is also a diminution of the red blood cells and the hemoglobin. In severe hemorrhage the blood count will indicate to a certain extent the amount of blood lost, but not usually until 6 to 10 hours after the hemorrhage. Less than 30% of hemoglobin is regarded by most surgeons as a contra-indication to operation. He mentions the importance of the study of post operative leukocytosis, and mentions the increase of white blood cells in the first 24 to 48 hours after laparotomy between benign abdominal distension and obstruction or peritonitis. In appendicitis there are usually valuable indications to be derived from the study of white blood cells. Cases of the recurrent variety there is rarely an increase. In a few instances when the case is first observed within 48 hours after the beginning of the attack when the symptoms have subsided, there have been a few leukocyte counts of 11,000 which have rapidly fallen to 10,000 and 7,000. The rapid rise of the leukocyte count is

an important indication for the necessity of operation. The record of leukocyte counts in subacute appendicitis and the differentiation between abscess and peritonitis is discussed as well as leukocytosis occurring in intestinal obstruction. [T. L. C.]

8.—Stephen H. Weeks reports a case of a patient aged 70 who sustained a fall from a ladder and who presented on examination a deformity of the cervical spine at about the fourth or fifth vertebra. A laminectomy was performed. The laminae of the fourth and fifth cervical vertebra were found broken and depressed. The patient made a good recovery and in 5 weeks was able to sit up in a chair. The author believes that the surgeon should perform an experimental laminectomy in every case if the condition of the patient is such as to justify operation. Drainage is usually required for two or three days. The spine is best supported during the healing process by plaster of Paris dressing or by sand bags placed on each side of the patient. [T. L. C.]

May 15, 1901.

1. Apoplexy and Hemiplegia. HAROLD N. MOYER.
2. A Case of Intermittent Claudication. DAVID RIESMAN.
3. Disease and Deformity of the Knee; Etiology, Diagnosis and Treatment. DANIEL W. MARSTON.
4. Chronic Heart Disease in Children Relieved by Systematic Movements. JOHN MADISON TAYLOR.
5. Peripheral Venous Thrombosis in Cardiac Disease, with Report of a Case. J. A. MacGREGOR.
6. A Hitherto Undescribed Reaction Following the Inoculation of Vaccine Virus. A Preliminary Report. HEINRICH STERN.
7. Pregnancy Complicated by Fibroid Tumors. Cesarean Hysterectomy at Eighth Month. MARY ALMIRA SMITH.
8. On the Use of Alcohol in Treatment of Carbolic Acid Burns and Poisoning. F. PIRKNER.
9. The Mission of a Medical College. W. W. KEEN.

2.—Riesman reports a case of intermittent claudication, a condition first described by Charcot in 1858. The symptoms of the condition in general are a sensation of pain and numbness in the legs shortly after the patient starts to walk, the walking becomes impossible. After a short rest locomotion can be resumed only to be again interrupted as at first. The patient thus becomes intermittently limping. Sensation is usually normal, objectively; subjectively the patient often experiences various paresthesias. Gangrene is of common occurrence (in seven out of twenty-four cases reported by Goldflam). The majority of patients are men. The etiology of the disease coincides with that of arteriosclerosis. Syphilis, alcohol, exposure and tobacco, and perhaps diabetes, play a role. In Riesman's case examination of the arteries of the feet showed that pulsation was entirely absent in both dorsales pedes. There was shortness of breath on exertion, transient aphasia and gastric symptoms. As to treatment, Riesman's case was benefited by the iodides and nitroglycerin. The alkaline mineral waters are helpful. The patient should avoid fatigue and protect himself carefully from cold and dampness. [T. L. C.]

5.—J. A. MacGregor reports a case of peripheral venous thrombosis occurring in cardiac disease. Six weeks before death there appeared the evidences of thrombosis of the left axillary, subclavian and internal jugular veins. The onset was marked by pain and swelling and there was tenderness over the vessels. Edema of the lungs caused death. An autopsy was not performed. The patient was a sufferer from mitral stenosis and the thrombosis appeared during broken compensation. The length of life of the patient in this condition must have been attributable to the establishment of a sufficient collateral circulation. Twitching of the arm and leg was noticed several hours before death, and may have been caused by the jugular thrombosis. [T. L. C.]

6.—Heinrich Stern has investigated the question as to whether the gouty and kindred phenomena may disappear after vaccination. He reports two experimental inoculations. The gouty pains disappeared in both instances. And he mentions that the same may stand as the foundation of many affections which are clinically regarded as gout, rheumatism and neuralgia. Since vaccine lymph hardly possesses solvent or specific eliminating properties he regards the reaction as secondary or indirect. [T. L. C.]

7.—Smith records a case of pregnancy complicated by

fibroid tumor in which a Cesarean section was performed at the eighth month followed by hysterectomy by Baer's method. The patient died from heart failure, the result of an old endocarditis. [W. A. N. D.]

THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

May, 1901. [Vol. 28. No. 5.]

1. A Study of the Cases of Tabes Dorsalis in Prof. M. Allen Starr's Clinic, Columbia University, from January, 1888, to January, 1901. A. B. BONAR.
2. The Scapulo-Humeral Reflex of von Bechterew. WILLIAM PICKETT.
3. Psychical Form of Epileptic Equivalent. CHARLES CARY and J. ULLMAN.
4. Cases Illustrating the Differential Diagnosis of Cerebral and Hysterical Hemianesthesia. CHARLES K. MILLS and THEO. H. WEISENBERG.

1.—Bonar in his study of a large number of cases of tabes dorsalis gives the following symptoms with the percentage of each: Loss of knee-jerks, 92.5; Changes in knee-jerks, 3.69; Romberg symptom, 79.02; Change in pupillary reaction, 78.67; Pains in the legs, 78.67; Ataxia in legs, 70.62; Vesical disturbance, 62.23; Paresthesia and numbness, 54.54; Girdle sensation, 48.6; Loss of muscular sense, 28.32; Crises, 16.78; Pains in trunk, 12.93; Optic nerve atrophy, 8.74; Ataxia in arms, 7.69; Pains in arms, 6.99; Loss or diminution of sexual instinct, 6; Pains in thighs, 4.89; Ocular paralyses (strabismus, diplopia, etc.), 3.21; Nystagmus, 2.44; Arthropathies, 2.09; Constriction around legs or thighs, 1.74; Tremors, 1.74; Perforating ulcers of foot, 1.39; Muscular atrophy, 1.39; Anosmia, 1.04; Deafness, 0.69; Vertigo, 0.34; Loss of taste, 0.34. [T. M. T.]

2.—Prickett describes the scapulo-humeral reflex of von Bechterew as one elicited by the percussion hammer along the entire inner edge of the shoulder blade beneath its inner angle—most markedly at the inner edge of the inferior angle. It consists in adduction of the corresponding humerus toward the trunk, often also in slight outward rotation, mainly produced by contraction of the infraspinatus muscle, and apparently of the teres minor. According to von Bechterew it is influenced in the following conditions: It is absent in poliomyelitis, in the spinal form of progressive muscular atrophy, in neuritis when the shoulder girdle muscles are affected; diminished or absent in muscular dystrophy and in "rigidity of the spinal column." It is exaggerated in cerebral hemiparesis or hemiplegia, especially when there is marked atrophy of the shoulder girdle muscles. Thus in determining whether such atrophy be of spinal, neuritic, or cerebral origin in a given case, the state of the scapulo-humeral reflex is significant. [T. M. T.]

UNIVERSITY OF PENNSYLVANIA MEDICAL BULLETIN.

May, 1901.

1. A Trimanual Method of Percussion for the Detection of Cystic or Loculated Fluids in the Abdomen. JOHN G. CLARK.
2. Recent Statistics on the Primary and Ultimate Results of Hysterectomy for Cancer of the Uterus. JOHN G. CLARK.
3. Diagnostic Curettage of the Uterus, Associated with Fibroma of the Inguinal Canal. JOHN G. CLARK.
4. Unique Pathological Changes in Two Cases of Uterus Bicornis Unicollis, etc. JOHN G. CLARK.
5. A Practical Application in Abdominal Surgery of Scientific Investigations on the Function, Anatomy and Pathology of the Peritoneum. JOHN G. CLARK.
6. A Series of Twelve Articles on Medical Men Prominent in Civil and Military Affairs of Revolutionary Times. FRANCIS R. BACKARD.

1.—Clarke describes a new method of percussion for the detection of cystic or loculated fluids in the abdomen. It is a trimanual method consisting in the usual bimanual examination of the pelvic mass while the percussion is performed by an assistant. In this way the intestines inter-

vening between the anterior abdominal wall and the tumor are excluded. He describes an illustrative case. [W. A. N. D.]

2.—Clark has made a study of the recent statistics on the primary and ultimate results of hysterectomy for cancer of the uterus. He remarks that he is forced to confess that these statistics show that the operative treatment has not yielded as satisfactory results as has been anticipated. The great majority of cases operated upon have died within six years from the recurrence of the disease. The adenocarcinoma of the body of the uterus gives the best results if the operation be performed at a very early stage. In cancer of the fundus there is no recurrence in these cases. Winter's statistics show that the immediate mortality following operations for cancer of the uterus varies between 5.7% and 10.8%. From his review of 308 cases he reaches the conclusion that vaginal hysterectomy cannot be considered a radical means of cure, and also that the indications for operation, cannot be further extended. Schuchardt's operation, according to Clark, has not and will not have an extensive acceptance among surgeons for obvious reasons. If vaginal hysterectomy is the operation of election, the clamp method is to be preferred to the ligature method, first, when it is necessary to rapidly complete the operation, and, secondly, when it is difficult or impossible to place ligatures on account of the dense fixation of the uterus. Winter's final conclusion with regard to inoculation-growths are as follows: 1, the inoculation and growth of cancerous tissues into fresh wounds may be accepted as an established fact; 2, this factor unquestionably plays a rôle in the local recurrences after cancer operation; 3, on account of the lack of statistics it is impossible to state the frequency of these recurrences, but unquestionably a simple continuance of the local growth is much more frequent than inoculation-growths. Clark remarks that the ordinary clinical diagnosis of these cases is extremely difficult and in many instances impossible, and only through a careful microscopical examination of curettings can be definite decision be reached. [W. A. N. D.]

3.—Anspach reports two cases of endometritis closely simulating cancer of the fundus in order to emphasize the fact that the microscope as a means of exclusion is quite as valuable as in the positive diagnosis of cancer. He claims that the microscopic examinations of uterine scrapings in cases of suspected carcinoma may be of value in differential diagnosis either as a positive or negative factor. It is positive when the examination shows without question the presence of cancer; it is of just as great value when it as certainly reveals the benign nature of a pathological process which has given rise to symptoms characteristic of cancer. [W. A. N. D.]

4.—Clark remarks that of the malignant tumors of the uterus cancer is by far more frequent than sarcoma. Cancer of the uterus most frequently arises from the cervix, and seldom in the fundus. Sarcoma on the other hand rarely arises in the cervix but almost always from the fundus. This peculiarity in relationship of the two growths, as to the part of the uterus from which they spring, has been offered in support of the hypothesis that sarcomata of this organ most frequently are malignant transformations of myofibromata. The fact that a tumor had appeared in the inguinal region subsequent to the uterine growth in the case that Clark reports of sarcoma of the uterus confused very decidedly the diagnosis, for sarcoma seldom, if ever, gives metastasis to the inguinal glands, whereas this is not infrequent in cancer of the fundus. Sarcomas arise either from the endometrium or from the uterine wall. The endometrial variety is much more frequent. Gessner has formulated the following law concerning the origin of these new growths: round-cell, and a majority of the spindle-cell sarcomata, spring from connective tissue. A small proportion of the latter, however, may be transformed from muscle-cell. The points of interest in a case reported by Clark are: 1, a history significant of myoma uteri; 2, the consistence and appear-

ance of the tumor that of sarcoma, although the later occurrence of the tumor of the inguinal canal was significant of cancer of the uterus; 3, confirmation of the clinical diagnosis as to sarcoma of the uterus, and correction of the diagnosis as to malignant tumor of the inguinal glands by microscopic examination; 4, the coincidence of two rare pathological conditions, sarcoma of the fundus and fibroma of the inguinal canal, most probably of the round ligament. [W. A. N. D.]

5.—Clark reports unique pathological changes in two cases of uterus *bicornis unicollis*—(1) unilateral pyometra and pyosalpinx; (2) myoma. He remarks that in view of the peculiar development of the uterus through fusion of the lower segments of the two Müllerian ducts to form one common uterine cavity, it is surprising that malformations are so infrequent, especially when animals in the higher evolutionary scale, such as the cat, dog, pig, cow, etc., all have bicornate uteri. [W. A. N. D.]

6.—Clark makes the study of the investigations during the last six years of various scientists upon the functions and anatomy of the peritoneum. In 1896 as a result of the combined study of 1700 abdominal section cases, and the review of the literature bearing upon the structure and function of the peritoneum, he took radical ground against abdominal drainage as then generally employed and advocated certain measures which were in direct opposition to principals then generally in vogue. He favored the thorough irrigation of the peritoneal cavity, at the completion of an abdominal operation to remove as far as possible all debris, blood and infectious matter, and then the leaving of a considerable quantity of salt solution (0.6%) in the peritoneal cavity to disseminate and promote rapid absorption. He reviews the experiments of Wallgren and gives the latter's conclusions. Based upon practical experience in a large series of abdominal sections, and sustained by his own and the scientific investigations of others, he believes that the thorough irrigation with normal solution of the peritoneal cavity after abdominal operation for the purpose of removing all possible debris or infectious matter and then leaving large quantities of salt solution is the most effective preventive measure we have against post-operative peritonitis. [W. A. N. D.]

MUENCHENER MEDICINISCHE WOCHENSCHRIFT.

March 19th, 1901.

1. Experimental Investigations upon Disinfection of the Hands. PAUL and SARWEY.
2. Clinical Experiments upon the Treatment of Pulmonary Tuberculosis with Intravenous Injections of Cinna-niate of Soda. KUHN.
3. Further Communications upon the Therapeutic Value of Heroin and Aspirin. NUSCH.
4. The Treatment of Gonorrhoea with Protargol. NIESSEN.
5. Contribution to the Technique of the Re-Position of congenital Dislocation of the Hip, according to Lorentz. SCHLESINGER.
6. The Treatment of Ileus with Atropine. SIMON.
7. Another Case of Ileus Treated with Atropine. HOCHTLEN.
8. The Treatment of the Leg Ulcers. SCHULZE.
9. Max von Pettenkofer. LEHMANN.

1.—In a careful review of the literature, Paul and Sarwey call attention to the various modifications of the solutions of corrosive sublimate that have been designed to render it more efficient, that is to say, to increase the quantity of mercury in the solution, which is of course the only effective agent. The more complex the molecule of which the mercury forms a part, the less is its mercuric power, and the same is true of the various preparations containing silver. Much depends upon the solvent for instance nitrate of silver in 50% alcohol manifests its maximum effect. In the discussion of the methods employed to render the mercury harmless, they have experimented with Geppert's solution of hydrogen sulphide in liquor ammoniae. It was found that if the sublimate solution was allowed to act for six minutes that the number of spores capable of developing depended directly upon the percentage of ammonium sulphide employed. This method,

therefore, diminishes the bactericidal effect of the anti-septic. The authors do not approve of artificial disinfection of the hands before performing the experiments. They do not agree with Kroenig that sterilization of the hands is complete when they are no longer capable of infecting the body, but insists that we should discover some method which renders the site of operation, provided it is not previously infected, absolutely free of germs, in order that when it heals it will act just as a subcutaneous injury. [J. S.]

2.—Kuhn has experimented upon 11 cases of various forms of pulmonary tuberculosis with hypodermic injections of *Haetol*, that is, sodium cinnamate. It does not seem clear just how this acts, for it appears unlikely that it is due to the leukocytosis produced by the injection. At any rate, it is entirely harmless, and in a small number of cases a certain amount of improvement could be observed. As, however, the usual forms of hygienic treatment were employed, this improvement can be ascribed as well to them as to the injections. In one of the 4 cases that died an autopsy was performed, and considerable induration of the pulmonary tissue discovered. This, however, is not an uncommon phenomenon. [J. S.]

3.—Nusch reports his experience gained in Neukirch's clinic with heroin and aspirin. Heroin, or triacetate of morphia, is considerably less poisonous than morphia or cocaine. It may be given with considerable safety in doses of one-twelfth to one-sixth gr. (.005 to .01). It quiets cough, increases the depth of respiration, and in large doses often causes the patients to sleep, although it has no direct hypnotic action. Apparently it does not quiet pain. It is particularly useful in tuberculosis of the larynx. Aspirin does not appear to have the objectionable effects of salicylic acid, and rarely produces tinnitus or headache. It is particularly effective in cases of acute and chronic rheumatism, and seems to have a considerable antipyretic action, even in such severe cases as pulmonary tuberculosis. The dose is 15 grs. (1.0) from 5 to 2 times daily in acute cases, or 4 times daily in the more chronic cases. It is also useful in neuralgias. [J. S.]

4.—Niessen, as regimental surgeon, has had opportunities of treating 236 cases of gonorrhea in the course of one year. He used solutions of protargol, $\frac{1}{2}\%$ in strength for the first 2 weeks, increasing gradually if the secretion persisted. Ninety-nine of these cases had their first attack, and from these he deduces his statistics. The time required to obtain a cure ranged from 5 to 43 days. In 34 of these cases there were complications. Comparing his series of 670 cases treated during 1896, he found that the average duration of the attack was no better with protargol than with other methods of treatment. Its advantage is that it is rather less painful. [J. S.]

5.—Schlesinger describes a modification of Lorentz' method of reducing congenital dislocation of the hip. If the first attempt fails the limb is placed in the position for reposition, and fixed by means of a plaster bandage for 3 or 4 days. In the first day there is usually considerable pain. Reduction is then again attempted, and in the great majority of cases is accomplished with extraordinary ease. In one case it occurred whilst the bandage was in position. If, however, it cannot be accomplished, the plaster cast is applied, and in all cases hitherto treated, the third attempt has been successful. He reports 5 cases ranging in age from 6 to 13 years. [J. S.]

6.—Simon reports the case of a woman 29 years of age, who, 8 days after delivery had diarrhea and vomiting followed by chills and severe pain in the abdomen. This was followed by all the symptoms of intestinal obstruction. Accordingly an injection of one-sixtieth grain of atropine was given, followed by three others the next day. The pulse became slower and the general condition of the patient improved, but there was no movement of the bowels. Accordingly, on the third day one-thirtieth grain of atropin was injected, repeated in 6 hours, and the following morning there was a liquid movement of the bowels, followed by diarrhea and complete recovery. The patient was slightly delirious after the large injections. [J. S.]

7.—Hochtlen reports the case of a woman 71 years of age, who had had attacks of appendicitis and peritonitis. She had severe constipation, followed in 4 days by vomiting and distension of the abdomen. As the symptoms were

not relieved by a large enemata one-twentieth grain of sulphate of atropin was administered on the 7th day. There was some delirium, and the patient complained of dryness in the throat. A subsequent injection was therefore not made, but the patient was from time to time given an enema and morphin. She finally died in collapse. At the autopsy it was found that the transverse colon was occluded by firm peritoneal adhesions, and the case was one that manifestly could be helped only by an operation. [J. S.]

8.—Schulze recommends a salve containing camphor, composed according to the following formula, for leg ulcers:

Camphor. 2 parts
Oxide of zinc. 15 to 20 parts
Lard q. s. ad 100 parts

In some cases where this is too stimulating he employs the following formula:

Camphor. 2 parts
Olive Oil. 50 parts
Zinc oxide. 40 to 50 parts

Cloths are soaked in this and laid over the ulcer. Application is to be made 2 or 3 times every day. The patients necessarily must keep still. [J. S.]

SCOTTISH MEDICAL AND SURGICAL JOURNAL.

March, 1901. (Vol. VIII, No. 3.)

1. The Edinburgh Hospital in South Africa and its Work. FRANCIS D. BOYD and GEORGE L. CHIENE.
2. Gastric Hemorrhage and Its Surgical Treatment. A. W. MAYO ROBSON.
3. A Case of Acute Cellulitis Treated by Antistreptococcic serum. FRANCIS KELLY.
4. A Plea for the More General Use of Ether as an Anesthetic in General Surgery. THOMAS D. LUKE.

2.—Robson in his article urges the following treatment in gastric ulcer: (1) All cases of acute uncomplicated gastric ulcer should be submitted to thorough medical treatment in the shape of long-continued rest and attention to diet, the cases not being allowed to get up or to resume solid food until at least a fortnight after all disappearance of pain; (2) Where the ulceration persists and proves intractable to medical treatment, or where relapses occur, gastro-enterotomy should be performed, so as to secure physiological rest and relieve the hyperacidity of the gastric juice nearly always found in such cases; (3) Perforation demands immediate surgical treatment; (4) The complications of disabling adhesions around the stomach and pylorus, pyloric contraction and hour-glass contraction due to chronic ulcers leading to pain, dilatation, loss of flesh and general impairment of health, and now often treated as chronic indigestion, should always be treated surgically; (5) In recurring, or so-called chronic hematemesis from gastric ulcer, surgical treatment is decidedly called for; (6) In acute hematemesis, further accuracy in diagnosis as to the size of the bleeding vessels is urgently needed; and the co-operation of the physician and surgeon is advisable in all cases of hematemesis, so that if relief be not obtained by medical and general treatment, surgical means may be adopted if the bleeding is believed to occur from a large vessel; but seeing that capillary hemorrhage is capable of relief by medical means alone, medical should always precede surgical treatment. [T. M. T.]

4.—Luke concludes by referring to the Hyderabad Commission's Report as follows: (1) That the mortality from anesthetics had been unduly high and by improved methods and greater care the death rate can be lowered; (2) That ether, when properly administered from an inhaler permitting graduation of the strength of the vapor, is the safest anesthetic for general surgery in temperate climates; (3) That nitrous oxide gas for minor surgery and dental operations should replace chloroform; (4) That chloroform, when given by a carefully trained person, is a comparatively safe body, but in no case devoid of risk; (5) That no age or nationality removes the danger under anesthetics; (6) That the perils of anesthetics, however slight, demand that the undivided attention of a duly qualified and trained medical man be given to the administration of the anesthetic. [T. M. T.]

Original Articles.

TWO SUCCESSFUL CASES OF SECONDARY SUTURE.
ONE OF THE POSTERIOR INTEROSSEOUS NERVE
AND ONE OF THE MEDIAN AND ULNAR NERVES.

W. W. KEEN, M. D., LL.D., F.R.C.S. (Hon.),

CASE I.—*Interosseous nerve, common extensor muscle of the fingers, followed by total loss of extension of the fingers; suture after three months; entire restoration of function.**

W. B. H., of Pine Bluff, Ark., aet. 38, 6 ft. 4¼ in. tall, weight 260 lbs., first consulted me November 6th, 1900, at the instance of Dr. J. L. Goree, of Pine Bluff.

On August 1st, 1900, while camping out and standing in front of a guide, who was chopping down a tree, the ax-head flew off the handle and struck him on the back of the left forearm, 17 cm. below the olecranon and 12 cm. above the styloid process of the ulna, inflicting a wound 5.3 cm. long, and almost precisely transverse to the long axis of the forearm. The wound extended down to the bones, but did not fracture them. A surgeon, who also was camping out in his neighborhood, but with no surgical instruments or dressings with him, closed the wound without suturing the muscles or nerves. The wound healed by first intention.

On examination I found that he could extend the hand at the wrist by the radial and ulnar extensors, but extension of the fingers was impossible. (Fig. 1.)

Dr. Wharton Sinkler kindly examined the electrical condition of the muscles and reported as follows: "The extensors of the left forearm above the incision all respond to the faradic current; below the wound they do not and galvanically there is reaction of degeneration in the lower portion of the extensor communis digitorum. I would infer from this that the nerve had been severed at the same time with the muscles, and that it would be desirable, if possible, to find the ends of the nerve and suture them."

Dr. Spiller made an examination of the sensation and found that there was no loss, except over a small area just below the scar.

On comparing his two hands I found that he had a peculiarity of the two thumbs. Abduction of the meta-carpal bone of the thumb was very poor on both sides, and was scarcely greater on the uninjured than it was on the injured side.

Operation, November 9th, 1900. I made a vertical incision 13 cm. long in the long axis of the forearm. After reaching the muscle I was agreeably surprised to find that there was no visible evidence of any great gap filled with connective tissue at the point where it had been divided, but that there was only a recognizable linear cicatrix. I



FIGURE 1.

but inability to extend the fingers.

made a blunt dissection down to the interosseous membrane and endeavored to find the prolongation of the posterior interosseous nerve toward the wrist joint, but failed to find it. I did find, however, the posterior branch going to the common extensor of the fingers. This I verified by the battery. At the point of injury the nerve was very much attenuated below the wound and immediately above the wound it was considerably thickened. I first passed a suture both above and below the wound, next removed 7 mm. of the nerve, and then approximated the freshened ends to each other and closed the wound.

His recovery was uneventful, the highest temperature once being 99.6°. He left the hospital November 17th, 8 days after the operation. At that time slight extension of the fingers was already beginning to be possible.

I directed that, after his return home, he should use the hot and cold douche in alternation, active and passive exercise and massage, and especially electricity, beginning with the galvanic current and later the faradic. All this treatment he carefully carried out with the exception of the electricity, for which there was no apparatus available. His wife wrote under the date of January 3rd, 1901: "Mr. H.'s arm has improved most wonderfully, and the



Figure 2.

Appearance of the arm six months after the operation, showing full extension of the fingers.

loss of muscular force is hardly noticeable." A letter received May 1st, 1901, transmits two photographs showing that the fingers and wrist can be extended in a straight line, but he states that when the wrist is in extension he is not quite able to extend the fingers completely. (Fig. 2 shows the same arm with the wound and my incision making a X).

CASE 2. — Incision of median and ulnar nerves; secondary suture after six months; entire recovery.

Chas. D., aet. 16, first consulted me about the middle of April, 1892. In October, 1891, he lost his balance, and, to prevent his falling, thrust his left hand through a pane of glass. The forearm was cut transversely, 2 cm. above the pisiform bone, and when I saw him showed a scar extending from a point 2 cm. from the radial border of the forearm to the internal edge of the ulna. (Figs 4 and 5). Dr. Horton, of Peekskill, New York, where the boy was at school, states that the cut extended completely down to the bone, severing all the tendons, and divided the median and ulnar nerves and the ulnar artery. Dr. Horton ligated the artery and desired to suture the tendons and nerves at the time of the accident, but was overruled by an older practitioner.

On examination I found that he had control over the thumb and forefinger in flexion and extension, but they were weak. The thumb could not be apposed to the other fingers. The three ulnar fingers were all in a state of flexion and could not be extended except partially upon strong flexion of the wrist. The thenar and hypothenar eminences were entirely wasted. His grasp was good if anything was placed in the flexed fingers. Sensation was with difficulty ascertained, but it was evident that there was no absolute anesthesia at any point. The radial surface of the little finger was the duldest, and even there a light touch was perceived, though not sharply. The whole hand was purplish and very cold.

Operation, April 21st, 1892. A longitudinal incision was made over the ulnar nerve, the incision being extended finally downward over the hypothenar eminence about 4 cm. below the wrist and 9 cm. above the wrist. The upper bulbous extremity of the ulnar nerve was easily found, but was fused in a mass of connective tissue. In order to find the distal end, the cut was prolonged, as stated, over the hypothenar eminence. The ulnar nerve was found there, not wasted, but above the normal size, the upper end being directly continuous with one of the superficial flexor tendons. Both ends of this nerve were loosened, resected and both stretched, the upper end especially yielding. With some little tension the two ends could then be brought together and were sutured with one fine silk thread. Through the same incision the median nerve was then found with some difficulty. At the level of the cicatrix, the two ends had united, and at the same point another flexor tendon joined them in a bulbous mass. I debated for some time whether to excise this mass and attach the two ends of the nerve together after stretching, but finally decided to sever the connection of the tendon with the mass and let the nerve alone. If the nerve did not improve a later resection could be done. The tendons I found in one general cicatricial mass. As it was impossible to differentiate the individual tendons, I contented myself with elongating the deep flexors by the method of tenotomy which I devised. (Trans. College of Physicians, March 4th, 1891). The superficial flexors I severed obliquely and attached them at a distance by several strands of catgut suture. The gap between the two ends was 2 cm. The hand was then placed on a splint.

April 25th, (fourth day). No opportunity was offered for testing sensation through the dressing, excepting by touching the last two joints of the fingers that were exposed. This showed that the ring and little fingers were devoid of sensation, the ring finger not only on the ulnar, but on the radial side. The sides of the other two fingers and the thumb showed sensation. To-day he perceived a prick over the ulnar fingers for the first time. He returned the next day to Peekskill.

June 2nd (six weeks later), Dr. Horton reports the circulation in the forearm good, motion of the wrist, thumb and forefinger normal, with the exception of extreme extension of the wrist. Sensation of the three ulnar fingers

is not very acute, but is improving. The blueness of the nails which was first noticed is rapidly passing away.

November 25th, 1892, (seven months). I examined him to-day. The general condition of the hand is good, the ring and little fingers are a little purplish and also a little cold, but not at all to the same degree as before the operation. Sensation exists in all parts of the hand. He can move any part of the hand, except the ring and little fingers, and even over these two fingers he can feel and localize a pencil point. Motion in the thumb, middle and index fingers is excellent, and he can grasp objects, though not with great strength. Flexion in the two ulnar fingers is limited to the last phalanges, there being as yet no flexion at the knuckles of these fingers.

Ever since the operation he has been using continuously massage, electricity, hot and cold douche, active and passive exercise.

April 9th, 1893, (one year later.) His hand has improved immensely. He can touch the tip and the base of each finger with the end of his thumb, can make a fist, the fingers being in almost complete flexion and his grip is good, little, if any difference being perceptible in the grasp of the two hands. Each finger can be moved independently of the others, the motion of the little and ring fingers now being nearly normal and the others quite so. Sensation is also perfect.

December 22nd, 1899, (seven years). I re-examined the hand to-day. His grip is wonderfully strong, his fist is as last described. Practically the hand is as useful as ever.

May 15th, 1901 (nine years). He sends me the accompanying photographs (figs. 3 and 4) just taken



Figure 3.

Same as Fig. 1, but motion in forearm and fingers is better.



Figure 4.

Nine years after the accident, showing good extension of the fingers.

to show his power of flexion and extension of the fingers. Though he cannot quite close his fingers, yet practically his hand is as useful as a normal hand.

The photographs presented are the best evidence of the excellent results of the two operations here recorded. Both hands were useless, practically, for the same reason—the want of the power of extension—but from wounds of two entirely different nerves. The wound of the posterior interosseous prevented extension at the knuckles by the common extensor of the fingers, while the wound of the ulnar and median, in the second case, prevented extension of the last two phalanges by the interosseous and lumbrical muscles. I would call attention to the late periods (three and six months) at which the secondary suture was done. In the first case, also, the very speedy return of motion was surprising. It began within a week after the operation and was practically complete within two months. This is the more gratifying, as the posterior interosseous is so small a nerve that I doubted whether I could find it in so muscular a patient, or if I did whether it would hold a thread. Suturing it before excising the point at which it had been wounded was excellent. Had I first excised, the cut

ends would have been considerably, and possibly, irreparably injured by forceps or other means used to seize them and steady them while passing the needle. So far as Dr. J. C. Merrill, of the Surgeon General's Library, in Washington, who kindly had his records looked over, or my own references, show, this is the only case as yet recorded of operation on this nerve.

The second case shows how a younger man, well up in the latest surgical procedures, may be hampered by an older practitioner, who has not kept up with the progress of surgery. Had Dr. Horton's advice been followed and tendon been sutured to its appropriate tendon and nerve to nerve when the accident occurred, in all probability no later operation would have been necessary. That the operation has resulted so happily is remarkable, especially as the tendons had to be united haphazard, one above to one below, with no possibility of ascertaining which belonged to which.

PANCREATITIS.*

By A. W. MAYO ROBSON F. R. C. S.,

of Leeds, England.

Senior Surgeon to the General Infirmary at Leeds; Emeritus Professor of Surgery in the Yorkshire College of the Victoria University.

Mr. President:—

I must first thank you, sir, and the Council, for the great honor done me in inviting me to come to Baltimore and take part in the proceedings of the American Surgical Association, which I consider also a privilege and a pleasure.

Having expressed my views on Chronic Pancreatitis and its relation to Cholelithiasis at the London Polyclinic in June, 1900, and having been invited to open the discussion on Diseases of the Pancreas at the International Medical Congress, in Paris, in August last, I almost regretted having promised to give this paper before the American Surgical Association, lest it might appear as if I were simply giving a *rechauffe* of my views, but it is astonishing how much has recently been written on the subject. Not only have my observations been confirmed by numerous workers who have expressed their views in writing, but from conversations that I have had with surgeons who frequently operate in the abdomen, I learn that nearly all have had one or more cases which they have diagnosed as gall-stones in the common duct for which they had operated, but finding a tumor of the head of the pancreas, they had simply drained the gall-bladder and given a bad prognosis, thinking the disease to be cancer; and only on the complete recovery of the patients had wonder been excited and some other explanation sought. Moreover, my own experience has been increased, and as the result of further observations I have views to advance which will, I hope, produce a useful discussion.

I do not propose to weary the Association with a recital of many cases, a number of which have been reported and can easily be referred to if wanted; but I should like to give what time I have to a brief consideration of the relation between fat ne-

* Read before the meeting of the American Surgical Association, Baltimore, Md., May 1, 1901. Printed from manuscript furnished by the author.

crosis and hemorrhage—to the relation of gall-stones and pancreatic disease and to the treatment of pancreatitis generally.

It is a curious fact that, although surgeons have been removing gall-stones from the common duct for a little over 100 years, i. e., since Courvoisier's first successful choledochotomy, in 1790, and that, although the subject of jaundice dependent on obstructed common duct received great attention from physicians many years ago, yet until comparatively recently, it never seemed to dawn on the minds of clinical observers, that whatever obstructs the common bile duct at its lower end, must also, of necessity, lead to an obstruction in the pancreatic duct; and although, since the description of the disease by Charcot as Intermittent Hepatic Fever, infective and suppurative cholangitis have been well recognized by pathologists, yet infective and suppurative catarrh of the pancreatic ducts even now has received no place in the medical text-books; which means, in reality, that all diseases of the pancreas except those producing gross organic changes, such as cancer, acute pancreatitis, cysts and calculi, have been practically ignored; yet we know, both by post-mortem observation and by surgical experience, that under similar conditions the pancreatic ducts participate in the same inflammatory processes as the bile ducts.

When the common bile duct is obstructed, the objective sign of jaundice at once demonstrates the fact; hitherto, however, no pathognomonic sign has been discovered, which will show conclusively that the pancreatic ducts are occluded, unless it be the extremely rapid loss of weight. As is now well known, the presence of fat necrosis does afford some clue, and a very important one, hitherto only discovered, however, when the abdomen is opened; but even for fat necrosis to take place, there must probably have been some escape of the fat splitting ferment from the gland, and therefore the affection of the pancreas must be somewhat advanced before the sign is evident. Glycosuria, lipuria, and fat in the stools occur too seldom to be of much use in the diagnosis of pancreatic disease, though when present they are of great diagnostic importance. I think that physiological chemistry may, perhaps, help us in the diagnosis, and though our observations are not by any means yet complete, I hope that some researches, at present being conducted on cases under my care, by my friend, Mr. P. J. Cammidge, Pathologist to the West Riding County Council, may prove of practical use, and I have some grounds for hope that by an examination of the urine alone or of the urine, the blood and the feces, we may have some assistance in the diagnosis of these difficult cases.

The pancreas is a racemose gland, well supplied with blood, and, unlike the parotid, the lobules of which are well supported by fibrous partitions, its tissues are comparatively soft in consistence and easily bruised; so that although it is placed in the most favorable position for protection from direct injury, yet a slight injury takes more effect on it than on many other firmer organs, and we have knowledge of pancreatitis resulting from blows in the epigastrium apparently trifling in character. In a case that I saw several years ago, a butler

slipped and fell forward against a knife board projecting from the end of the table at which he was working; the blow was comparatively slight, and the man did not even fall to the ground; but acute, so-called hemorrhagic pancreatitis followed, and the patient died; an exploration for peritonitis followed by an autopsy revealing the true cause of death.

Probably slight injury to the pancreas often occurs in abdominal operations for gall-stones in the common duct, when it is sometimes necessary to manipulate and rather forcibly draw the parts in the neighborhood of the pancreas forward in order to view the common duct when sutures are applied. Such a case has, indeed, been related recently.

When it is borne in mind that the pancreatic duct opens along with the common bile duct into the second part of the duodenum, a channel usually containing septic organisms, especially when it is the seat of catarrh, to which it is especially liable, it is not a matter for surprise that pancreatitis should be met with, but rather that it should not occur more frequently.

As in the liver, we may have simple, infective, and suppurative catarrh of the excretory ducts, as well as inflammation of the interlobular tissues, so in the pancreas, we undoubtedly have similar diseases, which are only awaiting our recognition during life by greater diagnostic skill. As bearing on this, the pathologist of a large hospital has told me that in cases of obstruction of the common duct by gall-stones, he has noticed that pus can usually be expressed from Wirsung's duct, and this has been confirmed by others. I feel sure that, as our means of diagnosis become more perfected, diseases of the pancreas, both functional and organic, will be more frequently recognized and awarded their deserved positions in medicine.

Since my countryman, Mr. Walker, of Peterborough, showed that the absence of the pancreatic secretion from the intestine, even though bile was present in the intestinal canal, led to pale colored motions, very little attention has been paid to this sign, although much has been written about the presence of sugar in the urine in pancreatic disease; yet, glycosuria is, in my experience, a very rare phenomenon in this relationship, and in fact it only occurs when there is great destruction of pancreatic tissues, as in extensive cirrhosis or in extensive malignant disease.

Fat in the stools is more common, but not by any means universal, and lipuria is very uncommon.

I have seen cases of discomfort, with some swelling at the epigastrium, associated with dyspepsia and ague-like attacks, but without jaundice, or with only very slight jaundice, which I thought might be explained on the hypothesis of infective inflammation of the pancreatic duct, the cases having cleared up under general treatment. I have also seen the same symptoms associated with more pain, irregular fever, more marked swelling and tenderness over the pancreas and discharge of pus by the bowel from time to time, but without any collection sufficiently large to form a distinct abscess. I related a case like this in the lecture previously referred to, but the recovery of the patient made the absolute certainty of the diagnosis doubtful, though an examination under an anesthetic enabled a swelling of the pan-

creas to be felt, and this was confirmed by palpitation of the abdomen at a later stage, when tenderness was less marked.

I thought this case was probably a subacute pancreatitis, associated with suppurative catarrh of the pancreatic ducts analogous to suppurative cholangitis.

The essential and immediate cause of the various forms of pancreatitis is bacterial infection, this having been positively proved, both clinically in the human subject, and experimentally in the lower animals; but, as in inflammatory affections of the liver and bile-ducts, we look for extrinsic causes, so in pancreatic diseases we find biliary and pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus, or duodenum, and zymotic diseases, such as typhoid fever and influenza, to be determining factors; though in some cases pancreatitis has come on suddenly in persons in robust health, and the determining cause has been beyond recognition.

Though the infection may arise from the blood, as in pyæmia, or by direct extension from the neighboring tissues, as in ulcer of the stomach, yet the most usual channel is through the duct, as in the cases arising from gall-stones in the common duct and from gastro-duodenal catarrh, that I related in my lecture.

The association of gall-stones with chronic pancreatitis, was absolutely forced on my mind by the frequency with which I found inflammatory enlargement of the head of the pancreas when operating for gall-stones in the common duct: the first instance of the kind having been observed by me in 1892 in a case on which I operated for deep jaundice, supposed to be due to common bile duct obstruction, but in which I found cirrhosis of the head of the pancreas. Since that time I have operated on a considerable number of cases (over 20), and though only one patient has died directly from the operation, in the other two, one a cholecystenterostomy, and the other a cholecystotomy, death occurred within a few months, and the correctness of the diagnosis was verified both by autopsy and by a microscopic section of the diseased pancreas. I am able to show the pancreas from the last case, and also a microscopic section of the specimen. It is a simple matter to infer, that if common duct cholelithiasis can give rise to chronic pancreatitis, it will also be likely to induce the subacute and acute forms of the disease, and this is, I think, now clearly proved. In the *Brit. Med. Jour.* for Nov. 14, 1896, Dr. Kennan described a case of acute pancreatitis, ending fatally on the second day, in a woman of 38, and at the post-mortem examination a large number of gall-stones were found in the common duct, one being partly extruded into the duodenum.

Korte (*Deutsche Chir.*, Stuttgart, 1898) notes that lesions of the pancreas are frequently associated with diseases of the bile ducts. Lancereaux (*Traité des Maladies de la Foie et du Pancréas*, 1898) mentions the possibility that a gall-stone impacted in the diverticulum of Vater may occlude the pancreatic duct and produce conditions favoring the entrance of organisms into that duct. Dr. Opie, in a very instructive and interesting paper in the *American Journal of the Medical Sciences* for Jan., 1901, p. 27, relates

cases, one of Dr. Osler's and several from various sources, showing the relationship between pancreatic and gall-stone troubles. Mr. Gilbert Barling (*B. M. J.*, Dec. 22, 1900) has given several interesting cases bearing out very fully the views expressed above. In some of my cases, gall-stones were not found, but only old and firm adhesions, with an antecedent history of paroxysmal attacks, followed by jaundice, which afforded strong presumptive evidence that cholelithiasis had been present at some time; and it seems quite possible that temporary occlusion of the common duct, with the damming back of infected secretions or with injury to the ducts, may set up a pancreatitis, which may itself then cause compression of the common bile duct and so lead to a perpetuation of the obstructive jaundice and other troubles, started in the first instance by impacted gall-stone.

Fat Necrosis.—By fat necrosis is understood splitting up of the fat into fatty acids and glycerin, the latter is absorbed, but the acids being insoluble remain in the cells and unite with calcium salts, forming yellowish white patches of various sizes in the sub-peritoneal fat and in the omentum, mesentery, etc. It was first described by Balser, in 1882 but has been since investigated by Langerhans, Hildebrand, Dettiner, Milisch, Williams, Flexner, Opie and others. Experiments by Opie, who ligated the pancreatic ducts in the cat, go to show that widespread fat necrosis may be expected to follow very rapidly.

Fat necrosis is commonly found in association with pancreatitis and other diseases of the pancreas, and the relationship between the two conditions has given rise to much speculation; but the facts that fat necrosis is not found in all acute pancreatic diseases, and that it has been noted during abdominal operations for other ailments, and in autopsies where there was no suspicion of pancreatitis, appear to show that the condition giving rise to it is not essentially a pancreatitis, as suggested by certain authors; though these facts do not disprove that fat necrosis is essentially due to interference with the discharge of pancreatic secretion, and so to an escape of pancreatic fluid into the tissues, whence it may be taken up by the lymphatics or blood vessels. Flexner (*Contribution to the Science of Medicine*, Johns Hopkins Press, Baltimore, 1900) and others, regard the fat necrosis as the effect of the fat splitting ferment of the pancreatic fluid, which has in some way escaped from the duct into the surrounding tissues. It is difficult at first sight to explain the patches of fat necrosis occurring at a distance from the pancreas, for instance, in the pericardium, unless it be by absorption of the ferment and its diffusion by means of the lymphatics; though this is easy to understand, and undoubtedly does explain the disintegration of the fatty tissues immediately surrounding the pancreas and extending by continuity first to adjoining, and then even to distant parts in the abdomen and thorax.

Hæmorrhage in the Pancreas.—It is well known that local hæmorrhages into the pancreas may occur apart from injury and apart from any general hæmorrhagic tendency, and that although they may be recovered from, as shown by the remains of extravasated blood in the gland in persons dying from other diseases; yet such spontaneous hæmorrhages

may lead to death from collapse either immediately or after some hours. Curiously, this may occur in persons apparently in good health and without any premonitory signs on which a diagnosis can be based, the only symptoms at the time being those of collapse with dyspnea and feeble pulse. It is also well recognized that a hemorrhagic condition may co-exist with cancer of the head of the pancreas. Some years ago I thought this to be altogether dependent on the cholemia, until increased experience in operations on deeply jaundiced subjects has taught me that there is much less danger of serious hemorrhage in patients jaundiced from gall-stones than in those where the jaundice depends on pancreatic disease. In several cases of cancer of the pancreas on which I have operated, the bleeding has been the immediate cause of death; in one aged subject especially this was well marked, after a cholecystotomy for the relief of jaundice. Death occurred on the third day from collapse, and at the autopsy there was found extensive effusion of blood away from the site of operation and behind the peritoneum, extending into the loins around the kidneys, and into the cellular tissue beneath the diaphragm, the blood being in sufficient quantity to account for death; and though the bleeding had evidently arisen from the pancreas, there was no manifest vascular lesion to account for the hemorrhage. In another case, sent to me in 1888 by Professor Clifford Allbutt, a cholecystotomy was followed by persistent oozing of blood from the interior of the gall-bladder and from the stitch punctures, which resisted all then known remedial measures in the way of styptics, pressure, transfusion, etc., and proved fatal on the 9th day. In neither of these cases was there any peritonitis or cause other than the hemorrhage to account for death. Now, in another patient equally deeply jaundiced, that I saw with my colleague, Dr. Churton, in '89, but in which the disease was dependent on cancer of the common bile duct above the entrance of the pancreatic duct, there was no hemorrhage, although the patient survived several weeks and died from exhaustion due to the disease and to the suppurative cholangitis accompanying it. I could give many similar comparisons showing the difference between the behaviors of the blood in the two classes of cases. Before operating on these cases, I now always administer chloride of calcium in 30 to 60 grain doses thrice daily for from 24 to 48 hours previous to operation, and by enema in 60 grain doses thrice daily for 48 hours afterwards; this is nearly always successful in correcting the hemorrhagic tendency. The following case illustrates as well as any case could, how the failure to give it after operation led to hemorrhage, and how its administration in heroic doses apparently saved the patient:

Cholelithiasis: deep jaundice: chronic pancreatitis: Duodenocholedochotomy: hemorrhage: recovery. Reported by Mr. Gough, House Surgeon. Mrs. M. E. G., aged 38, was admitted to the Leeds General Infirmary on January 23, '01, with the history that she had had typhoid fever in September, 1899, and that she had never been quite well since. Shortly afterwards she began to suffer from biliary colic, though she had never been jaundiced till six months before admission, from which time jaundice had never left her. On December 24th, 1900, she became much worse, and had very severe paroxysmal pain accompanied by shivering and profuse sweats. From that time she lost weight very rapidly and the jaundice deepened. On admission the liver could be felt below the ribs and there was a dis-

tinct fulness on deep palpation in the region of the pancreas. From January 21st to the 31st she took chloride of calcium in 20 gr. doses thrice daily.

January 31st duodenocholedochotomy was performed. There was very little bleeding. A stone nearly as large as a pigeon's egg was removed from the ampulla of Vater, which was laid open over a director introduced through the papilla at its opening into the duodenum. The head of the pancreas was felt to be much enlarged and hard. The incision into the ampulla was not sutured, but through it the common bile duct very much dilated was explored by the finger. The anterior wound in the duodenum was then sutured and the abdominal wound closed. A drainage tube was inserted through a stab wound in the right loin. The patient inadvertently did not have chloride of calcium given in the nutrient enemata as is usual in these cases. She did well till the morning of the 2nd of February, when the nurse noticed at 3 A. M. that the dressings were soaked with bright blood.

The drainage wound was exposed but no hemorrhage was occurring there. On examining the abdominal incision blood was seen to be slowly oozing from it and the stitch punctures. One drachm of chloride of calcium was at once administered by the mouth and three stitches were removed, the surface of the wound was then seen to be oozing all over. It was packed with gauze soaked in tincture of hamamelis and a firm dressing applied. 1 drachm of chloride of calcium was given again in two hours and afterwards repeated in 30 gr. doses every two hours six times, it being then given thrice daily. There was no recurrence of hemorrhage and the patient made an uninterrupted recovery. The drainage tube was removed on February 4th and she returned home within the month.

In this case Mr. Cammidge found the characteristic crystals in the urine and an examination of the blood showed a very marked diminution in the blood plates.

These arguments are brought forward to show that there is some, as yet ill understood, relation between pancreatic disease and serious hemorrhage, but I cannot help thinking that it is a mistake to allow this fact to influence our views on the pathology of inflammation by adopting permanently the name hemorrhagic pancreatitis in cases where there has been no bleeding or no more than occurs frequently in inflammation of other parenchymatous organs, though it may be useful to retain the name for those cases of pancreatitis associated with well marked interstitial hemorrhage, in which the disruption of the gland by the bleeding may be the direct cause of the inflammation.

I have recently read a very interesting paper in the Boston City Hospital Report, for December, 1900, by Dr. F. B. Lund, entitled: "Acute Hemorrhagic Pancreatitis and its Surgical Treatment; with a Report of Six Cases," yet in remarking on the second case, the author says: "This case is notable for the absence of pancreatic hemorrhage." In the fifth case there was the evacuation and drainage of a small abscess of the pancreas and no evidence of hemorrhage, and in the sixth case, also, there was apparently no evidence whatever of hemorrhage. The title of the paper is surely a misnomer; yet other authors adopt the same nomenclature in the same indefinite manner. Dr. Flexner produced an inflammation of the pancreas associated with hemorrhage within 48 hours, by injecting the *Bacillus pyocyaneus* and the *B. diphtheriae* into the pancreatic duct in animals (*Contributions to the Science of Medicine*, Baltimore, 1900, p. 743). Hlava also produced hemorrhagic pancreatitis by injecting the *B. diphtheriae* into the pancreas. Hildebrand (*Centralblatt fuer Chirurgie*, 1894, band 22, p. 297) suggested that the hemorrhage in acute pancreatitis was due to trypsin.

The facts concerning hemorrhage in diseases of

the pancreas and the conclusions we have come to, after carefully considering the whole subject, are: (1) That in certain diseases of the pancreas there is a *general* hemorrhagic tendency which is much intensified by the presence of jaundice. (2) That hemorrhage may apparently occur in the pancreas unassociated with inflammation, or with jaundice, or with a general hemorrhagic tendency. (3) That both acute and chronic pancreatitis can and do frequently occur without hemorrhage. (4) That some cases of pancreatitis are associated with local hemorrhage.

From these conclusions, I think, therefore, that inflammations of the pancreas may be more conveniently and scientifically classified like inflammation of other organs, as acute, subacute, and chronic, and that there is no reason to use the term hemorrhagic pancreatitis, except as a variety of acute pancreatitis, the hemorrhage being merely an accident in the course of the disease.

It seems to me worth while considering if the glycerine set free in the tissues by the fat necrosis may possibly be the real cause of the local hemorrhagic tendency in pancreatic affections, though our observations are not yet sufficiently far advanced to say that this is an adequate explanation of all the cases. While inquiring into the subject, I have become acquainted with certain very important facts bearing on the question. If glycerine in very small amount be injected into mice, it rapidly produces hematuria (Cambridge) or hemoglobinuria, due to destruction of the blood corpuscles; and in certain cases in which glycerine has been used by gynecologists for the purpose of inducing abortion and in others where it has been injected along with iodoform for the treatment of tubercular disease in the human subject, blood has also been noticed in the urine, sometimes in large quantity.

The blood conditions, about to be mentioned, may possibly serve to explain the general hemorrhagic tendency in cases of chronic pancreatitis associated with jaundice, but behind this there must be some other cause not yet discovered. Can it be due to something absorbed from the pancreas into the blood, which only acts when the absorption has been active over a prolonged period of time. This matter seems to me to be worth attention, and it should be possible to prove or disprove it by experimental work.

In discussing these matters with Mr. Cambridge, he suggested that only a small amount of glycerine could obtain access to the blood as the result of fat necrosis. When the glycerine is set free and the fatty acids are saponified, it would become oxidized just like any other alcohol, and the oxidation products for which one would look would be an aldehyde, but the tests employed failed to demonstrate this.

In the course of these investigations, however, it was found that if the urine was boiled for a short time with an oxidizing agent and then the phenyl hydrazine test performed, an abundant crop of delicate yellow needles arranged in sheaves and rosettes was produced. (Specimen shown.)

The untreated urine gave no such result; normal urine, morbid urines from gout, etc., and, most important, bilious urine from patients suffering from simple catarrhal jaundice, also gave negative re-

sults. I may say also that some experiments performed on bile and bile salts yielded none of the crystals.

The number of cases is too few to allow one to more than suggest that it may prove useful as a diagnostic test in this class of cases, but it is also interesting to note that on one day I operated on two patients deeply jaundiced, in one of which there was chronic pancreatitis, whereas in the other, although there was a small gall-stone in the common duct, there was no manifest enlargement or disturbance of the pancreas. Both urines were submitted to Mr. Cambridge, and without his knowing the history of either case he sent me word that the urine in the latter case (where there was no pancreatitis) gave negative results so far as the crystals were concerned, and that in the former case, just described at length, he was able to obtain abundant crystals.

An examination of the blood has also been made in a number of cases, with a view to ascertain if any information can be found to explain the hemorrhagic tendency. Although glycerine may be present, Mr. Cambridge knew of no test sufficiently delicate to demonstrate its presence in the blood.

A histological examination of the blood showed in two of the cases a very striking diminution in the number of blood plates as compared with the normal blood. This diminution of the blood plates, whatever may be its cause, may possibly explain the general hemorrhagic tendency in these cases.

Treatment of Acute Pancreatitis.—In acute infective pancreatitis, treatment practically resolves itself into that of peritonitis, commencing in the superior abdominal region. The pain at the onset is so acute as to necessitate the administration of morphia, and the collapse will probably demand stimulants, which, on account of the associated vomiting, may have to be given by enema. In the early stages the symptoms are usually so indefinite that the indications for surgical treatment are not clear enough to warrant operation, and until the collapse has passed off no surgical procedure would generally be justifiable. The stimulation of intestinal obstruction will probably lead to efforts to secure an evacuation of the bowels and relief of the distension.

Just as in a perforative or gangrenous appendicitis, an early evacuation of the septic matter is necessary to recovery, so in this equally lethal affection, an early exploration from the front through the middle line above the umbilicus, or from behind through the left costo-vertebral angle is demanded, in order to evacuate the septic material and adopt free drainage.

The after treatment should be chiefly directed to combating shock and keeping up the strength until the *materies morbi*, both local and general, can be thrown off.

Even if no pus be found, no harm should accrue by such an exploration, which can be made in a few minutes through a very small incision in the middle line above the umbilicus, if necessary with the aid of cocaine anesthesia. After establishing the diagnosis by the anterior small incision and the introduction of a finger, the posterior incision, which must be a free vertical one in the left costo-vertebral angle, so as to permit the insertion of the whole hand if thought desirable, will enable the diseased

organ to be very freely examined and, if necessary, drained for the evacuation of pus and gangrenous material, thus involving no risk to the general peritoneal cavity and little danger of retained septic matter, as the drainage will be a dependent one.

Treatment of Subacute Pancreatitis.—The subacute form of pancreatitis is more amenable to treatment, as the indications are so much more definite and there is more time for careful consideration; and though it has usually only been attacked when an abscess has formed and is manifestly making its way to the surface, yet there is no reason why in some cases surgical treatment should not be adopted at an earlier stage. As in the acute condition, morphia may be required to relieve the collapse and support the strength.

Distension, if present, may also demand attention, and may have to be relieved by lavage of the stomach and turpentine enemata or by the administration of calomel by the mouth. Calomel is also of benefit by acting as an intestinal antiseptic; for which purpose it may be given in small repeated doses or in doses of five grains, followed by a saline aperient. As soon as the constipation is relieved, diarrhea is apt to supervene, when salol and bismuth with small doses of opium may be given. If surgical treatment is decided on, a median incision above the umbilicus will enable the operator to palpate the pancreas and locate any incipient collection of pus, which, if practicable, should then be evacuated by a posterior incision in the left or right costo-vertebral angle; or, if the posterior incision be thought impracticable, the collection of pus may be aspirated and the cavity opened and packed with gauze, which may be brought forward through a large rubber drainage-tube, that will in the course of from 24 to 48 hours establish a track isolated from the general peritoneal cavity. In one case I was able to do this, but the operation was undertaken at too late a stage to be successful, and though the patient lived two or three days afterwards, the evacuation of the pus seemed to make very little difference in the general septic condition previously existing, and death occurred on the 4th day from increasing debility. The method adopted had, however, been successful from the point of view of drainage, and the track of the gauze and tube had been isolated from the general peritoneal cavity. If a definite abscess forms and approaches the surface in front or in either loin, the treatment will be that of incision and drainage, as in the case of any other abdominal abscess. Of five cases on which I have operated, three recovered completely, one recovered from the operation, but died a few weeks later from chest complications and debility, and the fifth case is the one just referred to. The strength must be maintained by careful feeding and the administration of stimulants, and it will be necessary to keep a sharp lookout for further collections of pus and for subphrenic abscess or empyema, which, on recognition, will need treatment.

The following case of pancreatitis is so exceptional, both with regard to course and treatment, that I think it is worth relating:

Chronic gastric ulcer eroding pancreas; pancreatitis; abscess of pancreas bursting into stomach. Vomiting. Impending death. Posterior gastro-enterostomy. Recovery.

On November 12, 1900, I was asked by Dr. Mercer, of

Bradford, to see Mr. R., who was extremely ill and supposed to be suffering from pancreatic disease.

On arrival I found the patient, aged 35, extremely emaciated, lying in a typhoid condition, vomiting extremely offensive dark-colored pus and mucus mixed with blood. He was extremely feeble and had a rapid weak pulse and a slight icteric tinge in the conjunctivae, a tumor could be felt above the umbilicus which was tender to pressure. On distending the stomach with CO₂ great pain was produced and vomiting followed. The stomach was dilated, reaching on the left side to the level of the umbilicus.

There had been an elevated temperature for a few weeks, but this had become subnormal after the vomiting of pus. Pain after food and indigestion had existed for some months, during which time there had been steady loss of flesh; but recently, especially during the last months, the wasting had been very considerable. There was a little sugar in the urine with a trace of albumen and the feces contained free fat.

No medicine had done any good either for the relief of the vomiting or in controlling the horrible odor, which permeated the whole house. A diagnosis of chronic gastric ulcer of the posterior wall of the stomach with secondary ulcerative pancreatitis and abscess of the pancreas was made, and gastro-enterostomy proposed as the only means likely to produce any chance of relief, but even that seemed almost hopeless.

He was removed to a surgical home by ambulance and the stomach washed out carefully by Dr. Stevens. As showing the nature of the stomach contents, both the attendant nurses were made sick by the odor of the material evacuated by the tube.

On November 18th after enveloping the patient in cotton wool and subcutaneously administering strychnine, posterior gastro-enterostomy was performed, a bone hobbin being used. The operation was done as quickly as possible in order to save shock. The tumor felt before operation was found to be formed by stomach and pancreas firmly fixed together towards the pyloric end, but leaving the dilated portion free at the cardiac end of the stomach, so that no difficulty was found in doing a satisfactory operation, which was completed in 20 minutes. Saline subcutaneous injections and rectal injections were given and strychnine was freely administered, but for two days we had a great fight with death apparently due to poisoning with the foul stomach contents. Hot water was freely given to induce vomiting on the second day, as the patient could not bear the stomach tube being used. This gave relief, and afterwards progress to recovery was uninterrupted. He rapidly gained strength and put on flesh, returning home five weeks after operation. His friends, who had despaired of his recovery, were astonished to find him so well. In April he was in such good health that he married.

The treatment of Chronic Pancreatitis is also by abdominal section and drainage, but in this case the drainage is indirect and obtained by draining the gall-bladder by cholecystotomy, cholecystenterostomy, or duodeno-choledochotomy. The exact line of treatment cannot be determined until the abdomen is opened, and for this purpose I prefer, as in all my gall-bladder operations, a vertical incision through the upper part of the right rectus, splitting that muscle to whatever extent is necessary in order to obtain a good view of the diseased region, and to afford plenty of room for manipulation. If a mere cholecystotomy on a distended gall-bladder is necessary, an incision of one or two inches will usually suffice; but if the gall-bladder is contracted, or if the ducts have to be attacked, an incision of 4 to 6 inches will be required, and if the several layers of the abdominal wall are sutured separately, there is no fear of subsequent hernia; this I can affirm by ample experience. It saves much time and much unnecessary dragging on the parts when operating on the common duct or duodenum, to have a free incision, and there is no retractor equal to the hand of a skilful assistant, who, with a flat sponge, interposed between the spread-out fingers of his

left hand and the viscera, will at the same time afford the operator a good view of the field of operation, and with his right hand help in the further steps of the operation.

If the right costal margin or the edge of the liver obstructs the view, another assistant may with advantage, retract it either by digital manipulation or by means of a wide retractor with a long handle, so that he can stand back a little and avoid embarrassing the operator. As a matter of experience, I seldom find a second assistant necessary. A sponge in the pouch to the right of the common duct and one pushed down over the right kidney, helps to catch all escaping fluids and to keep the peritoneum clear. When the ducts or the duodenum are opened, sterilized gauze pads are employed to mop up the fluid as it escapes, but none of these are allowed to remain even temporarily in the abdomen. When there are gallstones present, they should be removed, unless the patient is too ill to permit of the complete operation; but in every case drainage must be secured, if possible by cholecystotomy, as in nearly all my successful cases; moreover, the drainage must not be stopped before the bile has become healthy and not before the greater amount of bile is being passed by the bowel, which will be certain to occur as soon as the swollen pancreas has subsided, if the duct be otherwise clear of obstruction.

It might be thought that cholecyst enterostomy would be an ideal operation in the treatment of these cases, but experience says it is not. For instance, in one of my cases the operation brought about so much relief that a cure was being anticipated, yet in the third month relapse occurred and death ensued, apparently simply owing to closure of the new opening between the gall-bladder and duodenum. In one of Mr. Barling's cases (*B. M. J.*, Dec. 22, 1900), where the gall-bladder was joined to the duodenum, he states that although the symptoms were relieved, enlargement of the pancreas persisted. The course and treatment of chronic interstitial pancreatitis is exemplified in the cases related in my lecture before the Polyclinic in June of last year. Possibly, in some of these, the manipulation of the indurated tumor may have detached calculi impacted in the pancreatic duct, though I was unconscious of it; but in others, the relief of tension, as the result of draining the bile ducts by cholecystotomy or cholecyst enterostomy, indirectly drained the pancreatic duct and thus led to a subsidence of the pancreatitis, then to an opening of the common duct by the relief of the tension, and so to a cure of the patient. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis would make me hesitate to decline operation in any case of distended gall-bladder where the patient is in a condition to bear it, or even in any case of chronic jaundice without distention of the gall-bladder where the general health is deteriorating; as, though it should be recognized that if the disease be really malignant, very little good will be done and life may even be shortened or only prolonged for a short time; yet, if the disease prove to be chronic pancreatitis, a real and permanent cure may be brought about. If a calculus be felt imbedded in the head of the pancreas or impacted in the pancreatic duct, it may be reached through

the second part of the duodenum by laying open the papilla and exploring the duct, or by dividing the peritoneum, passing between the duodenum and hepatic flexure of the colon, and then cutting through the overlying pancreas on to the concretion. If the papilla common to the bile and pancreatic ducts be incised in the duodenum it does not require suture, and in the cases in which I have explored the ducts by the duodenal route, there has been no serious hemorrhage; the anterior duodenal opening only requires closing by a mucous and a serous suture. Drainage of the right kidney pouch for from 24 to 48 hours is advisable, though not always necessary, and this is best done by a stab wound at a most dependent part.

The results of treatment in this class of cases have been most encouraging, as out of 22 cases operated on, only one died directly from operation, and in that case the patient's life was only very slightly shortened, since he was reduced to the last stage of exhaustion before a surgical opinion was sought. Of those recovering from operation, with the exception of two that died a few months later, complete and perfect recovery ensued. These results contrast very markedly with the surgical treatment of cancer of the pancreas, where nearly half the cases operated on have died directly as the result of operation, and in those who have survived, life has only been prolonged for a comparatively short time.

Of the three following cases, two have not been previously reported.

CHRONIC PANCREATITIS; CHOLECYSTOTOMY; CURE.

Mr. D., aged 45 years, was brought to see me 19.3.93, the history being that he had been well up to 12 months before, when he began to have painful attacks at the pit of the stomach, ending in vomiting, but not followed by jaundice until an attack on January 1st, 1898, since which time he had been deeply and continuously jaundiced. He had also from that time onward had ague-like attacks, and two days before seeing me he had had within 24 hours three of these seizures, each accompanied by pain. Within a twelvemonth he had lost 2 stone, 8 pounds in weight. On examining him there was some swelling in the gall-bladder region but no tenderness. The liver was a little enlarged but the margins felt smooth. There was decided tenderness in the middle line just above the umbilicus and on deep pressure the pain was considerable and an indefinite fulness could be felt. The diagnosis of gall-stone in the common duct was made, and an operation was advised. The patient was operated on at a surgical home on March 30th, when the gall-bladder was found to be slightly distended and surrounded by adhesions to the pylorus, duodenum, colon, and omentum. No gall-stones could be discovered, but there was a well-marked swelling of the head and the first two inches of the pancreas which though nodular was not very hard. This extended further to the right than normal so as to cover in the lower end of the bile-duct. Cholecystotomy was performed. Within 24 hours of the operation nearly four pints of very offensive bile was discharged through the tube. A specimen was examined by the Clinical Research Association and their report was as follows: "The bile contains both staphylococci and streptococci, but no bacillus coli communis could be found either under the microscope or in the culture." Fearing that the disease might be malignant and the patient being so extremely weak and ill I gave a poor prognosis, but in a few days I was able to write: "The patient is progressing very satisfactorily, although he is still profoundly weak. Bile has appeared in the motions so that the obstruction is evidently overcome. The bowels have been moved naturally and the patient is less deeply jaundiced and looking better generally." On April 5th I was able to report that he was taking food well and that bile was passing freely in the motions. He had had no recurrence of the shivering attacks. The drainage

was continued for 14 days. On the 20th he returned home. The urine was then free from bile and the motions were assuming a natural color; he was taking food well, gaining flesh, and looking better generally. I still, however, gave a guarded prognosis, though I said that I hoped that the tumor would prove to be inflammatory and not malignant. From that time onward his progress to recovery was extremely rapid. A report I had of his condition a few months later said that he was perfectly well in every respect and that he had fully regained his lost weight.

On March 28th of this year I had a letter from Mr. D., on the third anniversary of his operation expressing his gratitude and saying that he was in perfect health.

CHRONIC PANCREATITIS WITH ABSCESS ASSOCIATED WITH GALLSTONES. CHOLECYSTOTOMY, RELIEF. DEATH FOUR MONTHS LATER FROM EXHAUSTION. AUTOPSY.

Mr. H., aged 40, seen by me with Dr. Woods, of Batley, on the 11th of October, 1900. The patient was then deeply jaundiced and extremely ill, suffering from continuous fever with exacerbations, great debility and extreme emaciation. A large tumour in the region of the pancreas could then be felt as well as a distended gall-bladder. He gave the history of failing health for 9 months and a history of gallstone attacks and painful indigestion for some time before that, but although he had frequent attacks of abdominal pain for 3 or 4 months, the jaundice had only supervened a fortnight before my seeing him. At the operation he was too ill to bear a prolonged search and there were numerous adhesions around the tumor, which was made out to be a swelling of the pancreas; the gall-bladder was simply opened and drained of a quantity of muco-pus. A quantity of pus was discharged from the drainage tube several days after operation and this was repeated on two or three occasions, as if it came from a deeply seated abscess. A large drainage tube having been used, there was a free discharge of bile and a considerable number of gallstones were evacuated through it, 33 in all. Previous to the operation the patient was suffering from shivering attacks and a persistently elevated temperature, which subsided immediately after drainage was effected and the temperature kept nearly normal throughout the remainder of his illness, it being normal in the morning, though there was usually a hectic rise each evening. He made a slow though apparently steady recovery from the operation, and the pancreatic tumor diminished so rapidly that it was confidently believed to be entirely disappearing, it being only one third as large as at the time of the operation. He returned home December 14th, but he never really picked up strength, and though there was no further elevation of temperature, he gradually got weaker and died in February.

At the post-mortem examination made by Dr. Woods, a tumor of the pancreas was discovered which was carefully examined by Mr. Cammidge and pronounced to be a chronic inflammatory tumor and not new growth, the center being occupied by pulpy material where the abscess had originally been. Nothing else was discovered and there were no gallstones left, either in the gall-bladder or ducts. I am able to show you the specimen and also a microscopic section of the preparation for both of which I have to thank Mr. Cammidge.

CHRONIC PANCREATITIS, CHOLECYSTOTOMY.

On the 28th of January, 1901, Mr. E. R. H., aged 26, was sent to me from Malvern. He was deeply jaundiced and told me that he had had jaundice since the age of 17, it having supervened upon a severe attack of what appeared to be biliary colic, of which he had had several seizures since the age of 14. For two or three years he had had several ague-like attacks and during that time lost very seriously in weight and strength, but during the past two years there had been no shivers and he had also been free from the severe paroxysms of pain, though he had had slighter seizures, after all of which the jaundice became more intense. The patient was then only weighing 9 stone and all the bile was apparently passing in the urine and none in the motions. There was also some swelling in the region of the pancreas, slight enlargement of the liver, and a very decided enlargement of the spleen.

Four days later, the abdomen was opened by a vertical incision through the right rectus. The gallbladder was found contracted and surrounded by numerous adhesions. After the separation of these, the ducts were carefully ex-

ploded but without discovering any gallstones. The head of the pancreas was found to be enlarged and very hard. As the obstruction appeared to be entirely due to the pressure exercised by the pancreas on the common duct, the gallbladder was drained. For a few days the jaundice was deeper. It then became gradually less until it almost disappeared. In 10 days the stools became bile stained and have since retained their colour, though there has never been complete freedom from a tinge of jaundice in the skin. He returned home on the 16th of April, having gained nearly half a stone in weight. He looked and felt much better and as a small quantity of bile was still coming from the tube it was felt desirable to retain it until the last tinge of jaundice had disappeared. From the first week of operation up to the present he has had no further pain and has been able to take ordinary food and to digest it well.

THE EXAMINATION OF THE BLOOD IN RELATION TO SURGERY OF SCIENTIFIC BUT OFTEN OF NO PRACTICAL VALUE, AND MAY MISGUIDE THE SURGEON.

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The object of this paper is not to decry the value, to the surgeon, of examinations of the blood; for we undoubtedly can, by this means, often obtain valuable information as to the nature and progress of pathological conditions that can be obtained in no other way. Yet valuable as this sign is, its usefulness is confined to quite narrow limits, and even in its proper field its significance is frequently very difficult, and sometimes impossible, to determine.

The blood count is a valuable physical sign, but it is only one sign, and should be kept in its proper perspective. One spot is not sufficient evidence upon which to base a diagnosis of typhoid fever, nor can the presence of pus be asserted or denied from an estimation of the number of leukocytes alone.

In the last few years there has crept into the profession a tendency to replace the bedside by the laboratory as the point from which to make the diagnosis; to substitute the highly magnified but extremely limited field of the microscope for the broader view of the eye of the physician. This we regret, for in the majority of instances the diagnosis must be made at the bedside without the aid of the microscopist, and any man who has no confidence in diagnosis made without the aid of the laboratory limits his usefulness.

The blood count theoretically promises the surgeon more, perhaps, than any other of the lines of laboratory investigation, and is certainly of great practical value, yet the information thus obtained is open to many fallacies, and the surgeon who depends on this means alone to decide for or against operation in any condition, is often acting to the detriment of his patient.

The technique of a blood count is one in which there are opportunities for inaccuracies without number, and the dilution with which it must be made multiplies each error a hundred fold. Therefore, except in the hands of an expert, its evidence is always open to a reasonable doubt, and even with an expert it is only on repeated examinations that absolute dependence can be placed.

*Read before the American Surgical Association in Baltimore, May, 1901.

The secret of life-saving surgery is promptness in diagnosis and operation, and often the time lost in awaiting the confirmation of our opinions by the laboratory can be ill-afforded by the patient.

An effort has been made lately to determine the exact degree of anemia below which it is unwise to attempt a surgical operation. In this we are asking more of a blood count than it will ever be able to give. In medicine we are dealing with living organisms, with widely varying powers of resistance, and therefore the degree of anemia compatible with successful surgery will vary with each patient. Then, too, what the operation promises is another important factor; for we are certainly justified in attempting an operation, which, if successful, will restore our patient to health under conditions that would positively forbid a merely palliative operation.

To illustrate this, let me briefly cite two cases that have recently occurred in my practice:

CASE 1.—Mrs. L. B., 55 years old, was admitted to the German Hospital 12/20/1900, and the following history obtained: Family and previous history negative. Menstruation physiological until three years ago, when she apparently reached the menopause in a perfectly normal manner. After an interval of eight months an excessive metrorrhagia appeared, accompanied by a profuse offensive leukorrhea. One year after a fibro-myoma was expelled from the uterus; this was followed by a temporary improvement, but six months later the symptoms were as bad as ever, and she has steadily and rapidly lost strength and weight ever since.

On admission the patient was extremely emaciated with that bronzing of the skin very suggestive of malignant disease, and so weak that she was hardly able to raise herself in bed. She had a very offensive leukorrhea and an almost constant metrorrhagia. A large, hard mass could be easily made out connected with the uterus and rising above the symphysis pubis.

The cervix was patulous and presenting at the internal os can be felt a large fibroid.

On the day after admission her blood count was: Hemoglobin 27%, erythrocytes 4,070,000, leukocytes 5,200. She was put under appropriate treatment, but showed only the slightest improvement. On 12/31/1900, the blood count was: Hemoglobin 30%, red blood cells 3,980,000, whites 5,400. Despairing of much improvement by delay, she was then operated upon. A large multinodular uterine fibroid was removed by an abdominal panhysterectomy and the wound closed without drainage. Convalescence was uneventful and the patient left the hospital 2/11/1901 in good health. She has been seen within the last two weeks and reports herself to be perfectly well.

CASE 2.—Mrs. M. C., 48 years old, was admitted to the wards of the German Hospital with the following history: A brother died of cancer of the stomach, but the family history was otherwise negative. Previous personal history negative, menstruation always physiological. No metrorrhagia or excessive menorrhagia. For the last six years has been conscious of a mass in the lower abdomen, and during this time has lost about forty pounds in weight. For the last two years has been extremely weak and short of breath.

Examination on admission shows the patient to be a tall thin woman with all the inspection symptoms of carcinoma. A soft blowing murmur was heard at the base of the heart. The blood count on the day of admission was: Hemoglobin 22%, erythrocytes 2,980,000, leukocytes 5,200. A large mass could be felt in the lower abdomen, both by vaginal and supravaginal palpation.

She was operated on the next day and a large fibro-myoma removed by an abdominal pan-hysterectomy, wound closed without drainage. Convalescence was uneventful and the patient left the hospital 2/11/1900 in very good condition.

Grave anemias are, of course, a general contraindication to an anesthetic and operation in the

same way that organic heart lesions and nephritis are, yet we all know how often the severest operations are successfully performed in the presence of these complications.

Sometimes in a patient suffering from prolonged suppuration, frequent hemorrhages or other conditions that would lead us to expect a profound anemia, we find either a normal or abnormally high percentage of hemoglobin and erythrocytes. Such results are often very misleading, as they by no means express the blood condition of the patient. The chief cause leading to this artifact is a transient concentration of the blood due to a lessening of its fluid constituents from purgation, excessive vomiting or free sweating. In addition to this a stasis in the peripheral circulation from either organic heart disease or functional depression from profound toxemia, will raise the blood count above the true measure of the patient's anemia.

The significance of the presence or absence of a leukocytosis is, perhaps, the part of this subject that we, as surgeons, are most often concerned about.

Without going into the discussions that have recently arisen on this subject, we can consider the phenomena of leukocytosis as primarily one of phagocytosis, it making no difference whether the toxic materials are directly taken up by the leukocytes or neutralized by a substance formed in part by their activity.

If poisons of certain kinds are in the general circulation, there is ordinarily a general leukocytosis, its grade depending largely on the resisting powers of the individual and the amount and kind of poison.

Sometimes a sudden and overwhelming dose of septic poison will so depress the patient that there is no phagocytic reaction and a leukocytosis does not appear.

Then, too, in prolonged suppurative processes, with free absorption of the septic poison, at first there is an active phagocytosis with a large leukocytosis, but as the powers of resistance of the patient sink the leukocytosis becomes very insignificant, or as time goes on the focus of suppuration may be shut off by nature from the general circulation, and again the number of leukocytes falls.

In a general way, high grades of leukocytosis are most commonly satisfactory signs; while they are due to severe infection, they usually mean good reaction.

Moderate grades of leukocytosis, if the other signs of infection are severe, are, in themselves, suggestive of a bad result; if the other signs of infection are slight, a mild leukocytosis means nothing of itself.

If the origin of the infection is in a part of the body rich in lymphatics and rapid in absorption, other things being equal, the leukocytosis will be more marked. Thus it is that a peritonitis gives a greater leukocytosis than a pleurisy, and why the upper part of the peritoneal cavity, if infected, gives a quicker and more profound systemic infection than the lower.

Of course, in a streptococcus infection, per se, we should get a higher grade of leukocytosis than in a staphylococcus; yet, as we have shown, the degree of leukocytosis is so dependant on the amount

of poison absorbed and the resistance of the patient, that we can form no judgment as to the character of the infection from the blood count.

For years the text-books have nearly all contained the statement that there is commonly a leukocytosis in cancer. On what this is founded we do not know, for any one with any practical experience in this matter must know that such is not the case, a leukocytosis in this condition being very uncommon and does not seem to be influenced by metastasis. Only nineteen out of forty-nine patients, at the German Hospital, suffering from carcinoma, gave a leukocytic count of over 10,000, and only two of these were above 20,000, these two being respectively an ulcerating carcinoma of the breast, which gave a blood count of 31,500 leukocytes, and a carcinoma of the liver with 40,800 leukocytes.

In cases of appendicitis, we cannot depend on the blood count for our indication for operation, for the favorable time for this operation is in the first hours of the attack, when the chief symptoms are those of appendiceal colic and before severe systemic infection has taken place. In these cases we often have rupture of the appendix, or transmigration of organisms so suddenly infecting, in an overwhelming manner, the entire peritoneal cavity, that a leukocytosis is not established, or is very evanescent, owing to the rapid paralysis of the resisting powers of the individual. Or, as the symptoms improve and the leukocytosis falls, we might think that the appendix was becoming normal again, when the truth was that an abscess had only become localized, and no more septic material was being absorbed. If acting on this supposition, we should decline to operate, we should leave our patient exposed to the greatest risk of a secondary outbreak that would be very likely to cost him his life.

We shall be doing much better surgery if we promptly operate on our appendicitis cases, than if we waste time over a blood count that, as is shown by Dr. Da Costa's paper, read before you, is of very little value. In the experience of the author, in cases of salpingitis, even quite moderate grades of leukocytosis (14,000 to 17,000), are indicative of the presence of pus. Yet this is by no means constant, for nature is so well able to care for these cases, that often large collections of pus are present without a leukocytosis, much to the embarrassment of the surgeon who depends upon the blood count alone to show the presence of suppuration.

In cases of obstructive jaundice a leukocytosis is usually, but not always, present, and in our experience seems to be most often due to a local peritonitis around the gall-bladder. In eight out of fourteen cases of obstructive jaundice, due to gallstones, a leukocytosis was present.

Although I have not the data at hand to verify this statement, I will venture the opinion that the most virulent of micro-organisms may inhabit the altered bile of an occluded gall-bladder without giving systemic signs, thus explaining many cases of peritonitis after gall-stone operations, in which the operator, thinking the bile sterile, has allowed it to soil the general abdominal cavity.

Pohl (1), Wilkinson (2) and Boland (3) have done some very interesting work in regard to drug leukocytosis. These investigators have found that

many drugs have the power of producing a quite marked leukocytosis; among these, quinine, the silicylates, antipyrine, phenacetine, pilocarpine, Dover's powder and morphine; all drugs that our patients may have been taking at the time we are called upon to make a diagnosis.

We might go on showing many other instances of surgical conditions in which the blood count is of doubtful value, or, at any rate, disappointing, but we have, we think, said enough to define our position.

We believe that if we have a decided leukocytosis (20,000 or over), after excluding pneumonia, leukemia, etc., we can safely infer the presence of pus. Yet without a leukocytosis we cannot be sure that pus does not exist. We also consider exquisite tenderness, temperature, pulse, and the general appearance of the patient as much more reliable guides than blood count.

Therefore, gentlemen, I wish to say in conclusion: let us have blood counts made on our patients; we have already learned valuable lessons from them and undoubtedly will learn more in the future; but let us not be drawn aside by their still uncertain evidence from the lessons learned by practical experience at the bedside.

(1). *Arch. fuer exper. Path. und Pharmak.*, vol. 15, 1889.

(2). *British Medical Journal*, 9-26-1896.

(3). *Centralblatt fuer innere Medizin*, 4-5-1900.

In the preparation of this communication I wish to credit Dr. Edward K. Moore, my ex-house surgeon, with the greater part of the work thereon.

COMPLICATED FRACTURES, THEIR DIAGNOSIS AND TREATMENT.*

By THOMAS H. MANLEY, Ph. D., M. D.

of New York

Gentlemen: When requested by my colleagues to participate in this series of evening lectures, I cast about for something on which, from an ample experience, I might be permitted to speak with some emphasis. Therefore, now after nearly twenty years as an interne and assistant surgeon and surgeon to a hospital service in which grave traumas predominate, and wherein I had seen several thousand mechanical disorganizations of the osseous parts, and every conceivable type of fracture, I decided to select for this evening's discourse the consideration of a theme always of dominating interest and importance to practitioners, for of all the serious traumatisms, there are none so common as fractures, broken bones. It has been well said that there is no class of injuries which are approached with greater misgivings, hesitation and doubt, and no one which calls forth a greater degree of knowledge, skill, discernment and judgment, than the diagnosis and correct management of obscure or serious fractures. Time will not permit of a brief survey of the traumatisms of the irregular bones, of the carpus and tarsus, the vertebrae and bones of the face, or the flat bones of the cranium and pelvis; and hence only fractures involving the extremities can be touched on this evening. As a preliminary step, let us glance cursorily at the osseous abode of man, the skeleton, that we may ap-

preciate its mechanism and purposes, and the special functions of its members. We will observe as a preliminary step the position and functions of the extremities. We see that the lower consist of doubly jointed levers, that they stand as double pillars or columns to support the whole body in the standing attitude, and when in action, raise, lower, move or project it. Though these members subservise a highly important purpose, this is insignificant as contrasted with the hands and arms, the mechanism of which, their strength, action, and marvelous execution, stamp man as the monarch of all animal creation. These administer to our every want, provide us with the necessities of life, and enable us to maintain ourselves and others. We need not wonder, then, why a comprehensive and practical knowledge of the traumatic lesions of these appendages of the body is expected of all who exercise the healing art.

Diagnosis.—Now, let us, in this brief study, first consider the symptoms and signs of fracture, in this instance the art of detecting fracture. But I am sure that some may submit, that in a post-graduate course, like this, it will be largely labor lost, as any tyro can have no difficulty in this direction, if he observe a few rules of the text-books, if he note that in every fracture there is loss of function in the limb, that there is visible deformity and a false point of motion when a shaft is involved. The practitioner called upon to deal with this class of injuries, will soon learn that in a considerable number it is a delusion, and occasionally we will encounter instances in which, by no means short of an operative incision, by no way known to art, can some fractures be detected with certainty. It is fortunate that, as a rule, in these obscure cases, accurate, definite diagnosis is not imperative in order to institute appropriate treatment; however, that we may safeguard our reputation, and, besides, for medico-legal reasons, in cases liable to be followed by a civil action, we must exhaust every resource to attain definite information here, which will not inflict injury or be to the detriment of our patient. We proceed to diagnosticate the case of suspected fracture by availing ourselves of the following:

- 1st. A history of the case.
- 2nd. Inspection of our patient.
- 3rd. Posture, attitude, or position.
- 4th. Manipulation, palpation, pressure, torsion, and traction.
- 5th. Narcotic relaxation of the muscular system.
- 6th. The Roentgen Rays, transillumination.
- 7th. The exploratory incision.
- 8th. A consultation.

Now, let us hastily recapitulate, and first, we will begin with an inquiry. A searching history of a case is a most helpful aid; for example, if an elderly person, more particularly a female, has suffered a fall on the hand with resulting loss of power and great pain, we are quite certain of a Colles' fracture, and if, again, one, as the former in age, has suffered a fall on the hip, with loss of power following, we suspect a fracture through the neck of the femur. But we must be cautious here, that the patient, in detailing his case, has not deceived himself, or is striving to deceive us for fraudulent purposes. Not long since a man came to me with a bandage on his

wrist, stating that in the morning he was injured through the neglect of a car conductor in dismounting a street car. The silver-spoon deformity of Colles' was well-marked, but on a very superficial examination, it was evident that the deformity was an old one. The fellow was shown the door. Again, many suffer so little that they suspect nothing more than a sprain, but they have, besides a sprain, fracture, something not uncommon at the wrist and ankle joints.

Inspection.—A critical examination of the limb or body should never be overlooked in any dubious case; by it alone we may frequently differentiate a fracture from a dislocation in thin subjects; before swelling sets in the deformity in displaced fractures is something plainly discernible, though of itself inspection weighs for little.

Posture.—The attitude of the limb or body when injured, with a view of relieving tension, is a great help. In fractures of the non-displaced character, its value is the greatest, notably so when these involve the shoulder-girdle, the neck of the scapula or its apophyses, the outer third of the clavicle, or are in close proximity to, or pass through the anatomical neck of the humerus. In order to be effective, our patient must always be placed on a hard, flat surface, a table if possible. For suspected fractures about the shoulder joint, the head and shoulders are raised, and the arm carried well upward. When the hip joint is the site near which fracture is suspected, we flex the knee on the thigh and the thigh on the trunk. Many times we will succeed in bringing out well-defined crepitus and movement of the fragments by change of posture, something always available, and all the more desirable, as it rarely provokes suffering.

Manipulation, with all that this term implies, gently, skillfully and perseveringly applied in closed fractures, is the most valuable of all aids in their elucidation. It will rarely fail us, if judiciously employed. In some cases, however, its results are not definite at the first examination, but if we flex the limb and let it rest for 24 hours or more, when muscular spasm has passed off, it may often then clearly expose the character of the injury. In all instances, giving a history of a severe sprain, let us search for a fracture, and critically manipulate the nude parts, lest we commit an oversight and damage our reputation by incomplete, superficial work. Five years ago a malpractice suit arose in this city, in which the first physician called was the defendant. The patient, a young actress, summoned the doctor for what she said was a bruise of the knee, from a fall on the floor. The doctor hesitated to expose and critically examine the parts injured. After a week she dismissed him and called another physician, who at once stripped the parts and discovered a fractured patella with three inches of separation. Again it would seem that manipulation will mislead in inexperienced hands. Several instances have come under my notice in which limbs had been braced or splinted for fractures which did not exist; one case being a woman, who was being treated for an intracapsular fracture of the femur. On examination I could find no trace of fracture, but a dislocation onto the dorsum of the ileum. This was easily reduced, and the poor woman spared from being left a helpless cripple. One case in a man, Dr.

Sayre's harness for fracture of the clavicle, the bone being found perfectly normal; and another, the case of a boy, whose foot and leg were bound up in a plaster of Paris dressing for a fracture of both bones; but not the slightest trace of osseous lesion could be found. These were illustrated instances of inexcusable carelessness at the time of examination.

Narcotic relaxation of the muscles we must sometimes resort to, in hyperesthetic conditions of the limb, in children or hysterical women, or in many obscure or doubtful cases, when a diagnosis is urgently called for. When other measures fail, and muscular spasm is extreme, pulmonary anesthesia carried just far enough to obliterate the pain sense will slacken the grip of the muscles quite enough to allow motion of the locked up fragments. In some cases a critical precise examination of a doubtful case is impossible, without this precious resource. A little over a year ago a case came under my care which proved its great value. A gentleman of 40 years sustained a severe injury to his hip joint from a fall. The family practitioner being in doubt as to the character of the injury, called in one of our best-known surgeons for a consultation. It was then decided that the injury was a severe contusion with a resulting arthritis. But the man continued from bad to worse, suffering the greatest torture on any movement of the limb or body. A week after the first consultation, the case was seen by me with the doctor. Now, on a strong table he was placed, and under an anesthetic, creptitus with displacement was clearly obvious. The Roentgen ray, all must concede as one of the most useful diagnostic agents of modern times. Yet in osseous traumatism this mode of photography is by no means free from errors and uncertainties. Except in the hands of an expert, it is quite useless, and even then, the shadowgraph is not infallible. No two of them are quite alike; one may exhibit a sound limb as sundered, and in another, perfect continuity, where the evidence of fracture is unequivocal. With a method so full of vagaries, errors and ambiguities, we must necessarily accept with reserve its revelations, a diagnosis on which alone, in very obscure cases, is certainly not indefensible. The *open incision* involves a surgical operation and has been recently advocated as a means of diagnosis. It is certain that the scalpel will remove all possible doubt, but in the greater number of cases of closed fracture, their recognition is possible by simple methods. Moreover, should infection with suppuration follow, unless special conditions justified it, this sequence might involve us in serious troubles. From my own very limited experience with it, however, under proper precautions, it seems to be a perfectly harmless procedure. Here before you are two patients, who came into my service within the past month, on whom it was employed. You will observe that one is a young man and the other a man advanced in years. The former, ten days before he entered, sustained an injury at the ankle in a brawl. He was first treated for a sprain; having no improvement, he consulted another physician, who was in doubt, and who sent him to my clinic for a diagnosis. At that time the ankle and foot were swollen and edematous, the joint stiff and parts highly sensitive. An incision

three inches long, four inches above the head of the fibula, readily exposed an oblique non-displaced fracture. There was a free discharge of venous blood. The incision was immediately completely closed, and a plaster dressing applied. In the other, though only treated three weeks ago, you will observe that the incision is completely healed. He sustained an injury to the forearm six weeks since. Went to a dispensary and was given a liniment, the arm was bathed and massaged. He was advised to keep up free motion in the wrist and elbow to overcome the rigidity, but this he found was impossible because of the great pain it provoked. On a very thorough examination, we believed that there was a probable fracture near the round head of the radius. Here, again, a free incision was made, when another non-displaced fracture of the radial shaft was discovered. The wound was hermetically sealed and a support applied. In both of these cases the results have been very gratifying, and it would certainly seem that the division of the tense indurated soft-parts exercised a most salutary influence by relieving pressure, by local depletion and favoring reparative processes in the osseous parts, as you will find on examination perfect consolidation of the fragments. We now turn to the last, or, perhaps, what should be the first step, a *consultation* with a practitioner whose knowledge is greater than our own in this type of traumatism. In all severe or doubtful fractures, one should not neglect this; both for the patient's advantage, to divide the responsibility and protect ourselves. If circumstances prevent it, one may send the case to a hospital where his responsibility ends. Having decided on diagnosis, we proceed to the consideration, in outline of the treatment of complicated fractures. And let us, at the outset, distinctly bear in mind that in all fractures, the result of direct violence, the lesion of the bone is but one, and sometimes the least one, sustained by the crippled limb, the main blood-vessels, which sustain the vitality, maintain its nutrition and provide the regenerative elements, may have been mortally crushed, or have sustained various degrees of damage; the nerve cords which animate the limb may have been contused or torn; the muscles never entirely escape, nor the ligaments, in breaks contiguous to the articulations, and hence we may say, in a measure, all severe fractures are more or less complicated. We broadly divide the injuries to bones into two classes, the closed and the open. This nomenclature is much more accurate than the older, of "simple and compound fracture," because, as has been noted, every fracture is compounded, i. e., the so-called simple with the skin unbroken, sometimes is a more serious traumatism than the one attended with exposure by laceration of the skin and displacement of the fragments. Reduced to a brief summary of basic rules, the principles of all fractures involve: 1st, the placing of the limb in a comfortable position. 2nd, we must look well to an unhampered circulation. 3rd, we will reduce the fragments and support the limb. These directions are certainly simple enough, but I am sure you will regard them as inadequate, inasmuch, as I have not emphasized the importance of enforcing the time-honored maxim, to, in all fractures immediately, reduce the fragments and immobilize them. Now, in closed fractures we have

essentially three types: 1st, the displaced; 2nd, the non-displaced; and 3rd, the impacted. This being the fact, it should give us the *raison d'être*, or explain why we should observe this antiquated vicious dictum, in the two latter, or, how can we reduce fragments which are not displaced? And again explain how, in those fractures, followed by impaction, in brittle, articular heads of bones of old people, we can improve on Nature's mode, of at once reducing and firmly impacting the fragments? In the displaced variety there is rarely any urgency for the application of great force, or even immediate reduction. We will note that in some cases of fractures of the leg, the tibial fragment so far resists traction immediately after injury, that Achilles-tendon must be divided to overcome it, and the limb thereby left weak for the remainder of life; but if we simply flex the knee to a right angle, and let the limb rest on a pillow, in 24 hours the spasm will have passed off, the gastrocnemius will have relaxed, and with the greatest ease the end of the fragments will fall into place by slight pressure and there remain. If rest and relaxation are helpful aids in diagnosis, they are especially so in treatment. Can we, or should we, attempt early firm fixation in all fractures? Yes, if we would expose the limb to the peril of gangrene, if we would retard the circulation, delay or arrest repair. Mechanically, we can fix or immobilize anything, but here we are dealing with living parts; moreover, prompt or effective repair is only possible when the circulation is unhampered. Supports we must utilize not so much always to steady the fragments as to prevent joint action when the fragments tend to displacement. Splints are mechanical adjustments; when shall we apply them, and which are the best? In order to answer this question, we may recall, that the osseous frame is made up of connective tissue, and that when traumatized or disorganized, its mode of repair is precisely the same as we witness in connective tissue elsewhere; on division it unites by primary union. For what possible reason then should we employ any description of restraining agent in a non-displaced fracture, when the best splint is none at all, when there is no need of a splint at any time? Several years ago the late Sampson Gamgee demonstrated that when a fracture was non-displaced, or a displaced one was unhampered in approximation, union often occurred in from one to two weeks, and in all these cases there was no callus formation of any description. More recently, Lucas Championniere, of Paris, has entirely dispensed with splints in fractures not attended with marked displacement. This had been his rule in the treatment of a very large number. By this mode, pain is reduced and speedy solid union follows. I may say that this has been my line of practice for several years, the general results being most satisfactory. Prejudice and custom die hard, imitation becomes a habit slow to outgrow. So habituated to mechanical adjustment has the practitioner become, that almost instinctively, as soon as a fracture is detected, he reaches out for a splint, and the people not being educated up to modern advances, will certainly regard him as careless or incompetent, if the limb is not immediately set and bound up with braces. Last autumn a devoted

mother came to me and begged that the house staff would splint her boy's broken leg, as he had been in the hospital ten days, and this was not yet done. She was assured that he would not be neglected. Two weeks later, when he walked out without a limp, the poor woman was amazed, and declared that the lad could not have done so if the limb had been broken, and that we must have imposed on her. Many times after grave injuries to a limb multiple fractures occur, and the parts are so crushed that we are not so much concerned about reduction and complete fixation, as we are as to how we shall preserve the limb at all. We bolster up the fractured limb, relax the flexor muscles, leach, bathe and swathe the parts, we wait the subsidence of inflammation, of plastic union of the fragments, and then splint, not so much to splice the fragments as to hold the joints and support the enfeebled parts. The *open incision*, the operative treatment of closed fractures, has been recommended of late years. Mr. Arbuthnot Lane, of London, has been a warm advocate of it, but the English surgeons do not share his enthusiasm. Recently, Rothschild, of Germany, and Hatch, of Massachusetts, have published brochures on this means of treating fractures, and appear to have had satisfactory results. However, view it in any way we may, the primary incision in closed fracture is full of peril. The traumatized parts possess an enfeebled circulation, their vitality is diminished, and hence are susceptible to septic infection. This radical measure is highly praised by Dr. Hatch, who claims for it that it lessens pain and shortens convalescence. The fracture is first made compound, the fragments adjusted, then closed by suture, and rendered simple again. It would seem an ideal means in femoral fracture, which so generally unite with over-riding of the fragments and shortening of the limb. In two cases of this fracture so treated by myself seven years ago, both patients narrowly escaped death; in one union failed absolutely; ankylosis of the knee with great muscular wasting followed in both. While the greater number of closed fractures yield to safe and simple measures, the cases must, indeed, be few which warrant this sanguineous and dangerous resort. As a conservative measure, after all inflammatory changes have abated, to correct a deflection or deformity, the open incision combined with osteotomy and osteoclasis is utilized with great advantage. This young man's limb illustrates the happy results succeeding, when we divide the non-inflammable parts. Six months ago, it appears, he suffered a very bad fracture of the lower third of the tibia and fibula, the fragments united with so much distortion that the inverted foot presented the sole up and the dorsum resting on the ground, left a hopeless, helpless cripple, with great atrophy of the muscles of the leg, an ankylosed ankle joint, and a swollen sensitive foot. By the free open incision, a complete refracture and osteosection, after two months' treatment, you will observe that he readily walks up and down the aisle without any support, and can stand on one foot quite as well as on the other. But here let it be noted that we operated in healthy tissues, we employed no drain, and secured practically primary union. We hear much about the *ambulant treatment of fractures*, which means moving about daily, to take advantage of exercise, fresh air

and change of surroundings. No one will dispute the advantages of early locomotion, but in practically all fractures of the lower limb, at the time of injury, the body has simultaneously sustained great shock. Here composure and rest in bed are indispensable. In the early stages of fracture of the lower extremities, the horizontal position of the body is essential, but after the first or second week the osseous repair is much facilitated and hastened in the vertical position; the venous turgescence and marked swelling seem rather to accelerate consolidation, and in these fractures we will often observe how union is generally hastened when we remove all splinting, and place the patient on crutches. Of *compound or closed* fractures, time will only permit of a very brief reference. These, with few exceptions, are formidable injuries, often endangering life, or leading up to an amputation. In former times they filled the practitioner with the greatest apprehension, infection frequently occurred, intense inflammation set in, erysipelas developed, or gangrene seized on the parts, destroyed the limb, and often life with it. But of late, it has become quite the established rule to save all these cases in which the circulatory current has not suffered mortal damage at the time of injury. By the aid of antiseptics, anesthetics, and aseptic precaution, we first endeavor to preserve the limb in the best shape we can. By resorting to modern osteoplastic methods, as taught by the late, great Ollier, we now restore to usefulness thousands of limbs which formerly went to the amputating table. Our next lecture will be devoted to a consideration of this class of fractures.

In conclusion, gentlemen, permit me to make a plea for practitioners treating more fractures at home; keep them at home. They constitute an interesting class, and are amply remunerative. Stop this demoralization of the people, of forcing on them your service for nothing. If you feel you are incompetent, then take a post-graduate course or several of them in some institution where this important branch of surgery provides ample opportunities and facilities for instruction.

PITYRIASIS VERSICOLOR, WITH SPECIAL REFERENCE TO ALLEN'S IODINE TEST.

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Member of the Manhattan Dermatological Society, etc., New York.

Among the cutaneous parasitic diseases of the adult, none is more frequent and yet none more overlooked than that of pityriasis versicolor or chromophytosis. Owing its existence to the lodgment and proliferation in the superficial cutaneous layers of the microsporon furfur, it appears mainly on the surfaces hidden by the clothing—chest, back and abdomen—in the form of yellowish, brownish, reddish, or chamois-colored furfureous patches of various shapes and sizes, which produce but slight subjective disturbance, and which give a very characteristic reaction when painted with various iodine solutions, particularly Lugol's solution. It is mainly because these patches are so small and so light in color in the very early stages, that they es-

cape the notice of both patient and physician. Apart from a mild degree of itching, the constitutional disturbance is *nil* or in inverse proportion to the amount of fungus present. These patients seek treatment mainly for esthetic reasons or because they fear that the spots are indicative of liver disease, and, indeed, they are frequently referred to as "liver spots." From one text-book to the other various premises have been handed down with regard to the parts of the body involved and the predisposition of certain patients. The most common statement met with is that the disease spares the parts exposed to light—that is, the face, hands and neck. On this fact all authors practically agree. Closer observation, however, and the aid of Lugol's solution have served to disprove these time-honored "axioms." Time and again have I been able to demonstrate the existence of the eruption upon the front and back of the neck, at the angle of the jaw and even upon the side of the face as high as the forehead. It is quite true that in many cases only a preliminary staining with Lugol's solution served to bring into relief the seemingly hidden lesions. These areas when painted with the solution appear of a deep mahogany or very dark brown color, which shows itself in marked contrast to the surrounding tissue. We may note from this test not only the existence of the disease, but also its severity and retrogression, for the more active the disease the darker will be the stain; in the declining stages the lesions take up the stain but faintly. This test is of such marked value for class-room demonstration, that it is surprising it has not been more generally adopted by teachers. I cannot say that the test would be of especial value in differentiating this disease from others of a truly or presumably parasitic nature, viz.: disseminated ringworm, pityriasis rosea, mycotic eczema, because they all react to the iodine applications, but it certainly excites a marked suspicion of the parasitic nature of the disease under diagnosis; for if the test be applied to other conditions of a desquamative character, such as seborrheal eczema, dermatitis, scaly syphilide, exanthemata, etc., it will invariably fail, in that while the cast-off epithelium will take up the stain to a mild degree, *there is no markedly positive reaction.* Though Gottheil, in his "Illustrated Skin Diseases," joined the majority in saying that the "face, palms and soles are always free," he at the same time gave the death blow to the statement that the palms are never affected, in the publication of a very typical and unique case (*Medical Record*, July, 1899). For a long time it was supposed that the disease bore some relation to phthisis on account of the great number of cases found in subjects of this disease. That they are frequently attacked is quite true, but that pityriasis versicolor occurs chiefly in such patients is very questionable. Its more frequent discovery in phthisical subjects is due to the fact that this class expose their chest for examination more frequently than others, and the chromophytosis is discovered incidentally. No class or age is exempt, though children and very old people are rarely attacked. I have never seen an instance in those over 55 and children under 15 years. Such cases have been recorded, however. Any disease or condition which produces hyperidrosis offers by reason of this symptom a predisposition to the growth of the fun-

gus. Though parasitic in its nature, it is generally conceded that the disease is not hetero-inoculable, no positive case to my knowledge having thus far been recorded. Max Joseph reports an instance in which it appears that the husband using the same bath-tub, towel and soap, infected his wife. Only recently I observed six cases in one family, a condition strongly suggestive of contagion. The treatment of the disease is apparently simple, any desquamating and penetrating agent, such as hypsulphite of sodium, B naphthol, sulphur, resorcin, salicylic acid, etc., effecting a cure. Treatment must be thorough and persistent; to limit one's self to the use of exfoliating measures, which simply remove the uppermost layers, will result in dismal failures. As the origin "of each patch is peri- and perhaps intra-follicular," the penetrating agents must be added if we will prevent recurrences. To prevent renewed outbreaks is not always an easy matter. As long as any vestige of the disease remains another attack is assured. There can be no question that one important cause of recurrence will be found in the failure to treat a region hitherto overlooked—the suprapubic region. Here, as Dr. Allen has pointed out, numerous patches may exist in their efflorescence, and yet owing to the covering of hair entirely escape recognition and treatment. These patches serve as sources of renewed contagion and the disease breaks out afresh. In men as well as women, these patches are often so small as to be brought into view only by the application of the iodine test. It has seemed to me that pityriasis versicolor in the suprapubic region is at times attended with more itching than that of the rest of the body. This circumstance gives rise to scratching and the carrying of the causative agent to other parts of the body—autoinoculation, as it were. As a result of experience my conclusions are: (1) The old theory that only hidden parts are affected is no longer tenable. (2) Allen's iodine test is of marked value not only for class-room demonstration and for bringing into relief pale and hidden lesions of pityriasis versicolor, but also for differentiating parasitic or presumably parasitic skin affections from those of a non-parasitic nature. (3) Recurrences are in the main due to the overlooking and non-treatment of the suprapubic region and to the use of desquamative agents to the exclusion of penetrating ones. Both must be combined if a cure is desired. (4) Phthisical subjects, while affected in great measure on account of the hypersecretion of sweat, do not form the greater part of these patients. It occurs in all degrees of health and disease, a marked hyperidrosis, however, predisposing towards it. (5) Children and the very old are occasionally, though rarely, attacked. (6) It may occur in all shades from a very light pink to almost coal black (pityriasis nigra), the color being influenced by the condition of cleanliness, the circulation of the skin, the occupation of the patient, and the color of the underclothing.

THE BICEPS TENDON JERK IN LOCOMOTOR ATAXIA

By MOSES BEHREND, M. D.,

At the suggestion of Dr. Burr and under his guidance, I have studied the biceps tendon jerk in 29 cases of tabes. Frenkel, in the July, 1900, number

of the "Deutsche Zeitschrift fuer Nervenheilkunde" states that he has come to the important conclusion that the absence of the tendon reflexes in the upper extremities is a constant symptom of tabes; and that this is even more constant than the absence of the patellar reflex. He says that it is not only constant in the medium and severer cases of the disease, but also forms one of the earliest signs of tabes in the severest, less severe and medium cases, where the ataxia shows itself in its various grades; not one case has been observed in which the reflexes were present in the upper extremities. The above conclusions were reached by him from an examination of several hundred cases.

A table of 23 cases is given by him in which the triceps reflex was present in 5 cases and 3 in which it was present in one arm and absent in the other. This appears to be a contradiction to the paragraph above quoted in full. It is hard to realize that such statements should be made, and especially since he repeats the statement in various parts of his paper that the reflexes are constantly absent in the upper extremities.

Out of 29 cases of undoubted tabes which I examined, the biceps tendon jerk was present in nine and the triceps tendon jerk was present on both sides in two patients and present on one side only in two others. In the two cases in which the triceps tendon jerks were present on both sides, the biceps tendon jerks were absent on both sides in one and preserved on both sides in the other. In one case the biceps tendon jerk was present on both sides with the triceps tendon jerk present on one side only; in another the triceps tendon jerk was present and the biceps tendon jerk was absent on the same side; the reverse was true in the other arm.

The muscle jerks of the arms were present in all the cases and in various degrees of excitability. The muscle "hump" always appeared upon percussing the muscle. The duration of the cases ranged from one to 25 years.

Some interesting results were obtained in examining these cases for sensibility to all forms of stimuli; the relation of the reflexes to the degree of ataxia and the severity of the shooting pains. Generally, it may be said that in those cases in which the biceps tendon jerk was absent ataxia was more marked in the arms, but there were a few exceptions. Of 17 cases in which the biceps tendon jerk was absent, marked ataxia existed in the arms of 11, while in the remaining six ataxia of the arms was only slight. Of the latter two were of the ocular form of tabes. In this variety we have as a rule the ataxia lessened, therefore I believe they should be considered as a separate class. One case of ocular tabes is in a colored man; he is not, however, a full-blooded negro. One of the six above referred to has had locomotor ataxia for the past 25 years and the ataxia of the legs is very marked, the patient being unable to walk.

For the sake of comparison let us consider the relation of the arm to the leg ataxia. In three of the six cases in which there was slight ataxia in the arms, ataxia of the legs was marked, while in the 11 cases referred to above in which the legs was

marked in 10 and slight in one. The latter illustrates the occurrence of hemiplegia in tabes. The history of the case is as follows:

Patient is Frederick F. Age 62. Denies syphilis. In 1892 patient had shooting pains, some disturbance when walking in the dark, followed by a sensation of velvet on the soles of his feet while walking. A couple of years later he complained of girdle pains which were not constant. In 1897 after his symptoms had slowly progressed he was suddenly unable to open his left eye. The patient did not have any other paralyses. At the present time the right foot is dragged a little in walking and the gait is somewhat staggering. The patient is a well-nourished male, average height, iron gray hair and beard. Sensation for all forms entirely normal. The knee jerks are present on both sides, more marked on the right leg. The biceps tendon jerks are absent in both arms. The triceps tendon jerks are present in both arms. Achilles tendon jerks are marked on both sides. The Babinski reflex is present as is shown by stroking the sole of the right foot, the great toe extends, the others flex with separation. On the left foot there is marked flexion of the small toes with no movement of the great toe. The patient sways some with eyes shut. Pupils do not react to either light, convergence or accommodation.

The Babinski reflex was present on both sides in another case in which the knee jerks were lost in the absence of the hemiplegic state. The history of the case is as follows:

Patient is Ludwig. Age 61. He is so dull and stupid that we are compelled to rely solely on the physical examination. He is somewhat emaciated, skin is bronzed; gait is ataxic: sways considerably with eyes closed. Argyl-Robertson pupil is present. Knee jerks are absent. Biceps tendon jerks are present on both sides as are also the triceps tendon jerks. Achilles jerks are absent. Ataxia of the arms and legs is marked. Upon stroking the soles of the feet marked extension of all the toes occurs.

In nine cases the biceps tendon jerk was present. Ataxia of the arms was very marked in two. In one of the latter atrophy of the muscles of the hand was seen, with changes in the joints similar to those found in rheumatoid arthritis. The right knee jerk was absent, the left was lightly present. In the remaining seven ataxia of the arms was very slight. One has had tabes for 22 years. He has marked ataxia of the legs, relaxation of the ligaments around the knee joints, causing retroflexion. Of the nine cases in which the biceps tendon was present, ataxia of the legs was marked in five.

Absent biceps tendon and knee jerks were constant in those cases having arthropathies. The trophic changes comprised three dislocated hips, one dislocated shoulder, two retroflexed knee joints and a tabetic foot. The patient having the latter has never been reported. Her history is as follows:

Alice B. Aged 59. Syphilis denied. Her family and past medical history are unimportant. The patient says she was perfectly well until five years ago, when after exposure she had a chill. Since then she has been subject to pain in the joints. She was afraid to walk; she would stagger and fall if unsupported. Two years ago her right shoulder and left hip were dislocated without the history of an accident. The patient is a very well-nourished female, very nervous disposition, very irritable, becomes easily flustered upon slight provocation. The left pupil is greatly dilated, eyes are prominent and convergent. Irides do not react to light, accommodation or convergence. A condition of double ophthalmoplegia is present. She sees very little and cannot distinguish objects. The right shoulder is very prominent, not painful and can be protruded at will in various directions. Marked lordosis of the spine is also present. The reflexes are all absent, ataxia of arms and legs is well marked. Sensation is impaired; pain, tactile and thermal losses being found only in areas on the legs. After-sensations are found in the legs. A feeling of pricking and sticking is felt from three to five minutes after the aesthesiometer is used; the discomfort being greater than

when the stimulus is applied. The left foot is swollen and edematous, the toes are turned slightly downward and there is complete foot drop.

Sensation was normal in six of the nine cases in which the biceps tendon jerk was present on both sides, and in eight of the seventeen cases with the biceps tendon jerk absent.

Two of the eight cases above mentioned were of the ocular type. Sensation was also normal in two of the three cases in which the biceps tendon jerk was present on one side and absent on the other; while in the remaining one pain and thermic sense were diminished on the side in which the biceps tendon jerk was lost. As is usual in locomotor ataxia, deranged pain sense was almost constant. In one case hyperaesthesia existed in the arms with a large biceps tendon jerk.

Astereognosis was complete in four cases and partial in three others. The biceps tendon jerk was absent and all were markedly ataxia in the arms.

The sense of position is lost only in those cases showing marked ataxia. One exception is found in an advanced case. He is a blind colored man, in whom the left hip is dislocated, together with such relaxation of the ligaments of both hips as to enable him to throw his feet far above his head and with the knees touch his chest. The loss of the sense of position occurred in 11 cases in only one of these is it lost in both arms and legs.

The shooting pains of locomotor ataxia do not seem to have any relation to the degree of ataxia. Nine cases in which the biceps tendon jerk was absent, were devoid of shooting pains in the arms; of these five showed marked ataxia, while the pains were present in nine others, with the biceps tendon jerk lost. Marked ataxia was found in eight of these. In the nine cases in which the biceps tendon jerk was present on both sides the characteristic pains were found in two, while one had slight shooting pains in the arm in which the biceps tendon jerk was present and severe pains on the side in which the jerk was absent.

The loss of weight sense was present in the most advanced cases and occurred in only two cases. Ataxia was very marked in both of these. One of the patients was unable to recognize a weight below eight ounces in either hand. The most advanced, and naturally the most ataxic case in the hospital was unable to recognize a weight below one pound in the left hand and two pounds in the right hand. This patient has had the symptoms of tabes for ten years. He is unable to walk and he has also lost nearly all of his teeth since the onset of the disease. The conclusions to be drawn from these observations are:

1. That the ataxia in the arms is, as a rule, more marked when the biceps tendon jerk is absent.
2. That the ataxia of the arms is usually marked when the same is found in the legs. In these the biceps tendon jerk is absent.
3. That in the presence of the biceps tendon jerk with slight ataxia in the arms, ataxia in the legs is invariably well-marked.
4. That sensation is usually normal in those cases with normal biceps tendon jerk.
5. That the sensory losses are usually found when the biceps tendon jerk is absent.

6. That arthropathies are only found in the advanced cases.
7. That astereognosis is only present in the markedly ataxic.
8. That the loss of the sense of position is almost constant in the advanced cases of tabes.
9. That the shooting pains in the arms do not bear any relation to the degree of ataxia.
10. That the marked ataxics seldom show the loss of weight sense.

11. That the intensity of the symptoms are not dependent on the duration of the case, but rather upon the extent of the sclerotic process. For example, I saw one of my patients who has had tabes for the past 22 years sitting on a railing with the feet resting on a bench and balancing himself well. Another striking point is the selective power of the pathological lesions. We find that the biceps tendon jerks are present in three patients on one side and absent in the other. We can explain this by assuming that the degeneration has limited itself to one side of the cord. In those cases in which the biceps tendon jerks are absent, the sclerosis probably extended to the cervical region, but it is not to be forgotten that this reflex may be absent in normal individuals.

BERLINER KLINISCHE WOCHENSCHRIFT.

February 25, 1914.

1. A Hitherto Unknown Form of Atresia of the Uterus. LANDAU.
2. Demonstration of an Aortic Aneurism Which Gave Rise to the Symptoms of a Mediastinal Tumor. EWALD.
3. The Application of the Phonograph in the Pathology and Treatment of the Voice. FLATAU.
4. The Disposal of City Sewage. GAERTNER.

1.—Landau reports several interesting cases. A woman of 40 had had menstrual disturbances every four weeks from her 12th year, without, however, any loss of blood. Operations performed in the 18th and 23rd years were without result. She had suffered from frequent attacks of inflammation in the abdomen, that had rendered her incapable of working. A vaginal examination showed a huge fornix and cervix with the evidences of a tumor. At the operation this was found to be an enlarged uterus filled with blood, and there were also hematosalpinx of both sides, and alterations in the ovaries. The cervix of the uterus was found to be replaced and the canal occluded by a large tumor, that, upon histological examination, proved to be a mesonephron form of obstruction of the cervix that has not hitherto been described. The second case, a woman 30 years of age, had had similar symptoms and at the operation both tubes were discovered distended with blood, and there were changes in the ovaries. As the pains were not relieved by a bilateral oophorectomy the uterus was opened and some blood evacuated. In discussion of the pathogenesis of this condition, Landau believes that it is due to an embryonal hyperplasia of the lower portion of the Wolffian duct; although he admits that it is possible that there was a bacteriological element in the production of the hematosalpinx. [J. S.]

2.—Ewald reports the case of a woman 43 years of age, who shortly before examination noticed shortness of breath, swelling of the face, and of the right shoulder. At the same time there was distension of the veins on the whole right side of the upper part of the body, some difficulty in swallowing solid food, and as a result almost complete anorexia and loss of flesh. When examined it was found that the face, neck and hands were dark blue in color, the head was held to one side, and upon the thorax and abdomen the veins were prominent. Upon examination with the Roentgen ray a tumor was discovered lying above and to one side of the heart. It did not appear to pulsate, nor have any of the other characteristic signs of aortic aneurism. The heart was not enlarged. There was no murmur over it, nor over any of the large vessels. The

pulse was apparently normal. Dullness was found over the sternum, and from the right clavicle to the 3rd rib. Otherwise the lungs were normal. The patient died about 3 weeks later in an attack of severe dyspnea. At the autopsy a sacular aneurism, about the size of a fist, arising from the ascending portion of the aortic arch and filled with clots, occupied the position of dullness. This had almost occluded the superior vena cava. It had also compressed the trachea, causing partial erosion of its wall, and slightly compressed the esophagus. The inferior vena cava was not involved. In regard to the distension of the superficial veins of the thorax and abdomen, Ewald believes that a collateral circulation with the current downward is necessarily established whenever the superior vena cava is occluded. He does not believe that it is clinically possible to distinguish the direction of the blood current. [J. S.]

3.—Flatau believes that the phonograph is valuable for the study of the pathology of the disturbances of speech, for the demonstration and control of the results of therapy, and for the purpose of clinical and physiological instruction. He demonstrated in the lecture different phonograms from the voice of the same person taken before and after the removal of various swellings in the naso-laryngeal tract. He calls attention to the fidelity with which the curious forcing tone due to slight stenosis of the larynx, is reproduced. The ordinary apparatus requires few modifications. The cylinder may be driven by clock-work or by an electric motor. The best cylinders are probably derived from America and those that have been used several times give the clearest records. On account of the fragility of these records it is desirable to take as many as possible of each interesting case. The maximum number is probably six. Copying is unfortunately at present impossible. [J. S.]

REVUE MEDICALE DE L'EST.

March 15, 1914. (Volume 33, No. 6.)

1. The Treatment of Congenital Dislocation of the Hip. R. FROELICH.

1.—In the past five years, Froelich has treated 31 cases of congenital dislocation of the hip. Successful treatment depends upon radiography. Dislocation of both hips occurred in 15 of his cases: on the right side alone in 10; and on the left side alone, in 6. 26 cases were found in girls. Congenital dislocation of the hip had already appeared in the family in 5 cases; and 3 of these children were tubercular. Hernia existed only in two cases, for one of which the operation for radical cure was done four times, with success at last. In all but four cases the congenital dislocation was due to a congenital malformation. In 4 cases Froelich believes that it followed infantile paralysis. This was confirmed by radiographs in 13 cases, whose measurements have been tabulated. As a rule they grew less lame during 10 years, but the limping became aggravated after 15 years, and was always worse after an illness. In boys it grows rapidly worse, much worse than in girls. The treatment will depend upon the condition seen in the radiograph. Operation will be indicated in most cases, however. Exceptionally, a new joint will form by itself, and should not be disturbed. Operation is most successful between the second and fourth years. Over nine years the bloodless operation will not be possible. Froelich employs the bloodless Paci-Lorenz operation, with the Lorenz after-treatment. The result in 8 cases, out of 28 cases operated, was perfect. Fracture of the upper third of the femur occurred once. Froelich advises operation, but the good results from operation will only become apparent from two to three years afterward. [M. O.]

Orthostatic Albuminuria.—Nivière, before the Medical Society of the Paris Hospitals, (*Bulletins et Memoires de la Société Médicale des Hôpitaux*, 1914, No. 6) reported a case of albuminuria which lasted six months, in a young man of 20. For 5 years he had been troubled with dyspepsia. He had scarlet fever when 7 years old. Examination showed a movable right kidney. There was one gram of albumin to the liter of urine. A flannel binder was applied at once, after which neither morning nor evening urine contained albumin. When, however, the binder was forgotten or not tightly applied, albumin reappeared. He has wholly recovered, and is in better health than ever. Nivière believes that the albuminuria was due to mechanical causes, which disappeared when the abdominal viscera were kept in place. [M. O.]

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See Advertising Page 8.

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Mr. Rockefeller's Gift.—We learn that Mr. John D. Rockefeller is about to establish in New York City an institute for the promotion of original medical research. It is reported that he has placed at its disposal the sum of \$200,000. This is not an endowment, but rather for immediate expenditure. It is announced that the institute is to furnish facilities for original investigation, particularly in such problems in medicine as hygiene and the treatment of disease. While it is to be established in New York City, it is apparently not to be a purely local affair. The Board of Directors includes the names of well-known pathologists and medical scientists not only of New York, but of Philadelphia, Boston and Baltimore. It seems that this institute is to be without any organic affiliation with existing medical schools. At least we judge this from statements which we have read in the newspapers. Thus, the names of specialists connected with the University of Pennsylvania, Johns Hopkins University, Columbia University, Harvard University and the Bellevue Hospital Medical School are mentioned. This feature of the plan strikes us as being not without its advantage. There is no reason why an institute for original research in medicine should not be entirely independent of any existing medical school. The idea is, of course, somewhat of a novelty, but with money to back it, it can no doubt be embodied in a successful way. It seems that the new institute is to be somewhat on the model of such establishments as the Koch Institute in Berlin and the Pasteur Institute in Paris. If it is well endowed and its scientific work conducted by learned experts and scientists drawn from various parts of this country, it doubtless will have a great future, and the fact that it can draw upon the best workers and teachers without regard to the schools in which they teach will, perhaps, be an advantage. The difficulty, we should think, would be to secure active work in New York City from men who are located in other places. This, perhaps, may not be entirely within the design, as the names announced are simply of those who will constitute the Board of Directors. It is doubtless true that in an ordinary college routine too much valuable time is taken up in teaching that might be

spent, and must be spent, upon original work. In other words, the two interests, teaching and original work, do not by any means necessarily go together, as seems too often to be the idea in this country.

The Study of Tropical Diseases in the Philippine Islands.—We have received a copy of the medical circular on tropical diseases issued from the office of the Chief Surgeon of the Division of the Philippines. Under the authority of the Surgeon General of the Army, this circular was ordered to be prepared by First Lieutenant R. P. Strong, Assistant Surgeon, U. S. A., with a view of presenting to the medical officers on duty in those islands a concise report of the diseases with which they have to deal. This is a most satisfactory evidence of the care now being taken by the United States Government to advance not only the cause of medical science, but also the welfare of the troops in those distant possessions. Dr. Strong has prepared a series of interesting reports, or tracts, on some of the infections which cause intestinal disorders especially. These disorders, we judge, are particularly rife in all tropical countries.

The ameba dysenteriae is described minutely. It was encountered in the stools of nearly 500 cases of dysentery. The lesions were such as are usually described in amebic dysentery. The parasite was found in the mucosa, sub-mucosa, and intermuscular septa. These amebæ were also found in 18 abscesses of the liver; on two occasions these abscesses had penetrated the lung cavity, and the parasites were found there. They are pathogenic for cats, which can readily be inoculated with them through the rectum. Great stress is laid upon the importance of amebic dysentery as a tropical disease. It may be overlooked until it has established a firm hold upon the victim. Repeated attacks of diarrhea and intestinal catarrh should excite suspicion, and the case should be treated radically. Dr. Strong appears to rely upon the local treatment with high quinine enemata. He also distinguishes between this ameba and the ameba coli, the latter of which, he thinks, is apparently harmless.

We cannot dwell in detail on all the parasitic dis-

eases mentioned by Surgeon Strong. In an interesting paper on the infusoria, he describes the *balantidium coli*, which is also a cause of intestinal disease. The flagellates are also described. These papers show clearly how important it is nowadays for the physician to be also a naturalist. The cestodes, or worms, are about the same in the Philippine Islands as here at home. The common forms are the *tænia saginata* and the *tænia solium*. The *echinococcus* is not common. The troops have been much infested with the common lumbricoid worm. One of the most interesting of Dr. Strong's papers is the one on filaria. He shows the relation of this infection to the mosquito, which may act as intermediate host. Not the least of the soldiers' troubles in the Philippines is caused by a small leech, which works its way into the skin even through the shoe laces. As we have already said, this paper is an interesting evidence of the good medical work being done in the Philippine Islands under the auspices of the United States Government.

The Relation of the Art and Science of Surgery.—

An interesting paper has been written by Dr. John A. Wyeth, of New York, on "The Value of Clinical Microscopy, Bacteriology, and Chemistry in Surgical Practice," being his oration on surgery before the American Medical Association at St. Paul. In this address, Dr. Wyeth shows the great advantage, in fact, the absolute necessity, for every one who does surgical work to understand thoroughly the science as well as the art of his branch, and he reviews very carefully what bacteriology, chemistry and the microscope have done to make surgery an exact science. He points out very clearly how impossible it is for one to be a thorough surgeon who does not understand and appreciate the work done in the laboratory, and tells us that this knowledge is as necessary as the practice of a perfect aseptic technique. The author shows a wonderful familiarity with the various methods of examining the blood, urine, sputum, etc., when it is remembered that his life as a surgeon and teacher is a very busy one, and what he has also done to advance the practical side of surgery. Although all good surgeons are not agreed on these subjects, one has but to refer to what the blood count alone has done to aid in surgical diagnosis and to direct surgical treatment, to concur with Wyeth that it is the duty of every surgeon, it matters not how busy he may be in the operating room, to familiarize himself with the science of surgery and to keep himself informed of the great advances made in laboratory methods. These advances all have a very practical bearing on his success as a life saver. Too often are operations recommended and performed when, if we had been

more careful in our examination of the supposed healthy organs as well as those diseased, the operation might have been avoided and perchance an operative death prevented. Not infrequently do we discover after operation that our patient is suffering from some lesion of the kidney or condition of the blood, which, if known previously, might have greatly altered our treatment. The wise and thoughtful advice of Wyeth cannot be too heartily commended to those doing surgical work.

The Treatment of Chronic Ulcer of the Stomach.

—Those of our readers who are interested in either general medicine or surgery must have read with pleasure and profit the excellent paper by Mayo Robson, in a recent issue of the *Journal*, on the surgical treatment of chronic gastric ulcer. One who is familiar with the work done by Mr. Robson, feels that what he writes on this subject must be authoritative, for few individual surgeons have had the extensive experience in operations upon the stomach and neighboring viscera which he has enjoyed. Although one cannot always agree with some of his statements, and occasionally may feel that the author is too radical, yet on the whole his article on this interesting condition impresses the reader as being from the pen of one who thoroughly understands the subject and who has given it the most careful thought and consideration. He urges upon the practitioner the great necessity of instituting early the most rigid medical treatment for acute gastric ulcer and of keeping this treatment up for a number of weeks after pain and other symptoms have subsided. He shows us very plainly that subsidence of symptoms does not mean that the ulcer has entirely healed, but only that the healing process has become established. Chronic ulcer usually follows a number of relapses after lax and ineffectual medical treatment. Robson shows, too, the greatly lessening mortality brought about in all surgical work upon the stomach during the past few years, and proves that in the treatment of gastric ulcer this mortality is much less than in cases in which medical treatment alone is depended upon. The paper is a long one, but every general practitioner, as well as every surgeon, can derive benefit from its perusal.

The Proposed Removal of the Almshouse.—

The city of Philadelphia erected the present buildings occupied as Almshouse, Hospital, and Asylum for the Insane, in the early thirties, and five wards only have been added to the structure in all these years. The city in the meantime has grown from a provincial town to be one of the great cities of the world, and the original plan of grouping the sick, the paupers, and the insane beneath the same roof and

jurisdiction, has proven sadly inadequate. Despite the best energies of a judicious management and an able medical staff, the death-rate in the institution is admittedly unnecessarily high, owing to the unfavorable conditions, such as the overcrowding and the old infected buildings which were built before the day when sanitary construction became so important a factor. There is no division of opinion among the profession or among those interested in public charities as to what should be done. There must be a speedy separation of these three great departments of city charities. Modern treatment of the insane exacts the proper conditions under which these unfortunates shall be treated. In the light of present-day knowledge, an almshouse must be built with due regard to light and air, and there must surround it a number of acres of land, the tilling of which may occupy the minds and bodies of these unfortunates. The Philadelphia Hospital should be a representative institution of its kind, built with properly constructed buildings, and of sufficient size to prevent the lamentable overcrowding which at present exists, and to enable its patients to secure the most improved hygienic surroundings, as well as the best medical treatment. There is also great need that the Philadelphia Hospital be separated entirely from the Almshouse, so that the stigma of pauperism may not fall upon its patients. On last Monday evening the Council Committee on Charities and Correction held a public meeting to discuss this subject, which was attended by a large and representative gathering. There was a consensus of opinion as to the necessity of making the changes mentioned above, and a resolution was offered and passed unanimously directing the Board of Charities and Correction to decide upon suitable sites and to present their report to the City Council. We trust that every medical man will interest himself personally in emphasizing the great necessity for these proposed changes.

Hygiene and Sanitary Science.—Dr. George M. Kober, Professor of Hygiene in the Georgetown University, delivered before the 52d annual meeting of the American Medical Association at St. Paul this week, the annual oration in State Medicine on "The Problem and Tendency of Hygiene and Sanitary Science in the Nineteenth Century." In view of the fact, as Dr. Kober has pointed out, that hygiene is not an independent science, but a correlation of the teachings of physiology, chemistry, physics, meteorology, pathology, sociology, epidemiology, and bacteriology, it is not surprising that the progress of this branch has been phenomenal. To emphasize that this science is not of modern origin, he alludes to the hygiene of the Greeks and Romans—the care

they paid to their water-supplies and bathing facilities, and the special attention paid to the physical culture of their youth.

The greater portion of his address is confined to the discussion of the progress of sanitation in the United States, referring to the duties of health boards, quarantine regulations, the results derived from improved water-supplies, the value of pure food and drug legislation, industrial, rural, and school hygiene, and the management and control of infectious diseases. The enactment of proper sanitary legislation and the education of the public in regard to the nature and causation of infectious diseases, will be important advances in the solution of the problem of prevention. In this connection of special interest is the statement that enteric fever, a so-called preventable disease, causes an annual total loss in the United States of \$185,000,000. Dr. Evans has estimated that the annual loss sustained from tuberculosis in the United States is \$574,000,000. However, the mortality statistics of 1890 and 1900 show a marked decrease in the death-rate from typhoid fever and consumption, and the American medical profession has much to be proud of in the century's progress in preventive medicine.

In this important contribution to medical literature we cannot fail to be struck with the development of modern hygiene, especially when we reflect upon the ignorance and superstition that prevailed in former times. With the ever-increasing means of observation and the more intimate co-operation of the profession throughout the civilized world, further progress and perfection in hygiene are to be expected with confidence.

The Cause of Cancer.—In view of the great interest that has recently been excited by Gaylord's article regarding the parasite of cancer, some recent work performed in the laboratory of Professor Wyszokowitsch may be of interest. De Meser, having observed some lycopodium spores in the interior of a cancer of the skin, which had evidently been derived from the powder that had been used in dressing it, called attention to the extreme difficulty of distinguishing between parasitic bodies and particles of foreign material absorbed from the surface. Konstantinowitsch having become interested in these cases, endeavored to determine just what effects different bodies, such as the spores of lycopodium, would produce when injected into the skin. He found that, as a matter of fact, they produced growths not dissimilar from ordinary granuloma, containing epithelioid and giant cells. This is only an additional illustration of the very important part that mechanical conditions play in the development of tumors, an element that was recognized nearly half a century ago by Virchow, and which, in the

eagerness to discover a parasite or to explain their origin as a result of some disturbance of the embryological mechanism, has been again and again forgotten. The experimental work to be done with regard to tumor formation is very considerable, and it is strange that pathologists have neglected it so much.

A Judge's Opinion on Osteopathy.—We fail to see of what use it is to pass a law for the regulation of the practice of medicine and surgery when any country judge can deliberately misinterpret the act so as to render it inoperative. Recently, in Venango County, Pennsylvania, the judge in the Common Pleas Court rendered an extraordinary decision in a case involving the legal status of osteopathy; and the grounds upon which his decision was based were as fair a sample of judicial sophistry or word-splitting as it has been our lot to see. Judge Criswell declared that the "practice of medicine," as defined by the act of Legislature, means the treatment of disease by the use merely of drugs, and that any other kind of treatment is not the "practice of medicine." Therefore, as osteopathy does not treat disease by the use of drugs, it is not a practice of medicine within the meaning of the law, and its practitioners can have full swing in the State of Pennsylvania without a license and without let or hindrance.

It is difficult to characterize such judicial wisdom as this. The respect which we owe the bench is severely tested by the utterance of such Dogberry opinions. According to Judge Criswell, a physician is simply a drug dispenser. What a surgeon is, in his opinion, we do not pretend to know. To keep within the meaning of the law, the doctor must prescribe pellets. If he attempts to practice in the broad field of preventive medicine, of hygiene, of dietetics, of hydrotherapy, of climatology, of suggestive therapeutics, of psychiatry, of obstetrics, of ophthalmology, and of three-fourths of the whole field of surgery (i. e., so far as he practises in these fields without drugs) he is no doctor. Ergo, any ignorant charlatan can enter these fields, and, so long as he gives no drugs, he is not required to have a license under the laws of Pennsylvania! Fortunately, it is sufficient merely to present Judge Criswell's opinion in order to show its foolishness. We trust the Supreme Court will reverse his decision and save the Commonwealth from such stultification.

A Mayor's Objection to Vaccination.—The Honorable Tom Johnson, of Cleveland, Ohio, announces to the world that he does not believe in "contaminating a man's blood with poison," and he declares that "no doctor shall pump any virus" into him. These bellicose utterances of the Honorable Tom Johnson, Mayor of Cleveland, were called forth, ac-

cording to the *Plain Dealer*, by the prevailing epidemic of small-pox in that city. We do not know what power the Mayor of Cleveland has to control the vaccination problem in the State of Ohio, but we call attention to the figures supplied by the *Public Health Reports*. From January 1st to May 11th there had been 899 cases of smallpox in Cleveland and its neighborhood. According to these figures an adverse fate has been "pumping the virus" of smallpox into the citizens of Cleveland at a high rate of speed. If the Honorable Tom Johnson is to have his way in that town, it is highly probable that a great many more Clevelanders will have their blood contaminated with the poison of smallpox before the epidemic is ended. It is deplorable that in this country a street car magnate who happens to get himself elected Mayor, should thus assume to speak upon a subject which does not properly fall within his jurisdiction. The *Buffalo Medical Journal* accuses Mayor Johnson of neglecting to enforce the methods of sanitary science, and holds him responsible in part for the situation. We are apt in this country to commiserate other countries in which an ignorant populace, as in India, resists the progress of sanitary science—but we should reflect that we, too, have our troubles of this kind, and they are not confined to Cleveland. That city is a very progressive and enlightened one, and we do not believe for a moment that it will follow the lead of its Mayor in this matter. Its many able physicians can doubtless lead public opinion even against the influence of the Honorable Tom Johnson.

Continuous Sneezing for Seven Months.—We strongly suspect that the interesting case of sternutation reported by Massé (*Revue Heb. de Laryngologie, d' Otologie et de Rhinologie*, Feb. 2, 1901) was of hysterical origin. This seems all the more probable from the fact that the affection was promptly cured by the use of an orthopedic apparatus on the spine, for which there seems to have been but little indication. The case occurred in a neurotic girl, aged 16. She had had dyspeptic symptoms, with frequent headaches and facial neuralgia. After a severe attack of influenza she had a dry cough, which ceased rather suddenly and was replaced by paroxysms of sneezing. These paroxysms began on the patient's awakening and continued seven or eight times a minute until she went to sleep. There was a sense of irritation in the nose, and the paroxysms were worse after eating. All treatment was ineffectual until Massé noticed that the spinal column was bent slightly forward. This suggested the use of a corset or supporting apparatus, and the adjustment of this was promptly followed by a cure. All this, we say, looks suspiciously hysterical. There is, in fact, no end to the symptoms of hysteria, and

some of the most interesting and obscure of these stigmata are associated with the respiratory tract. Sneezing has not been frequently observed, but bouts of yawning, and various forms of rapid respiration and other affections of respiration have not infrequently been noted. The use of a simple apparatus or spinal brace would be just the kind of a thing to favorably influence the mind of an hysterical patient and effect a cure. In other words, the use of such an apparatus would be simply a resort to suggestive therapeutics.

Reviews.

"A Handbook of Genito-Urinary Surgery and Venereal Diseases," by Dr. G. M. Phillips, Professor of Genito-Urinary Surgery and Venereal Diseases, Barnes Medical College. Illustrated with half-tone cuts and special drawings by Dr. L. Crusius. St. Louis, Lewis S. Matthews & Co., 1900.

Although a "handbook" it would seem to a reader of this volume that the author might have treated certain important subjects with more consideration than he has done. The portion devoted to venereal diseases is thoroughly practical and relates the author's experience. The portion devoted to genito-urinary surgery, particularly the chapters on the Prostate Gland and on the Surgical Diseases of the Kidney, is markedly deficient. Seven pages are devoted to the diseases of the kidney, and, although some of the diseases of this organ are described, yet others, such as tuberculosis and cystic degeneration, are passed over without a word as to their diagnosis and little more as to their treatment. The only symptoms ascribed to floating kidney "are pain and nervousness, either, or both of which may be paroxysmal or constant." To these indefinite symptoms are added the statement that a twist of the ureter may occur and hydronephrosis may result. But one method of operative treatment is described for the relief of this condition, and this description is hardly sufficient to guide one in the performance of the operation. In describing the operation for varicocele the author makes no mention of the more recent "high" operation for this condition. One can hardly speak of the author's style without criticising it, many of his sentences being entirely unintelligible. The following quotation will give some idea of the difficulty one has in understanding exactly what the author means to convey: "No doubt much of the trouble associated with varicocele is psychic, and largely due to the literature of the advertising quack: for the majority of my patients have shown unmistakable evidence of having seriously studied this free literature, and many times fallen victims to their proposals and become hypochondriacs, either on account of the disease or the treatment: it would be difficult to decide."

Some of the illustrations, particularly the photographs, in this book, are very good. [J. H. G.]

An Index of Symptoms and a Key to Diagnoses. By Ralph Winnington Leftwich, M. D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. New York: William Wood & Co., 1901.

"An Index of Symptoms" is a small book in which the various symptoms of disease are enumerated and beneath each symptom there is a list of all the diseases in which that symptom may occur. As examples, taken at random, delirium is a symptom of 43 diseases, and pale urine, is a symptom of 16. It is to be supposed that if a physician has a patient who passes pale urine, he turns to the list of diseases of which pale urine is a symptom and determines from what diseases his patient may be suffering and then by exclusion arrives at his diagnosis. The book is one of those short-cuts to successful diagnosis which are often so popular with the busy practitioner.

[J. M. S.]

Syphilis of Children.—George Carpenter, M. D., Lond. William Wood & Co. New York. 1901.

It is rare that a busy practitioner has either the time or inclination to give to the profession the minutely observed results of his own large experience in a particular class of patients. This has been done by George Carpenter, who has had exceptional facilities for the study of syphilis in children in several hundred cases in his private practice and in work at the Evelina Hospital for Sick Children.

The book is illustrated by sketches made on the spot to illustrate the clinical memoranda from which the monograph has been compiled. The cutaneous manifestations, the lymphatic glands, mucous membranes, larynx, anal orifice, lungs, spleen, liver, kidneys, heart, pancreas, thymus, thyroid, testicles, and the blood are considered under separate headings. There is a chapter devoted to clinical history and a brief summary. There is a short section on prognosis, and one on treatment. Mercury and chalk is preferred, of which one grain is given three times daily to an infant. Intolerance of the drug is not shown in infants by salivation, because the function is not properly established, but by diarrhea. Intramuscular injections are also advised.

This brochure of 110 pages can be read in an hour, and should prove profitable and helpful to those whose experience has been limited in this class of affections. [E. M.]

A Text-Book of Gynecology—Edited by Charles A. L. Reed.

A. M. M. D., President of the American Medical Association (1900-1901); Gynecologist in the Cincinnati Hospital, etc. New York. D. Appleton & Co. 1901. Pages 900, cloth, \$5.00.

To the preparation of this work the editor has brought the experience of many years of active labor in his chosen field of surgery. He has been ably seconded by some of the best writers in their lines of work, including such well-known names as Hobart Amory Hare, Dercum, Ballantyne, McMurtry, Newman, Sinclair, Mann and Coe. While open to some of the objectionable features of composite works of this kind, such as overlapping of subjects and multiplicity of views, this has largely been overcome by the judicious and truly excellent editorial efforts of Dr. Reed. If composite work should be written at all we heartily endorse the practice that has been adopted in this case of securing the cooperation of men in the various departments of medical science in their synthetic relation to gynecology, whereby the best and most recent views of the various subjects may be obtained in the most succinct form. The confining of the contributors to those who had already acquired considerable reputation as writers and authorities in their various lines has tended also to the same desirable end. A gratifying feature of the book is the retaining of the names of the contributors in the table of contents, whereby, if it be desired, the reader may know whose views he is noting and to whom tribute may be paid. The system adopted throughout the work is a rational one beginning with a thorough review of the history of gynecology and of the general topics bearing on pelvis surgery, such as its nomenclature and radicalism and conservatism in gynecology. A chapter on the general etiology of diseases of women is of special interest, and is from the pen of the editor. The general pathology of the female generative organs includes a study of the pelvic functions of menstruation, ovulation, and pregnancy, and the bacterial origin of inflammatory diseases of the female genitalia, as well as trophic and neoplastic changes. The general therapeutics of gynecology, instruments, and methods of diagnosis are ably discussed by Reed, Herzog, Robb and Potter, while the editor gives a *resume* of the modern methods of antiseptics and of the management of sepsis, shock and hemorrhage. In the presentation of the pathologic conditions of the pelvis an anatomical basis is adopted, proceeding from the external genitalia through the vagina, perineum, uterus, tubes, ovaries, and broad ligaments. Interesting features are the chapters on Cesarean Section and ectopic gestation. We regret that the more recent suggestion of Fritsch fails to find mention in the section on the performance of Cesarean Section: in a certain class of cases it may claim a limited use. The rarer forms of ectopic pregnancy do not find a place in the book, nor do

the curious accidents to which that complication is subject receive extensive mention. The chapter on infections of the Fallopian tubes is well written and shows careful investigation; the illustrations are somewhat idealized, but no doubt will be of value from the standpoint of the student. The literature of malignant deciduoma is by no means complete, nor do we altogether accord with the statement that this condition is a "degenerative malignant disease of the sarcomatous type;" there are undoubted cases of this growth of fetal origin which show true carcinomatous degeneration. The section treating of the pathology of the female urinary apparatus deserves special mention. It comprises a most admirable series of chapters from the pen of Harris, of Chicago, and enters exhaustively into the subject; we fail to find any omission even of the newer phases of this comparatively recently developed branch of surgery. The section on neoplasms of the uterus, tubes, and ovaries is complete. We note with interest that the ovulogenous theory of Wilms in the production of pelvic dermoids is endorsed by the author (Rothrock). Unfortunately the important subject of degenerative changes in uterine fibromyomata is disposed of within the space of less than one page, while the valuable operation of ventral suspension, valuable in the proper cases, is placed very materially in the background to favor the Alexander operation, which it is claimed "unquestionably fulfils the indications in a large majority of simple cases." We do not endorse the suggestion in fixed cases of freeing adhesions through an incision in the vaginal vault with a subsequent Alexander operation to hold the uterus forward. On the whole, however, the book that Dr. Reed has presented the profession is a most admirable exposé of modern gynecology, from which, here and there, the individual gynecologist will differ as to certain methods of treatment and technic according as he has been taught by his experience. The entire subject has been excellently grouped and ably treated. The mechanical work is of the best and the illustrations are instructive and not merely introduced for the purpose of padding. [W. A. N. D.]

Correspondence.

ANTHRAX IN PHILADELPHIA.

By John H. Jopson, M. D., of Philadelphia.

To the Editor of the Philadelphia Medical Journal.
Dear Sir:

The report of two cases of anthrax by Dr. L. H. Mutchler before the Philadelphia Academy of Surgery on May 6th, again brings to the attention of the medical profession of this city, the presence, and apparently increasing numbers of cases of this malignant infection in the community. In December, 1899, Dr. A. A. Ghiskey and myself reported a fatal case before the Philadelphia Pathological Society, and referred to four cases that had been reported or related to us verbally as having previously occurred in Philadelphia, and also remarked on the possible occurrence of other cases which had passed unrecognized or unrecorded. Our case was observed in the Surgical Dispensary service of the Episcopal Hospital. In the eighteen months which have elapsed since that time three other cases have been encountered in the same hospital, two studied by Dr. Mutchler, and one by Dr. E. E. W. Ziven, and Dr. Mutchler was able to refer to ten cases in all as having been observed in Philadelphia in a period of about ten years. It seems highly probable that many more have occurred in that time which have not been reported or recognized. The disease is often so obscure in its symptomatology especially in the pulmonic form, that it might easily be mistaken for something else when occurring sporadically, and the external form might also be confounded with cellulitis, carbuncle or erysipelas, when not seen in its earlier stages. At least fifty percent. of these ten cases were first seen at the Episcopal Hospital, which being situated in the center of an enormous manufacturing district, would naturally attract the cases from the tanneries and morocco factories where most of the patients were employed. Dr. Mutchler proposes to notify the Agricultural Department of his cases, and it would certainly seem to be the duty of every physician who encounters other cases to do the same. Ravenel has pointed out the fact that the present methods of curing hides are notoriously unsafe, and that many of those imported are liable to be infected is well known. Until those trustworthy methods

shall come into general use the employers of those exposed should be urged to guard the health of their workmen as far as possible. Many, if not all of these men, seem ignorant of their danger. Scratches or abrasions of the exposed epidermis are the usual avenues of infection in tanners, and the men should be warned of this source of danger. Other measures for protection would suggest themselves. The problem has been skilfully dealt with in the Bradford Woolen Mills in England, as Bell describes in his article in Allbutt's System, and it would seem to be a good time to suggest an attempt to solve it here.

INSTANTANEOUS DRY HEAT FOR EXTERNAL APPLICATION; ELECTRIC SUBSTITUTE FOR HOT WATER BAG.

By De Forrest Willard, M. D., of Philadelphia.

To the Editor of the Philadelphia Medical Journal.

Electricity being now in use in nearly all of our hospitals and in many private homes, I have found the following use of the current very helpful. It has the advantage of being instantly applicable, and especially at night it saves much trouble and time in the securing of a hot water bag.

The ordinary electric bulb attached to a long wire, which is in common use, can be wrapped in one or two layers of cloth and applied directly to the part affected, the heat being readily regulated by the thickness of the folds. At the first symptoms of a chill, during the premonitory creeps down the spine, such a bulb applied directly between the scapulae is of the greatest comfort, and will often prevent a rigor. It has the advantage, too, that the patient lying in bed can quickly seize it himself as it hangs by his side, and make himself comfortable even before the nurse reaches him.

To the physician also who returns to his office cold and wet, this bulb dropped in beneath his coat between the shoulders, while he sits at his desk, will be the speediest means of making him comfortable. Once tried, it is certain to be repeated.

For local pains in abdomen or chest, and neuralgic pains in the head, it has all the advantages of the hot water bag and never grows cold.

The bare bulb used as a flat iron is also very helpful in rheumatic pains of muscles, in sciatica, etc. Try it!

As a heat producer after operation: as an application for cold feet, etc., it has the special advantage of quick and continuous service.

A QUESTION OF PRIORITY.

By James F. E. Colgan, M. D., of Philadelphia.

To the Editor of the Philadelphia Medical Journal.

Professor Schlatter in his article published in the Philadelphia Medical Journal, April 13th, on "Ligation of the Carotid Artery as a Preliminary Operation to Resection of the Superior Maxilla," states that the first report concerning the ligation of the common carotid as a preliminary operation in operative procedure on the head is from the clinic of Professor C. Reyher, of St. Petersburg. Is not this an error? In the American Medical Recorder for April, 1821, is the report of an operation by Horatio G. Jameson, of Baltimore, Md., in which previous to removing a large tumor of the superior maxilla he ligated the common carotid with an animal ligature. As the patient was alive several years after and in enjoyment of perfect health, the credit of the first successful operation in my opinion belongs to America, and not, as stated in the article, to Russia.

A Case of Poisoning from Hair Dye.—Dr. George Petit (*Independent Medicalist*, 1901, No. 18) reports the case of a woman of 33 who, while confined to her bed after having injured her foot, had her hair cut short. Later, in Budapest, she bought a hair dye, which she used for three years. She grew thin and weak, and showed all the signs of dyspepsia. During the three years she had 16 successive attacks of erysipelas, for which no cause could be found. Petit finally came to the conclusion that the hair dye must be the cause of all these symptoms of systemic intoxication. Examination showed that it contained resorcin. Since she has stopped using the dye, she has grown gradually well. Oddly enough she had herself come to the conclusion that the hair dye was the cause of all her trouble, but tried to hide the fact from her physician.

[M. O.]

Society Reports.

Meeting of the American Pediatric Society.—The twentieth annual meeting was held at Niagara Falls, Greater Buffalo, May 27-29, 1901, at the International Hotel, Monday, May 27. President's address, Dr. Wm. D. Booker, Baltimore. After alluding to the death of Dr. J. H. Fruitnight, the president proceeded to a thorough discussion of the history of summer diarrhea of infants. Its first appearance in this country was in the middle of the eighteenth century, when the colonists had become collected in towns and villages. It had been unknown among the aborigines and was supposed by the American physicians not to have occurred in Europe. The first noteworthy description was by Dr. Benjamin Rush, 1777, under the term cholera infantum. Auretius, however, in the second century, mentioned an epidemic diarrhea of children, occurring in the summer months. Harris, 1650, described it as occurring in England and Claghorn, 1744, as in Minorca. Rosenstein, of Stockholm, 1750, devoted 40 pages to this disease. There followed an exhaustive review, especially of the early American literature, up to about 1830. Dr. Allen Baines of Toronto, reported a case of general arterio-sclerosis in a boy aged ten years, with specimen and microscopic mounts. The case had been observed for about a year before death, but no cause was discovered. Drs. T. M. Rotch and Maynard Ladd, of Boston, reported a case of pernicious Anemia in infancy, emphasizing the value of inhalations of oxygen. As the case was reported as apparently recovering, considerable doubt was expressed in the discussion, as to the diagnosis.

Dr. Frank Spooner Churchill, of Chicago, made a preliminary report of a case of so-called "cyclic albuminuria." He considered the term objectionable as the condition was merely a symptom. A review of the literature had impressed him with two facts, the superficial examinations of the urine made the short length of time that the cases were under observation. No one knows whether these cases would develop into recognizable organic disease or not. The women might develop puerperal eclampsia, the men an interstitial process. His case, that of a boy aged 11, was distinctly one of chronic parenchymatous nephritis, as shown by casts, blood, renal epithelium, and pus in the sediment. Eighty examinations of single specimens had been made, with absence of albumin night and morning and presence in the middle of the day, albumin being increased after exercise in the gymnasium, diminished after rest in bed. The urea percentage was uniformly high but not excessive, considering the age. Phosphates were increased, chlorids low. No generalizations could be drawn from these observations but the case would be reported later and it was worth inquiring whether the conditions leading to these chemic states were immediately or remotely causes of nephritis.

Dr. Rowland G. Freeman, of New York, reported a curious epidemic occurring in the Foundling Hospital. In June, 1899, 82 cases developed either simultaneously or within a few days. These included all of 77 children who spent the day in a certain play room and five of thirty children in an adjoining play room, isolated on account of ringworm. No other cases occurred in the total of 700 inmates. Drowsiness, loss of appetite and fever from 101° to 105°, were symptoms common to all. A digestive disorder was at first suspected but no symptoms developed to justify this diagnosis. One case had marked malarial signs and the plasmodium was found. In seven mild cases, no parasite was demonstrable. The other cases were treated with quinine so successfully that a cure resulted before the order to examine the blood was carried out. In many cases, two grains daily were insufficient, but six grains produced a cure. Celli and Koch and the English Expedition to Sierra Leone, were quoted to establish the susceptibility of young children to malaria. As to etiology some structural changes in the hospital had allowed some pools of stagnant water to form near the play room windows. There had not been time for mosquito larvae to develop since cold weather and there were no indications of bites on the children, so that, if the fever were malarial, inoculation must have occurred in some other manner. In the discussion, influenza was suggested as an explanation. Amaurotic Family Idocy. A. C. Cotton, Chicago. 36 cases had been collected from the literature and the author added one more. The spastic symptoms resembled infantile birth pal-

sy but the diagnosis was established by the Tay-Kingdon spot in the retina. The author expressed the belief, on account of the liability of error in diagnosis, that many cases were overlooked and urged the routine examination of the fundus in all suspicious cases. Note on the Little Finger of the Mongolian Imbecile and of Normal Children. Dr. J. Park West, Bellaire, Ohio. Eight cases were reported, and radiographs exhibited which showed a characteristic curve of the phalanges toward the ring finger. Dr. B. K. Rachford, of Cincinnati, reported a Case of Maternal Impression. The mother was operated on for appendicitis in the third month of pregnancy. The child, when six months old, showed a corresponding line with stitch marks, in the right inguinal region, but no scar tissue was apparent. Drs. Frederick A. Packard and Alfred Hand, Jr., of Philadelphia, made a report on the "Pathologic Anatomy of Cretinism, Showing Specimens of the Atrophied Thyroid and Large Thymus." The discussion branched off into a consideration of the thyroid extract. While the general opinion was favorable to its place in therapy, it was held that its success in cretinism had not been marked and that the improvement had been in all instances thus far known, merely temporary. Drs. Henry Koplick and I. Lichtenstein, of New York, contributed to the "Symptomatology of Cretinism, an Observation, Illustrated by Casts," that the hypothyrenar Eminence of Cretins rises abruptly from the line of the wrist instead of gradually, as in normal individuals.

Dr. J. P. Crozer Griffiths, of Philadelphia, reported the case of a child (colored) aged three months, which was first seen in a moribund condition. On autopsy, it was found that the appendix was gangrenous. He appended an exhaustive review of the literature of appendicitis in infancy. Among 97 cases, the appendix was perforated in 15. In 4, it had descended into the scrotum. Nine cases had been subjected to operation with seven recoveries. In two of the nine cases, operation was undertaken with the diagnosis of intussusception. He also reported a case of Long Continued Laryngeal Stenosis in a child of 20 months. The child began to suffer with dyspnea on February 15 and continued, with some remissions, to grow worse till April 9, when intubation was practiced. The tube was coughed up several times and was left out for a couple of hours on one occasion, otherwise it was retained till April 27. On May 4, the child was doing well but still had stridor or coughing or swallowing. May 5, pneumonia developed. By May 20, the child was well except for a husky voice. The mother insisted that the child had had a similar attack in August and September previous, lasting four weeks and that five of the child's brothers and sisters had suffered similarly while teething or undergoing analogous disturbances, the attack lasting a couple of weeks in each instance. The condition differed from ordinary croup in being persistent, night and day. Diphtheria was excluded by bacteriologic examinations, pressure by enlarged lymphatics, the thymus, etc. on the trachea was excluded by the relief afforded by intubation which located the trouble in the larynx. Pressure of a lymph node on a branch of the pneumogastric has been assigned as a cause of laryngeal spasm, but as Marfan points out, unilateral pressure should not cause bilateral spasm. Edema and papilloma were excluded by examination. The symptoms did not accord at all with laryngismus stridulus. Rhachitis was present and was probably a predisposing cause. Evidently, some family tendency to laryngeal spasm existed. In the discussion, the opinion was expressed that the case was really diphtheritic, the bacilli having been absent at the time of the examination, but the previous attack having been of this nature. Dr. Griffiths did not agree with this theory.

Dr. Wm. F. Northrup, of New York, read a paper, with illustrations, on Glass Sun Rooms on City Roofs, or Winter Playhouses.

Tuesday, May 28. Dr. Charles Gilmore Kerley, of the Davis Hospital, O. P. D., New York, read a paper entitled: "A Study of 551 Cases of Summer Diarrhea." Only 6% of his cases were nursed. 472 were fed on cow's milk, in whole or in part. He considered the expense of proprietary infants' foods a fortunate circumstance. When first seen, his cases had lasted from one to ten days or more. 80 cases recovered in three days, 168 in 4-7 days, the remainder in longer times, for instance, 11 recovered during the third week, 58 in the fourth and fifth weeks, 11 during the sixth and seventh, 6 in the eighth to tenth week. 499 patients were treated to the conclusion of the sickness, 10 resulting fatally. One invariable rule was to stop the milk, on the

ground that it favored the growth of the various bacteria involved. Clinically, it was impossible to differentiate the bacteria causing the disease, nor could the extent of lesions be determined by the apparent severity of the case. In 218 autopsies, in which gross lesions were expected, slight troubles were found and, on the other hand, extensive ulcerations had been found in cases from which little mucus and no blood had been passed. In patients dying within a few hours, a pale, washed-out gut, with enlarged lymph follicles, was found, but no ulcers. Most cases begin gradually, as an intestinal dyspepsia, neither the colon bacillus nor the streptococci being of much importance at first. Milk is recommended only, when the stools become approximately normal. In one instance, 5 months elapsed before it was given and in fifty per cent. of the cases, relapses occurred after beginning milk diet. For the most part, cereal waters were administered, 4 or 5 ounces of barley water being combined with one or two ounces of various broths, or two tablespoonfuls of beef juice, changing from one preparation to another to avoid flagging of the appetite. Brandy should not be given. White of egg mixture has been discarded as not being digested, and as favoring putrefaction as much as milk. It is impossible to give for any length of time a stronger barley water than that containing two tablespoonfuls to the pint. By dextrinizing the barley, the strength may be doubled. Dextrinization must not be carried out at a higher temperature than 100 F. or a disagreeable malty taste will develop. After trying the newer tannin compounds, eudoxin, etc., he had limited the drugs used to four—calomel, castor oil, bismuth subnitrate and opium. The production of bismuth sulphid was necessary, hence if the stools did not become colored, sulphur was added, one grain to ten of bismuth, every hour or two while the patient was awake. Four or five passages a day should be considered normal as maintaining drainage. Irrigation of the colon has been much overdone, it should never be practiced oftener than once in eight hours and not at all without a positive indication. Dr. J. P. Crozer Griffith alluded to experiments showing the lack of value of tannin, opiates, antiseptics, etc. Dr. Henry Koplik advocated albumin water for the acute period and regarded irrigation with salt solution as positively nutrient, on account of the absorption of the salt. The stimulant action of heat should also be considered. Dr. Buckingham objected to the wholesale condemnation of brandy. Dr. L. Emmett Holt said that babies were too often fatigued by having too much done for them. He cited a case in which irrigation had been maintained for seven months, twice daily, to cure a discharge of mucus that ceased, as soon as the irrigations were stopped. However, he believed thoroughly in irrigation at the beginning of an attack. He would add one drug to the list of Dr. Kerley, magnesium sulphate, ten to fifteen grains every hour or two until the stools are practically pure water, usually 120 grains being necessary. Dr. Chapin alluded to the danger of irrigation by kinking of a long tube and thought that, for most cases, it was better to rely on the ordinary rectal tip, elevating the hips. He did not believe in continuing cereals long, quoting a Boston writer: "If cereals are not good for well babies, how can they be good for sick babies?" Otherwise, he agreed with Dr. Kerley. Dr. Adams did not take so favorable view as the author of the possibility of controlling dispensary cases. He cited a case in which irrigation had been carried on from summer into the winter, to relieve a discharge of mucus from the bowel, which was due to adenoids in the pharynx. Dr. Cotton emphasized that a sharp distinction must be drawn between cleansing irrigations, the use of hot water in the bowel for stimulation and the cool sedative flushing in fever. He could not see that there was anything objectionable in the use of egg albumin except the bad odor of sulphuretted hydrogen produced. A long discussion followed, in which many points were reiterated and combatted. Dr. Rotch objected to the term "summer diarrhea," but Dr. Kerley insisted that it was impossible to follow out a proper classification clinically or even to distinguish sharply between functional and organic troubles.

"The Feeding of an Incubator Baby," was the title of a paper read by Dr. Charles W. Townsend, of Boston. The child which was apparently only two weeks premature weighing 2 pounds, 12 ounces. The placenta contained numerous areas of necrosis and, as is usually the case, the infarcts were associated with maternal albuminuria. The heat of the incubator was maintained by a pan of water at 85 F. The birth weight was doubled in two weeks, more than quadrupled in six months and at one year, the child

weighed 17 pounds. He detailed his method of modifying milk, which he preferred to use raw, whenever possible. Each ounce of 10% cream, obtained by skimming off the upper quarter of a bottle of milk after standing five hours, added to a twenty ounce mixture represents 5-10% of fat, 2-10% sugar, 2-10% proteids. Each even tablespoonful of sugar of milk raises the percentage of sugar 2%. The white of one or two eggs may be added, the egg albumin resembling lactalbumin. The infant's progress was uninterrupted and the first tooth was cut at the age of six months and one week. When three months old, the baby was taken into the country and Jersey milk was used. This produced more frequent stools and some gas and Holstein milk was substituted with good results. After the eighth month, a cereal in the form of oatmeal or barley water was added. Usually, he believes in employing the cereal at or before this time, especially if pallor develops. He alluded to a similar case occurring in an infant born at the seventh month.

"The Place of Cereals in Infant Feeding," Dr. Henry D. Chapin, of New York. Believing that their use is well established clinically, he attacked the problem from the scientific standpoint. Our methods of analyzing milk are not sufficiently perfect to warrant too strong insistence on percentage modification of cow's milk, to imitate mother's milk. Ordinarily, we do not distinguish clearly enough between soluble albumin and globulin on the one hand and nucleo-albumin, mainly caseinogen, which contains phosphorus, on the other. Neither is it correct to call everything fat that is extracted by ether. Albumin, globulin, albumose, sugar, etc., could be absorbed after little digestive effort while nucleo-albumin represented in the curds, required a tedious process of digestion. Mammals may be divided into carnivorae, and non-ruminants, for convenience. The milk of each division is similar, a high percentage of proteids being found in carnivorae with short intestines, a high percentage of nucleo-albumin—and hence relative coarseness of curds—in ruminants. Carnivorae double in weight in about ten days after birth, ruminants only after sixty days. During the first days of life, all mammals are nourished by colostrum, which is rich in soluble albumins and sugar and hardly coagulates at all on the addition of rennet. In practice, it is found necessary to begin with 1-8 to 1-4 of the proteid found in human milk and by furnishing additional amounts of carbohydrates, proteid metabolism is diminished, more readily than by increasing the fats. Hence, a modified milk which contains only the percentage of sugar found in mother's milk, is inadequate. Maltose saccharose and lactose all have the same formula $C_{12}H_{22}O_{11}$, and all rotate light to the right. Saccharose is eliminated if introduced into the blood, the other two are assimilated, oxidation depending on enzymes of the blood. Cow's milk contains two sugars, one of which, at least, is different from that of mother's milk and it is impossible to modify cow's milk so as to imitate human milk, physiologically, even if the percentage composition seems to agree perfectly. Both by diminishing the size of curds and by furnishing readily oxidizable nutriment, he believed that the use of cereals was useful and he thought it better to use a simple cereal gruel as a basis rather than let the baby be turned over to a mercenary manufacturer.

In the discussion of these two papers, considerable opposition was manifested toward Dr. Chapin's theory and the general feeling seemed to be that his advocacy of cereal gruels would tend to the use of proprietary preparations. Dr. Rotch criticized his tables of milk analysis as incorrect and alluded to the popular belief, in which he shared, that it would be difficult to get a sample of mule's milk. He acknowledged that barley would favor curdling in smaller particles than plain water as a diluent, but he did not recognize the necessity of securing this end and he preferred to use whey, as containing the more digestible albumin and globulin and sugar of milk. Dr. Koplik favored the general use of modified milk but thought that dextrinized foods were of value in certain cases, especially chronic ones in which the child was poisoned from within its own alimentary tract. Melitose or malt would render the case in more digestible. Dr. Griffith believed that a perfect imitation of human milk was impossible and that good results might be obtained from diverse methods. Dr. Rotch objected to any attempt to harmonize the conflicting theories. Dr. Holt believed that in healthy children, there was no advantage in adding cereals but he favored an occasional change of diet. Dr. Winters had tried cereals and had abandoned them. Dr. Saunders had had good results from

wey and had used cereals to advantage in sick children but did not dvocate them in health. The afternoon session was shortened in order to visit the Pan-American Exposition, where the members were entertained by Dr. Irving M. Snow, of Buffalo. Wednesday morning, May 29. Dr. A. C. Cotton, of Chicago, showed a monster born at the seventh month, although not much larger than a normal fetus of five months, which was passed around with it, for comparison. The principal abnormalities were: webbing and clubbing of the fingers, deficiency of some of the limb bones, as shown by radiographs, ophthalmocoele, deficiency of the cranial bones superiorly, hernia containing intestine and left lobe of liver. The celosomia would locate the disturbance early in the second month or earlier. Hydrocephalus existed but must have developed later or the monster would have been anencephalic.

Dr. Saunders, of Cincinnati, showed a specimen of congenital hypertrophic stenosis of the pylorus, with thickening of the stomach wall but without dilatation. The child was born of healthy parents, without lesion at birth. Vomiting had been frequent and, often, of two nursings at once, so that the diagnosis was made before death and operation advised but refused. The child had died when five weeks old. The stomach, prepared with formalin, was exhibited in contrast with a normal child's stomach similarly prepared. Dr. Holt disputed the diagnosis, calling attention to the suspiciously large number of cases reported lately. He considered the absence of dilatation as against the diagnosis. Various contractions and even hour-glass contraction of the stomach are often diagnosed when the appearance is due to muscular rigidity. Dr. A. L. Benedict, of Buffalo, a guest, while agreeing with the diagnosis, spoke of a fact that he had recently observed, namely that embalming with formalin sometimes caused hardening and fixation of muscularly contracted hollow viscera, to such a degree that mistakes of diagnosis might occur. Dr. Freeman spoke of the differences occurring in normal cases, according to dilatation with gas or contraction. The author referred to the history as establishing the diagnosis and also pointed out the characteristic appearance of the pylorus as seen from the duodenum, resembling the portio vaginalis cervicis uteri. Dr. John Lovett Morse, of Boston, reported a case of a premature infant that was put into a basket lined with blue silk, in order to maintain warmth. A regular incubator was considered unnecessary on account of the warm weather. The child was slightly blue at birth and, after a few weeks, a systolic cardiac murmur was heard intermittently. At six months, slight albuminuria and hematuria and increase of blueness led to a more thorough examination and finally, arsenic was detected in the urine. The blue silk lining of the basket was the only object that could be found containing arsenic. Except for an exacerbation due to an epidemic coryza, the case progressed favorably. Dr. Samuel S. Adams, of Washington, showed eight temperature charts of children from two to eleven years old with pulmonary tuberculosis in the third stage, most of them having cavities. The temperature fluctuated widely between 95 and 105.6 with no correspondence in other symptoms, the children having neither chill, sweat, loss of appetite, nervousness, malaise, etc., at the time of the fluctuation. Dr. Holt thought that there must be some other cause than tuberculosis, for example a streptococcal process in the lungs, to account for the fluctuation. Dr. L. Emmett Holt, of New York, reported a case of diphtheria of the conjunctiva, yielding promptly to antitoxin. General symptoms were slight, the local lesion conspicuous. He also reported a case of gastric hemorrhage without obvious escape of blood by the stools, occurring on the second day after birth and promptly relieved by suprarenal extract, one grain every hour for twelve doses. The last few doses were taken with difficulty on account of the puckering of the esophagus. The child subsequently did well, there being no hemorrhage when the cord came away. A child of the same parents had previously died of similar hemorrhage. A friend of his had used the same method successfully, so far as the gastro-intestinal hemorrhage was concerned, but the child died later, apparently from internal hemorrhage. He also reported a case of protracted high temperature, from January 10 to May 5, when death ensued. For several days, the temperature was very high, reaching 106 and pneumonia was diagnosed from the physical signs. For the most part, however, only a few rales, feeble breathing and slight dullness, bilaterally, were noted. Examination for the plasmodium, five Widal tests, attempted cultures

from the blood, examination of sputum, etc., were negative. There were gastro-enteric symptoms with discharge of mucus. At the autopsy, broncho-pneumonia, universal adhesions of the lungs, a pocket of 15 c.c. of pus in the right lower lobe and a sacculated empyema containing 60 c.c. on the diaphragmatic surface of the left lung were found. In the middle of the sickness, the leucocytes amounted to 22,000, falling to 14,000 and 11,000. Dr. Morse reported a case of oozing from forceps wounds, in which suprarenal powder applied locally had no effect. Finally Monssel's solution and digital pressure for twelve hours were resorted to, successfully. Drs. Rotch and Buckingham reported a case of prolonged fever in which the pathologic diagnosis was lymphogenous pneumonia, the pneumococcus being present. Dr. Chapin reported a case of elevation of temperature, recurring regularly every fifth day, unexplainable and not yielding to antimalarial treatment, but gradually recovering. He had seen four or five cases of ocular diphtheria in which antitoxin was used but he believed the cure had been due rather to local treatment. Dr. Carr, in regard to suprarenal extract, quoted Bates's experiments which show that an aqueous solution must be used. Dr. J. P. Wilson, of Philadelphia, spoke of the usefulness of suprarenal extract in adult cases, mentioning one of purpura hemorrhagica, with filling of the bladder with blood, occurring in the course of gonorrhea. He urged examination of the heart in all protracted fevers, without obvious explanation, for some form of endocarditis, not necessarily ulcerative, might be the cause. Dr. Rotch mentioned the case of an oculist's child, suffering from conjunctival diphtheria, in which local measures had been unavailing but which yielded promptly to antitoxin. Dr. Holt emphasized the difference between hemorrhages in the new born and hemophilia, in that infants either die or recover without further hemorrhagic tendency. Dr. Chapin disagreed with this, alluding to Dr. Holt's case and to one of his own in which two children of the same family had hemorrhages within a day or two after birth and the mother herself suffered from hemophilia. Dr. Holt mentioned a method of obtaining sputum in young children, by the passage of the tube into the esophagus, while the stomach was empty. Dr. Harold Williams, of Boston, reported a case of Appendicitis occurring with Measles. The signs pointing to the appendix were obscure though there was a history of gastro-enteric disturbances. Measles had previously occurred so that the case was considered from the side of the bowel till the eruption made the one diagnosis positive. The next day after the appearance of the eruption, however, it became evident that measles was not the only condition present and operation was performed, resulting in finding a slightly gangrenous appendix. Temperature fell to normal the next day and convalescence was rapid. Dr. W. S. Christopher, of Chicago, read a paper on Physical Measurements at Puberty, their Significance, Variation and Applications, based on studies made for the Educational Department of Chicago. Tables of weight, height, rapidity of growth, vital capacity and hand grip were shown, giving both averages and a "belt" of normal variations from the average. Immediately before puberty, there is a decline of the life processes, followed by an exaltation for a couple of years or thereabouts, of all the life processes enumerated. This wave begins earlier and lasts a shorter time in girls. As compared with boys, this exaltation in girls is more marked in weight and height, less so in the other aspects. At puberty mortality is low and morbidity high, neuroses, psychoses, neurasthenia, deformities and anemias being the chief diseases noted. There is a wider "belt" of normal deviation from the average at puberty, and a corresponding accentuation of individualism, as compared with other periods of childhood. He had noted that the inmates of a school to which boys are committed by the criminal courts, fell below the averages of boys of corresponding ages at other schools, the difference being more and more marked with advancing age. The following officers were elected: President, Dr. W. S. Christopher, Chicago; first vice-president, Dr. John Dornung, New York; second vice-president, Dr. Charles W. Townsend, Boston; secretary, Dr. Samuel S. Adams, Washington; treasurer, Dr. J. Park West, Bellaire, O.; editor and recorder, Dr. Walter Lester Carr, New York; council, Dr. A. D. Blackader, Wm. Osler, C. P. Putnum, F. Forchheimer, J. C. Wilson, F. M. Crandall, T. M. Rotch.

The next meeting will be held in Boston.

American Laryngological Association.

The twenty-third annual Congress of the American Laryngological Association opened in Dwight Hall, Yale College, Monday morning, May 27th. President Henry L. Swain in the chair. After the roll call and reception of guests, President Hadley, of Yale College, welcomed the members in the name of the college in a few well-chosen and felicitous remarks.

President Swain then delivered his address, in which he took for his text the education of the medical man of the future. The first paper that was read after the meeting was formally opened was by Jonathan Wright, M. D., of Brooklyn, N. Y., entitled, "A Leaf From the Ancient History of the Anatomy of Nasal Catarrh."

Then Dr. A. Coolidge, Jr., Boston, Mass., discussed Asymmetry of the Nasal Cavities.

In this community at least, asymmetry of the nasal passages, to a greater or less degree, is so common that it might almost be considered the rule and not the exception. It is commonly observed that in cases of deflection of the septum the turbinate body opposite a concavity is enlarged, and the one opposite the convexity is small. The causes assigned for this condition come under three heads: First, that the deviation of the septum is primary, and that the accompanying changes in the turbinates are due either to changes brought about by the inspired air current, or to pressure on the turbinate. Second, that deviations of the septum are secondarily caused by a primary change in the shape of the turbinates, and third, that both the deflected septum and the asymmetrical turbinates and outer wall are due to a common asymmetrical development.

Reflex Epilepsy from Nasal Disease Successfully Treated by the Removal of the Intra-nasal Cause," was the subject of a paper read by Dr. John O. Roe, of Rochester, N. Y., in which, after saying that the pathology of epilepsy is as yet an unwritten chapter in the history of the disease, and that the exciting cause generally resides in some part of the body outside of the brain, he reports several cases which had come under his observation in which the removal of an intra-nasal cause had caused a cessation of the seizures.

Dr. Arthur Ames Bliss, of Philadelphia, read a paper on the Supra-Lubal Operation (Dr. Harrison Allen's) for deflection of the nasal septum. The cases peculiarly adapted to this operation, are those in which there is a straight or but slightly curved deflection of the nasal septum above the anterior nasal spine with no overhang, with an actual bend of the spine itself to the narrower side of the nose.

Henry L. Wagner, M. D., of San Francisco, Cal., presented a radiograph, showing a large metallic disc in the esophagus. The home remedy of inverting the boy had been tried, with no result, and the boy, five years old, had been brought to the clinic. A suitable diet had been ordered in hopes that the telephone check, as his mother said, should take the orthodox course through an alimentary canal. This was tried, but the boy constantly complained of a metallic taste, and an incessant pain in the neck, and in the stomach (reflex) and had at last vomited, not the telephone check, but a brass disc considerably larger. The disc was shown. The narrator also presented a case of Epipharyngeal Lympho-sarcoma in a boy. This is rarely found in children. The growth was neither lobulated or soft to the touch of the probe, as sarcomata are said to be in this region, but its surface was perfectly round and smooth, and its texture very dense. The growth was removed, with some alleviation of symptoms. Soon after there was paralysis and ptosis of the left eye, showing that the morbid process had invaded the brain. An otitis media purulenta afterwards set in, and the patient died about four months after being first seen.

Dr. John Henry Rhodes, of Chicago, read a paper on "Chancre of the Tonsil," with report on four cases under his own observation, and a table of 31 others. He is of the opinion that there are many of these cases that are acquired innocently. He is also of the opinion that there are many of such cases that are not properly diagnosed, being taken for a recurrent tonsillitis. He arrives at the following conclusions: (1) Chancre of the tonsil is often unrecognized because hypertrophy and inflammation are so frequent, and are so closely simulated in the earlier symptoms, which often differ little from an ordinary sore throat. (2) An enlarged and indurated tonsil with a superficial ulcer

on its surface, accompanied by enlargement and induration of the continuous submaxillary gland, and which is unchanged by a long course of treatment renders a diagnosis of chancre probable. (3) The character of the chancre depends upon the original condition of the tonsil as to size, density, the amount of follicular inflammation and the coincidence of a mixed infection. (4) A certain diagnosis cannot usually be made until the general eruption of the disease. (5) The explosion of the disease is no more severe than in chancre elsewhere. (6) The disease is contracted by direct contact or by various media carrying the virus. (7) When we consider the frightful contagiousness of syphilis, and the frequency with which it is conveyed to innocent persons, the most careful use of throat, nose, dental and other surgical instruments, clinical thermometers, etc., is necessary. (8) Separate instruments should be used for examination and treatment of known syphilitics, but the possibility of contamination before the existence of the lues has been recognized make it imperative that every operator should employ a rapid and efficient disinfection or sterilization of instruments after the examination or treatment of every patient. (9) Most careful instructions should be given patients as to the necessity of sufficient isolation, the methods of infection, and the period of danger, and the use of individual household and other utensils should be enjoined.

Dr. Emil Mayer, of New York, read a letter on Empyema of the Antrum of Highmore in Infants, in which, after noting that the literature on the subject was excessively meagre, he reported a case in his own practice in a child, 2½ years old, in whom the general symptoms noted were eversion of the right lower lid, fistulous opening in right cheek, from which pus exuded and a most penetrating odor from the right side of the nose. The child was operated on, and recovery took place without any difficulty. The writer concludes that it is established beyond doubt that empyema of the antrum of Highmore in young children is not merely caries or tuberculosis or an osteomyelitis, but is as distinct an affection as in later life.

Dr. H. H. Bryan, of Washington, reported a very interesting case of Abscess of the Frontal, Ethmoidal and Sphenoidal Sinuses which had been under his care for the last two years. He gave the different steps that he had pursued in the effort to relieve and cure this condition, but he has been forced to come to the conclusion that there is but one outcome of the condition, and that is pain, suffering and finally death coming to the relief, where medical and surgical measures have failed.

Dr. Carl Seiler, of Scranton, Pa., presented a paper on The Effects of Cinchonism Upon Vocalization and Articulations. He found in the first place that the ordinary tinnitus aurium due to middle ear disease never transgressed the limits of pitch from D 1 (297 vibrations as the lowest point to the F 2 (704 vibrations) as the highest, as near as it was possible for him to determine, and that these subjective noises although variable in quality or timbre had no appreciable effect upon vocalization or articulation, but that they would invariably and very materially effect the perception of sounds which had the same or nearly the same number of vibrations per second as the subjective noises of the patient. The subjective noises due to Quinine, Salicylate of Soda, Alcohol, Ether and many others, were invariably of a very high pitch varying from as low as the G 3 (1584 vibrations) to as high as (3960 vibrations) and often even higher. He also observed that any composite noises of high pitch not only interfered with the pronunciation of those consonants which according to the investigations of Helmholtz and others have for their characteristic sound a combination of high pitched sounds such as "th," "S," "Sh," "Z," and the like consonant sounds of articulate speech, but also caused them to be easily obliterated and consequently most difficult to appreciate and to be recognized by the ear.

Wyatt Wingrave, M. D., of London, Eng., 26 cases of tonsillotomy rash. This is somewhat similar to the (urgicæ) rash, that follows some operations in some cases. The eruption generally appears on the second or third day, either papular, roseolar or erythematous in type. It most frequently attacks the neck, chest and abdomen, sometimes extending to the face and extremities. The earliest appearance noted was the day following the operation, and the latest, the sixth day. Its duration is generally two or three days, but it may extend to five days. After reaching its maximum intensity, it rapidly disappears without desqu-

mation, but is sometimes associated with intense itching. It may occur at any age, the youngest of his cases being 14 months, and the oldest 23 years.

SECOND DAY.

Dr. Francke H. Bosworth, of New York, presented a paper on: "The Tonsils from a purely Clinical Point of View." In this, he takes the ground that the only healthy tonsil is one in which there is no hypertrophy, in other words, the tonsil that is manifest on inspection is not a normal one. He advises the removal of this tumor, as he would the tumor of any other kind that might present, whether benign, malignant or otherwise.

Dr. C. H. Knight, of New York, read a paper on Vocal Nodules. In this paper the writer takes the ground that the cause of these nodules of the vocal chords are due to some abnormal condition in the upper air tract, rather than to any abnormality either in the vocal chords themselves or in the larynx. He does not mean to say that there are no cases that could be ascribed to any other cause, but that the majority of these cases are due to the lesions higher up. He thinks that the nodule is the secondary condition, and not the primary one. He also thinks that the condition is more or less permanent, in spite of the fact that there are some authors that incline to the belief that they are transitory from over use.

A study of the proper application of intubation in chronic stenosis of the larynx, was the subject of a very able paper by Dr. W. K. Simpson, of New York. The writer divides these cases into three classes: First, those of gradual stenosis, of longer or shorter standing, in which immediate intubation is not necessary. Second, Those cases in which an acute exacerbation renders immediate intubation necessary in order to save life, and third, Those cases where it is desired to avoid wearing a tracheal canula.

In the first two classes of cases, unless a clear view of the larynx can be had and a positive knowledge of the immediate cause of the stenosis obtained, intubation is not to be thought of, but tracheotomy done instead. In doing a tracheotomy, it is well to do it as high as can be done with safety and then after the immediate symptoms are relieved it is well to intubate. An intubation tube may be worn for months without changing. The difficulty in retaining an intubation tube has been overcome by Dr. John Rogers, who has added to the original O'Dwyer tube a right angled tube which is allowed to protrude from the tracheal opening. This secondary tube, is added at the time of intubation, after the tube has been placed in position, and marked through the tracheal opening. As the tubes are made of hard rubber, it is a matter of only a short time.

Dr. C. C. Rice, of New York, read a very interesting paper on the subject of local treatment of the nasal mucous membrane in Hay Fever. After a very thorough and exhaustive review of the theories of the etiology of this troublesome disorder, he explained his new treatment. It is well known that there are sensitive areas in the nose, and that these are the primary causes of hay fever, is the belief of the writer. He takes the ground that if these sensitive areas are rendered less sensitive that a long step has been taken in the direction of the prevention of a recurrence of the fever. He was led to this line of reasoning by using a swab to smooth off some of the granulations in atrophic rhinitis. The method of treatment is to rub or scrub the mucous membrane of the nostrils all over, with some solution or even with simple cotton and establish a tolerancy of the nasal mucous membrane to the presence of the irritant. In all or nearly all of the cases that he has treated by this method, he had to accustom the membrane to the touch of the probe. The first applications were very apt to cause more or less violent attacks of sneezing or coughing. After a few applications, this intolerance passed away, and he was able to obliterate the sensibility very markedly. The applications were made every other day for the first month, and then twice a month after that, beginning four months before the time of the expected attack. The treatment was carried out until the time of attack had passed.

Dr. Makuen, of Philadelphia, Pa., read a paper on Cleft Palate and its relation to speech. This paper is one of those that cannot be abstracted, or even described to another. It was a very able paper in every respect, but from the very nature of the subject it is seen that there was much that

pertained to the sounds of the various vowels and consonants which can hardly be put into cold type.

Dr. A. W. DeRoaldes, of New Orleans, La., presented a paper on the subject of the use of the electro-magnet for the extraction of foreign bodies from the air passages. He also presented some instruments that he had had constructed for such use. He gave the results of the treatment of one case of foreign body in the trachea, in which, after having started to perform a tracheotomy the point of a large Haab magnet was brought near the wound, and the metallic object was immediately drawn out from its place of lodgement. In addition to this case, he had conducted a series of experiments on the cadaver, and had tabulated the results of these, that they might in a way be a guide in the future application of this method. This is the first time that the magnet has been brought to the notice of the profession, in such cases.

The following named were chosen as the officers of the Association for 1901-1902: President, J. W. Farlow, M. D., Boston, Mass.; first vice-president, J. W. Gleitsmann, M. D., New York City; second vice-president, D. B. Kyle, M. D., Philadelphia; secretary and treasurer, James E. Newcomb, M. D., 118 W. 69th St., New York City; librarian, Joseph H. Bryan, M. D., Washington, D. C.; council, Thomas R. French, M. D., Brooklyn; William E. Casselberry, M. D., Chicago; Samuel Johnson, M. D., Baltimore; Henry L. Swain, M. D., New Haven.

The next meeting of the Association will be held in Boston, Mass., in May, 1902.

GAZETTE MEDICALE DE PARIS.

March 16, 1901. (72me. Année, No. II).

1. Clinical Remarks on the Death of Napoleon the First. MARCEL BAUDOUIN.

1.—Many books have been written in which the last years of the great Napoleon have been depicted. Though many physicians examined and treated him, they drew different conclusions. He was ill during the four years before his death. Cancer would most probably have killed in that time. Stokoe had diagnosed chronic hepatic disease, and later abscess of the liver. This Baudouin, from the perusal of the books on the subject, believes to have been a perihepatitis, due to extension from the evident existing perigastritis. For Baudouin believes that Napoleon had an ulcer of the stomach, which caused his death by perforating. Hematemesis was present with fever off and on, and vomiting. There was no hypertrophy of the liver, nor any signs of cancer, while a gastric ulcer which had perforated was found near the pylorus at the autopsy. [M. O.]

April 6, 1901. (72me. Année, No. 14.)

1. The Pathogenic Agent in Acute Articular Rheumatism. PIERRE ACHALME.

1.—In 1891, and again in 1897, Achalme described an anaerobic bacillus found in cases of acute articular rheumatism. It resembles the bacillus anthracis, is obligately anaerobic, stains with Gram's or Claudius' method, lives only between 21° and 45° C., contains ovoid spores, causes clotting of milk with gas production, and acts with varied virulence in animals. It can best assimilate nitrogen in the creatinic bases. It easily liquifies gelatin. Its diastase, which breaks up albumenoids, is a trypsin, the action of which is hindered by the presence of acids. Yet with carbohydrates the bacillus causes the formation of butyric, acetic, and lactic acids, and the fermentation of the sugars and starches. This fermentative action prevents the trypsin from destroying the fibrin or albumen, and limits the life of the organism: for sporulation never occurs in acid media. In some cases the bacillus has been found in the synovial fluid, the blood-clots in the heart, and the myocardium. In others it cannot be found. Achalme does not claim that it is a specific bacillus. He believes it is found in healthy individuals, and can be the cause of acute articular rheumatism or puerperal fever; or in animals, of abscess, gangrene, appendicitis, etc. It causes that vague form of rheumatism in which there are few arthritic, mainly cardiac symptoms. In these cases there is often an eruption, scarlatiniform in character. The bacillus causes some putrefaction, and the action of the salicylates in curing the condition is explained by their removing the products of putrefaction in salicyluric acid. [M. O.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

World's Heaviest Baby.—Probably the heaviest baby in the world for her age is Francisca Lillian Minnis, daughter of George Minnis, of Atlantic, Crawford county, Pa. She is 8 months old, her bust measure is 31 inches, weighs 51½ pounds and is in perfect health. Her parents are below the average in height and weight.

State Funds for Charity.—Twenty-four bills for private charities were reported in the House at Harrisburg, Pa., May 27, from the Appropriations Committee, as follows:

Pennsylvania Home for Blind, Philadelphia, \$25,000.
Evangelical Home for Aged, Philadelphia, \$1000.
Bethesda Home, Pittsburg, \$5000.
Home for Aged, Easton, \$2000.
Rush Hospital, Philadelphia, \$10,000.
Midnight Mission, Philadelphia, \$2000.
Easton Hospital, \$12,000.
Children's Aid Society, Philadelphia, \$10,000.
Home for Aged, Philadelphia, \$4000.
West Philadelphia Hospital for Women, \$2500.
Brookville Memorial Home, \$7000.
Wagner Free Institute, Philadelphia, \$2000.
Lying-in Charity Hospital, Philadelphia, \$15,000.
Maternity Hospital, Philadelphia, \$5000.
Old Ladies' Home, Philadelphia, \$4000.
Home of Friendless, Harrisburg, \$2500.
Howard Hospital, Philadelphia, \$5000.
Home for Aged Veterans, Philadelphia, \$6000.
Union Home for Old Ladies, Philadelphia, \$4000.
Home for Widows, Lebanon, \$2000.
Children's Aid Society, Pittsburg, \$10,000.
Home for Infants, Philadelphia, \$4000.
Asylum for Indigent Widows, Philadelphia, \$5000.
Colony Farm, \$10,000.

Jefferson Medical College.—The class of 1891 of the Jefferson Medical College will hold a re-union in Philadelphia on June 27, 28 and 29. All graduates, and especially members of the Classes of 1890 and 1892, are cordially invited to be present.

Almshouse Removal Urged by Citizens.—Representatives of nearly every medical college and society in the city, of civic organizations and many well known citizens appeared before Councils' Committee on Charities and Correction, at its public meeting June 3rd, to recommend the separation of the Almshouse and insane departments of Blockley from the Philadelphia Hospital. The chief arguments advanced were that the three institutions are overcrowded, and that the requirements of modern science demand open air and work for the insane. Chairman H. R. Kneass, of the committee, presided. At the close of the meeting a resolution was adopted authorizing the Department of Charities and Correction to select suitable sites for the Almshouse and insane departments, and to report to the committee for further action. Dr. John V. Shoemaker, President of the Department of Charities and Correction, showed the lack of accommodations for patients, and spoke of the feeling of abhorrence with which many persons in need of medical aid regard the Philadelphia Hospital, simply because it is connected with the Almshouse. If the two departments were separated, he thought the city would be able more widely to extend its usefulness.

Vital Statistics of Philadelphia for the week ending June 1, 1901:

Total mortality	372	Cases.	Deaths.
Inflammation of the appendix 3,			
brain 21, bronchi 7, heart 1, kid-			
neys 19, lungs 37, pericardium 1,			
peritoneum 6, pleura 4, stomach			
and bowels 10			109
Marasmus 8, debility 4, inanition 12			24
Tuberculosis of the lungs			50
Apoplexy 18, paralysis 6			24
Heart-disease of 36, fatty degenera-			
tion of 2, neuralgia of 2			40
Uremia 8, diabetes 2, Bright's dis-			
ease 5			15
Carcinoma of the breast 2, eye 1,			
stomach 7, uterus 1, liver 1, eso-			
phagus 1, rectum 1			14

Cases. Deaths

Convulsions 9, convulsions, puer-			
peral 1			10
Diphtheria	112		5
Brain-abscess of 1, hemorrhage from			
1, softening of 3			5
Typhoid fever	116		14
Old age			10
Scarlet fever	104		4
Influenza 1, asthma 2, anemia 1,			
burns and scalds 2, casualties 6,			
congestion of the lungs 2, cellu-			
litis 1, cirrhosis of the liver 3,			
croup 1, diarrhea 1, drowned 2,			
dropsy 1, fever, malarial 2, gan-			
grene, senile 1, homicide 1, hem-			
orrhage from bowels 1, lymph-			
adenoma 1, measles 2, obstruc-			
tion of the bowels 1, purpura hem-			
orrhagia 1, rheumatism 1, shock,			
surgical 1, septicemia 5, suffoca-			
tion 1, suicide 2, syphilis 1, whoop-			
ing cough 4			48

NEW JERSEY.

Proposed Memorial to Dr. Bartine.—The erection of a tablet is proposed by some of the prominent citizens of Merchantville, N. J., to perpetuate the memory of the late Dr. D. H. Bartine, who practiced his profession in that town for thirty-five years. The tablet is to cost not less than \$1000.

NEW YORK.

Cornell University has established an infirmary exclusively for its students. The building which is to be used for this purpose was formerly the home of the late H. W. Sage, who donated the building and \$100,000 for the infirmary.

Institute for Medical Research.—Having conferred with many eminent pathologists as to the best method of setting on foot an original scientific research into the problems of medicine and hygiene, John D. Rockefeller has placed at the disposal of a body of prominent medical men \$200,000, to be available for immediate expenditure by an association incorporated under the name of "The Rockefeller Institute for Medical Research." The home of this institute, with such laboratories, staff and equipment as may be found necessary, will be located in New York City. The officers and Board of Directors have already been chosen. The list of officers is as follows: Dr. William H. Welch, Baltimore, president; Dr. T. M. Prudden, vice-president; Dr. L. Emmett Holt, secretary, and Dr. C. A. Herter, New York, treasurer. The directors are: Dr. H. M. Priggs, New York City; Dr. Theobald Smith, of Boston; Dr. Simon Flexner, Philadelphia. Indications are that the \$200,000 which Mr. Rockefeller has given as the capital of the new institute is a trifling sum compared to what he contemplates giving ultimately to the same cause. The work will be done at Columbia University, Harvard University, the University of Chicago, the University of Michigan, the University of Pennsylvania, Johns Hopkins University, McGill University, of Montreal, and the headquarters of the New York Health Department. The directors of the new Rockefeller Institute will have supervision over it, but it will be performed by physicians whom they will employ, and who will work more or less independently in the different places mentioned. The heads of the various pathological laboratories will have general charge of the investigation, whether they happen to be directors of the institute or not. Periodically the directors, whose joint judgment will be the sole regulator of the expenditure of the \$200,000 provided, will meet to discuss the result of the work, and will jointly give out the information which it may have developed through the original channels. The work may go on for a year or two before definite plans are made for a permanent institution. The investigation of the country's milk supply will be the first important problem of which the directors will take hold. Their work is to be chiefly bacteriological.

Montefiore Home for Consumptives Dedicated.—The county home for consumptives of the Montefiore Home for Chronic Invalids, was dedicated May 30th at Bedford Station, N. Y. After preliminary exercises the keys were

presented to Jacob H. Schiff, president of the home, by Isaac Eppinger, chairman of the building committee, Mr. Schiff giving a history of the home. Theodore Roosevelt, vice-president of the United States, was then introduced and spoke of the magnificent work of the home.

St. Mark's Hospital.—At a recent meeting of the Society of the Alumni of St. Mark's Hospital of New York the following officers were elected for the ensuing year: Nicholas R. Dann, M. D., president; Conger F. Smith, M. D., vice-president; Ephriam K. Dowd, M. D., treasurer; Harry G. Watson, M. D., secretary.

NEW ENGLAND.

The American Laryngological Society.—At the meeting of the American Laryngological Society held at Yale University on May 28, the committee on nominations presented a report recommending that the following be the officers for the ensuing year: President, J. W. Farlow, of Boston; first vice-president, W. J. Gleitsmann of New York; second vice-president, D. Braden Kyle, of Philadelphia; secretary and treasurer, James E. Newcomb, of New York; librarian, J. H. Bryan, of Washington, D. C. This report will be acted on this morning, with a recommendation also that the next session of the society be held in Boston in June, 1902. Papers on technical subjects were presented yesterday by J. W. Geistmann, T. R. French, F. H. Bosworth, C. H. Knight, W. K. Simpson and Wyatt Wingrave of New York, A. W. Watson of Philadelphia and J. H. Goodale of Boston.

WESTERN STATES.

St. Peter's Hospital in Helena, Montana, was recently partly destroyed by fire. No one was injured, and the loss, which was \$10,000, was fully covered by insurance.

Military Surgeons Favor the Canteen.—The Association of Military Surgeons in session at St. Paul, Minn., on May 31, unanimously passed a resolution in favor of repealing the anti-canteen law.

Smallpox in Wisconsin.—Smallpox has caused the indefinite postponement of the High School commencement at Chippewa Falls, Wis.

Leprosy in Wisconsin.—Two cases of well-developed leprosy have been discovered in Tustin, Wis. A mother and her daughter are the victims. The cases are being investigated.

SOUTHERN STATES.

Elected Professor of Dental Pathology.—Dr. W. H. McGehee has been elected Professor of Dental Pathology, vice Dr. Ernest Walker, resigned, in the University College of Medicine, Richmond, Va.

Richmond.—The affairs of the Southwestern Insane Asylum in regard to its medical management, are now under investigation.

Mosquito Pest.—The Board of Health of the city of Galveston, Tex., is arranging for a large supply of oil from the Beaumont wells to be used in fighting mosquitos. The oil will be distributed in all the stagnant pools in the city, sprinkled on the surface of water in the gutters, and distributed free to owners of open cisterns for use in destroying mosquitos and the fever-breeding germs which collect in the ponds. Experiments made by the Board of Health have demonstrated the virtue of crude oil as a sanitary measure if properly used and petroleum water as healthful and nourishing for drinking purposes.

Dr. Richardson Elected.—Dr. Charles W. Richardson, of Washington, D. C., was elected president of the American Laryngological and Otological Society at its meeting in Baltimore, Md., May 26.

OBITUARY.

Dr. James R. Bayley, at Newport, Ore., on May 24, aged 82 years.—Dr. Charles St. John, at Pericale, Luzon, on May 22.—Dr. Dwight Mereness, at Milwaukee, Wis., on May 29, aged 41 years.—Dr. D. C. Thomas, at Adrian, Mich., on May 30, aged 66 years.—Dr. John L. Feeny, at Staten Island, N. Y., on June 1.—Dr. Edmond Beale, at Philadelphia,

Pa., on June 1, aged 81 years.—Dr. R. B. Archibald, at Purdy, Mo., on May 31, aged 55 years.

Dr. George B. Noyes, at Waupaca, Wis., on May 25, aged 54 years.—Dr. I. P. Hubert Larose, at Indian Orchard, Mass., on May 28, aged 31 years.—Dr. J. A. Heald, at Denton, Tex., on May 29, aged 80 years.—Dr. J. W. Allen, at Guthrie, Ky., on May 28, aged 45 years.—Dr. John E. Comfort, at New York City, on May 29, aged 64 years.

Dr. Edward Sultan, at St. Louis, Mo., on May 15.—Dr. John A. Wells, Englewood, N. J., on May 21, aged 45 years. Dr. George Woodson Scott, near Madison Run, Va., on May 14, aged 35 years; Dr. Whitcomb Pratt, at Richmond, Va., on May 16, aged 52 years; Dr. Jacob Derrickson, at Philadelphia, Pa., on May 17, aged 75 years; Dr. Charles D. Sherman, at Lancaster, Pa., on May 18, aged 52 years; Dr. A. D. Gibson, at South Omaha, Neb., on May 16, aged 78 years; Dr. John H. Bruere, at St. Louis, Mo., on May 16, aged 34 years.

Changes in the Medical Corps of the Navy for Week ended June 1, 1901.

DR. J. H. IDEN, appointed assistant surgeon in the Navy, from May 4, 1901—May 25.

MEDICAL DIRECTOR W. S. DIXON, commissioned medical director from April 28, 1901—May 25.

MEDICAL INSPECTOR C. G. HERNDON, commissioned medical inspector, from April 28, 1901—May 25.

P. A. SURGEON E. V. ARMSTRONG, detached from Vermont, and ordered to Key West Naval Station for duty at Dry Tortugas—May 25.

ASSISTANT SURGEON T. M. LIPPITT, ordered to the Washington Navy Yard, June 1—May 28.

ASSISTANT SURGEON R. B. WILLIAMS, detached from duty at Dry Tortugas, and ordered home to be in readiness for sea duty—May 25.

ASSISTANT SURGEON J. H. IDEN, ordered to Naval Hospital, Chelsea, Mass., for duty—May 25.

PAST ASSISTANT SURGEON J. F. COSTIGAN, detached from the Yorktown and ordered home. Resignation to be accepted after arrival—May 29.

ASSISTANT SURGEON W. M. GARTON, detached from the Washington Navy Yard, June 1, and ordered to the Indiana—May 29.

ASSISTANT SURGEON H. O. SHIFFERT, ordered to the Nashville—May 29.

ASSISTANT SURGEON E. THOMPSON, ordered to the Solace—May 29.

ASSISTANT SURGEON R. K. McCLANAHAN, ordered to the Culgoa—May 29.

PHARMACIST J. COWAN, detached from the Manila and Cavite Naval Station, and ordered to Naval Hospital, Yokohama, Japan—May 29.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended June 1, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

		Cases	Deaths	
CALIFORNIA:	San Francisco	May 11-18	5	
	ILLINOIS:	Chicago	May 18-25	7
	IOWA:	Cinton	May 18-25	2
LOUISIANA:	New Orleans	May 18-25	1	
MARYLAND:	Shreveport	May 18-25	1	
	Baltimore	May 18-25	2	
	MASSACHUSETTS:	Boston	May 18-25	3
	Fitchburg	May 18-25	1	
	Marlboro	May 18-25	1	
	New Bedford	May 18-25	1	
	Detroit	May 18-25	6	
MINNESOTA:	Minneapolis	May 18-25	9	
	Winona	May 11-18	1	
	Omaha	May 11-18	9	
NEBRASKA:	Manchester	May 18-25	5	
NEW HAMPSHIRE	Camden	May 18-25	1	
NEW JERSEY:	Newark	May 18-25	2	
	Passaic	May 18-25	1	
	NEW YORK:	New York	May 18-25	134
OHIO:	Cincinnati	May 17-24	4	
	Cleveland	May 18-25	39	
PENNSYLVANIA:	Erie	May 18-25	1	
	Lebanon	May 18-25	8	
	Philadelphia	May 18-25	3	
	Williamsport	May 18-25	1	
	Memphis	May 18-25	6	
TENNESSEE:	Nashville	May 18-25	2	
UTAH:	Salt Lake City	May 11-18	5	
	Tacoma	May 12-19	1	
WASHINGTON:	Huntington	Apr. 13-May 24	48	
WEST VIRGINIA:	Green Bay	May 19-26	6	
WISCONSIN:	Manila	Mar. 23-Apr. 13	35	
PHILIPPINES:	Ponce	Apr. 27-May 4	5	

SMALLPOX—FOREIGN.

AUSTRIA:	Prague	Apr. 24-May 1 . . .	5
BRAZIL:	Rio de Janeiro . . .	Apr. 1-15	5
BELGIUM:	Antwerp	Apr. 27-May 4 . . .	5
CHINA:	Hongkong	Apr. 13-15	6
ECUADOR:	Guayaquil	Apr. 30-May 11 . . .	3
EGYPT:	Cairo	Apr. 15-May 6 . . .	3
FRANCE:	Paris	Apr. 27-May 4 . . .	3
GERMANY:	Berlin	May 6-12	2
GREAT BRITAIN:	England	May 4-11	1
	London	May 4-11	2
	Liverpool	May 4-11	1
	Scotland	Apr. 27-May 11 . . .	10
	Glasgow	May 3-11	1
ITALY:	Naples	Apr. 30-May 12, 20 . .	2
MEXICO:	Mexico	May 11-18	1
NICARAGUA:	Granada	May 16, present . . .	1
	Masaya	May 16, present . . .	1
	Managua	May 16, present . . .	1
RUSSIA:	Moscow	Apr. 21-27	9
	Odessa	Apr. 27-May 4 . . .	1
	St. Petersburg . . .	Apr. 20-May 4 . . .	21
	Vladivostok	Mar. 1-31	1
	Warsaw	Apr. 20-27	7
SPAIN:	Madrid	May 4-11	1
	Vareto	Apr. 27-May 11 . . .	1
STRAITS SETTLEMENTS:	Singapore	Mar. 30-Apr. 13 . . .	3
URUGUAY:	Montevideo	Mar. 16-27	5

YELLOW FEVER.

BRAZIL:	Rio de Janeiro	Apr. 1-15	21
COLOMBIA:	Panama	May 6-20	7
CUBA:	Havana	May 11-18	3

PLAGUE—INSULAR.

PHILIPPINES:	Cebu	Apr. 1	1
	Manila	Mar. 23-Apr. 13 . . .	76

PLAGUE—FOREIGN.

JAPAN:	Formosa	Apr. 21-23	170
TURKEY:	Baara	May 13	3

MISCELLANY.

The Plague is becoming very widespread in its distribution. It has appeared in Rio de Janeiro, in Cape Colony, and has been increasing. The same is true of Mauritius. It has appeared in West Australia and Hong Kong. It is present in Karigagua, in Russia, but is decreasing there. In Argentine a number of cases occurred in San Nicolas, and suspected cases appeared in Belleville and Marious Jaurez, in Cordova Province.

Leprosy in the United States.—According to scientific government investigations directed from Washington for several months, there are at least 275 cases of leprosy in the United States. That number have been reported, but it is thought probable that the real number is nearer a thousand. For various reasons, physicians who have cases of this disease in many instances fail or refuse to report them. But the number reported is sufficiently large to occasion some alarm. Seventy-four of the known cases are in New Orleans, chiefly among the Italian population. There are twenty-three in Minnesota, mostly among Scandinavians in the rural settlements. There are fifteen cases in North Dakota, and two in South Dakota, among the same people. So far as has been ascertained, there are none in Michigan or in Indiana; Chicago has five cases, New York six, Boston none. The figures now compiling represent a great deal of careful work. A circular letter was sent from Washington to every city and county physician, every health officer, ever responsible head of a hospital, in the country. It called for volunteer information covering cases of leprosy in the community in question; the name of the leprosy person, the sex, age, social condition, place of residence—whether town or country—and name of attending physician. In all, 8,000 of these letters have gone out; replies have thus far been received from only 2,000 of them. There may be several times 275 cases in the 6000 districts from which thus far no replies have come. It is the intention of those who are compiling the figures to make the report to Congress, including such recommendations as may seem warranted. One recommendation will be for the erection of two large Government hospitals for lepers, one in the South and the other in the North. Eminent physicians have at different times been before committees of Congress in the interest of the erection of leper hospitals, but nothing came of these visits, the Government having no reliable data covering the prevalence of the

disease. Next winter, however, with full information on the subject, it is believed that Congress will act promptly. It is noteworthy that nearly all the 275 reported victims are foreigners. The Scandinavians seemed peculiarly susceptible to the disease. They either had it when they landed in America, or contracted it soon after landing. Every one of the cases in the Dakotas and Minnesota is in the country, rather remote even from the small towns. The disease seems to be spreading most rapidly in Louisiana, and for several years there has been agitation there in favor of effective public supervision and control of all leprosy patients, either by the State or by the Federal Government.

Alaska Smallpox Epidemic.—The steamer Victorian from Skagway, reports considerable excitement in the north, caused by the smallpox epidemic, and various settlements are taking every precaution to check and wipe out the disease. At Skagway the Indians were driven out of the city and a strong guard placed around the town to prevent their return. One or two cases of the disease exist among employes of the Treadwell mine on Douglas island, and according to reports it is believed that the big mining plant will have to shut down until the disease is stamped out.

Plague in Manila.—All vessels leaving Manila for other Island ports will be required to conform to the regulations contained in the following circular:

Manila, P. I., March 27, 1901.

Sir:—In view of the increase of plague in Manila and in order to protect other ports in the Philippines from the introduction of the disease, as well as to lessen the danger to vessels of infection and the liability to quarantine, all vessels leaving Manila for other island ports will be required to conform to the following regulations:

All vessels will be required to secure bills of health before sailing, and this will only be issued after an examination of the crew and passengers, and no passengers will be allowed to embark after this inspection.

Any passengers found sick on inspection will not be allowed to sail on that trip.

All passengers, with their baggage, and crew must be on board three hours before the time fixed for sailing.

The office must be notified three hours before the time fixed for sailing of vessel, so as to afford ample time for inspection and disinfection of baggage and allow the vessel to leave on schedule time.

You will notify all deck passengers that their baggage will be disinfected on board of vessel, and that no mattresses or pillows can be taken. After this disinfection the captain of the ship must take charge of the baggage and see that it is kept closed for twenty-four hours, or until the end of the passengers' voyage in case this is less than twenty-four hours.

This regulation will go into effect on April 1, 1901, and continue until further notice. Thanking you for your co-operation.

Respectfully,
J. C. PERRY,
Passed Assistant Surgeon, U. S. M. H. S.,
Chief Quarantine Officer for the Philippine Islands.

Plague in China.—A communication from Robert M. McWade, U. S. Consul, states that: The plague has again begun its ravages in Canton and vicinity, as well as in other parts of the Kwangtung province. As the authorities are averse to the full facts of the ravages of the scourge being made public, no official records are kept and, consequently, no adequate idea can be found or anything like accurate estimates given of the number of its victims or the extent of its ramifications. He is satisfied, however, that the cases in Canton are few in number. In the large village of Chan Tsin, about 12 miles west of Canton, the plague is prevalent, from 20 to 30 deaths occurring there daily for the last two weeks. This village has from 3,000 to 4,000 population. Some of the villages in the Shun Tak district are also infected, and so is the city of Fatshan, which has a population of over 500,000. The filthy condition of the public streets and byways and of the residences of the lower classes is mainly the cause of the reappearance of this awful disease.

A Useful Fly.—Experimenters of the United States Government saw one dragonfly eat up 800 mosquitoes in an hour, and it is now proposed to breed the "darning needle" on a large scale to see if they cannot be made sufficiently numerous to kill the mosquitoes responsible for propagating diseases.

Abstracts of Papers and Discussions at the Annual Meeting of the American Surgical Association, held in Baltimore on May 7th, 8th and 9th, 1901, the President, Dr. Roswell Park, of Baltimore, in the Chair.

(Continued from Page 1034.)

Dr. Eugene L. Opie, of Baltimore, in discussing Dr. Robson's paper on pancreatitis commented on the relation of gall-stones to the disease under discussion. He considered that there are two mechanisms, which explain this association, due to the anatomical features of the region. As to acute hemorrhagic pancreatitis he stated that a variety of irritating substances, when injected into the pancreas of animals, will produce this lesion and referred to the experiments of Flexner, who had injected artificial gastric juice, acids, alkalies and dilute formalin, to prove the fact. Another cause of hemorrhagic pancreatitis he believed to be the penetration of bile into the pancreas, which will confirm the fact of the relation between pancreatitis and gall-stones. It seems to be true that in the cases in which chronic interstitial pancreatitis accompanies gall-stones in the common duct, the pancreatitis, which has been at times mistaken for malignant disease of the gland, is the result of this obstruction.

Dr. Elliott, of Boston, in discussing Dr. Robson's paper on pancreatitis referred to the association of the disease with gall-stones, together with the relation of jaundice to these conditions, while theoretically, if the common duct was not blocked, there would be no jaundice, yet practically with stones only in the gall bladder jaundice is frequently present. Cases were cited where these conditions were true and where malignant disease had been diagnosed, although not present.

Dr. George R. Fowler, of Brooklyn, in discussing Dr. Robson's paper on Pancreatitis, reported three cases with symptoms and treatment, two of which recovered, while the third died. He laid particular stress on the collapse which occurred in his cases, in one being so bad that operation had to be put off several times.

Dr. Carson, of St. Louis, gave the details of a case occurring in his practice, of induration of the pancreas associated with jaundice. After operation the patient made a good recovery.

Dr. W. L. Estes, of Easton, Pennsylvania, reported two cases of operation with recovery, one of chronic interstitial pancreatitis simulating carcinoma and the other following an abdominal injury.

Dr. Leonard Freeman, of Denver, reported a case of jaundice, which he had believed to be due to gall-stones, and stated it had not occurred to him that pancreatic disease was probably the cause, although he had no doubt such was the case.

Dr. Robson closed the discussion and stated that he had never seen such marked and frequent attacks of collapse as those mentioned by Dr. Fowler. He reported one case where the collapsed condition of the patient had prevented operation and death had ensued, and he believed that it was a common symptom, although not to the extent in individual cases, observed by Dr. Fowler. He felt that the bile probably offered an explanation for many cases of hemorrhagic pancreatitis and he believed the infected nature of the bile was often the most important factor.

He referred briefly to Dr. Opie's specimens and expressed himself as much pleased with Dr. Brewer's description of the anatomy of the region.

Dr. A. W. Mayo Robson, of Leeds, England, read a paper entitled "The Surgical Treatment of Chronic Ulcer of the Stomach" and stated that the treatment of these cases is at first essentially medical. He compared the treatment of ulcer of the stomach with that of ulcer of the leg and particularly referred to the tendency to relapses. Twenty-three affections were referred to as complications of the condition, which were looked upon as serious menaces to the treatment of ulcer. He believes that about 25% of cases of gastric ulcer treated medically, died, while only about 16% treated surgically died, according to statistics a year ago, but at the present time, while the percentage death rate in cases treated medically remains about the same it has been reduced to 5% under surgical treatment. A number of operations were mentioned from which one could take his choice and great stress was laid upon the importance of the proper preparation of the patient before operation. Each operation was described in some detail

and cases illustrating each form of operation, together with the results obtained, were quoted. The number of operations performed by the author, divided up according to the number performed of each kind were given and the method he employs in stomach and other operations involving the making of an anastomotic opening between the hollow viscera was described. The author demonstrated the method which consisted practically of the employment of a method of suturing over a decalcified bone bobbin.

The original article was published in the *Philadelphia Medical Journal* of May 25, 1901.

The advantages claimed for the method are:

1. That it secures the opening, being of the exact size intended and that there is no possibility of the passage being made too small by the drawing up of the sutures before the knots are tightened.
2. That it secures an immediately patent channel between the two anastomosed viscera.
3. That the bobbin protects for from 24 to 48 hours the new line of union from pressure and from the irritation of the visceral contents.
4. That it facilitates the application of the sutures and so adds to the expedition of union by suture.
5. That no foreign material is left in the alimentary canal, which may irritate or cause subsequent trouble, for the bobbin rapidly dissolves in the alimentary juices.
6. That the method has now been proved by ample experience to be rapid, easy, efficient and safe.

The discussion of the foregoing paper was opened by Dr. William J. Mayo, of Rochester, Minnesota, who considered at some length the treatment of open ulcer of the stomach by gastroenterostomy, which he considered the most generally indicated operation for this condition in view of the following reasons:—

1. The varying extent and reasonable probability that more than one ulcer exists.
2. The common location of the ulceration.
3. The impossibility of locating the exact site of the ulcer in many cases.

In some few cases, presenting special features, he believed that excision or other form of surgical procedure is indicated.

The symptoms, he stated, depend somewhat upon the situation of the ulcer, the most common location being near the pylorus, which position may introduce certain mechanical features, and in the relief of these secondary phenomena in his opinion the operation achieves its triumphs. The relief of hyperacidity and a prompt emptying of the ingesta, preventing irritation and aiding nutrition is secured by gastroenterostomy.

Reference was made to the fact that the earlier reports on this subject demonstrate the existence at that time of a belief that the stomach was always contracted, but later reports have proven the error of considering this a fixed condition, although it is no doubt true in a majority of cases. In acute ulcer the stomach is usually small, and if the ulcer is not in the vicinity of the outlet, it will probably remain so. On the contrary, it is during the healing process that many ulcers in the pyloric region become most troublesome.

Ulcers in this situation are often extensive, and in chronic cases, perhaps but partly cicatrized, and obstruction of the pyloric orifice may take place by distortion or narrowing of the opening, irregular symptoms of the unhealed portion of the ulcer being manifest, in addition to the dilatation. In these cases periods of health alternate with symptoms of open ulcer, which are later followed by signs of open ulcer in a stomach more or less dilated. Most of the cases when once cicatrized remain healed, although a few sometimes develop into open ulcer. While the capacity of the stomach is not usually materially altered, in cases of gastric ulcer, when this condition does exist, it has a surgical significance.

He then made a comparison of the results of gastroenterostomy in (1) ulcers in the pyloric region with a normal or enlarged stomach, and (2) ulcers in a contracted stomach, and stated that in cases coming under the first group gastroenterostomy is the operation of choice, as it delivers the ingesta at a point sufficiently remote from the disease to prevent irritation, and the healing process is not interfered with and develops rapidly. Immediate and satisfactory relief for the mechanical condition is obtained, and in five gastroenterostomies performed under his observation all were speedily and permanently cured. Reference was made to a pyloric spasm produced by a small ulcer at

the pylorus, by which symptoms resembling mechanical interference are produced. While the author considers that pyroplasty is fairly effective in this form of the disease, he states that it does not compare with the benefits derived from gastroenterostomy, although the division of the pyloric sphincter stops the spasms and the enlargement of the opening exerts a healing influence on the ulcer. Gastroenterostomy on the small stomach affected by ulcer does not, as a rule, give immediate relief, although the ulcer will eventually heal, but the results are not as good as in the other class of cases. The author then referred to the use of the Murphy button and the union of the jejunum to the anterior wall of the stomach as near the greater curvature as possible, which operation he considers equally as good as the posterior and easier of performance. He stated that three-fourths of the cases which had come under his observation had been operated on for the relief of non-malignant disease, largely pyloric obstruction, the result of healed ulcer, and that there had been but one death in over forty cases. In malignant cases the death rate was over twenty-five per cent.

Dr. W. G. Macdonald, of Albany, New York, reported two cases of posterior gastroenterostomy for the relief of chronic ulcer of the stomach. One case, which had existed for eight years, did very well for ten months, when distinct symptoms presented themselves of a well-developed tumor in the region of the pylorus, the patient dying shortly afterward of carcinoma of the stomach. The second case was very similar, except that the improvement following the operation lasted for a somewhat longer time. In his opinion the ideal operation for these conditions is extirpation of the ulcerated surface, even though it involves resection of the stomach or partial gastrectomy.

Dr. William L. Rodman, of Philadelphia, called attention to the fact that malignant degeneration frequently takes place on the site of an old benign ulcer, and also that the great majority of gastric ulcers is situated posteriorly, and not anteriorly. In his opinion adhesions play a very important part in these conditions, but he felt that, if the ulcer is anterior and free from adhesions the operation should be done, while, if it is posterior, it is out of the question.

Dr. Robson did not close the discussion, except to thank the gentlemen present for the interest they had taken in his paper.

Dr. R. Matas, of New Orleans, read a paper on "Artificial Respiration," and demonstrated a new apparatus therefor.

Third Day, Morning Session.

"The Treatment of Arterio-Venous Aneurysm of the Subclavian Vessels" was the title of a paper read by Dr. R. Matas, of New Orleans, who reported a case of perforation of the right subclavian artery and vein, through the scalenus anticus, by a bullet; the patient being a young man aged 24. The bullet also injured the brachial plexus and caused paralysis of the corresponding upper extremity. Ten days subsequent to the injury the operation was performed. An osteoplastic resection of the clavicle with disarticulation at the sterno-clavicular joint was made under local infiltration anesthesia with Eucain B. and a temporary traction loop of silk was applied under the first portion of the anomalous subclavian artery, the innominate being absent. The vein was provisionally compressed above and below the anastomotic orifice. Profuse hemorrhage occurred when the vein was detached from the artery in spite of the fact that complete control of the subclavian at its orifice had been obtained, the bleeding being stopped by the application of double ligatures above and below the perforation of the artery. Indirectly the bleeding had its source in the vertebral and internal mammary. The artery between the ligatures was divided, the orifice in the vein closed by a lateral suture and venous circulation re-established. An undeformed bullet, 38 calibre, was extracted and shock followed, the patient being restored by saline infusion. Primary healing of the operative wound and recovery with partial loss of the hand and forearm from mortification caused arterial ischemia and insufficient collateral circulation followed.

In a review of the literature the author stated that but 15 cases had been recorded since 1829, when the first was published by Leary, and in only 4 of these has operative procedure been resorted to. In concluding the indications for intervention, the prognosis and the details of the operative technique were considered.

This paper was discussed by Dr. Arthur Dean Bevan, of Chicago. W. S. Halsted, of Baltimore, Theodore A. McGraw, of Detroit, and closed by Dr. Matas.

Operative intervention in tumors of the liver with a report of cases, was the title of a paper by Dr. W. G. Macdonald, of Albany, N. Y., which was not read.

Dr. E. H. Bradford, of Boston, presented a paper on Subtrochanteric Osteotomy, which was read by title.

Dr. A. Vander Veer, of Albany, N. Y., read a paper on Phlebitis following abdominal operations in which he stated that acute perforative appendicitis is more prevalent in August and September, because of the diet in which young people indulge, and in December and January because of exercise and exposure, but it was only of late that he had had any symptoms of phlebitis, four cases having occurred in the past two years. He referred briefly to the history of these cases and felt that possibly tight bandaging might have had something to do with at least two of them.

There was never any delay in the union of the wound, and attention was called to the strange coincidence that the cases occurred very near each other and immediately after beginning work in a new Hospital. He advised careful watching of the bladder and the bowels in these cases and stated that in addition the treatment should consist of rest, elevation of the limb, anodynes to control pain with hypnotics to afford sleep and diffusible stimulants and tonics, as may be required.

This paper was discussed by Dr. George R. Fowler, of Brooklyn, and Dr. William J. Mayo, of Rochester, Minnesota, as well as by Dr. Lange, of New York, Dr. Vander Veer closing.

William J. Mayo, A. M., M. D., of Rochester, Minn., read a paper entitled, "An Operation for the Radical Cure of Umbilical Hernia," stating that patients suffering from umbilical hernia are usually obese with attenuated muscles. It is sometimes wise to reduce the weight before operation. The neck of the protrusion should be exposed early and its omental contents ligated off at this point saving time. The writer has made the following method nineteen times. The steps of the operation are as follows:

A traverse elliptical incision is made at the base of the hernial protrusion to and through the peritoneum. Traction upon the hernia exposes its contents at the point of entrance. Return of intestine, if present, and ligation of extruded omentum. Exposure of the aponeurosis above and below the margin of the incision. The lower flap of aponeurosis and peritoneum is slid upward three quarters of an inch into a pocket previously formed, between the upper margins of aponeurosis and the peritoneum. Retention by two rows of buried sutures. The sliding can be made from side to side in the same manner as was so performed in ten of the nineteen reported cases. If the ring is very large the overlapping from above downward is easier of performance.

Dr. A. J. Ochsner, of Chicago, opened the discussion, in which Dr. F. H. Gerrish, of Portland, Maine; Dr. DeForest Willard, of Philadelphia, Dr. A. J. McCosh and Dr. W. B. Coley, of New York, and Dr. J. Collins Warren, of Boston, participated, Dr. Mayo closing.

Dr. James E. Moore, of Minneapolis, read a paper entitled "The Prevention and Cure of Post-operative Hernia," in which he stated that ventral hernia is rare among good operators except after operation for acute appendicitis. He believed that the same rules should govern the treatment of post-operative hernia that governs the treatment of other hernia. Operation, in his opinion, is the only treatment to be considered, and should be done early, the prognosis being almost always good.

This paper was discussed by Dr. Arthur D. Bevan, of Chicago, and closed by Dr. Moore.

Afternoon Session.

Dr. S. H. Weeks, of Portland, read a paper on "Fractures and Dislocations of the Spine," which was discussed by Dr. John C. Munro, of Boston; Dr. S. J. Mixter, of Boston, and Dr. R. H. Harte, of Philadelphia. The author did not close.

Dr. W. B. Coley, of New York, read a paper on the "Radical Cure of Inguinal and Femoral Hernia," with a report of 800 cases operated upon from 1881 to 1901, which was discussed by Dr. J. Collins Warren, of Boston, and Dr. W. S. Halsted, of Baltimore, Dr. Coley closing.

A paper on The Use of Silver Wire and Electricity in the Treatment of Aneurysms, with report of cases was read by Dr. Leonard Freeman, of Denver, and discussed by Dr. J. M. T. Finney, of Baltimore; Dr. DeForest Willard, of Philadelphia, and Dr. R. Matas, of New Orleans; Dr. Freeman closing.

A paper on Movable Kidney: Its Cause and Treatment, was read by Dr. M. L. Harris, of Chicago, but was not discussed.

Dr. S. J. Mixter, of Boston, read the following papers:—

(1) Two cases of abdominal contusion; (1) Fracture of Spleen—Splenectomy—Recovery. (2) Fracture of Kidney—Nephrectomy—Recovery.

2.) Nephrolithotomy on both Kidneys.

Dr. Charles A. Powers, of Denver, presented with photographs a paper on *Giant Sacrococcygeal Tumors*. The subject of especial observation was a male child first seen at three months of age, at which time there was found an enormous growth occupying the sacrococcygeal region, extending laterally to the buttocks and forward in front of the anus. It was irregularly ball shaped, and in size as large as the head of a child of six years. Below and in front the growth was cystic; above and laterally it was firm, and in places nodular. The skin over the tumor was of a bluish-red over the cystic parts, normal above and at the sides. Deep palpation showed no gap in the bony structures. There was nothing abnormal about the rectum. The tumor was moved by the gluteal muscles, but the tension of the mass was not changed when the child cried. There was no paralysis nor anesthesia of the lower extremities.

No operation was advised and the growth underwent spontaneous contraction. The skin did not ulcerate, the contents of the cystic portion were absorbed, and when the child was three years and nine months old the tumor had shrunk to the size of a man's fist, and was well flattened out over the sacrococcygeal region. The boy is as strong and healthy as other lads of his age; lies on his back and sits like other children; except for its mere presence, the tumor gives no symptoms.

While this growth lacks pathological confirmation, it is assumed that it is a teratoma or embryoid tumor having a double germinal substratum. A certain number of such tumors have been observed by German and French writers and when pathologically examined have been found to contain the greatest diversity of tissue. Cysts lined with various forms of epithelium, intestinal remnants, masses of gliomatous tissue, smooth and striped muscle fibre, bone, cartilage, etc.

The question of operation must be decided by the surgeon in the individual case. In general it is recommended that operation be deferred until the child reaches such age as to enable it to successfully withstand operative procedure. The author's case shows that spontaneous contraction may occur.

"Resection of the Chest Wall For a Large Sarcoma. Successful Use of the Anti-streptococcic Serum."

The above was the title of a paper read by Dr. W. W. Keen, of Philadelphia. The author referred very fully to the details of the operation, together with the condition of the patient before and after. In concluding his remarks he called particular attention to:

(1) The method of separating the tumor from the chest wall so as to determine more exactly the limits of the disease and lessen the size of the opening to be made in the chest. (2) The division of the ribs anteriorly and posteriorly prior to opening the pleural cavity; this diminished very much the period of danger in the collapse of the lung. (3) The use of Fetl's apparatus, which was not satisfactory in this case and for which he prefers to substitute the apparatus of Dr. Bloom, of New Orleans, which he then showed to the association, or the apparatus of Matas which was then demonstrated by its inventor. (4) The suture of the lung to the chest wall, which was followed by no untoward surgical result. It diminished very greatly the amount of post-operative pneumo-thorax and in fact one might almost say abolished it. (5) The use of the anti-streptococcic serum and as to whether it was the cause of the fall in temperature or only a coincident, the results seeming to be so striking. (6) The examination of the blood which was of great value as showing the reason for the continued high temperature and led to what the author believes to have been the proper treatment for the condition.

In the opinion of the doctor it is too early to determine what will be the future of the patient but up to the present time, a period of nearly seven months, the results have been entirely satisfactory.

Dr. R. Matas, of New Orleans, exhibited an apparatus for local infiltration anesthesia.

Drs. Hearn and Roe reported and exhibited a case of a large abscess of the lung, of 22 years duration, probably the result of local gangrene following pneumonia. (Patient male, age 26).

Pneumotomy was performed and the abscess drained for two years with much improvement in general health; marked lessening of the previous horribly offensive odor, but without any healing or reduction in the size of the cavity.

They again operated and excised a portion of the abscess wall, stitching the margins of the remainder to the skin surface, thus converting it into an open cavity, with relief from the annoyance of wearing a drainage tube and of cleansing the cavity and with practically entire cessation of odor.

Although about six months have elapsed, the cavity remains unchanged and there is evidence of secondary bronchiectasis for which they assign two probable causes; i. e. cough and cirrhosis of lung tissue. To obliterate the original cavity and to relieve the bronchiectasis or cure it, they propose to remove the greater portion of the lower ribs, with their periosteum, in this way allowing the chest wall to collapse upon the lung.

The case demonstrates the greatest difficulty of definitely localizing an old abscess of the lung with tough, elastic walls which collapse when empty, by either of the two methods, namely: aspiration and palpation; the value of the X-ray; the practicability of giving ether as a general anesthetic; the absence of any embarrassment of respiration by the entrance of air through drainage tubes introduced into the cavity, although they freely communicate with the bronchus; the ease with which the cavity could be flooded with different fluids or solutions, although they entered the bronchus and caused expulsive paroxysms of coughing; the advantages gained by draining the cavity by tubes or by the open method, but without any evident obliteration of the abscess cavity.

A portion of the ninth rib, in this case, was resected, the third time, having been twice performed.

The presence of pleural adhesions rendered the operations in this case free from the dangers of pneumothorax and, although a localized pyothorax occurred subsequent to one of the operations, it did not delay convalescence.

Meeting place next year, Albany, New York. Date, May. President, Dr. DeForest Willard, Phila.

GREAT BRITAIN.

Gold Medal Awarded. The gold medal presented to the Royal College of Surgeons, Edinburgh, by Colonel Lorimer Bathgate, in memory of his father, W. M. Bathgate, F. R. C. S. Ed., as a prize in *Materia Medica*, has been awarded to Mr. R. B. Johnston, of Edinburgh.

Lieutenant-Colonel Babbie, V. C., C. M. G., has been temporarily appointed Assistant Director of the Army Medical Service.

Appointment. Dr. S. West has been appointed Joint Lecturer on Medicine at St. Bartholomew's Hospital, in the place of Sir Dyce Duckworth.

CONTINENTAL EUROPE.

Dr. Laveran, the discoverer of the plasmodium of Malaria, has just been elected a member of the French Academy of Sciences, to fill the chair made vacant by the death of Professor Potain.

Appointment. Dr. J. J. Déjerine, the eminent neurologist, has just been appointed Professor of the History of Medicine and Surgery in the Medical Faculty of the University of Paris. He was born in Geneva in 1849, and graduated in medicine in Paris in 1879.

Dr. Troisier, physician to the Beaujon Hospital in Paris, has been nominated to fill the chair of the late Professor Potain in the Academy of Medicine of Paris.

Appointment. Dr. Ollive, Professor of Hygiene and Medical Jurisprudence at Nantes has been appointed Professor of Clinical Medicine.

Dr. Kirmission has just been appointed Professor of Surgery of Children in the Medical School of Paris.

No Passports to Lepers. Germany, Russia, and Roumania have decided, that in the future no passports be issued to lepers, and have formed an agreement to that effect.

The Soemmering prize has been awarded by the Senckenburger Natural History Society, of Frankfurt, to Prof. Franz Nissl, of the University of Heidelberg, for his discoveries in the finer structure of the nerve cell.

Baths on the Trains. Russia proposes to have baths and douches on trains running long distances. An innovation well worth considering.

The Prevalence of Tuberculosis in Russia. Between 1892 and 1894, inclusive, there were 1,475 deaths from cholera, while the number of deaths from tuberculosis during the same period reached 10,650. The annual mortality from tuberculosis all over Russia is between 360 and 450 thousand, while the number of persons affected with the disease is estimated at 2-2½ millions. The disease is concentrated principally in large cities, such as Moscow and St. Petersburg.

Tuberculosis Barred him from the Position. In the government of Poltava a physician applied for the position of district physician. When the application came up for consideration a member of the city council raised objection on the ground that the applicant is affected with tuberculosis and is liable to infect the patients. The physician entered suit for libel and secured conviction of the councilman, the latter having been sentenced to two week's imprisonment. A reconciliation however was brought about, and the sentence commuted.

A Useful Amusement for Hospital Inmates. The hospital of Alafusoff was recently fitted up with an expensive magic lantern for the amusement as well as instruction of the patients. Once a week pictures are thrown on the screen and descriptive lectures delivered by the hospital physician.

Engineers Better Paid Than Physicians. It appears that in Russia an engineer commands a salary of four to five thousand roubles, while a physician in the employ of the city is satisfied with 750, and even at that he is glad to get the appointment.

The Plague in Kirgiz.—The number of plague-stricken persons in Tubekai-Tubek and Merek up to the 24th of January reached 136. Of these 134 died. The place is now claimed to be free from the disease.

A Premium for the Best Paper on Rabies.—The Moscow Society of Hunters placed in the hands of the Physico-medical Society 1000 roubles (500 dollars) as a price for the best paper on the subject "Canine Rabies, its Cause, Prevention and Treatment." The paper is to be written in Russian and sent not later than November 1, 1901.

Corporal Punishment Condemned.—The medical society of Omsk resolved to petition the authorities to abolish corporal punishment in Russia.

Atypical Forms of Typhoid Fever.—Ia. M. Brainin (*Russki Medicinski Vestnik*, Vol. 111, No. 7), in speaking of the atypical forms of typhoid, quotes the late Prof. Botkin as saying that typhoid fever may last only several hours. His pupil Borodulin found in a large number of cases rose spots in 84%, diarrhea in 68%, sweating in 81%, bronchitis in 68% typhoid state in 62%, and enlarged spleen in 64%. The author observed an epidemic of typhoid fever affecting about 300 persons, with a mortality of 10%. The most prominent symptoms were: a dull headache during the entire course of the disease, a typhoid state, continuous and occasionally remittent fever and a slight enlargement of the spleen. No abdominal or any other symptoms characteristic of typhoid were observed. The disease terminated by crisis in 2-3 weeks. Death in the fatal cases occurred on the 2-3 week period. (A. R.)

The Latest Literature.

BRITISH MEDICAL JOURNAL.

May 18, 1901.

1. The Ingleby Lecture on the Lower Uterine Segment and the Contraction Ring. W. J. SMYLY.
2. The Dangers and Diagnosis of Breech Presentation, and its Treatment by External Version Toward the End of Pregnancy. HERBERT R. SPENCER.
3. Some Instances of Cystic Affections of the Breast, with Remarks. A. MARMADUKE SHEILD.
4. Some Remarks upon an Analysis of 5,000 Cases of Death from Malignant Disease. E. N. NASON.
5. Erythema Multiforme and Vaccination. NORMAN WALKER.

1.—Smyly remarks that the origin of the lower segment of the uterus is still uncertain, and four different theories are held in regard to it: (1) That it develops during pregnancy; (a) From the lowest part of the corpus uteri (Schroeder, Hofmeier, C. Ruge); (b) From the upper part of the cervix (Bandl, Kustner, Kaltenbach). (2) That it forms only during labor (a) from the cervix uteri (Zweifel); (b) both from the body and the cervix (v. Herff). In a third stage the lower segment and cervix form a continuous thin-wall collapsible tube which affords no support to the upper segment, which contains the placenta.

The lower segment of the uterus is the part most frequently involved in rupture. As to the contraction ring as a cause of dystocia, Rossa describes three varieties of constriction. (1) The contraction occurring during a few pains, disappearing in the intervals and easily overcome by the advance of the fetus. (2) A permanent stricture associated with tetanus uteri. (3) A constriction which occurs early continues during the intervals but increases during the pains and is associated with a diminution of the entire contractile portion of the uterus, and therefore only met with at an advanced stage of labor. As regards the treatment Budim advises mechanical dilatation, but Veit believes that patience and narcotics will suffice. [W. A. N. D.]

2.—Spencer presents a paper on the dangers and diagnosis of breech presentation, in which he states that Hegar's statistics show 35% of still born children, with an additional 5% dying on the first day. His maternal mortality was also 1% in breech cases. Ramsbotham, whose statistics deal only with labors at term, give an infantile mortality of 18.7%, and Hecker of 22%. Pinard had a mortality of 19.5%. Spencer gives a mortality of male children of 30.82% and of female children of 18.3%. The causes of death in these presentations is prolapse of the cord, pressure upon that structure, attempts at respiration before birth, and injury of the body from its being subjected to the brunt of the labor resulting in visceral injuries. Hemorrhages into the muscles are very frequent in breech presentation, especially when traction is employed to deliver. Another injury which not infrequently follows the presentation is the so-called obstetrical palsy from damage to the brachial plexus during violent traction on the shoulders. Fractures of the bone especially those of the upper limb, and even of the pelvic bones may be noted. Spencer favors treatment of this complication by external version toward the end of pregnancy, whereby the mortality may be reduced to as low as 12% or 13%. Contraindications to the performance of this operation are twin labor, considerable flattening of the pelvis, a dead fetus, a malformed uterus, and placenta prævia. [W. A. N. D.]

3.—Sheild reports 4 cases of cystic affection of the breast, which closely simulated carcinoma of that organ. He states that these deeply seated cysts vary in size and sometimes spontaneously disappear. Two important points in the diagnosis of cysts is variation in size and variation in local tenderness. The tenser the cyst the more is the sensation of actual hardness simulated. A sensation of elasticity is diagnostic of a cyst. Nothing is more deceptive than to argue of the nature of a breast-tumor from the condition of the axillary glands. Cancerous infection may be present and yet it may be impossible to feel the glands from surrounding fat or deep situations. On the other hand in those women suffering from cysts the axillary glands may easily be felt and they may be enlarged if the part has been much handled or painted with iodine. With regard to the treatment of simple cyst after exploratory incision the sac may be dissected out or it may be emptied with carbolic acid or

iodine or packed with gauze. The exploring trocar and canula in these cases of doubtful swelling are of great value. [W. A. N. D.]

4.—Nason has made an inquiry into the influence of locality on the prevalence of malignant disease, and has analyzed more than 5,000 cases from death from the various forms of cancer. Of these cases 1837 were males, and 3,013 were females; in 145 the sex was not stated. The great preponderance of female cases is due to the very great frequency with which cancer attacks the uterus and female breast; of all the female cases, in 40% it is one of these two organs which is effected. Many of what may be called the predisposing causes of cancer come much more frequently into operation in the male than in the female, as, for instance, trauma and syphilis. Cancer is far more common in the male than in the female in the following situations: tongue, bladder, esophagus, jaws, face, mouth, limbs, lips and stomach. A large proportion of deaths from cancer in the male are due to cancer in the stomach and the pylorus. About three-fourths of all the cancer occurring in the male occur in the alimentary tract. [W. A. N. D.]

5.—Walker has seen four cases of erythema multiforme in patients who had been recently vaccinated, all of which showed features that made it seem certain that the vaccination was causally related to the eruption. One of the patients was a nurse whose hands presented a typical picture of erythema iris. The legs were also affected and the eruption spread up the arm beyond the usual limitation of erythema iris. The vaccination scabs were still moist and were surrounded by a raised erythematous patch of the same character as the eruption elsewhere. The other cases were not so perfect in the mimicry of the real disease. All of the patients had been vaccinated with glycerinated lymph and in all of them the early course of the vaccination was uneventful. [J. M. S.]

LANCET.

May 18, 1901.

1. The Erasmus Wilson Lectures on the Pathology and Diseases of the Thyroid Gland. WALTER EDMUNDS.
2. A Clinical Lecture on Cases Illustrating the Surgery of the Thyroid Gland. HENRY BETHAM ROBINSON.
3. A Paryngeal Pouch of Large Size Removed by Operation. RICKMAN J. GODLEE and T. R. H. BUCKNALL.
4. Flies and the Science of Scavenging. G. V. POORE.
5. A Case of Symmetrical Retinal Detachment occurring during Labor and Associated with Albuminuria resulting in Complete Recovery. REGINALD G. HANN and R. LAWFOED KNAGGS.
6. Is the Murmur of Mitral Stenosis Systolic or Presystolic in Rhythm? HUGH WALSHAM.
7. Opothorapy in Gynecology. JOHN PHILLIPS.
8. Some Questions with Regard to Acute Middle-Ear Inflammation. P. McBRIDE.
9. A Simple Form of Electrical Light and Heat, with Eight Cases of Osteo-arthritis treated by it. F. C. EVE.

2.—Henry Betham Robinson reports a number of cases illustrating the surgery of the thyroid gland. Case 1 is a parenchymatous goitre which was reduced by the administration of thyroid extract. Case 2 is a parenchymatous goitre in which the pyramidal lobe was so enlarged as to produce serious pressure upon the trachea and greatly embarrass respiration. The isthmus of the gland was removed without ligation laterally. The patient became asphyxiated during the operation and tracheotomy was necessary. The patient suffered at first from some thyroidism but made a complete recovery. Case 3 closely resembles case 2 in symptoms and treatment; here, however, the thyroidism was much more marked. The last four cases represent cystic adenomata of the thyroid gland, each of which was treated successfully by operation. The author remarks that the removal by the knife of these cystic growths is far more satisfactory than other methods of treatment such as tapping and injection. [J. H. G.]

3.—T. R. H. Bucknall reports an interesting case of a large pharyngeal pouch removed by operation. The sac had its attachment at the top of the larynx, the movements of which it followed during deglutition. The patient was 31 years of age and had experienced symptoms for ten years. During the past three years he had had repeated attacks of difficult and painful deglutition until finally it became impossible to swallow anything but liquids. At the end of an attack the tumor in the neck disappeared, sometimes gradually and sometimes suddenly. Expectoration of a quantity of phlegm was frequent. The swelling on admission was very extensive, reaching from the middle line in front to the posterior border of the sterno-mastoid behind, and extending upwards as far as the angle of the jaw, and downwards as far as the clavicle. The percussion note over this tumor was tympanitic. The patient could slightly inflate the tumor by holding his breath and blowing. The tumor was dissected out with considerable difficulty and was found to have a narrow pedicle which passed through the thyro-hyoid membrane, but no patulous opening which led into the pharynx could be discovered with the probe. The internal opening of these abnormal tracts or pouches is always found in the pharynx and not, as was formerly stated, in the larynx. A frequent site of the internal opening is on the side of the pharynx close to the margin of the tonsil. It is rare for food to pass into the cyst as frequently happens in cases of true esophageal pouches. These cysts and fistulae are always of congenital origin. [J. H. G.]

4.—Poor writes on flies and the science of scavenging. The author remarks that in a recent debate of the clinical society of London on enteric fever in South Africa, the general consensus of opinion was that flies may convey infection. He informs up that the female fly lays about 120 eggs and that the developmental cycle from egg to fly requires less than three weeks. At this rate the female fly may have some 25,000,000 descendants in the course of a hot summer. The plague of flies can be lessened by the proper removal of organic refuse matter, so that it cannot serve for feeding these insects. He recommends immediate collection of all organic refuse and burying this matter in the earth. He believes that his method is preferable to chemical disinfection or burning. [F. J. K.]

5.—Reginald G. Hann and R. Lawford Knaggs report a case of symmetrical retinal detachment occurring during labor and associated with albuminuria resulting in complete recovery. The affection occurred in a woman aged 21 years whose personal history was negative up to the time of her first confinement, excepting an attack of scarlet fever in childhood. When first seen after having been in labor 24 hours, there was edema of the face, hands, feet and legs which was reported to have been present for about three weeks. As far as could be ascertained the blindness was sudden in onset. Labor was terminated with forceps. The following day she remained in a semi-comatose condition and for 30 hours from delivery she passed no urine. She regained consciousness and passed a small quantity of urine containing much albumin. Ophthalmoscopic examination under atropin showed large and distinct attachment occupying the lower third of each eyeball. The edges of the discs were well defined but surrounded by an edematous pallor. About a month later the detachments of the retinae were no longer visible except a doubtful area close to the ora serrata in the lower part of the right eye-ball. There was slight tortuosity of some of the vessels. There was an irregular distribution of pigment granules, spots and patches, and the latter in some places, especially in the right macular region were confluent. A subsequent examination failed to reveal any remnants of the detachment in the right eye. The fields still showed limitations in the upper portions. [M. R. D.]

6.—Walsham has made a routine examination of all his cases of mitral stenosis with the X-Rays in order to determine whether the murmur is systolic or presystolic in rhythm. The author concludes that after an examination

of a number of cases of pure mitral stenosis, he is convinced that both the thrill and the murmur are presystolic in rhythm. [F. J. K.]

7.—Phillips in speaking of opotherapy remarks that ample clinical evidence shows that certain nutritional disorders associated with pelvic disturbance are undoubtedly benefitted by the administration of thyroid extract. It is certainly of value in amenorrhea accompanying extreme obesity and as a complication of myxedema. According to some authorities it is beneficial in the hemorrhages of fibroid tumors of the uterus. As regards the ovarion extract the methods of administration appear to be three: 1. That followed by Knauer, who grafted the fresh gland into the peritoneum or under the skin; 2. Brown-Séquard's method by subcutaneous injection of the organic extracts; 3. the method recommended by Horwitz and others and now in general use, namely, administering the extract by the mouth or the rectum, either in a natural state, in the form of ovarine tabloids, or as a glycerin extract. Jayle has observed zona, and Schuster general urticaria, after prolonged ingestion of ovarian extract. Julien finds the drug of great value in post-operative menopauseal symptoms, in amenorrhea, dysmenorrhea, anemia, chlorosis, and osteomalacia. The administration of mammary abstract is surrounded by greater uncertainty. It is best given in the raw state, cow's udder being cut into thin slices and made into a salad. This method has been frequently prescribed and carried out by Freudenberg. [W. A. N. D.]

8.—P. McBride reports a case of a man aged 48 years whom he treated for some time for a suppurating middle ear. The usual treatment and several incisions of the drum failed to relieve the condition and it was subsequently discovered that the patient had an empyema of the antrum of Highmore. The empyema was on the right side and the ear affection on the left. The antrum was thoroughly opened and drained and when it had healed the ear condition promptly subsided. [J. H. G.]

8.—Eve recommends an apparatus consisting of three 32-candle power lamps surrounded by a wire cage, in order to prevent contact with the skin of a patient, and arranged upon an aluminum base, for heating a part or the whole of the body. He maintains that this apparatus possesses many advantages over the more elaborate contrivances now in use. When heating a limb the apparatus and a thermometer are placed under several blankets thrown over a cradle. The limb is protected by a single layer of lint to prevent scorching a particularly tender skin. The temperature may be raised from 200° F. to 250° F. in from 15 to 30 minutes. Eve has treated 8 cases of osteoarthritis by this method with favorable results. [J. H. G.]

MEDICAL RECORD.

June 1st, 1901.

1. The Diagnosis and Surgical Treatment of Prolapsed Kidney; with Demonstration of a Simple Method of Examination for its Detection. AUGUSTIN H. GOELET.
2. The Climate of Long Island. LeGRAND N. DENSLOW.
3. Superheated Air in the Therapeutics of Chronic Catarrhal Otitis Media. GEORGE W. HOPKINS.
4. Three Cases of Caesarean Sections; Recovery. J. F. BALDWIN.
5. Ether as an Anesthetic. EDWARD JUDSON WYN KOOP.
6. A Few Observations from the Lorenz Orthopedic Clinic. LEONARD W. ELY.
7. A Case of Membranous Angina, due to Streptococci, followed by Paralysis of the Soft Palate. MOSES KESCHNER.

1.—Augustin H. Goelet discusses the diagnosis and surgical treatment of prolapse of the kidney. True floating kidney is very rare and is always congenital; prolapsed kidney is very common and always acquired. He con-

cludes: (1) That prolapsed kidney is more frequent than is generally supposed. (2) That it is often not suspected because it does not always give rise to symptoms directly referable to the kidney. (3) That frequently it is not discovered because, by the usual methods of examination, only an expert can detect it, unless the kidney is much enlarged or the subject is thin and the abdominal walls relaxed. (4) That palliative measures, such as abdominal supports, are of no avail and therefore useless and unwise if the degree of prolapse is sufficient to produce symptoms. (5) That fixation of the kidney by suture to the muscles of the back in its normal position is the correct method of treatment. The operation is simple, devoid of risk and successful when properly executed and when the patient is given careful preparation to avoid vomiting and retching with consequent straining after the operation and if proper attention is given during convalescence to avoid strain upon the kidney. Prolapsed kidney the author has found in 1 out of every 4 or 5 gynecological cases and about one-half of these suffer sufficiently to require operation. The various supports recommended for this condition are productive of little good excepting to perhaps limit the prolapse. The various supposed causes of prolapse of the kidney are referred to but the author thinks none of them perfectly satisfactory. The symptoms of prolapse are as follows: (1) Chronic digestive disturbances, manifested chiefly by intestinal distention and irritability of the stomach. (2) Nervousness, restlessness and insomnia. (3) Unusual fatigue after walking or standing. (4) Palpitation of the heart, vertigo and syncope. (5) Pain over the pit of the stomach and a little to the left over the region of heart. (6) Dragging pains in the loin extending down the thigh and aggravated by standing or walking. (7) Inability to rest comfortably on the opposite side from the prolapsed kidney. (8) Irritability of the bladder, aggravated by standing or walking. (9) Jaundice. (10) Pain over the region of the appendix, resembling chronic appendicitis. (11) Pain referred to the ovarian region on the same side. (12) Acute attacks of pain resembling renal colic, which come on suddenly and subside quickly. Frequently cases are referred to the gynecologist for supposed pelvic disease when the real trouble is a prolapsed kidney. In all gynecological cases Goelet urges that an examination of the kidneys be made and made repeatedly, as under unfavorable conditions the diagnosis of prolapse of the kidney is not easily made. His own method of examination, which he finds very satisfactory, is as follows: The patient is directed to stand with her back to the wall or a table, perpendicular to the floor, her body inclined a little forward, so as to relax the abdominal muscles. The examiner sits in front of her a little to the right and grasps with his left hand the right loin, his fingers behind and his thumb in front, just below the border of the ribs. The patient is now directed to take several deep inspirations and to expire to the extreme limit; at the end of the second or third inspiration he depresses the abdominal wall with his thumb so as to diminish the distance between the thumb and the fingers behind, in this manner approximating the anterior and posterior walls above the kidney if it is prolapsed. With his other hand, the right abdominal region is depressed by pushing the tips of the fingers inward and engaging the kidney if prolapsed between the tips of the fingers of his right hand and the thumb of the left which depresses the abdomen just beneath the ribs. In this manner the kidney, if prolapsed, may be outlined, and firm pressure upon it will cause it to glide under the thumb and up into position. When the degree of prolapse is insufficient to demand operation, he says that the symptoms may be relieved by a properly adjusted bandage with a pad over the kidney but that no cure can result from this treatment. Operation is indicated where symptoms cause positive discomfort or interfere with the health of the patient. Where the patient suffers from attacks of acute pain denoting obstruction of the ureter operation is imperative. The author uses silk-worm gut sutures and carries out his fixation in the following way: The needle carrying the suture is first inserted superficially on the lateral surface of the exposed kidney from above downward in a direction somewhat oblique to its long axis. Then it is inserted deeply through the kidney structure transversely and again superficially on the opposite lateral surface from below upward. The free ends of this suture are passed through the fatty capsule of the kidney and muscles and skin at the upper angle of the wound so that when they are drawn upon and tied the

kidney is drawn up into position under the ribs. This method of inserting the suture lessens the strain upon the central insertion through the kidney structure. To obviate the cutting of these sutures into the skin, he ties them over a strip of several layers of gauze placed lengthwise over the wound, but before they are tied he inserts a roll of sterile gauze down into the wound and along the border of the kidney, and brings it out at the lower angle of the wound. The object of this is to secure drainage and to excite, by contact with the kidney, a plastic inflammation which aids in its fixation. [T. H. G.]

2.—LeGrand N. Denslow presents a carefully prepared paper upon the climate of Long Island. In his summary he states that the configuration of the land is good, the air is both from the ocean and the shore, with great mobility, due to the constant daily ocean winds. The water from the wells or springs is of the purest, and the humidity is not excessive. He believes that it compares favorably with some of the most celebrated coast climates. [T. L. C.]

3.—George W. Hopkins reports the beneficial employment of superheated air in the therapeutics of chronic catarrhal otitis media. The treatment consists in thoroughly cleansing the ear with alcohol for several days. Narrow strips of dry gauze are then packed into the ear and a large pad of dry gauze placed over the ear. The ear is then covered with the canvas-sleeve hot-air conductor and a current of air sent into the canal at a temperature which gradually attains 400 degrees F. The temperature is easily borne, but a severe headache usually follows treatment. This is speedily relieved by a dose of codein. The Eustachean tube is always inflated with a warm, stimulating vapor from a nebulizer after the treatment, and this is concluded with vibratory massage with the nebulizer. The writer regards arteriosclerosis, serous effusion into the tympanum and perforations of the tympanum as contraindications of this treatment. [T. L. C.]

7.—M. Keschner reports a case of membranous angina due to streptococci followed by paralysis of the soft palate. The patient presented on admission a thick, yellowish-grey tenacious membrane covering the tonsils, uvula, and anterior and posterior pillars of the fauces, with signs of profound systemic infection. The appearances resembled diphtheria, but bacteriological examination showed only the presence of streptococci. On the 11th day, paralysis of the soft palate was noted. There was also a distinct loss of sensibility. The patient was discharged in two weeks with only slight improvement of the paralysis. [T. L. C.]

NEW YORK MEDICAL JOURNAL.

June 1, 1901. (Vol. LXXIII, No. 22).

1. On Theories of Inheritance with Special Reference to the Inheritance of Acquired Conditions in Man. J. GEORGE ADAMI.
2. Appendicitis Perforative in Irreducible Right Scrotal Hernia, with a Report of a Case. O. THIENHAUS.
3. Muscular Action of the Arteries. ANDREW H. SMITH.
4. Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); a Clinical Study. H. ILLOWAY.
5. A Case of Sarcoma in the Muscles of the Right Shoulder, with Perforation into the Spinal Canal, and Paraplegia. LEONARD WEBER.

2.—Thienhaus concludes his article with the following: (1) As it is almost a law now-a-days that in all gynecological abdominal operations, especially in cases of inflammation of only the right annexa, the appendix demands strict observation and removal, so the same rule must be followed in operations for hernia, and when we take into consideration that in all cases of appendicular hernia the appendix was found in a state of chronic folliculitis, the author probably does not go too far when he says that in every case of hernia in which we find the appendix as an inmate it must be removed according to the old rule in *prophylaxi est salus aegroti*. (2) Where appendicular inflammation is present in a hernial sac, operative procedure has to be advised immediately, and in case of incarcerations under such conditions every palliative method, such as ether refrigeration, or attempts at taxis, are entirely objectionable procedures. (3) In cases of appendicular abscess in a hernial sac or gangrene of the appendix, resection and free drainage without reduction is the appropriate treatment, and if

incarceration exists, this has to be relieved and the peritoneal cavity walled off carefully by iodoform gauze. The radical cure of the hernia, of course, has to be delayed, under these conditions, till the signs of inflammation have subsided. [T. M. T.]

3.—Smith thinks that not enough attention is given to the disease of the intima and the fibrous tunic when considering the various coats of the arteries. The effect of calcification in destroying the elasticity of the vessels and making their walls rigid is what we think of first in this connection. The mechanical obstacle which this condition necessarily presents to the forward movement of the blood is of the first importance and this is entranced when fibrosis of the outer coat is added. But in the latter case the effect goes beyond the mere impairment of elasticity. The delicate fibers of the vasomotor system distributed to the muscular coat are stretched and compressed by the greatly thickened and condensed outer coat through which they pass. [T. M. T.]

MEDICAL NEWS.

June 1, 1901. (Vol. LXXVIII, No. 22).

1. Some Factors Relating to the Etiology of Prostatic Enlargement. J. BENTLEY SQUIER.
2. Gastric Ulcer and Muco-Membraneous Colitis at the Paris Congress. JAMES J. WALSH.
3. Streptococcus Bronchitis in Influenza. F. FORCHHEIMER.
4. Fourth-of-July Tetanus. H. GIDEON WELLS.
5. The Use of Methylene-Blue Injections in Pleurisy with Effusion. CHARLES H. LEWIS.
6. The Appearance of the Soft Palate a Pathognomonic Symptom of Epidemic Influenza. LOUIS KOLIPINSKI.

2.—Walsh, in his article on Gastric Ulcer and Muco-Membraneous Colitis at the Paris Congress, states that it is a well-known fact that ulcers having the typical characteristics of gastric ulcers have been found in the digestive tract in which there is free acid bathing the surface of the mucous membrane. He says there is little doubt that gastric ulcers are due to self-digestion of the stomach wall, and quotes Rokitsansky and Virchow, who attribute the digestion of the gastric mucous membrane to a disturbance of the circulation in the gastric mucosa and consequent lowering of the resistive power of the tissues. He also names two conditions of the blood which predispose to gastric ulcer: (1) Anemia; (2) Blood disturbance due to an infection somewhere in the body. He divides gastric ulcer also into acute and chronic. Most all gastric ulcers have been classed under the head of chronic, though the acute condition is noticed not infrequently in infectious diseases. [T. M. T.]

3.—Forchheimer gives as his reasons for calling this condition *streptococcus bronchitis* that in all his cases this lower form of life predominated, and in quite a number, notably some of the worst, it was the only bacterium found in the expectoration. In 23 cases studied, the streptococcus was associated with staphylococci alone; in three cases streptococci, staphylococci and the influenza bacillus were associated; in 27 cases the streptococcus alone was found. In the author's cases he noticed that the influenza bacillus disappeared after a short time and was replaced by the streptococcus. He does not think that this is an associated life, (Symbiosis), but considers the condition a secondary infection. [T. M. T.]

6.—Kolipinski is convinced that a diagnosis of influenza can be made by observing the peculiarity of appearance of the velum palati. This appearance was found to precede the initial chill and fever by some days and still persisted when convalescence was apparently ended. There are seen upon the mucous membrane of the soft palate small convex projections of a pearly whiteness or transparency, the size of a grain of sand. The number varies and they are confined to certain parts of the velum or its processes, or else abundantly scattered over the whole of its anterior surface. Best seen at (1) the base of the uvula; (2) the median raphe; (3) the lateral border of the same; (4) the anterior surface of the palatoglossal fold about the upper border of the tonsil. A spatula rubbed over them gives a hard, rough sensation. They are distinguishable in very bright, artificial light, but are best seen in sunlight, direct or diffused. They must not be confounded with small

drops of mucus or saliva often present. Sometimes they are obscured by a tenaceous secretion covering the surface. It is thought that their composition is that of congested or inflamed palatal mucous glands. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

Vol. 43, 1901.

1. The Diagnosis and Surgical Treatment of Renal Tuberculosis. F. THOMAS BROWN.

1.—There are no cases of purely localized unilateral renal tuberculosis which we would entrust to climatic change as the best treatment, as opposed to surgery; and, on the other hand, there are no such cases just recovering from nephrectomy in which we would not seek for the patient 12 months or more of this climatic benefit. Despite the immense amount accomplished by earnest labor in the field of tuberculosis, we have yet to hope that something more specifically curative than the knife, sanitation or the pine woods may soon be hit upon. To secure more satisfactory results from surgical treatment, renal tuberculosis must be detected early. Urinary analysis in general should mean as careful a routine search for tubercle bacilli as is customarily given to the other formed elements of a sediment. Upon this initial evidence the suspicion should be verified and the smegma bacillus excluded by getting the bladder urine through a catheter, then cystoscopic ureteral catheterization may at once be utilized to locate the lesion in the bladder or kidneys. Brown believes that there is no more accurate and simple way to do this in both sexes than with the double-barreled ureter cystoscope, invented by him, each channel of which conveys a flexible sterile catheter to its respective ureter; by this means the urine from both kidneys is collected at the same time, while the same nerve influences and the same physiological conditions pertain. Many patients state that they were never ill until their present trouble began with having to urinate too often. In the majority of cases, however, frequency of urination does not appear until the lower segment of the ureter has either acquired a genuine tuberculous lesion or until marked hyperemia and edema with the accompanying irritable state, have developed about the mouth of the ureter. The principal objective symptoms are: A kidney which is larger and more tender than normal; all grades of pyuria and hematuria; a just appreciable or a very marked diurnal variation in temperature; loss of color and weight; a reaction to tuberculin; and the presence of tubercle bacilli in the urine derived directly from one or both kidneys. In the operative treatment a considerable amount of tuberculous ureter can be left with comparative safety; because, being in a functionless state of repose, this particular focus is amenable to curative systemic processes. In cases presenting tuberculosis vesical lesions where only one kidney is similarly diseased, the author thinks that nephrectomy is indicated in a certain number of individuals as offering the best chances for extension of life and comfort. Short notes of 18 illustrative cases are given. (J. M. S.)

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 1st, 1901.

1. Movable Kidney; its Causes and Treatment. M. L. HARRIS.
2. The Appendix Vermiformis and Cecum. A Comparative Study. B. MERRILL RICKETTS.
3. Zoology in the Medical School Curriculum. CHARLES WARDELL STILES.
4. Antipneumococcic Serum Treatment of Pneumonia, with Report of Cases. G. E. TYLER.
5. How to Treat Muscular and Joint Sprains of Railway Employes. HALDOR SNEVE.
6. Diagnosis and Symptomatology in Appendicitis in Children. THOS. H. MANLEY.
7. Is it Possible by Proper Dietetics and Hygiene to Exterminate Tuberculosis? J. E. KINNEY.
8. Variola and Varicella. M. A. AUSTIN.
9. Photographing the Eye-Ground. SHIRLS JACKSON.

1.—M. L. Harris discusses at length the subject of movable kidney, its causes and treatment. The author holds that many of the generally accepted causes of movable kidney are incorrect. He attributes the cause of this condition after the careful study of a large number of cases which he has tabulated, to the particular body form of the individual. This form consists in a marked contraction of the lower end of the middle zone of the body with a diminution in the capacity of this portion of the cavity. This constriction tends to depress the kidney and as it is above the kidney, such acts as coughing, straining, lifting, etc., which tend still more to lessen the circumference of the body at this point crowd the kidney down further and increase its range of motion. These conditions which Harris chooses to call "internal traumata" gradually produce a movable kidney. He thinks that a movable kidney is never the immediate result of a single injury or external trauma. A movable kidney discovered immediately after an accident is oftentimes attributed to the accident, whereas in reality it had probably existed for a long time before. The overlooking of the fact that movable kidney is extremely common in women often leads the practitioner to attribute the condition to a traumatism. When a patient suffers from a movable kidney any traumatism about the trunk is very apt to produce hematuria. In the treatment of the condition the author thinks that the mistake is made too frequently of fixing the kidney too high up, because if this is done the condition which was the original cause of the prolapse of the kidney still pertains and the organ is again apt to become movable. Great stress is laid upon the removal of all perirenal fat and the obliteration of the peritoneal pouch in which the kidney has been moving. The outer edge of the prerenal fascia is then sutured to the lumbar fascia posterior to the line of incision through the walls. [J. H. G.]

2.—B. Merrill Ricketts discusses the comparative anatomy of the appendix vermiformis and cecum. The author says that the appendix is not confined to mammals but is also found in birds, fishes, etc., and discusses its anatomy in each of these as well as in man. [J. H. G.]

3.—Stiles, while admitting that the medical school curriculum is already full to overflowing and that the aim of a medical faculty is not to give a man a general education, but rather to teach him diagnosis and treatment of diseases, firmly advocates the teaching of zoology in medical schools. In his article he sets forth ample evidence to prove this statement and maintains that a course in this branch could be given in from 20 to 30 lectures and at least three laboratory exercises. [F. J. K.]

4.—Tyler discusses the value of antipneumococcic serum in the treatment of pneumonia, and gives a report of a large number of cases. After a careful study of the literature bearing upon this subject and his own cases, he concludes that it is exceedingly doubtful whether antipneumococcic serum has any effect upon the diseased lung. He maintains that this serum will prevent the development of toxic symptoms if large quantities of fresh serum are given before the advent of the pneumococcus into the blood. [F. J. K.]

5.—Haldor Sneve first refers to the treatment and pathology of sprains of joints. He thinks that tearing or rupture of ligaments is extremely rare in sprains. The pathological condition most frequently present is a rupture of the areolar and connective tissue around the joint and a contusion of the lining of the joint. For the treatment of this condition the author recommends the early use of cold applications and massage, to be followed later by compression and the active use of the part such as is obtained by the use of the Gibney adhesive strip dressing. He condemns very strongly the use of the plaster cast in these conditions. "The ambulatory treatment of sprains in conjunction with massage is to-day the best treatment." [J. H. G.]

6.—Thomas H. Manley reviews briefly the history of appendicitis and refers to its frequency in early life. The

youngest patient on record operated on for appendicitis was a child, aged 61 days. Here a large perforation of the tip of the appendix was found. The author thinks that children bear genral septic infection much better than adults. As the cecum is small and quite movable in early life inflammations of this portion of the intestinal canal are much obscured by the inlocation. Two conditions from which appendicitis in children must be differentiated are intussusception and tuberculous peritonitis. The author has not found the examination of the blood to be of great assistance in making a differential diagnosis between appendicitis and other conditions; the most reliable source of information lies in the careful examination of the abdominal wall which, in a child, is very easily accomplished. Abdominal distension and frequent and shallow respiration of a thoracic type are very common in children. The author produces a table representing the mortality of appendicitis in New York city. The author does not think that the premonitory symptoms of appendicitis in children are more subtle and insidious than in adults. The article closes with a discussion of the various types of appendicitis. [J. H. G.]

7.—Kinney maintains that it is possible to **exterminate tuberculosis through proper dietetic and hygienic measures**. At the present time there are two obstacles which hinder advancement in this line, namely, people as a rule who are possessed of a fair degree of health are not ready to make an effort to preserve it, and the individuals who are not affected by the diseases are, as a rule, not willing to accept the proper measures of prevention. [F. J. K.]

8.—Austin discusses **variola and varicella** and gives the important points in the diagnosis of each condition, with particular reference to the epidemic character, the period of incubation, the eruption, and the duration and termination of these diseases. The author maintains that typical cases are to be found only in text-books and rarely in general practice. He gives an account of an epidemic of variola which occurred at Anderson, Indiana. The total number of cases was 149. [F. J. K.]

9.—Jackson gives a description of an instrument used for **photographing the eye-ground**. The instrument is essentially composed of a camera placed behind an illuminating ophthalmoscope. The author remarks that he has met with numerous failures in his attempts at photographing the eye-ground. The best results have been obtained in those cases in which light perception was greatly diminished, or entirely lost. [F. J. K.]

AMERICAN MEDICINE.

Jan. 1st, 1901.

1. A Case of Antrum Infection and Sigmoid Sinus Thrombosis, etc. BAYARD HOLMES.
2. Typhoid Fever and Pharyngeal Diphtheria. MORRIS MANGES.
3. Practical Thoughts on Pulmonary Tuberculosis. HOWARD S. ANDERS.
4. The Recognition of Tabes Dorsalis. THEODORE DILLER.
5. Simplicity in Therapeutics. EDWIN W. PYLE.
6. The Radical Cure of Internal and External Piles by Excision. JOHN A. HAWKINS.
7. Rigidity of the Spine. (Spondylose Rhizomélisque). MAX H. BOCHROCH.
8. Some Notes on a Case of Cerebral Embolism. ANNA M. LITTLEFIELD.

1.—Bayard Holmes reports a case of **antrum infection and sigmoid sinus thrombosis**, without present middle-ear disease; presenting the symptoms of facial neuralgia and one of the ordinary symptoms of disease in the petrosal; retropharyngeal abscess, general sinus thrombosis with slight impairment of cerebration. Death occurred after three months. There were present rigor and high temperature without apparent cause, and neuralgia of the right fifth nerve for ten days, and a septic condition resembling sinus thrombosis for six weeks. The abscess appeared suddenly in the right posterior pharynx. Six weeks later discharge from the right ear occurred together with

paralysis of the right leg and death. The necropsy showed antrum and general mastoid disease, sigmoid and general sinus thrombosis, which extended into the cortex of the left hemisphere. [T. L. C.]

2.—Morris Manges reports 6 cases of typhoid fever complicated by pharyngeal diphtheria. Five out of six cases finally recovered. As a rule the prognosis in this complication is gloomy, especially in children. The diphtheria antitoxin was well borne in all of the author's cases. [T. L. C.]

4.—Theodore Diller discusses the means of recognition of **tabes dorsalis**. The following leading symptoms he names in the order of their importance: (1) Failure of knee-jerks; (2) Romberg symptom; (3) Argyll Robertson pupil; (4) Lightning pains; (5) Loss of functions of the bladder or sexual organs. With the presence of any three of these symptoms the diagnosis may be made with certainty. And in the presence of any two with probability, when evidence pointing to multiple neuritis, parietic dementia or cerebrospinal syphilis is absent. Among the important secondary symptoms or signs are, (a) paresis, anesthesia or analgesia of the legs. (b) Locomotor ataxia. (c) Transient ocular palsies. (d) Paresthesia in the ulnar distribution, and (e) Optic atrophy. With the presence of two of the cardinal signs and one of the secondary signs, Diller believes the diagnosis may be made with certainty. With the presence of two of the secondary and only one of the primary, it may also be made, and even in the absence of all of the cardinal symptoms. [T. L. C.]

6.—John A. Hawkins, after discussing the various operations for the relief of **hemorrhoids**, describes a method and an instrument of his own which he has employed with great satisfaction. The instrument is a long, thin-bladed, tongue-and-grooved forceps. The hemorrhoid is grasped with this instrument and then cut off close to its blades. A suture of catgut is then started at the upper part of the base of the pile and carried as a whipstitch over the instrument until the lower portion of the pedicle is reached. The forceps is removed and the suture tightened. The author says that he has never had any hemorrhage or complication to follow this method of operation. [J. H. G.]

ANNALES DE GYNECOLOGIE ET D'OBSTETRIQUE.

January, 1901.

1. Omphalotripsy (umbilical infections). PORAK.
2. Cephalhematoma. QUEIREL.
3. Report on the Relationship between the Mental Development and the Functional Development in Young American Girls. Analysis of 12,000 Cases of First Menstruation. A Preliminary Study. G. J. ENGLEMAN.
4. Rachidian Anesthesia by Cocain applied to Labor. J. DUPAIGNE.
5. Blood-Infections in Nursing Infants. M. DELESTRE.

1.—Porak remarks that **umbilical infection** holds a much a much more considerable space in the pathology of the new-born than is usually accorded. Durante, who has made some researches on the subject, has concluded that umbilical infection is of frequent occurrence and considerable gravity. Rigorous antiseptics comprising dressings placed over the umbilical region require considerable time from the accouchur, while omphalotripsy, which is quicker, gives excellent results. Porak gives a comprehensive review of the anatomy of the umbilical region, and especially of the umbilical ring. He remarks that the skin terminates abruptly by a border sometimes parallel to the plane of the abdominal wall, but ordinarily obliquely. The umbilical ring is composed of the elements of the cord which are prolonged into it, namely, the mucous tissue of the cord, arteries and veins. The region is very rich in blood-vessels and in lymphatic vessels. The former are especially abundant in the skin level on the margin of which they form a plexus. Very frequently after ligation of the cord, owing to the slow separation that follows, septic changes will occur. Fungosities, omphalitis, and abnormal cicatrization constitute some very frequent complications arising during this process of separation. Porak claims that separation of the cord occurs much sooner after omphalotripsy than after ligation, and that this process will be influenced by the different forms of dressing. He gives tables showing the frequency of complications following

the two methods of treating the stump: by omphalotripsy and by ligation, and concludes that the former gives better results. [W. A. N. D.]

2.—Queirel gives an interesting article on **cephalohematoma**, which he mentions as one of the risks through which the child must pass during labor. Usually the tumor is single, but exceptionally it may be double, appearing at two symmetrical points on the parietal bones. It is difficult to give the precise proportion of frequency of this complication. The tumor consists of an infusion of blood between the periosteum and bone, forming either two projections over the parietal bosses, or more commonly a single projection upon one side. It is important to distinguish this condition from a sero-sanguinolent effusion which is much more common, and which is present at birth. This tumor is soft, but less fluctuating, and can be indented by the finger as in edema. It appears on the presenting portion of the fetus, therefore is formed before its expulsion and disappears shortly after birth—within one or two days. It never limits itself, as does the cephalohematoma, to the border of the bones. The characteristics of the cerosanguinolent tumors are exactly opposite to those of cephalohematoma. It is due to a circular compression at the base of the part which corresponds to the ring of the pelvis during engagement, and always appears before the presenting part. As to the prognosis of cephalohematoma, it is always favorable. The tumor usually disappears spontaneously from two to six months, or it may be a year after birth. At times its disappearance is much more abrupt, but as a rule the progress toward cure is slow, because the vitality of the part has been weakened and blood is not absorbed as quickly as a simple serous effusion. [W. A. N. D.]

3.—Engelmann has made an analysis of 12,000 cases of the **first menstruation** in young American girls covering a period of several years. He has given especial attention to the mental development of these girls, a factor which he claims has been largely neglected, and which he believes exercises a marked influence upon the functional development of the girls. The intimate relationship existing between the nervous system and the reproductive organs is one of the characteristics of the feminine organism and their reciprocal influence is profound. Of the 12,000 cases examined Engelmann has collected himself 6549. He has found that the mental development as a primitive factor determines precocity or retards the establishment of the menstruation. Race and heredity exercise but slight influence upon the function. He has also noted that in all its existence the development of puberty is a little, but very little, earlier in the country girl than in the working girl in town, no doubt because of the insufficient nourishment and the poor air which the laboring classes of large cities suffer from. Of all the influences, therefore, acting upon the development of puberty, the most important is the nervous: the mental state, the mental development, mental activity, and the nervous stimulus are especially active in influencing this function. [W. A. N. D.]

4.—Dupaigne practiced for a month in 1900 the application of **rachidian anesthesia by cocaine in labor**, acting under the suggestion of Tuffier. He claims that he has verified its possibility and innocuousness. Two conditions are indispensable for obtaining these results, namely, the independence of the uterine contraction and the extension of the anesthesia to the pains corresponding to this contraction. He claims that rachidian anesthesia, while altering in a certain proportion voluntary contraction of muscles, still more so affects the uterine contractions. The independence of the nervous ganglions renders this result possible. He also remarks that the anesthesia is complete for every form of labor pains, namely, the pains of uterine contraction and of dilatation of the neck, the lumbar radiations, pelvic and perineal compression, vulvular distension, tears, muscular cramps of the lower extremities, manual expression, touch, irrigations, sutures, when these are necessary, and that it even extends to all obstetrical operations. In a word, he claims that labor may be ideal for the woman. He also believes that the method is perfectly safe under all circumstances. [W. A. N. D.]

5.—During his service in Hutinal's wards in the Hospital for Children, Delestre has examined into the frequency of **blood infections in children** in general, particularly in those who are nursing, and principally in children born before term, to the latter of which he has especially devoted himself. His method of making examinations was as fol-

lows: When a child appeared sufficiently ill for it to seem that death would follow in a few days, or even a few hours, he drew from its veins 2 c.cm. of blood, which he submitted to examination. Special care was taken to disinfect the hands in doing this, and also the flap of the ear from which the blood was drawn. The parts were washed with alcohol and ether and a small incision made with an aseptic bistoury. This was repeated on successive days, and when the child died a certain quantity of blood was removed from the heart and cultures in gelatine and bouillon made. He does not believe that it is impossible to absolutely disinfect the skin, especially in these children, as has been claimed by some. The only precaution is to use an aseptic Brevaz syringe in withdrawing the blood. In 40 children of from a few days to 4 years of age believed to be infected, and from whom a bacteriological examination of the blood was made, 32 died and 8 recovered. Of the eight who recovered seven gave negative results; the other showed in three successive examinations the bacillus of Pfeiffer. Of the 32 children who died, ten gave negative results and 22 positive results. Of the latter there were five in whom the blood had been examined only during life, but upon whom no autopsy had been practiced; nine in whom the blood had not been examined during life and after death; and eight in whom the blood had been examined only immediately after death. The microorganisms discovered were in their order of frequency, the streptococcus eight times, the staphylococcus five times, the colon bacillus five times, the pneumococcus once, the bacillus of Pfeiffer once, the colon bacillus and Pfeiffer's bacillus once, and uncertain cocco-bacilli once. Of the 19 cases which died early 15 had microbes in the blood and four had none, which gives a percentage of 73.5-10%. Of the 15 cases the streptococcus was found six times and the collibacillus five times, staphylococcus once, pneumococcus once, Pfeiffer's bacillus once and the colon-bacillus and Pfeiffer's bacillus once. It would appear, therefore, that premature children are especially subject to the action of the streptococcus and of the bacterium coll., and less to the action of the staphylococcus, while the susceptibility to the latter microbe becomes greater in nursing babies of some months. [W. A. N. D.]

February, 1901.

1. Longitudinal Cuneiform Hysterectomy in the Treatment of Uterine Lesions Occurring in Cases of Deviation. DR. MAUCLAIRE.
2. Rupture of Tubal Pregnancy at the Second Month. Hasty Laparotomy During Peritoneal Irrigation. Anatomic Examination of the Left Tube. M. G. FIEUX.
3. Uterine Pregnancy Taken for an Extrauterine Pregnancy Because of Fixation of the Gravid Uterus in Left Lateroversion. PAUL SEGOND.
4. Pregnant Uterus in Lateroversion Taken for Ovarian Cyst. M. H. VARNIER.
5. Right Lateroflexion Mistaken for Extrauterine Pregnancy. M. A. ROUTIER.
6. Vagino-fixation. SABINO COELHO.
7. Recurrence of Ectopic Pregnancy. M. CHAPOT-REVOST.
8. Primary Tuberculosis of the Vagina and a Case Cured by Surgical Treatment. M. JORFIDA.

1.—Mauclaire remarks that several principal factors must be taken into consideration in order to explain uterine deviations. These are: (1) Ptosis generalized to all the abdominal viscera or localized to the ligaments and organs which maintain the fixity of the uterus. (2) Inflammatory lesions, congestive or infectious, of the uterine cavity, and very many deviations are without doubt the result of uterine infections; (3) Anatomic lesions of the deviated uteri, which are consecutive to ligamentous relaxation; to these may be added vasculo-nervous lesions which may be primary; and congenital deviations in a certain number of cases. Antelexions of the uterus are of several varieties. Thus, there is an antelexion of the body in which the axis of the neck is normal but the body is inclined anteriorly; antelexion of the neck in which the body is normal but the neck is carried anteriorly; and antelexion of the neck and of the body, the two segments of the uterus making a very acute opening anteriorly. The angle of flexion may, therefore, be made either opening by the body or by the neck or at the level of the isthmus, and this angle may be obtuse, right, or acute. The antelexion may be combined with

an anteversion, a retroversion, a latero-version, a latero-position or a latero-flexion. A number of operations have been suggested for the cure of anteversion. Some correct the cervical stenosis with or without a shortening of the neck. These are: crucial incision of the external orifice (Gaillard Thomas); bi-lateral dissection of the cervical canal (Simpson); antero-posterior dissection of the neck (Sims); conical excision of the posterior lip (Küster); commissural excision of the neck (Pozzi); and cervical amputation (Schröder). [W. A. N. D.]

2.—Fieux gives a scientific study of a ruptured tubal pregnancy at the second month in which an urgent laparotomy was performed. He has made a careful anatomical examination of the ruptured tube, which was on the right side. Examination showed to the right of the uterus a hard tumor adherent to the lateral cul-de-sac, which it had partly effaced, and extended thence to the anterior cul-de-sac. During the process of laparotomy peritoneal irrigation was maintained. He insists in such cases upon urgent intervention as soon after the diagnosis is made as is possible. His examination of the specimen was made both macroscopically and microscopically, and full notes are given. The specimen was found to be 77 days old. The rupture occurred on the posterior aspect of the ampullary region of the tube. [W. A. N. D.]

3.—Ségon reports a case of uterine pregnancy which was mistaken for an extrauterine pregnancy because of a fixation of the uterus in the position of left latero-version. The operation was performed, the true condition discovered, the uterus freed from its abnormal condition and replaced, and the patient entered a normal convalescence. The pregnancy continued without interruption but was ultimately discontinued by surgical interference, following an attempted abortion seven weeks after the operation. [W. A. N. D.]

4.—Varnier reports a case of pregnant uterus resting in the position of lateroflexion, which was mistaken for an ovarian cyst. Notwithstanding laparotomy the pregnancy continued to term and the patient was delivered of a living child weighing 3,500 grams. He remarks that lateroflexion of the pregnant uterus may be confounded with ectopic pregnancy, ovarian cyst, or salpingitis. He agrees with Mauriceau in the importance of making the diagnosis as early as possible in order that the displacement may be corrected. As to treatment the expectant plan may be adopted or, if the flexion is so strong and irreducible as to be incompatible with the normal evolution of the pregnancy, an exploratory incision should be performed and the uterus freed. [W. A. N. D.]

5.—Routier records a case of right-sided lateroflexion of the pregnant uterus which was mistaken for an extrauterine pregnancy. Laparotomy was performed, the uterus was replaced but abortion followed. The patient made an uninterrupted recovery otherwise. [W. A. N. D.]

6.—Coelho in 1896 presented to the Congress at Geneva the results of 15 vagino-fixations which he had made up to that time while performing 45 anterior colpotomies. Up to the present time he has performed 98 anterior colpotomies and 43 vagino-fixations with but a single fatal case. The simple vaginal fixations without treatment of other lesions have numbered 11. From 1895 he had attached the uterus to the vagina at 3 points, but since 1898 he has followed the method perfected by Dührssen. He makes now a single fixation, the thread passing through the uterine wall at the level of the insertion of the tubes and traversing the upper extremity of the vaginal incision and the peritoneal origin of the vesicouterine fold. By this arrangement he claims that difficulties during parturition are prevented and the cure of the retrodisplacement is accomplished without danger of reproduction following subsequent labor. He makes the vaginofixation immediately after opening the peritoneum or after treating the existing lesions, according as to whether the retrodeviation is simple or complicated. [W. A. N. D.]

7.—Chapet-Prévost records a case of recurrent extrauterine pregnancy in a woman, 30 years of age. The patient first menstruated at 18 years of age and always suffered with anti-dysmenorrhea. She was married when 28 years old and aborted a month and a half later without appreciable cause. Two months and a half later she had another abortion. Her menses returning 25 days after the second abortion she placed herself under the care of a specialist,

fearing a third pregnancy which might result as had the other two. The menstruation which usually lasted 7 or 8 days, did not return in July 1894. Another pregnancy soon followed and in October she experienced the first fetal movements, which continued until March 13, 1895. They then ceased and severe pains commenced, simulating labor pains. The physician who was called in 2 days after the first pains, declared there was no reason why he should continue his services. These pains continued at intervals for a month. Another physician was then called in and on examination discovered a mass which was diagnosed as a uterine fibroma. Chapot-Prévost saw her on the 12th of August, at which time the abdominal extension was about that of 7 months of pregnancy. However, the uterine sound measured scarcely $7\frac{1}{2}$ cm. He made the diagnosis of ectopic pregnancy and performed the operation on the 18th of August. After the primary incision in the median line of the abdominal wall a tumor was discovered which was inclined a little to the right. This contained a fetus which was extracted. The placenta was implanted upon a large part of the anterior face of the uterus, upon a portion of the bladder, and, extending to the left of these two organs, was attached to the posterior aspect of the abdominal wall. It was removed and the patient made a normal recovery. On October 9th, 1896, one year and one month after this operation, the patient returned, believing herself again pregnant. Examination showed under the abdominal wall a fetus corresponding to a pregnancy of five months, movements of which could be readily detected under the skin. In the seventh month of this pregnancy severe pains came on associated with uterine hemorrhage. Fetal movements stopped and one month later a second laparotomy was performed. A male fetus was removed from a cyst implanted upon the opposite side of the abdominal cavity and upon the aspect of the right ovary and tubal, the ileocecal appendix, upon a portion of the cecum and the large intestine and upon the posterior face of the anterior wall of the uterus. This was removed and the patient made a good recovery. [W. A. N. D.]

8.—Jorfida reports a case of primary tuberculosis of the vagina in a young married woman, 23 years of age, who apparently gave no hereditary history of tuberculosis. Beyond the ordinary exanthemata of childhood she had had no disease. Her menstruation had been regular in its appearance and duration. She had been married a year and a half and had given birth to one child at term, which had a weight a little above the average after a spontaneous labor. There had, however, been a tear in the posterior commissure. During the two months following labor she had not suffered from any inconvenience. After this, however, she commenced to notice a sensation of burning in the external genitalia which became more severe and even painful at the menstrual epochs. She also noticed a greenish discharge, slight at first but becoming more and more abundant. Notwithstanding this condition she did not at once apply for treatment. Twenty days before she presented herself she noticed evening elevations of temperature preceded by chills and at the same time she discovered a tumefaction in the left inguino-crural region, which suddenly increased in volume. Ten days after this appeared, a similar tumor formed in the right inguino-crural region. This was followed by an increase in size of the labia, particularly of the right labium major. Examination showed an edema of the parts which pitted on pressure and were covered with an abundant greenish secretion. Numerous ulcerations covered the vulva and the vagina, these being more marked and more extensive at the posterior commissure and in the anterior portion of the vagina. At the vulvar commissure there existed a solution of continuity the size of a two-centime piece elongated in its transverse diameter and with irregular and broken borders. The other ulcers were smaller and mainly on the posterior vaginal wall. The vaginal culs-de-sac were free from the ulcerated process, as was also the cervix uteri which was somewhat hypertrophied and reddened. Under appropriate treatment, consisting of free vaginal irrigations with a salicylated solution and bichlorid of mercury, no improvement was noted. The tumefactions were then extirpated and the crural hernia closed by Tricomi's method; with the exception of a fistulous tract in the left side, which persisted for more than a month, the parts rapidly healed. The vaginal ulcerations were cauterized with iodine and silver nitrate, and a tampon of iodoform gauze was introduced. The patient made a complete recovery. [W. A. N. D.]

MUENCHENER MEDICINISCHE WOCHENSCHRIFT.

March 30th, 1901.

1. The Etiology and Experimental Production of Cirrhosis of the Liver. MARCKWALD.
2. A case of Mixed Cirrhosis of the Liver With an Acute Course. ULLMAN.
3. Plasmon-Tropon. HESS.
4. The Influence of Coal Upon the Tubercle Bacillus. PAPASOTIRIU.
5. The Equilibrium and Hearing Organs of the Japanese Dancing Mouse. PANSE.
6. A Foreign Body in the Lung. SPIESS.
7. A Rare Case of Foreign Body in the Bronchial Tubes. DIEHL.
8. The Natural Immunization of Tuberculous Families. REIBMAYR.
9. Report of the Medical Polyclinic in Munich in the Year 1900. MORITZ.

1.—Marckwald has performed a number of experiments upon frogs in order to determine to what extent the degeneration of the parenchymatous cells of the liver tends to produce the cirrhotic condition. It was found that antipyrin injected hypodermatically into the animals produced a degeneration of the liver cells that was more or less rapid according to the dose and the size of the animal. If very small doses were employed the degeneration was exceedingly gradual. In the first series of frogs this degeneration took place without any increase in the connective tissue, a fact that the author explains by supposing that the poor condition of the frog's nutrition resulting from their refusal of all food in captivity, prevented the proliferation of the tissue. He therefore fed artificially a number of frogs and subjected them to the same treatment. He found that the connective tissue showed marked hyperplasia. He therefore regards the cirrhotic change as conservative and not destructive. [J. S.]

2.—Ullman reports a case of a man 53 years of age, who had taken from 1.5 to 2 liters of "Schnaps" daily for many years. He appeared to be perfectly healthy until he was suddenly attacked by a causeless vomiting and diarrhea, loss of appetite, and chilly sensations. There was then a moderate icterus, and the development of ascites and epistaxis, but throughout the case there was no fever. A puncture of the abdominal wall withdrew 2,500 ccm. of yellow fluid with a specific weight of 1.009. The patient died and at the autopsy, in addition to myocarditis, enlargement of the spleen, intense congestion of the kidneys, there was great enlargement of the liver, which was granular and hard. Microscopically it was found that the connective tissue was very irregularly hyperplastic, and that there was even some proliferation of the hepatic cells. The case is remarkable on account of its rapid course. The etiology is very obscure, that is to say, the alcohol probably acted largely as a predisposing factor. [J. S.]

3.—Hess has performed a number of experiments with plasmon and tropon in order to determine whether extirpation of the pancreas was more severe than simple transplantation. It was found that total extirpation caused a loss of 56.8% of the nutritional material, whereas in extirpation with transplantation, although under those circumstances the pancreas no longer connected with the intestines, the loss was only 53.3%. A few other experiments gave similar results. [J. S.]

4.—Papasotiriu has performed a number of experiments in order to determine whether charcoal has any inhibitory action upon the growth of the tubercle bacillus, or the pseudo-tubercle bacillus, the so-called mykobacterium lacticola. In the first experiments with the latter micro-organism it was found that a proportion of more than 10% of charcoal had a slight inhibitory action upon the growth of the germ. As, however, subsequent experiments showed that no inhibitory action occurred either toward this germ or toward the tubercle bacillus the author concludes that carbon is not an antiseptic. [J. S.]

5.—Panse has made a careful study of the hearing organ of the dancing mouse of Japan in order to determine whether it or the semi-circular canals exhibit any diversion from the usual type, that would serve to explain the absence of vertigo upon rotation. He found that there was absolutely no morphological peculiarity whatever. The hearing organ of this mouse resembles in all respects that of the ordinary house mouse. However, he did find

a small accumulation of calcium crystals in the membrane of the oval window, but as this also appeared in the ear of the mouse produced by crossing a common mouse with a dancing mouse, he concluded that, as this off-spring did not rotate, the crystals were not of any significance. [J. S.]

6.—Spiess reports the case of a boy 17 years of age who swallowed a bone button. Aside from a slight diminution of the respiratory sounds this produced no alteration for five years. Then the patient suffered from dyspnea, pain in the left side, and cough with expectoration. As it appeared that the foreign body, which still remained in the lung, had produced a severe inflammation, an effort was made to remove it through a tracheotomy wound. The position of the button was first determined by a Roentgen ray picture and then the bronchioscope employed. Through this it was possible to see a small opening in the main bronchus that was almost completely filled with a mucopurulent fluid that was not expelled by coughing. The sound in passing through this opening came in contact with a hard body. It being impossible to withdraw the body with forceps, other means were tried—passing a thread around it, or catching it upon a blunt hook. All these failed and the patient finally died of pulmonary tuberculosis 6½ years after inspiring the button. At the autopsy the button was found lying in a small cavity just inside the main bronchus, entirely non-adherent. No adhesions were found between the lung and the parietal pleura, and therefore an external operation would have been a failure. Spiess calls attention to the extreme ease with which the bronchioscope can be employed if a drop of a 10% solution of cocaine is allowed from time to time to trickle down the mucous membrane of the trachea. [J. S.]

7.—Diehl reports the case of a woman, who, as a result of an attempt at suicide, had so injured the trachea and larynx that it was necessary to employ a permanent tracheotomy tube. This was broken, and the patient was given another, which, however, was slightly too long, and therefore uncomfortable. Accordingly, when alone she reinserted the old tube, which slipped into the trachea and was pushed further down by the insertion of the new tube to relieve the dyspnea. It being impossible to remove the foreign body without operation, the patient was prepared for another tracheotomy, but fortunately she expelled the tube during a violent fit of coughing before this was performed. [J. S.]

8.—Reibmayr believes that the human race gradually acquires a greater or less degree of immunity against all infectious diseases, that consists in a certain constitutional alteration. He has endeavored for some years to discover what are the symptoms of this condition in the human race, and has finally reached the conclusion that a careful study of the genealogy in each individual leads to the most accurate results. In the treatment or prevention of tuberculosis the most important factor is the preservation of this immunity. [J. S.]

Obliteration of the Portal Vein.—Eugène Frélier. (*Gaz. Heb. de Med. et de Chir.*, April 7, 1901, 48^{me} Année, No. 28.) (Nancy Thesis, 1899-1900, No. 9). Frélier has studied 2 cases of obliteration of the portal vein. This condition may be produced by compression by tumors of all kinds and by thrombosis due to micro-organismal infection or to the extension of a carcinoma. It is favored by alcoholism, syphilis and all the diseases that may cause arteriosclerosis. As a consequence of this condition of the portal vein, anemia may be produced in the territory supplied by these veins in the liver, which may be followed by the disappearance of the liver cells and the production of periportal sclerosis. Congestions may also be produced in the tributaries of the portal vein with transudation and hypertrophy of the intestine or its walls, intestinal gangrene, ulcer of the stomach or duodenal ulcer. Obliteration of the portal vein is manifested by symptoms that are common to other affections, but which are characterized by the rapidity of their appearance, such as sharp pains, which usually appear about 3 weeks before death in the right hypochondriac or epigastric regions, voluminous ascites, increase in the size of the spleen, edema of the lower extremities, hematemeses, diarrhea, hemorrhoids, melena, decrease in the size of the liver and jaundice. Occurrence of hematemeses may be explained by venous stasis or by pneumogastric reflex. [J. M. S.]

Original Articles.

WHAT I HAVE LEARNED FROM ONE HUNDRED AND SIXTY-ONE OPERATIONS FOR THE RELIEF OF SENILE HYPERTROPHY OF THE PROSTATE GLAND.*

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If the student consults the standard text-books with a view to being enlightened as to the most satisfactory operation to be employed for the relief of senile hypertrophy of the prostate gland he will in most instances be doomed to disappointment. It is true, that many different operations designed for the relief of this condition will be found fully described, with a statement of the probable mortality attending each, but it is left to the option of the investigator to select the operation, which in his judgment will prove most efficacious. Not only do the books throw but little light on the subject, but the investigator finds himself in doubt as to the best method to be pursued under the many conditions that present themselves, he will also observe that the surgeons themselves differ widely as to the most suitable operation to be performed; each having its advocates as well as its detractors.

Although much has been written on the subject, giving rise to a vast amount of discussion regarding the merits of the various operative procedures suggested, it would appear that the truth is to be found in the fact that the writers themselves, as well as the profession at large, have been unable to arrive at any definite conclusion regarding the value of the various methods suggested. So far, there has been no attempt made to lay down any rule which will serve to guide the surgeon in his choice of operations, every individual seemingly relying upon his personal predilections.

An experience derived from the treatment of one hundred and sixty-one operations for the relief of prostatic hypertrophy has caused me to reach definite conclusions as to the relative value of the various methods suggested, and the difficulty that one may be expected to encounter, the mortality that attends each procedure, as well as the results that may be expected to be reached in each case.

The various operations performed are classified as follows:

	No. Operations.	No. Deaths.
Vasectomy,	28	—
Bilateral castration,	31	2
Supra-pubic cystotomy; bilateral castration two weeks later,	13	—
Supra-pubic cystotomy, permanent drainage,	33	—
Supra-pubic cystotomy with vasectomy,	5	—
Supra-pubic prostatectomy (prostate gland removed piece-meal),	2	—
Supra-pubic prostatectomy (Fuller's method),	3	1
Supra-pubic cystotomy combined with perineal section (Bellfield's method),	6	2

*Read before the American Association of Genitourinary Surgeons, at Old Point Comfort May 2, 1901.

Perineal prostatectomy (Alexander's method),	4	2
Perineal prostatectomy (Pyle's method),	1	1
Bottini's method,	1	—

By examining the foregoing classification it will be seen that of one hundred and sixty-one patients upon whom operations were performed eight died. In two, deaths ensued from bilateral castration, one died of uremia, and one from exhaustion; of the six remaining deaths, two followed suprapubic, and four followed perineal prostatectomy. Of the suprapubic operations one died from suppression of urine, and one from uremia. Of the deaths following perineal prostatectomy one died from sepsis, and one from uremia.

As a rule, the aged withstand operative procedure badly. The danger appears to be greatly increased if an extensive operation involving any portion of the genito-urinary apparatus becomes necessary. The dread of the operation frequently leads the patient to defer the ordeal until the symptoms indicate that further postponement is impracticable; unfortunately the delay is often due to the advice of the attending physician, who usually recommends that a course of palliative treatment be pursued as long as possible. Thus valuable time is lost, so that it is not unusual for the patient to be seen by the surgeon for the first time, when he is already debilitated and broken down, with poor digestion, diseased kidneys, chronically inflamed bladder, weak heart and suffering from pain and loss of sleep. Such an individual is hardly in a fit condition for even palliative treatment, still less for the radical operation, necessary for permanent relief.

Unfortunately it is just this class of cases that appeal most strongly to the surgeon for relief; feeble old men who have been suffering from the effects of prostatic obstruction complicated with chronic cystitis, secondary disease of the kidneys, from chronic urinary fever, or attacks of retention of urine, the passages of the catheter becoming difficult owing to the inflamed and congested condition of the prostatic gland. The physical condition of these persons is so wretched that any radical operation is not to be thought of.

The reason for allowing these unfortunate people to drift along, month after month, without attempting radical relief is possibly readily understood, when it is taken into consideration that vasectomy, or bilateral orchidectomy as a means of cure is repugnant to most men at the beginning of their prostatic trouble, and is consequently avoided. The other operations are either unsatisfactory or attended by high mortality, and are consequently postponed until surgical interference is an absolute necessity; this delay results in the condition of the individual being such as to render any operation dangerous.

I hope to be able to demonstrate that the Bottini galvano-caustic radical treatment of hypertrophy of the prostate gland proves in a large majority of cases to be entirely satisfactory. When this operation is performed a local anesthetic may be used; it is comparatively safe, especially if resorted to at the onset of the trouble; under favorable circumstances it confines the patient to his bed but for

a few days. When employed at the beginning of catheter life it may be regarded as a prophylactic measure, being followed in the majority of instances by absolute cure. From personal experience I am led to the conclusion that if cases of senile prostatic hypertrophy are operated on at the outset of the trouble, when the employment of the catheter is first indicated, the use of this instrument may in most cases be relinquished, and the evils attendant on the introduction of the tube averted, accompanied as it is by so much pain and discomfort; to say nothing of the chronic invalidism which is so frequently an attendant upon advanced prostatic obstruction.

As will be shown later on, the cases which were operated upon at an early period of the disease, resulted as favorably as could be desired; in every instance not only was the obstruction relieved, but the function of the bladder was restored to its healthy condition.

Bottini's method is likewise applicable to a large number of cases of advanced prostatic disease where want of vitality and poor health contraindicate the employment of more serious radical procedure; in these cases reliance is to be placed either on frequent catheterism or continuous drainage established by means of a suprapubic cystotomy. But in some cases of prostatic hypertrophy of long standing, even if the obstruction be entirely removed the function of the bladder will not be restored; this is especially the case where the folds of the mucosa become thickened, from inflammation, giving rise to the formation of ridges attended by hernial protrusions of the mucous membrane and a tendency to the formation of sacs or pouches. Reginald Harrison well describes this condition when he says: "Once these pouches are formed the muscular apparatus of the bladder is thrown out of gear, and no matter what is done the normal muscular contractility will never be restored. Nor will the muscular force be exerted in the right direction, consequently there will be always more or less residual urine." I have verified this statement in several prostatectomies, where the obstruction was entirely removed, and yet the individuals were quite unable to evacuate the contents of the bladder, and were compelled to rely upon the catheter for relief.

When this sacculated condition of the bladder exists a Bottini operation will remove the obstruction, whilst a double vasectomy will allow the catheter to be inserted without fear of giving rise to recurrent attacks of orchitis, a state so often attendant upon frequent catheterism.

The classification heretofore given will be followed when considering the results obtained in the number of operations recounted, together with the conclusion reached as to the relative value of the many methods employed, as well as the danger accruing from each.

Vasectomy.—Twenty-eight individuals were submitted to this operation, all of whom, with the exception of six, were over sixty-three years of age, and the sexual functions of all but six were in abeyance. Vasectomy was performed, whether the enlargement of the prostate was glandular or fibrous

in character. No deaths resulted from the operation. As a rule, the reported mortality from this operation is rather large, so that the result in each instance was watched with eagerness, and the fortunate termination was a gratifying surprise.

Of forty-nine reported operations, collected by Dr. A. C. Wood (White and Martin) there is a mortality of twelve per cent. Why the death rate from so simple an operation should be so great is incomprehensible, when it is remembered that in each case it was performed under the influence of local anesthesia, and that but a few minutes are needed to complete the whole process, which is attended by neither shock nor loss of blood.

Of six cases operated on under the age of sixty-three, the sexual power was preserved. At the time of the operation the individuals were at the entrance of "catheter life," about two and one-half ounces of urine remaining in each instance; the patients being compelled to arise more than once to discharge the contents of the bladder. In these cases vasectomy was selected as the least dangerous and simple method offering a chance of relief.

Sixteen cases were retained under observation: of this number four were greatly benefited; they were individuals between the ages of fifty-five and sixty-three, and were at the beginning of their prostatic troubles. The improvement in each was very gradual, and it was not until some five or six months had elapsed that any amelioration in the condition of the patient could be noted. Three of the cases still retain a slight quantity of residual urine, and employ a catheter once daily. One individual urinates six times during the day and once during the night; he has discontinued the use of the catheter. The patients in whom benefit has resulted from the operation were between the ages of fifty and sixty; they had suffered but for a short time from the symptoms of prostatic obstruction and their general physical condition was excellent. In three of the unsuccessful cases I have since performed the Bottini operation with most gratifying results. Three of the remaining cases have been operated upon by other surgeons; in two a prostatectomy was performed; one died and in one a permanent drainage was established by means of supra-pubic cystotomy, he is living and is comfortable. Four of the cases were not benefited and have to resort to the frequent use of the catheter for relief.

Prior to operation five of the patients suffered greatly from frequent attacks of relapsing orchitis; in each instance relief from this complication was obtained by the surgical procedures. In no instance was either atrophy of the testicle or any disturbance of the nervous system developed after division of the vasa deferentia. The operation was not followed by sexual weakness in any of those cases where the sexual powers had been retained. Thus out of the twenty-eight cases upon whom the operation was performed, but four were benefited, and these only after the lapse of a considerable period.

The results obtained lead me to the following conclusions:

1. As a curative measure vasectomy is of little value, and is not to be recommended.

2. The operation appears to be most effective when performed on patients between fifty and sixty years of age, in whom the prostatic enlargement is of the soft glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions.

3. The operation is serviceable in those cases where the physical condition of the individual renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodical attacks of orchitis.

4. Sexual vigor is not diminished by the division of the vasa deferentia.

5. Atrophy of the testicle does not result from the operation.

Castration.—In forty-four cases bilateral orchidectomy was performed, irrespective of the character of the enlargement of the prostate gland. All the patients were men in advanced years, whose sexual powers had disappeared; in the majority, the heart was feeble, the arteries atheromatous, and they all suffered from general debility, the result of the wear and tear of prolonged misery. In a few, a far-advanced diseased condition of the bladder and kidney existed. Several had suffered from frequent attacks of retention of urine; catheterism was necessary in all; the insertion of the instrument was difficult and painful. In this class of patients prolonged anesthesia, with any serious operation in addition, would in all probability prove immediately fatal.

Experience has taught the profession that castration is not to be resorted to as a routine method of treatment. Its sphere of usefulness is unfortunately very much restricted. But in properly selected cases the relief afforded is often permanent and most gratifying. It is now generally conceded that it is only where the enlargement of the prostate is glandular in character, or where there is a chronic congestion of the organ, that relief is to be obtained by orchidectomy. Unfortunately, it is frequently impossible to distinguish the hypertrophy of a pure glandular type from that of the other varieties. When the enlarged prostate is hard and fibrous in character, due to hypertrophy of the stroma, atrophy does not follow castration, and no benefit is derived from the operation, under such circumstances some other method of giving relief must be employed. These views representing the judgment of the profession as to the value of the orchidectomy for the relief of prostatic hypertrophy are in accord with my own personal experience.

When an enlarged prostate, glandular in character, is engorged with blood, castration seems to give immediate relief. As a result the patient begins to void urine naturally and a catheter can be inserted with less difficulty and with less pain. On examination the prostate will seem to have perceptibly diminished in size, but it is questionable whether actual atrophy takes place until some months after the operation. If these cases are carefully watched it will be found that in most instances an ameliora-

tion of the urgent obstructive symptoms occurs immediately after the operation; then comes a period of abeyance when the condition remains quiescent for some time. The patient is enabled to evacuate a part of the urine contained in the bladder, but there is always a certain amount remaining in the viscus. Usually several months elapse before the residuum will be reduced to a minimum; then it will be found that the prostate gland is atrophied and shrunken. It is due to the subsidence of the congestion that immediate relief is given to the obstructive symptoms after operating upon suitable cases. The mortality from the operation where the general health is good has been proved to be about seven and one-half per cent. In old, feeble men, with general arterial sclerosis, who are suffering from pyelitis and chronic cystitis, the mortality reaches as high as eighteen per cent., being as great as that of prostatectomy under similar conditions. Castration, therefore, is an operation by no means free from danger. In none of the cases was there any disturbance of the nervous system following the operations. Quite a number of such annoying results, however, have been reported; hence the subsequent involvement of nervous complications is one of the dangers to be borne in mind when advising the operation. In two cases in which I considered the conditions were suitable for an orchidectomy other, more serious, operations were selected because the nervous temperaments of the individuals were so exalted and their dread of being castrated so great, that I feared that removal of the testicles might be followed by mental disturbances.

In five instances where patients were brought to the Jefferson Hospital suffering from retention of urine, due to prostatic obstruction, frequent unsuccessful efforts having been made to pass the catheter, on whom aspiration of the bladder had been performed several times, an immediate suprapubic cystotomy was performed and drainage established. In three the enlargement of the prostate was found to be glandular; the remaining two were fibrous. Two weeks later orchidectomy was performed on these cases with the result that in those instances where the prostate was of the soft variety perfect cure had resulted. In the two cases in which the growth was hard and fibrous no benefit resulted from castration, and suprapubic drainage had to be re-established.

The gratifying results sometimes obtained by castration in suitable cases of hypertrophy of the prostate is well illustrated by the brief account of a case seen in consultation with Dr. Edwin Graham in March, 1897. The patient was sixty-three years old. He stated that he had never had any venereal disease, but had suffered from a rapidly increasing irritability of the bladder for the past four years. Previous to my first visit he had been passing urine at intervals of about every two hours, day and night; which was sometimes attended with pain and spasm, at the neck of the bladder. The urine was thick and cloudy; sometimes a few drops of blood would follow the termination of the act. About thirty hours before I first saw him he had gotten his feet wet, which resulted in a desire to fre-

quently pass water. The insertion of the catheter was at first difficult, and finally impossible; retention of urine being complete. Every effort to pass different forms of catheter had been unsuccessful; aspiration had been performed twice. He was removed to the Jefferson Hospital. An examination revealed a large prostatic growth of the soft variety. As the introduction of an instrument into the bladder was impossible, recourse was had to an immediate suprapubic cystotomy. The prostate was found to be adenomatous in character, and to project into the bladder like a cork into the neck of a bottle. The bladder was the seat of chronic inflammation. Two weeks later castration was performed. When last seen, March, 1901, he was in robust health; had long ceased to use a catheter, passed urine about seven times daily and occasionally once at night. The urine was normal. The prostate was atrophied and there was about one drachm of residual urine in the bladder.

In four cases of glandular hypertrophy the obstruction was so great that a bicaude catheter (No. 9172) could be passed with difficulty; in these all symptoms of stone in the bladder were present; a double castration was performed. The obstructive symptoms were promptly relieved. Two weeks later a stone staff could easily be introduced and the stone detected. As the bladder in each case was in a state of advanced disease the calculi were removed by means of suprapubic cystotomy. These cases were reported in full in the *Therapeutic Gazette* for February 15, 1895.

In two other cases of glandular hypertrophy double castration was followed by the relief of all pathological symptoms. Of the 33 remaining cases two died, leaving 31 to be accounted for; 13 were lost sight of shortly after convalescing from the operation, but were unimproved when last heard from. In three of the remaining operations were performed by other surgeons. In one case I established a permanent suprapubic drainage, and in two others relief was procured by a Bottini operation. The 12 remaining cases are unimproved; the individuals refused to submit to any further operative interference, and so far as known at the present time they have still to resort to frequent catheterism for relief. So that out of forty-four castrations 9 who suffered from an adenoma of the prostate gland were practically cured. Five were operated on by others, unknown methods being employed. Three were reoperated on by myself. Ten still continue to rely on the use of the catheter. 13 were lost sight of, but were unimproved when last heard from, and two died. 33 cases were either unimproved, or so slightly benefited that other surgical procedure was resorted to. From the results obtained in the cases just detailed I think the following deductions are warrantable:

1. In selected cases, bilateral castration will always hold a place in genito-urinary surgery as a means of removing the obstruction caused by prostatic hypertrophy.

2. The operation is indicated in men of advanced years, whose sexual powers are lost, the overgrowth of the prostate being glandular in character, or who have reached that period of life where the passage

4. When the prostatic enlargement is fibrous in character no benefit is derived from the operation, and its employment under these circumstances is not to be recommended.

3. The primary effect of castration on the glandular prostatic hypertrophy is first to relieve congestion, and secondarily to cause atrophy.

4. When the prostatic enlargement is fibrous in character no benefit is derived from the operation, and its employment under these circumstances is not to be recommended.

5. Orchidectomy in very old subjects with extensive disease of the bladder and kidney is attended by a large mortality, and is a very serious operation.

Suprapubic Cystotomy.—Permanent drainage by means of suprapubic cystotomy was selected as a method of treatment in thirty-three cases. No deaths resulted. The operation was considered best suited to emergency cases where retention of urine existed; catheterism being impossible even after aspiration of the bladder had been performed in old men who were weak and debilitated, the passage of a catheter being difficult, and who were not in a suitable physical condition to withstand any severe radical measure for their relief. Twelve years have elapsed since the first case of this series was operated upon by me. Many of the individuals are still alive and comparatively comfortable. A specially designed metal suprapubic drainage tube was adjusted by means of which they were enabled to move about, their bladders being respectively capable of holding four ounces of urine without leakage. In two instances the prostate had reached such a size as to almost completely obliterate the bafond of the bladder, making it impossible to keep the drainage tube in situ. In these cases an apparatus was employed known as the Ransom urinal which has proved very satisfactory as a substitute for the metal drainage tube.

At best, this operation is merely a temporary expedient. In order that the drainage tube should be properly managed it is necessary that the individual should have a certain amount of intelligence which is wanting in many of the hospital patients.

Interruption of drainage.—Some of the subjects for suprapubic cystotomy. They are constantly worried and depressed by the presence of the tube and irritated and annoyed if the slightest amount of leakage takes place. In fact, the establishment of a permanent suprapubic fistula is a very unsatisfactory method of treatment and should be avoided if possible, although at the present time I have under my care several patients who are well satisfied with their condition, drainage having been established, and their general condition having been greatly improved.

In four cases upon whom suprapubic cystotomies had been performed, owing to the diseased condition of the bladder, daily insertion of catheters became necessary, in order to irrigate the viscus. These patients suffered from frequent attacks of orchitis for the relief of which recourse was had to a double vasectomy, which put an end to the disagreeable complication. In eleven cases stone in the bladder complicated the condition of prostatic hy-

protrusion; the foreign bodies were easily removed in each instance, without apparently adding to the danger of the condition. Four cases were in such a serious condition when they first came under my care, that suprapubic cystotomy became necessary; drainage was continued for four months, so as to justify operation for prostatectomy, which were successfully achieved. Cases of this description where a fistulous opening in the bladder is present are especial subjects for an Alexander operation. Suprapubic prostatectomy becomes a very difficult and even dangerous operation in those cases where a fistulous opening has been established temporarily to relieve the urgent symptoms. Particularly is this the case if the fistula has existed for a lengthened period. In attempting to reopen the bladder in order to reach the prostate gland it will be found that all the prevesical structures are so bound down by cicatricial tissue that it is well-nigh impossible to enlarge the opening sufficiently to reach the prostate gland without wounding the perineum. Conditions of this kind are most suitable for a perineal prostatectomy, or preferably a Bottini operation. When attempting to reach the bladder a transverse incision recommended by Trendelenberg should be made in conjunction with the one in the median line.

In three cases where retention of urine existed, strictures of small calibre complicated the prostatic obstruction. In two of the patients the contraction was located at the bulbo-membranous junction, the calibre being only sufficient to admit the passage of a small sized Gouley tunnel catheter, which could barely be inserted as far as the prostatic urethra. In these cases a perineal section was combined with the suprapubic cystotomy. In the third instance a stricture, the calibre of which was 12 M., was found to exist about the middle of the spongy portion of the urethra. After the bladder had been opened and drained, internal urethrotomy was performed. The patients made uninterrupted recoveries. Had the strictures in the membranous urethra proved impassable advantage would have been taken of the suprapubic opening to perform retrograde catheterism.

The mortality of the suprapubic cystotomy for drainage in chronic cystitis, malignant and tubercular disease of the bladder, prostate gland and removal of calculi varies between eleven and fourteen per cent. Why this high mortality should pertain in so simple and safe an operation it is difficult to determine. The operation can be performed in ten minutes; it is accompanied by little shock and scarcely any loss of blood and in urgent cases either spinal or local anesthesia can be employed. On three occasions I have opened the bladder, making use of a one per cent. solution of cocaine as a local anesthetic. I have performed suprapubic cystotomy for the purpose of exploring the bladder, establishing permanent drainage in conditions of cystitis, stone, tubercular, malignant disease and an obstructive prostatic hypertrophy one hundred and twenty-two times with one death, making a mortality of less than one per cent. The experience of my colleagues at the Jefferson Hospital has been similar to my own. Ansell, of Russia, published in the *Langenbeck's Archiv. für Klin. Chirurgie*, band 31, 1. und 2. heft., a report of one hundred

and two cases of suprapubic lithotomy, with but two deaths. I have come to regard the high operation for opening the bladder not only as one of the simplest, but one of the safest of surgical procedures. The high mortality sustained by some surgeons must be due to the fact that the patients were either not properly prepared for the operation; that the technique was faulty, or that a class of patients were selected whose physical condition was such that any surgical procedure would have been one of great danger. The indications for a suprapubic cystotomy in prostatic hypertrophy may be summarized as follows:

1. When retention exists and it is found impossible to evacuate the urine by the usual methods that are employed for that purpose.

2. As a temporary palliative means in those patients who have reached the "break-down period attending catheter life," whose resisting powers have disappeared and who suffer from secondary involvement of the bladder and kidneys; and whose condition is such to preclude the resorting to any more serious operation, but require immediate relief from the symptoms caused by the obstructing prostate gland.

3. In feeble old men, in whom the enlargement of the prostatic growth is fibrous in character, which renders the introduction of a catheter difficult, and the passage of the Bottini cautery knife impossible; in whom there is long standing chronic cystitis, with probably diseased kidneys, which preclude a prostatectomy, suprapubic cystotomy may be selected as the least dangerous and most satisfactory operation which can be employed.

(To be Continued.)

PROGRESS OF MEDICINE IN THE UNITED STATES DURING THE NINETEENTH CENTURY.

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A hundred years ago the United States was comprised of colonies scattered along the Atlantic coast, extending not very far from the seaboard, as we count distance now, with a total population of only about four million persons, with a few cities which, however important relatively, were absolutely small, the largest being Philadelphia with a population of about 65,000, among whom were reckoned 210 slaves. The customs and habits of the people were still those of the middle of the last century; and among medical men, the cloak, the queue and the cane still marked the dignity of the physician's office. The War of the Revolution, but recently ended, had left behind it a singular development of the art of surgery, and recent struggles with epidemics of the dreaded pestilence of yellow fever had served not only to cultivate the skill of physicians in this country, but also to bring into a bright light their courage and devotion to duty. It was a noble band of men who at that time represented the medical profession in America, in every way the peers of Washington and Franklin, and Hamilton

*An address delivered before the Contemporary Club of Philadelphia.

and Adams. Already, since the first colonists had landed, there had been a number of men who practised medicine in New England, and these were not unfrequently clergymen, who practised as well as they preached; while it is recorded of Governor Winthrop, of Massachusetts, that he was generous in distributing to his confiding fellow colonists what a writer of 1753 calls "his medicinal Van Helmont nostrums." Of medical men proper there had been in the colonies a number of considerable distinction, by far the greater part of whom were in Pennsylvania, where many things had combined to produce an exceptional state of culture and refinement. But this was the result of years of preparation. In the earlier history of the colonies medical science was at so low an ebb that Gabriel Thomas wrote from the colony of New Amstel, now New Castle, Delaware, about 1650: "Of Lawyers and Physicians I shall say nothing, because this country is very Peaceable and Healthy; long may it so continue, and never have occasion for the Tongue of the one nor the Pen of the other—both equally destructive to Men's Estates and Lives; besides, forsooth, they, Hangman-like, have a Licence to Murder and make Mischief." Nearly a hundred years later, as a contemporary writer asserts, in New York quacks abounded "like locusts in Egypt," and any man at his pleasure set up for physician, apothecary, or surgeon.

Philadelphia had the best of everything in those days, for William Penn brought over in the Welcome such physicians as Edward Jones, Griffith Owen and Thomas Wynne, and after them a number of other English physicians found Philadelphia a congenial place to come to; so it is no wonder that this part of the country soon passed far beyond those sections which had been settled long before it. One of the early physicians of Philadelphia was John Kearsley, of whose wealth and generosity a monument remains to us in Christ Church Hospital, to endow which he gave a large part of his fortune. Kearsley was a greater public benefactor from the training he gave to a number of young men who afterwards reached the highest distinction. These young men he not only drilled in the principles of physic, but also put to exercises of much plainer sort. His apprentices had no easy time, for, besides having to put up his pills and potions and carry them round to his patients, they had to clean his offices and do various menial services about his house. But he made men of them; and they were all heard from afterwards.

It is hard now to picture to oneself the conditions which existed in Philadelphia during the last century: the strip of houses along the Delaware shore, the smallness of those houses, the unlighted streets, the want of public conveyances, the watchmen stalking sleepily through the town at night, and greeting from time to time the doctor, wrapped in his cloak and supported by his cane, as he went on his errands of mercy. An old-fashioned representative of this day was Chovet, of romantic history and of sharp wit, which he often exercised in the coffee-houses at the expense of his townsmen—a Tory, and loving to trap and annoy even his friends who were devoted to the cause of Independence. Until old age carried him off, he went afoot: for he never rode or drove to his patients. Of him

they say, as Uncle Toby said of "our army in Flanders," that he swore terribly; and his habit furnished the ground for a story of a pointed repartee he once made to a member of the Society of Friends, who administered to him a mild reproof in regard to his profanity. It is said that, being caught in a rain storm at the house of a Quaker, Chovet desired of him the loan of a cloak. The Quaker, lending his cloak, took occasion to say: "Friend Chovet, I hope thee'll not swear in my cloak." The next day Chovet brought the cloak back; when, not satisfied to let well enough alone, the lender said: "Friend Chovet, I trust thee did not swear when thee had my cloak on." To which Chovet promptly answered: "No, I didn't swear; but I felt a damnable disposition to lie."

Then there was good old Thomas Cadwalader, to whom John Jones paid a high tribute in his preface to the first surgical tract published in this country, called: "Plain, Concise and Practical Remarks on the Treatment of Wounds and Fractures"—a little book put out in 1776 for the use of surgeons in the armies of the colonies. Cadwalader's principal literary essay was a monograph on the "Dry Gripes," but he will always be remembered as the first public instructor in anatomy in this country, preceding by a few years William Hunter, of Newport, who gave instruction on the same subject. After Cadwalader, William Shippen, Jr., lectured regularly on anatomy in Philadelphia, using in some of his lectures a magnificent set of drawings and models presented to the Pennsylvania Hospital by the famous Dr. Fothergill, of England. The following was the quaint announcement of these lectures: "Dr. Shippen's Anatomical Lectures will begin to-morrow evening, at six o'clock, at his father's house, in Fourth Street. Tickets for the course to be had of the Doctor, at five Pistoles each, and any gentlemen who incline to see the subject prepared for the lectures and learn the art of Dissecting, Injections, etc., are to pay five pistoles more." Dr. Shippen, being accused of robbing the churchyards in order to obtain bodies for his dissecting rooms, published in the *Pennsylvania Gazette*, October, 1765, a denial, in which he stated that "The bodies he dissected were of persons who had wilfully murdered themselves, or were publicly executed, except now and then one from the Potter's Field, whose death was owing to some particular disease, and that he never had one body from the church or any private burial place." About the same time Dr. Wright Post, who lectured on anatomy in New York, was assailed by what is known in history as the doctor's mob, which was excited by stories in regard to his robbing the graveyards to procure subjects for dissection.

By the beginning of the nineteenth century medical schools had been established: in Philadelphia in 1765, in New York in 1768, in Boston in 1782, in Dartmouth in 1798, and in Louisville, Ky., in 1800, while the Pennsylvania Hospital had been well started in its great work for humanity and medical science.

At that time Philadelphia was the undisputed centre of medical education in America, and Philadelphia physicians and surgeons excelled those of the rest of the country in number and attainments

and reputation. In this the medical profession in Philadelphia was only keeping step with the other departments of art, science, and industry. As Mr. Sidney Fisher says: "The first medical school, the first hospital, and the first dispensary ever known in North America were established in Philadelphia, which in colonial times and long afterwards was the centre of study for botany, astronomy, natural history and all the sciences that were pursued at that age." And, again: "The first fire-company was started there, the first circulating library, the first companies for insurance against fire, the first local periodical and the first bank." Philadelphia a hundred years ago furnished most of the material to form the American Philosophical Society, which for many years was to our country very much what the French Academy has been to France—the focus of learning of every sort. The University of Pennsylvania enjoyed the public recognition of Washington and his Cabinet, as it had enjoyed the recognition of the highest officials of the British Government before the War of the Revolution, and to its halls were gathered, from all parts of the country, and even from foreign lands, students who sat at the feet of men like Physick in surgery and Rush in internal medicine. It is to be feared that they bled and purged and sweated their patients with altogether too vigorous a hand. Some of the contemporaries of Rush did not hesitate to say that he killed more than he cured, and one of them, who took the pen-name of Peter Porcupine, assailed him with the coarsest venom, devoting successive numbers of a special periodical which he called the "Rush Light," and published in New York, to the abuse of this famous teacher. Physick had no enemies, and deserved the title of "Father of American Surgery," because of his fertility of resource, his skill in practice, and his wonderful kindness in dealing with his patients, though he showed his estimate of students of anatomy in those days by directing that his tomb should be carefully guarded against violation.

The great advance that has been made since the beginning of the nineteenth century in the department of internal medicine has been marked by contributions to our knowledge from all parts of the world. To this American physicians have contributed their full share. The greatest praise should be given to Dr. Joseph Parrish, of Philadelphia, who, in the typhus fever epidemic of 1812-13, boldly broke away from the practice of his predecessors and totally abandoned bleeding in his treatment, demonstrating by his success that this severe measure was unnecessary. Of other specific achievements of American medicine during this century should be mentioned the remarkable writings of Dr. Gerhard, of Philadelphia, in regard to diseases of the chest and the distinction between typhoid and ship, or typhus, fever, the achievements of Drs. Weyman and Bowditch, of Boston, in practising tapping of the chest for evacuating fluids produced in pleurisy, and the invention of the flexible stethoscope by Dr. Pennock, of Philadelphia; while no history of this period would be complete that did not include the names of such distinguished men as George B. Wood, one of the

most influential writers of the period and for many years Professor of Practice in the University of Pennsylvania, of René La Roche, whose study of yellow fever has never been excelled for accurate observation and keen judgment, of Alonzo Clark and Austin Flint, of New York, clinicians and teachers; of Isaac Ray, of Philadelphia, one of the most profound students of insanity that the world has ever produced, of the learned and polished Alfred Stillé, of that charming writer and able practitioner, J. M. Da Costa, and of that wonderful genius and public man, Dr. William Pepper, under whose guidance the University of Pennsylvania made such gigantic strides in material prosperity; while different American medical schools have been graced by the teachings of Draper and Dalton, Francis Gurney Smith and Austin Flint, Jr., in physiology, and of Oliver Wendell Holmes and S. Weir Mitchell, whose rank in literature has equalled that which they attained in teaching and practising medicine. In other branches of medical teaching Dewees and Hodge, both Professors in the University of Pennsylvania, published works which were long established text-books in this country and highly esteemed abroad.

The early period of the study of anatomy in America was marked by the industry, perseverance and talent of those who devoted themselves to this branch of work. Their worthy labors have been continued by worthy followers; so that the study of anatomy has been developed until it is conducted in this country as perfectly as anywhere in the world. The contrast between the last century and this may be seen by comparing the handful of students that gathered around Cadwalader and Shippen in their ill-lighted and narrow apartments, and the hundreds who in this city congregate in the spacious lecture halls of its medical schools, and have the opportunity of studying such beautiful specimens and preparations as are to be found in the Wistar Institute of Anatomy, a gift to the University of Pennsylvania, by General Isaac J. Wistar, in honor of his grand-uncle, Caspar Wistar, Jr., whose invaluable collection and that of Dr. William E. Horner formed the nucleus of what has now grown so great; while teachers of this fundamental branch of medical study in America can enjoy a justifiable pride when they recall that of their number was Joseph Pancoast and Joseph Leidy.

In this country chemistry has been studied faithfully from 1769, when Dr. Benjamin Rush became professor of this branch in the University of Pennsylvania, the first full recognition of the science in this country by any institution of learning. Chemists here feel a natural interest in the fact that Priestley, the discoverer of oxygen, who may be said to have released chemistry from the antiquated bonds of alchemy, when driven from England by religious persecution, came to America in 1794 and took up his abode in Northumberland, Pa., where he died in 1804, after having declined, on March 3, 1795, because he wished to live in the country, the Chair of Chemistry in the University of Pennsylvania, to which, on November 11, 1794, he had been elected. In 1802, Mr. (afterwards Dr.) Robert Hare, who in 1812 became Professor of Chemistry in the University of Pennsylvania, contributed to this

department of science the invention of the oxy-hydrogen blowpipe; while in 1808 Professors Silliman and Kingsley, of Yale College, published an account of the meteorite that fell at Weston, Conn., the year before—a paper which attracted widespread attention, and drew from Thomas Jefferson the oft-quoted remark that it was “easier to believe that two Yankee professors could lie, than to admit that stones fall from Heaven.” Among chemists that ought to be remembered is James Smithson, of England, who, in 1829, bequeathed his property to the United States to found an institution for the increase and diffusion of knowledge among men—the now famous Smithsonian Institution, at Washington.

The most shining achievements of the medical art in America during the nineteenth century were those in the line of surgery. At the very beginning of the century, we find that Physick, with his extraordinary genius, had adopted the use of what has since been universally employed under the term of animal ligatures. In his day, and unfortunately for long years after, the usual treatment of wounded blood-vessels was to tie them with silk or linen cords, and to leave one end of the ligature hanging out from the wound, so that it might be withdrawn after it had been separated from the blood-vessel by a process of ulceration. Only those who have seen this method employed can appreciate its disadvantages and dangers. Physick conceived the idea that he could introduce ligatures made of animal substance, which would be dissolved and come away, or could be withdrawn without the risks run when the customary material was used. Unfortunately, this idea was never fully developed in his day, and decades passed before the practice of surgery was revolutionized by the introduction of the catgut ligature.

There were many other surgeons in America who contributed to place the practice of surgery in this country in every respect on a level with, and in some respects above, that of any part of the world. As three hundred years ago the patriots of Holland adopted, and flaunted in the face of their enemies, the title of “Beggars,” which had been scornfully applied to them, so in this country it has long been possible to refer with pride to the taunt attributed to Sidney Smith, uttered in the early part of this century: “In the four quarters of the globe, who reads an American book? or goes to an American play? or looks upon an American picture or statue? What does the world yet owe to American physicians or surgeons?” Though this fling may be accounted for partly by the inexcusable ignorance of Sidney Smith in regard to the achievements that had then already been made by American physicians and surgeons, we have lived to see so different a situation, that we can now ask: In what part of the four quarters of the globe are not these tributes paid to American skill and genius? The Walhalla of the healing art would sadly miss the figures of Warren, Mott, Post, Dorsey, Gibson, McDowell, Horner, McClellan, Atlee, Pancoast, Gross and Agnew. There is not an operation in surgery in connection with which some one of these names is not crowned with an imperishable glory. There is no operation so delicate, none so dif-

ficult, that it has not been thoroughly mastered by American surgeons, while American surgeons have originated certain operations requiring the most astonishing combination of judgment, courage and conscience. It was Ephraim McDowell, of Kentucky, who, in 1809, first of all the world, did a deliberately planned ovariectomy, and in three successive and successful cases, proved the practicability of this operation which has saved countless lives. Since then it was the two Atlees, of Pennsylvania—Washington and John L.—who, by their indomitable courage, in the face of bitter opposition and violent abuse, placed this operation on a firm basis and completed the work which McDowell, to the great gain of mankind and the great glory of American surgery, had begun.

Of other special advances in the art of surgery might be named the improvements made in this country in the treatment of wounds and diseases of the contents of the abdomen. Nowhere in the world have more brilliant results been achieved than here in the management of those formerly almost invariably fatal conditions; while it is hard to estimate how much women owe to the skill and ingenuity of Marion Sims, who, coming from South Carolina to New York not only became a most conspicuous and successful operator, but also founded the first Women's Hospital in the world; while the invention of intubation of the larynx will forever preserve from oblivion the name of O'Dwyer, of New York.

The nineteenth century has seen remarkable advances in the science and art of medicine as shown in the establishment of medical societies, in the inauguration of instruction in veterinary medicine, and in the universally admitted first place America holds in the teaching and practising of dentistry. The greatest perfection has been attained in the construction and administration of hospitals, of museums, of libraries, and of laboratories, and a remarkably advanced position has taken in the training of women for the practice of medicine. Philadelphia has the first medical college ever established exclusively for women, whence has gone out a large number of women to carry the skill of the physician to their sisters sorely needing their help in foreign lands.

Probably the greatest single achievement of the nineteenth century was the application to surgery of what are called general anesthetics. Though for centuries surgeons had endeavored to lessen the pain of operations by the use of various drugs, some of which, we are told, were supposed to act by means of their odor, it was not until 1846 that what is now known as general anesthesia was properly practised. In 1799 Sir Humphry Davy inhaled nitrous oxide to quiet the pain of cutting a wisdom tooth; but it remained for an American dentist, Horace Wells, in 1844, to use this gas systematically; while in 1846 William Morton—who had learned the use of nitrous oxide gas from Wells—at the suggestion of Dr. Charles T. Jackson, first used ether for tooth-extraction and soon after succeeded in establishing its claims as a general anesthetic. Four years earlier—that is in 1842—an unpretending country practitioner, Dr. Crawford Long, of Athens, Georgia, who had observed the effect of

an accidental total anesthesia, produced by giving what was considered an overdose of ether by inhalation to a negro, employed this agent in the removal of a tumor, and afterwards several times, with entire success. But as he did not publish his operations at the time, it was not known that he had done them until the success of ether led to discussions as to priority in its use. It is clear that, whatever part others may have had in the development of this idea, it was William Morton to whom more than to any one else the world is indebted for it. He had the courage to propose to test the method in public; and on October 16, 1846, the first public operation under ether was done in the operating room of the Massachusetts General Hospital by Dr. John Collins Warren. The scene on this occasion was a most interesting one. The patient, surrounded by some of the most distinguished surgeons of Boston and New York, was instructed by Morton to breathe deep and long and to have confidence in him. He soon became completely unconscious, and Morton, turning to Dr. Warren, said: "Your patient is ready." At the first incision there was no sign of pain; a pin could have been heard to fall, so intense was the silence. Dr. Warren quickly completed the operation, removing the tumor and placing the stitches. Still there was no sign of pain, the patient slumbering as peacefully as a child. Dr. Warren turned slowly from the recumbent figure, and scanning the eager faces about him said: "Gentlemen, *this* is no humbug." Thus was successfully inaugurated a practice which revolutionized surgery and has saved immeasurable suffering and countless lives. This glorious achievement belongs entirely to America and to the nineteenth century. Its description may fitly serve as a conclusion to this brief summary of what was then accomplished in the noble work of those devoted to the art of healing, of whom Whittier says:

"So stood of old the holy Christ
Amidst the suffering throng;
With whom his lightest touch sufficed
To make the weakest strong.

That healing gift he lends to them
Who use it in his name;
The power that filled his garment's hem
Is evermore the same.

The New Gynecological Pavilions of the Broca Hospital.

—Dr. Pozzi, the first Professor of Gynecology in the Paris Faculty of Medicine, is the chief surgeon of the new gynecological pavilions of the Broca Hospital, which have been recently opened. The new buildings are in three divisions, the dispensary, the wards, and the operating rooms. The dispensary is open daily, and is modern in appointment and detail. In the four wards there are 44 beds, and there exist 18 more, 6 alone, the rest two or three in a room. All the furnishings are easily sterilized. There are separate rooms for changing the dressings, adjoining the wards. The baths and water-closets are of the latest pattern; and there are running water and electric light. The amphitheatre is up-to-date in its equipment, in all particulars superior to any in France. Sterilizing and anesthetizing rooms, rooms for instruments and for aseptic operations adjoin it. It can be easily flooded from above. Beside the seats for the students, there is a special balcony for visitors. (*Gazette Medicale de Paris*, 1901, Nos. 16 and 17). [M. O.]

A NEW CLINOMETER FOR MEASURING TORSIONAL DEVIATIONS OF THE EYE, DELIMITING PARACENTRAL SCOTOMATA AND METAMORPHOPSIA AND DETECTING SIMULATION OF BLINDNESS.*

By ALEXANDER DUANE, M. D.,

OF NEW YORK.

Although the usefulness of the Maddox rod as a means of estimating torsion of the eyes has been signalized by Maddox himself,** and although some have employed the test for this purpose clinically,** I do not believe the advantages that it offers have been fully appreciated by the profession at large. The utility of being able to determine the degree of torsion in paralysis of one of the vertical muscles is obvious, and the Maddox rod is admirably adapted for accomplishing this in a simple and efficient manner. It would be equally applicable for the determination of a cyclophoria. But, apart from cases of paralysis, which are comparatively few, and apart from cases of cyclophoria, which in the present state of our knowledge must be characterized as supposititious, the test seems to have a much wider range of application. For it can serve to determine in any given case the ability of the eye to judge whether lines are truly vertical and horizontal or not, and whether two given intersecting lines really form a right angle or not. Having thus determined by actual measurement how near the truth the patient's estimates of these things are, we can then proceed to ascertain how far these estimates are affected by the addition of glasses. If his notions in this regard—i. e., of the directions and relations of horizontal and vertical lines—are much altered by the glasses, we may consider it as at least quite likely that such glasses, even if they seem otherwise correct, will produce distortion when worn. That such distortion not infrequently results from the use of cylindrical glasses, we all know. It causes the patient much annoyance. He is apt to complain of it a good deal, even when the glasses are in other respects acceptable. Hence it would be a very desirable thing if we had some means of predicting whether or not in any given case a distortion of this sort was likely to ensue with a correcting glass such as we wish to prescribe.

Description of the Clinometer.

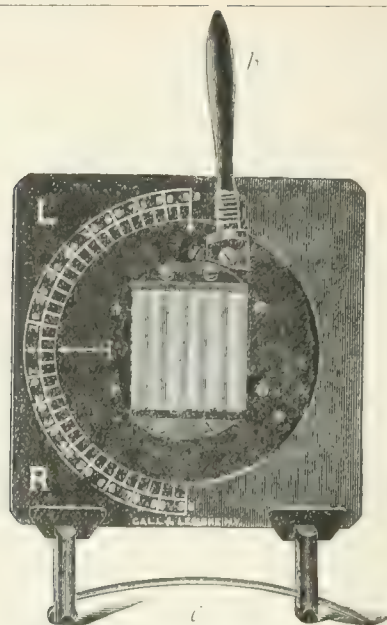
To apply the Maddox rod to the determination of these problems, I have had constructed for me by Messrs. Gall and Lembke the following instrument, which, in accordance with the appropriate nomenclature of Dr. Stevens, I have denominated a *clinometer*.

It consists of two Maddox rods (the multiple pattern), each mounted so as to revolve freely in a frame composed of a square metal plate. Each plate has a spring catch *c*, enabling it to slide freely along

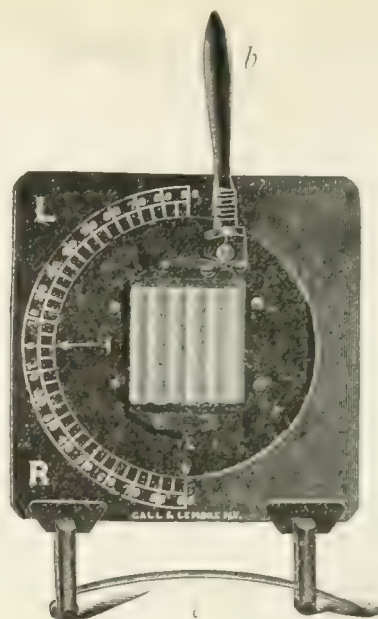
*Read before the Pan-American Congress in Havana, February, 1901.

**Maddox. "Tests and Studies of the Ocular Muscles," Chap. xiii.

***Dr. Weeks informs me that he has so used it.



A.



B.

the horizontal bar of a Stevens phorometer. One plate (A) is designed for the patient's right eye, the other (B) distinguished by being made of ruby glass, for the left. By this arrangement a Maddox rod may be placed before the right eye alone, the left alone, or before each simultaneously.

That side of the plate which is turned away from the patient bears a graduated arc, and the revolving piece containing the Maddox rod has two indexes, so disposed that when the index marked V is at zero and the phorometer bar is levelled, the line of light formed by the Maddox rod is strictly vertical, and when the index H is at zero, the line of light is horizontal. The Maddox rods are revolved by means of the handles, *b. b.*

Method of Using the Clinometer.

The way of using the instrument is as follows:

The patient is seated so as to face a small brilliant point of light on the other side of the room, and the room itself is darkened so as to prevent confusion with other sources of light. The patient is directed to look with his right eye through the right Maddox rod, which is then rotated until he says that the line of light formed by it appears vertical. (In making the test in this way, I generally screen the other eye, so as to eliminate the confusing effect of other vertical and horizontal lines in the room.) If, when the patient alleges the line of light to be vertical, the index V stands at zero or very close to it, we know that his vertical meridian is truly vertical. If, on the contrary, it should point to 8° on that portion of the arc above the zero mark (the portion marked on the instrument with the letter L), we would know that his vertical meridian was rotated by that amount to the *left*. Similarly, if the index pointed to 5° below the zero mark (toward the letter R upon the instrument), we would know that the vertical meridian was rotated 5° to the *right*.

The test is then repeated with the left eye alone (the right being covered), and afterward with both

eyes simultaneously. In the latter case, the two rods, one before the right eye, the other before the left, are turned until the two lines of light, one white, the other red, both appear vertical and either coincident or at least parallel.

The behavior of the eyes as regards vertical lines being thus determined, the same series of tests is then made for *horizontal lines*, the Maddox rods being turned until the patient says that the line of light is horizontal, and the amount of deviation from true horizontality being ascertained from the reading of the index H.

To determine the accuracy with which the patient estimates right angles, we place the Maddox rods before both eyes and turn the rods until the right (or white) line appears vertical and the left (or red) line appears horizontal. The reading of the index V on the right plate and of the index H on the left plate should be the same, or, at all events, not notably different. If there is a discrepancy of 5° or more between the readings, the indication is that the patient's estimate of perpendiculars is at fault, and that a true right angle would appear to him oblique, i. e., appreciably distorted.

To confirm this suspicion, we would set the right V index and the left H index at zero, and ask the patient if the lines now appeared truly perpendicular or not, and if not how we should change them.

Lastly, we may repeat the experiment by making the left (or red) line the vertical, and the right (white) line the horizontal one.

It is obvious that the apparatus may also be used for making the *ordinary Maddox rod test for heterophoria*. In this case one eye is kept uncovered, and either one of the sliding plates with its Maddox rod is brought before the other eye. The indexes H and V being successively set at zero, so that the line of light produced by the rod appears successively horizontal and vertical, we determine the degree of vertical and lateral deviation in the usual manner.

Precautions to be Observed.

Some experimentation with this apparatus has taught me the following facts with regard to its use:

While we naturally aim to have the patient with his eyes *in the primary position* when we are making the test, no essential error is caused if he tilts his head moderately to one side or rotates it moderately to the right or left. In my own case, neither inclining the head toward one shoulder nor rotating it laterally causes any appreciable tipping of the vertical line produced by the Maddox rod. When, however, I turn my head obliquely so as to look up and to the right or up and to the left, I get in extreme positions a torsion corresponding to Donders' law. But even then the torsion amounts to not more than 4° at the most. In the oblique positions in the lower field, the torsion seems to be not so marked.

These findings are quite in accordance with what we know of the torsion movements of the normal eye. With abnormal eyes, however, a greater variation in the torsion may be caused by variations in the position of the head, and hence it is well to start the examination with the eyes as nearly as may be in the primary position. Then if we find torsion of some considerable amount, we can by shifting the position of the head determine *whether the torsion varies decidedly in different directions of the gaze* and from this perhaps draw important conclusions as to the cause underlying the torsion.

Ametropia of high degree, unless corrected, vitiates to a certain degree the precision of the test, because in this case the line of light is converted into a broad, uneven band or into a series of separate beads, the situation and direction of which are not so easy to appreciate. This difficulty may be partially obviated by using for the source of light a very small luminous point instead of a broad flame.

As might be expected, I find that the judgments of verticalness and horizontality are *more accurate when the apparatus is used with both eyes*, so that two parallel lines are seen, than when it is used with one eye alone, the other being closed.

Experiments further show that, on the whole, judgments are about as *accurate for horizontal as they are for vertical lines*. Thus, out of 33 cases there were 16 that designated vertical and horizontal lines with equal precision; 9 designated vertical lines more accurately than horizontal; and 8 designated the horizontal lines more accurately.

As far as can be judged from the limited number of cases examined, the ability to distinguish the direction of lines with precision is *not more pronounced in one eye than in the other*. Sometimes the right eye was more accurate in its discriminations, sometimes the left; while in other cases still, both eyes showed equal ability.

Results of its Use in Normal Cases.

I have so far had occasion to apply the test in only 46 cases. Of these 34* may be characterized as perfectly normal. That is, in no case were the variations from the truth in the estimate of horizontality or verticalness ever greater than 3° for either eye tested separately, nor greater than 2° when both

eyes were used simultaneously; and the variation from parallelism when both eyes were used simultaneously was never greater than 2° . These were the maximum variations, and in many instances the patient's estimate was not more than 1° out of the way or was absolutely accurate. It seems likely, indeed, that when the test is carefully performed, the limit of observational error should not exceed 2° , and that any amount of torsion in excess of this, especially if constantly present, indicates a real tilting of the vertical meridian, i. e., a condition actually pathological.

I may say that the 34 patients in this series were of all ages, from six to sixty, and were taken as they came without regard to their intelligence or to any special aptitude that they showed for undergoing tests of this sort. As a matter of fact, some of the most accurate answers were given by those who had the least intelligence and training. All conditions of refraction were represented. Several of the patients had muscular anomalies (principally a convergence-insufficiency), but none had any pronounced vertical deviation, except a single case** which had a high degree of hyperphoria with deviation of both eyes up behind the screen.

Of the remaining cases, one (Case 35) showed at one time a torsion for horizontal lines of 4° or 5° in each eye. But, as even on this occasion, the vertical meridians of the two eyes remained parallel, and as subsequent examinations failed to reveal torsion of any amount in either eye, it is probable that this case was also normal, and that the single observation indicating an anomalous torsion was erroneous.

The same explanation may possibly apply to the following, although two examinations (one without and the other with the correcting glass) showed a somewhat marked torsion:

CASE 36.—Mrs. J. G. Torsion without her correcting glass was

For horizontal lines, R. eye— 2° ; L. eye 0° .*

For vertical lines, R. eye— 3.5° ; L. eye— 2° .

With her glass (R.— $0.75+1.75$ cyl. 90° ; L.— $+0.75$ cyl. 90° , it was

For horizontal lines R. eye— 1° ; L. eye— 1° .

For vertical lines R. eye— 3.5° ; L. eye,— 2° .

In the following cases, the moderate degree of torsion indicated may also have been simply an apparent, or, at most, a transient condition, although the consistency of the findings in both cases and the fact noted by the second patient that he could not draw perpendiculars accurately, are evidence in some degree that the relations of the vertical meridians were not altogether normal:

CASE 37.—Ernest S. T., age 40. Wearing for nearly four years R.— $0.50+1.75$ cyl. 90° , L.— $0.75+2.25$ cyl. 90° . With these has V of 15/15 in right eye, 15/20 in left. Marked convergence-excess with moderate divergence-insufficiency (representing the remains of a left strabismus convergens which existed in childhood). Binocular single vision with, however, a tendency, especially without his glasses, to troublesome homonymous diplopia. Both the tendency to diplopia and the convergence-excess have diminished in the four years during which he has been under observation.

Torsion for horizontal lines, Right eye— 2° , Left eye— 2° .

Torsion for vertical lines, Right eye— 2.5° , Left eye— 3° .

In estimating perpendiculars, says that the intersecting lines formed by the two Maddox rods are truly perpendicu-

*And another, examined since, with a paresis of the inferior rectus.

Throughout this paper the terms "right" and "left" are used in Helmholtz's sense to denote respectively right and left rotations of the vertical meridian.

*To these must be added 7 cases examined since.

lar and are respectively horizontal and vertical when the right H index is at -2° , and the left V index is at -4° . I. e., under all conditions there is a moderate *lævotorsion* of both eyes.

CASE 38.—Henry P., age, 47. Myopia of 5.5 and 6 D with slight astigmatism against the rule. Muscles practically normal.

Torsion for horizontal lines. Right eye— 2.5° ; Left eye— 2.5° .

Torsion for vertical lines. Right eye— 1° ; Left eye— 3° .

In estimating perpendiculars, calls the intersecting lines respectively horizontal and vertical when the right H index is at -1° and the left V index is at -3° .

Says that when he tries to draw lines with a ruler he makes the vertical lines slope too much to the left.

Effects of Uncorrected Ametropia.

In the next cases there was considerable uncorrected ametropia, which probably accounted for the indecisiveness of the tests.

CASE 39.—Annie G. Age 19. V.: R. 15/100; L. 15/50. Under homatropine shows R. $-0.75 + 4.00$ cyl. 110° ; L. $-0.75 + 4.00$ cyl. 70° .

Without glasses shows torsion:

For horizontal lines, R. eye 0° ; L. eye -2° .

For vertical lines, R. eye 0° to -5° ; L. eye 0° .

CASE 40.—Tinie Y. Age 18. Hyperopia and oblique astigmatism (R. $+1.75 + 1.50$ cyl. axis. 30° ; L. $+1.50 + 3.00$ cyl. axis 140°). On two different occasions shows without her correcting glasses a *lævotorsion* of 2° to 6° in the right eye and of 2° to 4° in the left eye, when examined with vertical lines, and a dextrotorsion of 2° to 3° in the R. eye and 0° to 1° in the left eye when examined with horizontal lines. Vertical meridians practically parallel. V.: R. 15/40; L. 15/70.

Torsion Produced by Ill-fitting Glasses.

In the following cases the torsion was probably attributable to ill-fitting glasses:

CASE 41.—Mrs. S. D. Myopia of 8 D, with some astigmatism against the rule. First test, September 21, 1900, showed torsion.

For horizontal lines, R. eye -1° to -4° ; L. eye -1.5° to -2.5° .

For vertical lines, R. eye 0° ; L. eye 0° .

Maximum variation from parallelism for horizontal lines 1.5° .

Maximum variation from parallelism for vertical lines 0° .

Second test, November 27, 1900, after using ill-fitting spherical glasses (-8 D), showed torsion and variation from parallelism as follows:

Without Correcting Glass.

For horizontal lines, R. eye -1° ; L. eye -3° .

For vertical lines, R. eye 0° to -4° ; L. eye -3° to -6° .

Variation from parallelism for horizontal lines, 2° .

Variation from parallelism for vertical lines, 3° .

With Her Own Glasses.

For horizontal lines R. eye -2° to -3° ; L. eye 0° .

For vertical lines R. eye -3° ; L. eye -4° .

Variation from parallelism for horizontal lines 2° .

Variation from parallelism for vertical lines 1° .

With -8 D Set in Trial Frame and Carefully Centered.

For horizontal lines R. eye 0° ; L. eye -4° .

For vertical lines R. eye -1° ; L. eye -4° .

Variations from parallelism for horizontal lines 3° .

Variations from parallelism for vertical lines 4° .

CASE 42.—M. R. Age 14. Using for several years R. $+4.50$ cyl. axis 90° ; L. $+5.50$ cyl. axis 90° . Right glass now bent, so that axis of cylinder is tilted inward. Left eye, whether with or without glass, shows no torsion of any amount; right eye shows without glasses torsion varying from 0° to $+8^{\circ}$, and with glasses torsion of 0° to $+5^{\circ}$. When the right glass is properly adjusted, torsion in right eye is found to vary from -2° to $+3^{\circ}$.

CASE 43.—Dr. E. S. Wearing R. $-0.75 - 5.00$ cyl. axis 35° ; L. $-1.75 - 4.25$ cyl. axis 165° . Astigmatism under-corrected in right eye, overcorrected in left (0.75 D). V: R 20/20; L 20/30. Right eye, with glasses and without, shows no special torsion, while left eye shows an extorsion of 2° to 5° . In binocular vision he showed little or no divergence of the vertical meridians when examined with horizontal lines, but a divergence of 4° of 5° (distorsion)

when examined with vertical lines. On re-examination, two months later, the relations were much more nearly normal, although there was still a decided tendency to *lævotorsion* in the left eye.

To be grouped in this same category are two of the cases classed as normal. In these two, the relations were, indeed, normal as long as no glasses were used, but seemed to become slightly abnormal when glasses were put on for the first time.

One was a myope of 1.75 D, who with the glass showed a slight *lævotorsion* (torsion of -2° or -3°) of both eyes, the vertical meridians remaining parallel; in the other, the correction of a moderate degree of oblique astigmatism (0.75 and 1.25 D) seemed to cause the vertical meridians to diverge about 3° .

True Torsion in Non-Paralytic Cases.

In the following case there seemed to be a true torsion, which was not dependent upon paresis of any of the ocular muscles:

CASE 44.—Dr. J. C. C. Very slight myopic astigmatism (not over 0.25 D). Esophoria moderate for distance and near (slight convergence—excess). No limitation of the ocular movements, and no diplopia anywhere in the field of fixation (true binocular single vision everywhere).

Declination for vertical lines, Right eye— 1° ; Left eye— 5° .

Declination for vertical lines, Right eye— 1° ; Left eye— 5° .

When tested for perpendiculars, he declares the intersecting lines formed by the two Maddox rods to be truly perpendicular and respectively horizontal and vertical, when the right H index is at $+1^{\circ}$ and the left V index is at -4.5° . I. e., he still shows marked *lævotorsion* of the left eye, and his estimate of perpendiculars is 5.5° in error.

The deflection in this case was apparently constant, and was too great to be attributed to observational error.

Application of the Clinometer in Cases of Paralysis.

The following cases show the application of the instrument in measuring the obliquity of the images due to paralysis or spasm of the ocular muscles:

CASE 45.—Mrs. J. D. Postoperative insufficiency of right superior recti (old) and of left superior and inferior recti (recent). Compensatory spasm of obliques, especially of right inferior oblique, producing varying and temporary, but very annoying obliquity of objects, particularly those seen with the right eye. In August, 1900, showed for both vertical and horizontal lines a torsion of $+8^{\circ}$ in the right eye and of -3° in the left, giving a divergence of the vertical meridians (distorsion) of 11° . In the latter part of August the distorsion had diminished to 3° . In October, when she again noticed a slant in the images, especially those seen with the right eye, the clinometer showed that the torsion for this eye was 0° for horizontal lines and only from $+1^{\circ}$ to $+3^{\circ}$ for vertical lines, while in the left eye it was -5° for horizontal lines and -1° to -2° for vertical lines (the distorsion being thus from 3° to 5°).

CASE 46.—Frank R. Age 20. Traumatic paralysis of left superior rectus (completed with traumatic enophthalmus). Gets characteristic diplopia with characteristic tilting of the double images, but always declares that it is the image of the right eye that is tilted, while that of the left is straight. When tested with the clinometer, torsion for horizontal lines is 0° in the right eye, about -10° in the left (2 tests).

These cases are good illustrations of the fact that when there is tilting of one of the double images in paralysis, the tilted image does not always correspond to the paralyzed eye. In Case 46, for example, the paralysis was confined to the left eye, and, nevertheless, the patient, when he saw the two images simultaneously, and he compared them together, regarded that formed by the left eye as straight and that formed by the right eye as tilted. That, however, the tilting was really altogether in the image seen by the left eye was clearly shown

by the clinometer. This instrument, in fact, by enabling us to examine either eye separately or both eyes together, furnishes trustworthy evidence as to which eye is the seat of the obliquity.

The Clinometer as a Test for Binocular Metamorphopsia and for the Distortion Produced

by Cylinders.

Except so far as can be gathered from the slight evidences afforded by the cases cited under the heading "Torsion Produced by Ill-fitting Glasses" (see above), I have not yet been able to secure any accurate data as to the usefulness of the clinometer in estimating the degree of metamorphopsia and tilting produced by cylindrical glasses.

To a patient the most striking evidence of the distortion produced by cylindrical glasses is that he sees the sides of a rectangle slope toward each other, so as to intersect the top and bottom of the rectangle at an oblique instead of a right angle. Whether in any given case this sort of distortion is likely to occur or not, I have thought could be determined by the clinometer,* the test being made in the manner already outlined, i. e., by making with the two Maddox rods two intersecting lines of light and rotating the rods until the lines appeared to the patient perpendicular to each other. If his judgments are decidedly and consistently astray, we infer that his estimate of perpendiculars is perverted, and that he will see rectangular objects distorted.

19 persons** were examined in this way. In but two of these was there any possibility of there being a distortion due to glasses. In one (Case 41, already cited), both vertical and horizontal lines appeared tilted 4° or 5° to the right, but both still remained at right angles to each other. In the other case, the use of oblique cylinders appeared to cause a slight torsion of both vertical and horizontal lines, and there was some distortion of a rectangular object seen at close range; but the estimate of perpendiculars, as judged by the clinometer, was not at all abnormal.

In 3 of the remaining cases (Nos. 37, 38, and 43), although there was moderate torsion in one or both eyes, the estimate of perpendiculars was not more than 2° in error, i. e., was practically normal.

In 13 other cases the judgments in this regard were perfectly normal.

In a single case only (No. 44) was there any marked error in the appreciation of right angles; the error in this case being evidently due to the pronounced unilateral torsion present.

The number of cases is much too small to serve as a basis for deductions, except that we may say that the ordinary person, tested in this way, estimates perpendiculars with considerable precision, the error in designating a right angle being seldom as great as 3° and frequently no more than 1° ; and that the presence of faulty torsion, even when unilateral, does not necessarily produce errors in one's judgment of right angles.

The Clinometer as a Test for Scotomata and for Retinal Metamorphopsia.

The clinometer may furnish a ready means of determining the presence of scotomata or of a localized metamorphopsia due to retinal disease, provided the areas of retina involved are not too remote from the macula. For, if the patient looks through the centre of one of the Maddox rods with the affected eye (the other eye being covered), he will see a line of light extending about 20° on either side of the point of fixation. By revolving the rod in its frame, we can make the line of light sweep in a circle, so as to occupy successively all points of the retina about the macula and not situated more than 20° from it. If the line appears interrupted in any part of its length, we should suspect a scotoma, and if it appears curved or otherwise distorted, we should suspect metamorphopsia, the change in either case being due to involvement of a corresponding portion of the retina.

Suppose, for example, that the rod, placed before the right eye, was rotated so that the index H pointed to 30° above the zero mark, and the patient said that a portion of the line near its upper end was blotted out. We would then believe that there was a scotoma in the upper and outer portion of the field corresponding to a defect in the lower and nasal portion of the retina, situated, say, 10° or 15° from the macula. By revolving the line of light still further, and ascertaining when it became whole again, it would be possible to gain an idea of how extensive the scotoma was.

The method would seem to be particularly applicable in the case of ring scotomata.

I have had an opportunity of testing these relations in a single case only,* one, namely, of detachment of the retina. In this case, the behavior of the line of light afforded very good evidence both of the scotoma and of the metamorphopsia produced by the detachment. That is, when the line of light was set vertical, its upper half was cut off altogether and its lower half was inclined considerably to the left. When, on the other hand, the line was set horizontally, its inner half was cut off, while its outer half was not only visible, but also ran undeviated. The situation and character of the detachments were such as to account for these appearances.

Note.—In the course of this paper I have had occasion to use some terms that may require explanation. These are among the terms which I have elsewhere described** and which are used to denote the different movements that the eyes are capable of and which, so far as the torsion movements of the eyes are concerned, are as follows:

Torsion.—A tilting of the vertical meridians of one or both eyes. It comprises:

Intorsion,*** or the tilting of the vertical meridian of either eye inward;

Extorsion,*** a tilting of the vertical meridian of either eye outward;

Later torsion, a tilting of both vertical meridians to one side, i. e., either to the right (*Dextrotorsion*) or to the left (*Laevotorsion*).

*This application of the test I owe to Dr. W. A. Holden.

**Including 3 examined since this paper was presented

*The authors of this review were present at the meeting.

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Contorsion, tilting of one or both vertical meridians, so that their upper ends converge;

Distorsion, tilting of one or both vertical meridians, so that their upper ends diverge.

By the use of these terms we are enabled to describe in a single word any one of the changes, normal or pathological, that may take place in the torsion movements of the eyeball, and thus avoid a clumsy periphrase.

Additional Use of the Clinometer.

Since the above paper was presented the clinometer has shown itself adapted to the following additional purposes:

First, it may be used to *measure the ability of the eyes to perform torsion movements* so as to overcome slight errors in declination. For this purpose each rod with its index V set at 0° is placed before its respective eye, when the patient will see a blended red and white line. One rod is then rotated until he just begins to see the lines diverge. The amount of rotation of the rod, read off on the scale, will measure the patient's ability to fuse images by performing torsion movements.

It will be readily seen that a similar manœuvre can be employed *to exercise the eyes in performing torsion movements*, just as we use prisms base out both to measure the ability of the eyes for performing convergence and also to exercise the eyes in converging.

Second, the clinometer may be used *to detect simulation of uniocular blindness*. Suppose, for example, the left eye is alleged to be blind. The instrument is placed with one rod before each eye, when the patient will see two lines, one red, the other white, either intersecting at an angle or else parallel and then blended into one. He cannot tell which eye he sees the red line with nor, in fact, whether he does not see both lines with the right eye alone. To still further confuse him in this regard, the rods may be interchanged (by swinging the phorometer bar round), or both lines may be made to appear red by sliding a ruby glass before the white rod, or finally either line may be cut off by shoving a card in front of one rod. The patient who alleges blindness of the left eye is detected if he can be got to admit either that he sees two lines, or simply that he sees the red line formed by the left-hand Maddox rod.

Probably the best procedure is to set both rods vertical, and then, unknown to the patient, slip a red glass before the right-hand rod. The patient will then see a single red line, and, as it is still present, if he slyly shuts the left eye, he will admit that he sees it. The red glass is now slipped a little aside and the left rod is rotated. The patient, who now sees two intersecting lines, one red, the other white, will think the white line is seen by the left eye, and while still admitting that he sees the red line, will probably deny that he sees the white. It is then evident that he is malingering, and the imposition can readily be demonstrated to a bystander, if, leaving the rods in position, we put him in the patient's place.

MEMBRANOUS ENTERITIS ERRONEOUSLY TREATED FOR PHTHISIS—PRESENTATION OF PATIENT.

By J. PRESTON MILLER, M. D.,

Washington, D. C.

Read at the meeting of the District of Columbia Medical Association, held at the Washington Hotel, Washington, D. C., on the 10th day of November, 1901.

This paper will detain you with no learned discourse or bibliographical references, though I confess to having read extensively on the subject, and treated cases with the same malady, before and since, but this one is so unique, and the main disease was so well cloaked that I think the clinical history worthy of report to the society. Evidence as to result of final treatment is presented in the appearance of the patient, who has graciously consented to appear before you.

Mrs. B., act. 35, widow, native of Baltimore, secured a clerical position in the Government Service in 1891, was in good health, weight 150. In the autumn of 1895 she began suffering with severe spells of belching compelling the leaving of her desk to seek seclusion anywhere, often in the water closet, where after a half hour or more continuous eructations of wind she would break out with profuse and exhausting sweat. These spells would sometimes not come for three or four days, then three or four times in a day. The severe attacks were in the evening after dinner, when she often went to bed stripped of all clothing whatsoever because of bloating and hyperesthesia, propped up in bed she would belch until exhausted to such an extent that she would not sleep restfully, sleeping in broken naps. Cold sweats and palpitation of the heart followed every attack from the beginning. Before long asthma supervened also, and in December 1896 she had congestion of the lungs which confined her to bed nearly four weeks. After this, bronchitis, cough, and asthma, were sufficiently abiding to require constant medical treatment. March 4th, 1897, she was with friends watching the inaugural procession from a window for five hours. She suffered much with what she supposed was a distended bladder, but when opportunity came urination brought no relief. Her physician found peritonitis over the cecum, the acute pain requiring frequent hypodermics and opiates internally, for three days. After three weeks she got out of bed and went to Atlantic City to recuperate. On the way she discovered red spots on her hands which had extended up her arms when she arrived at the sea shore: then she had inflammatory rheumatism which kept her in bed three weeks. She resumed her duty in May. In October asthma was so severe she could no longer relieve it with peppermint in water as she had done hitherto. All spells of belching had not been succeeded by asthma, but no asthma came except during or immediately after belching. But now asthma became so severe she would be confined to bed for 10 days or 2 weeks at a time, requiring daily attendance of the physician. Within four months she had three such attacks. The oncoming war in the winter and spring of 1898 required extra time and she worked Sundays and Holidays without ceasing, every day from 9.00 A. M. to 5.00 P. M., then from 7.00 to 11.00 P. M. In October she again broke down, but in a few weeks resumed her duty and continued work until March 1899, when her physician, whose reputation and ability is second to none in Washington, told her she had but one chance for recovery, and that was to quit this climate and live permanently in the mountains. This eminent specialist had treated her larynx and lungs nearly two years and finally told her the bronchial disease had extended beyond reach of medication. Though he did not admit to her she had tuberculosis, his treatment convinced her he believed she had. In June she consulted a well known specialist of pulmonic diseases of Philadelphia, who, having seen her, told her she had but one chance for recovery being permanent residence in the mountains. His treatment consisted of soto and explicit directions to not allow her to expectorate

in vessels, but in cloths which were immediately burned, convinced her of his belief that she had tuberculosis, though he would not tell her so when she asked. Her cough and expectoration were then extraordinarily severe and free, she was using two and three yards daily of soft stuff cut up into expectorating cloths. Friends then prevailed upon her to try a homeopath of Atlantic City who was highly extolled in the treatment of pulmonic diseases. For 5 weeks she grew steadily worse under his treatment, in July and August. She then went to Berkshire Hills, in Massachusetts, where she improved for several weeks, when she returned to Washington, where her cough became severe, and in two days she started for a sanitarium near Atlanta, Ga., in which medicines are not given. Her stomach was washed out daily and she was much massaged and restricted in diet—mostly “whole wheat,” bran bread, scraped beef, etc. The doctor told her she must reside in some mountain of the south, or California, that she could not live long unless she left Washington. The cough having improved she returned home the latter part of November, after having remained in Georgia two months. Neurasthenia had been very marked during the last 16 months, slamming of a door excited violent sneezing and coughing, she had cold sweats night and day, extreme exhaustion on the least movement, and I saw her, later, extend her hands aloft, exclaiming “every bone and muscle in me is so tired it makes me cry. I am so weak I cannot go to sleep,” though she had done nothing more severe than sit up in a chair. January 16, 1900, before dawn I was first called to see this patient. I found her delirious, with a small, rapid fitful pulse, shallow difficult wheezing respiration, requiring a second hypodermic $\frac{1}{4}$ gr. morphia to relieve asthma. Rubefacients, heat and moisture were applied to the thorax for symptoms of congestion, and owing to alarmingly critical symptoms I visited her three times during the day, when threatening symptoms began to abate, my efforts at alimentation and medication were baffled by a stomach which rejected literally everything, though it was washed out daily with stomach tubes. Bromides and iodides for asthma were not born, and even terpin hydrate and heroin for cough in the most agreeable elixirs nauseated and were disappointing in every way. Raw eggs with pepsin and occasionally milk, was the extent of diet for several days. The stomach was washed out daily and every few days minute doses of calomel and enemas were administered for constipation. I sought to destroy pathogenic germs in mouth and stomach by cleansing teeth, mouth, throat and especially tongue with ozonized water composed of hydrozone one part to four of water, used at bedtime and directly after rising. A mixture of hydrozone 1 oz. to sterilized water 1 quart was given in quantities of half glass before food, except when peptonized raw eggs were taken. The frequent nausea and occasional severe vomiting subsided, but the anorexia remained though nux vomica with brandy and various appetizing stomachics were given. There had been no tenesmus, no pain before or during defecation, no abdominal distress below the gastric region, no colicky pain, no shready stools—nothing to suggest membranous colitis. In fact the family and friends were so thoroughly imbued with the belief of tuberculosis that talking against it was in vain. A lover who desired her in marriage came to enquire, and when I assured him there was no tuberculosis he remained incredulous because every doctor who treated her for years prescribed either creosote or permanent abode in the mountains, or both. Her normal weight had been 150, now it was 105. She was possessed with an abiding belief that she had tape worm. Investigation developed no evidence, but she argued “it is the only thing it could be—I have been treated for everything else.” March 16th after santonine and calomel in minute doses for 24 hours I tried pomgranate infusion, but she vomited this and other remedies for tape worm, but finally retained

Ext. Filicis Fl.
Chloroformi āā
M. S. a dose.

3 i

This was followed after four hours by Olei Ricini grms. V in flexible capsules frequently repeated until she passed great masses of shreds which she believed to be tape worms. In a few watery stools retained for investigation I think there was a pint or more of these shreds. They were white and as bizarre as had been the symptoms they produced, resembling mostly strings of rolled dough, or

“noodles,” rolled and bent in all kinds of fantastic shapes. I unrolled some of these and measured one piece which was 18 inches in its greatest diameter. My patient had seen tape worms in the medical museum and found color and other appearances identical with that parasite. I gave specimens for microscopic examination to Dr. J. B. Nichols of this society, who kindly made analysis and reported “mucous enteritis.” As there is such diversity in the treatment it may be of interest to relate mine: Patient tolerated two quarts per enema of normal salt solution, used as hot as she could endure, which she retained five minutes, and immediately repeated, and continued until shreds ceased to come, though this required four, five and sometimes six repetitions followed by introduction of flexible rectal tube, 20 inches long, passed well up into the colon for the injection of one or two ounces of the following: Iodoform 1 drachm, Bismuthii Subnitratiss oz. 1, Olei Amygdalae Dulcis 1 pint. The iodoform and bismuth were increased to double the above amount in the third prescription. The tube was attached to the nozzle of a Davidson syringe, the syringe and tube were filled with the oil before introduction of the tube. By the side of the cup containing the medicine was another containing water, from the latter the syringe drew water after the oil was exhausted to drive home the oil without intermingling of air, the medicine being retained permanently. Before using this oil I had used in the same way solutions of nitrate of silver and gradually withdrew the tube while injecting so as to reach all parts of the colon. This was done two weeks. The oil perhaps six weeks, and after shreds disappeared, and only phlegm remained, I used Fluid Hydrastis. Internally Argenti Nitratis, a grain a day, was given in three doses, an hour or more before meals, combined with 7 or 8 minims of terpinine in capsule. This was alternated every 30 days with tannigen grs. 6 before each meal, giving at the same time olei ricini grms. 5 at bed time. Asthma, cough, anorexia and insomnia had disappeared in a month, and excepting occasional insomnia none of these symptoms have reappeared. Shreds in stools steadily diminished and totally disappeared in ten weeks. Phlegm of almost gelatinous consistence came in great quantities with the shreds but diminished in quantity and density after shreds no longer came and finally ceased to appear in September, and of this there was a slight recurrence with her recent attack of grippe. Neurasthenia, perhaps present in all cases, was very marked in this one, and, as in all my cases, the last symptom to leave except anemia. For this I gave:

Ext. Sumbul	gr. 1
Asafoetida	grs. 11
Mistura Bland	grs. 111
Acidi Arsenosi	gr. 1/30
Strychninae	gr. 1/60
Phosphori	gr. 1/100

M. Fit pil No. 1. S. 3 to 4 pills daily on empty stomach. In anemia, cold sweats, feeble heart, especially with neurasthenia, I know of nothing equally valuable. Mrs. B. suffered for years for want of peaceful sleep, desirable food, ability for outdoor exercise, general good health and appearance, all of which she craved and now enjoys.

Discussion.

In closing the discussion I am painfully conscious of limitations in my ability to answer satisfactorily all interrogatories and criticism made here to-night. I shall address myself here first to what appears to me most difficult in this rare and phenomenal disease; that is, its etiology. While this is admittedly not yet known, the teachings of books, and the faith orthodox of this society as just revealed that it is of psychic or nervous origin, has never appealed to me. The pathology is too gross. The membrane, while resembling a croupous formation, outstrips the latter in thickness and dimensions ten to one, or more, when compared with laryngeal croup. The lumen of the gut is several times as large, and in the colon the membrane may be four feet long, yet croup forms in the larynx and

more knows it has a soul or nerves than do the lower animals. To assert that this croup is neurotic or of psychic origin would seem absurd, and to me the absurdity is infinitely greater when such origin is alleged where a similar membrane is so much larger. I find a suggestion in the anatomy, physiology and histology of the intestines, as to how this membrane may be formed. The small intestine is 20 feet long; the chyme is one and a half to two hours in passing that distance from pylorus to cecum. The colon is four to four and a half feet long from cecum to rectum, and the fecal matter is usually 24 hours in passing over this short distance. Covering the lumen of the intestines and at right angles to its plain there are in every individual about 45,000,000 tubular glands, the principal secreting organs of the intestines—Lieberkuhn's glands. These glands are hollow stems having lengths several times as great in the colon as in the small intestine. These elongated stems become entangled at the free ends like blades of grass in wide shallow lazy streams, and the slow passing of excrement, permits the enmeshing of phlegmy secretions in the colon which in the above simile is not unlike the wold of the sea and the mild eddies of its sluggish tributaries. In this phlegm are microorganisms producing a characteristic material which can be washed out of the colon in quantities of from one to two pints at a sitting. In consistency and general appearance it resembles yeast, producing the crackling noise of yeast when disturbed, though it is more stringy. This is closest of kin to the membrane, being present in many times the quantity and density while the membrane is in the colon, and lingering in diminishing quantity and quality after disappearance of membrane under the best of treatment. Just how oxidation, or deposit of membrane, is formed from this sea-slime—yeast like material, I cannot explain, but that the phlegm causes the membrane I do not doubt. The rarity of membranous enteritis is conceivable when we note the statement of Einhorn, probably the most extensive observer of gastro enteric diseases in this country, who of course treats diseases of stomach and bowel only, and found, among diseases of that class, this disease in less than $\frac{1}{4}$ of one per cent. in the male and slightly more than three per cent. in the female. I desire to express my thanks to the members of the society for the interest manifested in my paper and patient. To Dr. Acker's inquiry as to temperature, respiration, pulse, etc. I can say, none bespoke tuberculosis, but distinctly asthma. When I first saw the patient she had a temperature of 103 with serious symptoms of congestion of the lungs. The temperature rapidly fell, but there remained an afternoon rise of about 1° for perhaps a month. To his observation that membrane did not pass until after I gave calomel. I think it proper to say I do not think that brought away the membrane, for I had often given it before. The first membrane came after tape worm treatment described in my treatment, including oil, cathartics, etc. To the criticism that I uselessly drugged my patient and that she would have gotten well as quickly without drugs, I beg to submit she had received abundant no-drug treatment. Institutional in Georgia, sea-side in New Jersey, and mountain in Massachusetts.

as reported in my paper. I desire especially to thank Dr. Adams for having kindly made the physical examination of the patient this evening and reported the result to you. He has elicited information from her which I did not possess, viz., that the eminent Philadelphia physician referred to in my paper examined her sputa and stools microscopically, but did not report to her his findings, the latter very naturally. I beg to remind you it was he who had all her expectoration cloths immediately burned, and in his private sanitarium forbade her to expectorate in any vessel. Among my critics I was astonished at being told by a doctor that I could not pass a tube above the sigmoid flexure, and find still more remarkable his statement that he served as interne in a hospital where it was perfectly well understood that no tube can be passed up into the colon. In private practice I do not find this a difficult feat, and in a recent post-graduate course in New York at the Polyclinic various methods of passing above the sigmoid were demonstrated, and sometimes a half-dozen times in a day on patients before the class. I teach my patients how to pass the tube by showing them about how far the flexure is within, and instruct them to press the bulb of the Davidson syringe once or twice if they meet with resistance at expected distance, and thus make the fluid force the way for the tube, which must be promptly pushed after the contents of the syringe. The tube which I used in this case was 20 inches long, and I passed it full length; if it had turned as the doctor says all tubes do, its point would have followed the line of least resistance down by the side of the stem of the tube, the point projecting two to four inches from the anus. If retained within the rectum the injection would have surely escaped or told on the tube when withdrawn, neither of which ever happened.

THE KNEE-JERKS IN CHOREA.*

By AUGUSTUS A. ESHNER, M. D.,

of Philadelphia.

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While ordinarily easy, the diagnosis of chorea is occasionally attended with not inconsiderable difficulty, and it would be a great advantage did we possess some distinctive symptom upon which dependence could be constantly placed. The two conditions most likely to be mistaken for chorea are spasmodic tic and the athetoid movements attending various cerebral lesions. The differential features are briefly as follows:

Chorea is a self-limited disease, probably of infectious origin, although there may be relapses and recurrences. Spasmodic tic is of uncertain or indefinite duration, and results especially from reflex influences, from habit or imitation or without obvious cause. Athetosis also may persist indefinitely and, as indicated, is usually the expression of some cerebral lesion. The movements of chorea may be described as involuntary, irregular, jerky, incoordinate and purposeless. They may begin in one member and extend to the other member of the same side,

to which they may remain confined; or they may extend successively to members of the opposite side. Commonly, the movements preponderate upon one side, and there is often associated weakness of the affected part. The movements of spasmodic tic, on the other hand, appear coordinate, purposive and repetitive. They are generally local, often disappearing from one situation to appear in another. Athetoid movements also are involuntary and incoordinate and peculiarly vermicular. They are usually confined to the same member or members, and are associated with paralysis or paresis, as well as other spastic phenomena and mental deficiency. The knee-jerks are unchanged in cases of spasmodic tic and exaggerated in those of athetosis, while in cases of chorea they are extremely variable in different cases and even in the same case at different times, being sometimes increased and sometimes enfeebled or wholly wanting.

Gordon (*British Medical Journal*, March 30, 1901, p. 765) has called attention to a peculiar modification of the knee-jerk, which he believes to be common in cases of chorea. In his experience it is not constant, but when present it is considered distinctive. Gordon states that with the patient recumbent and the knee raised, while the heel rests on the couch and the muscles of the extremities are relaxed, if the patellar tendon be struck, the foot rises, but instead of falling back immediately, it remains suspended for a variable time, then sinking back slowly to its original position. Sometimes it is said there is merely a sluggish descent following an ordinary ascent. Sometimes there is the ordinary knee-jerk, but as the foot is beginning to descend it is caught in midair and held for a time or is even raised to a higher level than was reached in the first jerk. Sometimes the knee-jerk passes at once into active, more or less persistent—even apparently voluntary—rigid extension of the extremity.

The phenomenon is said to be best observable in mild cases, because in them it is not interfered with by the frequent and extensive movements of severe cases. In cases of hemichorea, it is said to appear only upon the affected side.

The opinion is expressed that the manifestations noted are due to an additional involuntary movement evoked by the knee-jerk. The choreic movements themselves are attributed to an overflow of impulses evolved for the purposes of ordinary voluntary activity. In support of this proposition the following test is proposed:

If a patient with suspected chorea raises both arms vertically with the hands held open, there may or may not be slight occasional choreic movement of the thumbs or fingers, or both. If now the tongue is protruding, existing movements in the thumb and fingers are intensified, or if not previously present are evoked.

The explanation offered for this phenomenon is that impulses in one set of centers necessary to induce voluntary movement overflow or are conveyed to neighboring centers and give rise to involuntary movement. The peculiarity of the knee-jerk described is thought to support this hypothesis of the mechanism of the movements of chorea.

I have repeated the observations of Gordon on the knee-jerk in a small number of cases, and am

able in part to verify his statements with reference thereto. The phenomena are not elicitable in every case. When present they seem to represent an intensification or a reenforcement, or in some instances to act as an excitant, of the choreic movements. Thus, in a colored child with mixed blood, seven years old, in a third attack of chorea with physical signs of endocarditis and valvular disease the tap on the patellar tendon, with the patient in the recumbent posture and the knee raised, was sometimes followed, not only by the double jerk, or a belated single jerk on the side struck, but also by palpable and visible contraction of the hamstring muscles with flexion of the leg, sometimes at once, at other times after a little delay. The blow on the tendon seemed further to set up a series of movements also upon the opposite side as well as in other parts of the body.

HEREDITY AS A FACTOR IN MENTAL DEFICIENCY.

By T. ALEXANDER MAC NICHOLL, M. D.,

OF NEW YORK.

Were men as careful in laying the foundations for a good posterity as they are of maintaining the lineage of a horse or the blood of a barnyard fowl, such a human monstrosity as the 16-year-old murderer executed in Connecticut last July would become an impossibility. This lad, held in the hereditary clutch of two or more generations of depraved ancestors, started life a moral pervert, cruel and remorseless. His father was weak-minded and a drunkard; his father's brother was an epileptic; his mother was feeble-minded, a prostitute, and died drunk in the street; his mother's sisters were all drunkards; his mother's brother died insane; his paternal grandfather was an epileptic; his maternal grandfather died insane; his maternal grandmother was an epileptic, a drunkard, and a prostitute.

Heredity prepares the soil and implants the tendencies; environment may modify them.

Devitalize the system in one or through successive generations, and the sum total is mental deficiency, loss of organic integrity, dipsomania, epilepsy and other psychoses.

Reformatory, prison, and asylum are pictorial volumes of the potency of hereditary taint in producing a degenerated offspring.

In no less unmistakable a manner does mental deficiency point to a defective origin. This is evidenced by the results of an investigation conducted by the writer for the purpose of determining the bearing of heredity upon dullness. Despite the difficulties attending such an investigation, we have secured data of 10,000 children.

Of this number, 885, or 8.8% showed more or less marked mental deficiency. The dullness of 40 is reported as due to environment and physical conditions, in which are included poverty, defective sight, deafness, and general constitutional weakness; 221 are classified as due to heredity; 471 others as children of drinking parents; of the remaining 153, no definite information was procured. The children examined, with few exceptions, had good hygienic surroundings, many of them had defective eyesight

*Presented to the Academy of Medicine, N. Y. City, April 18, 1901.

corrected, difficulties of hearing removed, and other physical infirmities improved, but the mental deficiency remained; a distress to the parent and a constant irritation to the teacher. A few were placed under trained private teachers, but the progress was far from ideal, and the children returned to school; others who were given work in manual training schools developed much mechanical ingenuity, but showed little other mental improvement.

Those conditions which impair the integrity of nerve tissues or profoundly affect nutrition, are the active agents in the preparation for the transmission of hereditary ills.

We have been able to trace the family histories of 463 children in 150 different families, through three generations. 17 (2 males and 15 females) were precocious in some one thing, as music, drawing, etc. 403 were generally deficient (193 males and 210 females); 17 had neurotic fathers; 78 neurotic mothers. 313 had drinking fathers; 51 drinking mothers; 43 had neurotic grandparents; 265 had drinking grandparents; 246 had drinking parents and grandparents. 2% of these children had parents of less than average intelligence. A most notable fact in these families was the constant relation of alcohol in the ancestry to abnormal physical conditions in the descendants. While 87% of these children of drinking and neurotic ancestry were mentally deficient, 76% suffered from some neurosis or organic disease.

The contrast between these and abstaining households is very striking. I give you the results of a study of 51 families of 231 children having total abstinence antecedents. Of these, less than 3% were dull, and but 18% suffered from any neurosis or organic disease.

Such facts as these stamp heredity as a most important factor in mental deficiency, and alcohol as a most active agent in the production of hereditary degenerations.

The records of the following three classes of parents and their families would be of more than passing interest in this connection. A study of 24 families of drunken parents shows 113 children, of whom 93 had organic diseases, 66 mentally deficient, 7 idiots, 8 dwarfs, 7 epileptics, and 16 drunkards.

76 families of moderate drinkers had 236 children, of whom 186 had organic diseases, 169 mentally deficient, 8 idiots, 8 insane, and 21 drunkards.

31 families having neither neurotic nor drinking ancestry, had 116 children; 20 had organic diseases, 3 mentally deficient, 1 a drunkard.

In other words, while the children of drinking parents show less than 12% normal in mind and body the children of total abstainers show over 82% normals. Thus the families of drink imbibers in large measure augment the number of drunken, diseased and defective members of society.

Wealth and social environment cannot always overcome misdirected biogenetic forces, as illustrated in the following family history:

A moderate drinker of good, sturdy inheritance married an equally healthy woman, an abstainer; the result of this marriage was a son of strong physique. The father died of cerebral hemorrhage at the age of 34; the mother died of lung trouble at the age of 70. The son became a moderate drinker,

married a moderate drinker, descendant of a vigorous stock, and died of cerebral hemorrhage at the age of 70. The result of this marriage was one son and two daughters; one of the daughters, unmarried, died of cancer; the other married a moderate drinker. Two precocious daughters were the result of this union. The son, a heavy drinker, married and raised a family of one boy and one girl. The boy, in spite of wealth and the severe discipline of a military school, is vicious and mentally deficient, while the girl is an imbecile.

It is self-evident that any treatment of mental deficiency which disregards cause must fail of permanent results. Segregation of at least 90% of these pupils in special classes under well equipped teachers, aside from the lifelong stigma such segregation entails upon child and parent, will at best conceal the grosser manifestations of the evil while the cause remains.

The child's first claim upon the State is not education, not liberty, not even happiness; but it is life, it is health. No human agent should have any right to the indiscriminate dispensing of that which contaminates the fountain head of citizenship, implants disease in the offspring, and casts upon the community an unnecessary burden of defective and degenerate youth.

Let the State interdict the sale of alcohol as it does other narcotics, and prevent or control the marriage of the mentally deranged with healthy members of society, and not only crime and insanity will diminish, but there will be a rapid reduction of mentally deficient children.

The youth who, in spite of a vicious environment, makes of himself a man, thoroughly furnished unto good works, merits our praise; but he who, cast in a defective mould, starts life in the implacable grasp of poverty and vice, demands our sincerest sympathy and our wisest thought.

Malaria and the Sanitation of Malarial Regions in Corsica.—Pitti-Ferrandi (*Ann. Hyg. et de M. et de Ch. p.* April 14, 1901. 48me. Année, No. 30). (Paris Thesis, 1900-1901, No. 206). Malaria is very frequent in Corsica. In order to prevent the further development of the disease Pitti-Ferrandi believes that a number of free stations for the distribution of quinin should be established in the malarial regions, that the government should supply the inhabitants with mosquito-nets and frames, and that the immediate application of new discoveries concerning the use of petroleum should be made. In general, the mosquitoes and their larvae should be destroyed by all known means. Potable water should be introduced and stations for the distribution of mineral water should be established in the swampy plains. The planting upon a large scale of the eucalyptus tree and the retimbering of the mountains, the re-establishment of the penitentiary of Casabiana and the establishment at other points of practical schools of agriculture or other agricultural institutions are further means of combating this disease. [J. M. S.]

Aspirin in Pleurisy with Effusion.—N. A. Savelieff (*Medicinskoje Obosrenie*, April, 1901) employs aspirin in cases in which salicylic acid or salicylate of soda is indicated, with exceptionally good results. The untoward effects of the latter are as a rule absent when aspirin is used. In one case of pleurisy this drug rendered valuable services by reducing the temperature, producing profuse diaphoresis and diuresis with consequent diminution of the effusion. The only objection to the drug is the high price. The author reports also a case of idiosyncrasy towards the drug. A woman suffering from rheumatism took 5 grms of aspirin in fractional doses. On the second day ringing in the ears, weakness and delirium developed. [A. R.]

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The Surgical Treatment of Epilepsy.—We recall very well the wave of enthusiasm which swept over the professional world about thirteen years ago with reference to the surgical treatment of focal epilepsy. In 1888 Dr. David Ferrier and Mr. Victor Horsley were in this country, and when they visited Philadelphia were taken to Blockley (which Hospital one of them compared with the Salpêtrière for wealth of clinical neurology) and were there shown some of the results obtained in the very earliest work in local cerebral surgery in America. The names of the distinguished visitors were names to conjure with in cortical topography, and it is not to be wondered at that their visit strongly stimulated the new-born zeal for trephining every available case of epilepsy. The enthusiasm of those days was felt all over the medical world, and led to an immense amount of operating; and thus it has happened that that enthusiasm has since been tempered with much and even bitter experience. As in the case of all extreme movements, this one has suffered from a powerful reaction, until it has almost come to the pass that the neurologists and the surgeons who resort to trephining in Jacksonian epilepsy are obliged to assume an apologetic tone. This, perhaps, has been inevitable, but it should not be always so. We are convinced that the operation in certain selected cases is a useful one, and that the time has come when the judicial opinions of expert neurologists and conservative surgeons can be counted on to favor a cautious propaganda of this faith.

We publish in this number of the *Journal* two papers which are contributions of this sort. Dr. Putnam is not one who looks for practical results through rose-colored glasses. His paper can be read with the confident belief that it embodies sober and mature reflections. On Dr. White's paper special comment is called for from the fact that it contains a bold and entirely original suggestion. The topical treatment of focal epilepsy has heretofore been pursued by the excision of the offending centers; this was a surgical treatment that was especially popular with medical men. But Dr. White's topical treatment, although suggested by a surgeon, is es-

entially a medical one, for it consists in injecting a solution of eucaine into and beneath the cerebral cortex. In other words, it depends upon the action of a drug, and the only surgical element in it is the slight operation necessary for applying this medicament. It is, perhaps, too early to appraise this treatment at its true value, and it is noteworthy that Dr. White himself is exceedingly conservative and properly cautious in recommending it to the profession. It lends itself easily to speculation, especially as to a possible antidotal action upon a theoretical toxin. Can it be assumed, if this treatment is found to lead to a measure of permanent success, that it antagonizes the action of an auto-genous poison or of an invading microbe? Or does it act by impressing nutrition in some unknown way? The cytoplasm of a neuron, we could suppose, might retain the impress of a powerful agent thus introduced, so as to present permanently, or at least for a long time, new combinations in its biochemistry. Only by some such theoretical suggestions could the treatment be explained. But empirically we do not need that a treatment should be categorically explained, and Dr. White's suggestion opens up quite a field for cautious experimentation not only with eucaine, but possibly with other drugs.

The Meeting at St. Paul.—The annual meeting of the American Medical Association should always be of such importance as to be an object of interest and instruction to every medical man in the United States. The session just held at St. Paul was of special interest and of historical importance because the Association succeeded in reorganizing itself. This was a most significant feat, for it is one which has failed of accomplishment several times heretofore largely for lack of time. This reorganization was absolutely essential as a preliminary to a successful career for the Association as a real representative national gathering. Before this was accomplished it could scarcely be said that the Association did or could properly represent anything but itself. In fact, it was simply a huge medical society. It is now constituted with a House of Delegates, which represents the State Societies and by

them the general profession, and which has a definite, determinative and effective organization. This Chamber can represent a policy, pursue a course, transact a measure, and attend to business in a way that was formerly impossible in the loosely organized association at large. If there is any virtue or force in representative government (and who doubts that there is?) the Association will now reap the benefits. It is in a position as never before to influence public opinion and to act upon legislation, but its best friends should not forget that only that form of government "which is best administered is best." The new House of Delegates can soon sink to the level of some of the State Legislatures if it is run in the same way.

It is rather too early to judge of the literary and scientific quality of the meeting. It will be time enough to do that when the original papers are put into cold type. These papers, however, were evidently of very uneven merit, as is apt to be the case in a large and miscellaneous gathering. Perhaps one of the functions of the new House of Delegates will be to keep a jealous eye open for a high standard of scientific work.

The Association put itself squarely on record in favor of some common sense legislation, and declined to make a declaration on the subject of military morality in the Philippines when importuned to do so by some elderly parties who probably were not very well informed on this delicate subject.

The revision of the code of ethics was not favored by the majority present and was voted down. This will please the conservative members of the profession everywhere, but will probably not discourage the revisionists, who seem to be in an eternal mood of hopefulness and determination.

From the social and personal standpoint, the meeting seems to have been fairly successful. We have heard some complaints about lack of accommodations and about the great distances that separated the meeting places of the various sections. Such things, we suppose, are inevitable when the meetings are largely attended and are held in smaller cities and towns. The city of St. Paul distinguished itself for courtesy to the strangers within its gates.

The Relation of the Physician to Legislative Affairs.—The President's address, delivered by Dr. Charles A. L. Reed, before the American Medical Association at its fifty-second annual meeting, contains much that is of value to the American medical profession concerning its relation to state and national policy. It is an unfortunate but no less a well-known fact that the medical profession as a body in the United States has too little influence;

in all probability, because it lacks efficient organization and capable leadership. Dr. Reed points out that this lack of solidarity was the cause of the degradation of the army medical corps, and of the unfair and humiliating discrimination against the men who compose that most necessary arm of the service.

The present law grades the medical department for rank, promotion and pay far below every other department and special corps of the army, and, with the exception of second lieutenants, it also is graded below the line.

The status of the physician in the army seems to be similar to his position in civil life. The sick and wounded demand the time, attention, and superior knowledge of the physician, but when the wound is healed and the lost health regained, the beneficiaries often wish to cut down the remuneration for services rendered to the least possible figure. As Dr. Reed properly says: "Physicians are citizens of the Republic. As such they are intellectually, socially, politically and officially the equal of any other element of the body politic. There is no station to which they may not attain; there is no distinction of which they may not be the recipients. They are, in very fact, peers of the realm and peers of any peers of any realm."

Let us reorganize the American Medical Association so that it shall have a leader who shall be in a position to make its influence effective, and a legislative body to whose acts every member of the profession will adhere loyally. In electing the man who shall be the executive head of this body, let each member of the profession cast his vote intelligently, and when the count is made, let the minority abide by the decision of the majority. Let there be no selfish politics in our campaigns, but rather let us be broad-minded, remembering that truth and justice cannot be found coincident with the ideas of one group alone. Then let us raise the standard of requirements for entrance to the study of medicine and for graduation. Give the young men the best instruction possible, and require that they shall show evidence of having profited by that instruction. Then shall we have a profession, the members of which will stand shoulder to shoulder and push the physician into the front rank of intellectual and scientific attainment and influence. Let us regard the example set by France, to which we make editorial reference. Dr. Reed's address was admirable in every respect, and especially in its timely discussion of problems that are of vital importance to the medical profession in this country.

The Doctor in Politics.—The *British Medical Journal* publishes a list of the medical men who are

members of the French Parliament. From this we learn, much to our enlightenment, that no less than 42 physicians are members of the French Senate, and no less than 53 are in the Chamber of Deputies. We think these numbers will surprise most of our readers on this side of the Atlantic, as they have surprised us. These medical members of the French Legislature form an important Parliamentary group, which, by its size and the united influence of its members, is able to effect legislation in many ways. This group is regularly organized, and Professor Cornil, Senator for Allier, is chairman of it. Cornil has taken a leading part in medical and sanitary legislation. Professor Labbé was a foremost promoter of the medical reform bill; Dr. Pedebidou has championed the cause of underpaid doctors in the public service; M. Dubuesson has agitated the amendment of the law relative to accidents, and M. Dron has procured the removal of the tax on physicians' carriages as objects of luxury. These are only a few samples of what can be done.

In this country, unfortunately, there is a sort of prejudice against the doctor going into politics, and a more irrational prejudice was never conceived. We have especial need in America for the services of well-trained physicians in the legislative services. This is, perhaps, especially true in municipal affairs, but it is also true in State Legislatures and in Congress itself. If there were as large a proportion of well-educated physicians in Congress as there are in the French Parliament, we might secure some much-needed legislation in this country, and might avoid some that could well be spared. One difficulty with us is to induce the better men to run for such offices. A political canvass often entails loss of practice, and, to some extent, loss of prestige—but this latter, at least, should never be so. They do these things better in France.

The Army Canteen.—No one need be surprised that the effects of the law abolishing the canteen from the United States Army are proving disastrous. No man with average worldly sense, who knows that soldiers should be treated like men and not like school boys, need hesitate to raise his voice in protest. The action of Congress, in the first place, was doubtless insincere, for it was largely in response to the agitation of a woman's temperance organization, and was evidently not in accord with the personal convictions of most of the Congressmen who voted for it. The attempt to make men total abstainers by act of Congress will fail, as it deserves to fail. The willingness to indulge the impractical ethics of a private organization of agitators at the expense of the comforts and personal rights of the soldiers in the United States Army,

will evidently soon be rebuked by an enlightened public opinion. During the short time that the law has been in force, it has led to increase in drunkenness and, worse yet, to increase in venereal diseases. Dr. L. L. Seaman, in a paper read before the Association of Military and Naval Surgeons, quoted in the *New York Sun*, openly declares this to be a fact. The men who are obliged to leave the post for the saloon, find it a short step evidently from the saloon to the brothel. The American Medical Association at St. Paul has put itself on record in a resolution in which it deplores the action of Congress in abolishing the army post exchange, or canteen, and in the interest of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date.

The effect of the act, as we understand it, is to deprive the soldier of his social club and a part of his social life within the precincts of his post or garrison. If such a law is to stand, we should all look out lest every club in civil life be closed ere long by some more of this grandmotherly legislation.

The Oldest Printed Medical Book.—Dr. Frederick P. Henry, the Honorary Librarian of the College of Physicians of Philadelphia, has the true scholar's instinct to range himself among the *laudatores temporis acti*. In a recent address delivered before the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland (*Maryland Medical Journal*, June, 1901), Dr. Henry started to describe the valuable collection of Incunabula in the College Library, but he became so much interested in one of these old books that he very wisely decided to devote himself to a description of it alone. To this fact we owe his most interesting account of a volume which he tells us is reputed to be the first printed medical book. This is the *Tractatus de Epidemia et Peste*, of Valescus de Tarenta. About this rare and venerable tome, which is one of the priceless relics of primitive typography, Dr. Henry discourses in a most instructive way. This book was printed doubtless before 1474, but, like the very oldest incunabula, it is without date, and the proof of its age is collateral. Its contents are appropriate to the present time, for it discusses the Plague (that perennial subject in medical literature), and, as Dr. Henry tells us, it is redolent of the past, for it contains the ancient prescription called the "theriaca," which was composed of sixty or seventy ingredients. The "Incunabula" are the books that were printed before the beginning of the Sixteenth Century, and Dr. Henry has done well to introduce the patriarch of the bibliological fold to a modern and somewhat forgetful medical public. Valescus

de Tarenta was a Portuguese physician, who seems to have taught in the ancient university of Montpellier, and who wrote his book many years before the invention of printing. He never saw the child of his brain in print, and would doubtless have been much surprised if he could have known that it was to be distinguished in future ages by being numbered in a favored class called the Incunabula.

Retrospect and Prophecy.—In his able résumé of the advances made in internal medicine, in the 19th century, Dr. N. S. Davis, Jr., in the annual address before the American Medical Association, has touched at the end, upon the part which is, perhaps, most interesting to us all, namely, the probable advancement that will take place in the present century.

Prophecy is an art easily learned. To acquire it one needs as capital, assurance and imagination, added to a more or less intimate acquaintance with the past. With these it is possible (for such is the credulity of the world) to acquire a large and devoted following. Nevertheless, the perusal of Dr. Davis' article has inspired us to attempt to go a little further than he has gone.

It is trite to mention that stagnation never occurs. Things go forward or backward. For instance, there is no question, since the discovery of elaborate surgical instruments at Pompeii, that operations were then performed whose very memory has been lost. And we must believe that at that time surgery had advanced to a point of considerable efficiency. Then it retrograded with the fall of Rome, and even during the Italian Renaissance was probably less advanced than at the beginning of the Christian era. From that time it advanced slowly, indeed almost imperceptibly. Then came the French Revolution, and to the terrific stimulus to human activity produced by it, medicine was at once the debtor. It was to this era that Corvisart, Bichat, and Laënnec belonged, who founded the sciences of diagnosis and pathology, which were and are inseparable. In the vast industrial development that has followed the increased facility of communication, human activity has again been stimulated to the utmost, perhaps, over-stimulated. And, according as it will continue to develop or commence to retrograde, two courses are possible for medicine. Either it will stop at or near its present point, seemingly on the threshold of great discoveries; or it will advance, the discoveries will be made, and our descendants will reap the reward perhaps in the extirpation of infectious processes, and a knowledge of human physiology that will render possible almost continuous health. Let us look for a moment on the pessimistic side. As in all periods of retro-

gression, exact observation will gradually cease. In its place meaningless terms, the most extravagant theories will occupy the attention of physicians, who will have numerous cults and sects. Methods which we now regard as arrant quackery will flourish among the most distinguished of the profession. Medical morality will be impaired, and instead of cultivating hygiene and prevention, the profession will, at least negatively, encourage the increase of the disease. And the work that advancing science is beginning to regard as useless will be done over and over again in a routine manner, and obtain much applause. There is a certain amount of justification for this gloomy picture, for the condition of the world, the unrest of the masses, the concentration of wealth in the hands of the few, is not unlike that which commenced in the last days of the Roman Republic, continued during the Empire, and gradually wrought disaster.

On the other hand, we can hope that Dr. Davis' view is correct. That methods of investigation as little dreamed of as was the Röntgen ray, will be discovered; that the medical profession will awake to the importance of pharmacology and therapeutics, and no longer allow them to wither in neglect, and that our medical grandchildren will regard us as quite as hopelessly, almost wilfully, ignorant, as we regard our medical great-grand-sires.

Gastroptosis.—Gastroptosis, or Glenard's Disease, is one of the most complicated in medicine. In the first place, it seems quite certain nowadays that this condition is not really due to the causes that were originally supposed to produce it, that is, tight lacing, repeated pregnancy, etc., for it is by no means uncommon in men. In the second place, although it is often associated with the gastro-intestinal type of neurasthenia, not infrequently with hypochlorhydria and constipation, and a moderate degree of anemia, it is not so very rarely found in persons whose health and nutrition leave nothing to be desired, and in all likelihood would be more frequently found if more frequently sought. For, as a matter of fact, the position of the stomach is rarely determined with much accuracy, except in persons suffering from obvious disturbance of that organ. Nevertheless, gastroptosis, or more accurately speaking, splanchnoptosis, is an abnormal condition of the abdominal viscera. Various methods have been devised by which reposition may be affected. Among the most drastic of these is the operation of Beyeau, which consists of stitching the stomach to the diaphragm. As this can be employed in only an excessively small proportion of the cases (as a matter of fact, we believe there is only one such attempt on record), the majority of physicians will

prefer some external support applied to the abdominal wall. For this purpose a number of binders have been devised, but they all have the disadvantage of having a tendency to slip upward, under which circumstances they are more apt to depress than support the organs. To obviate this an ingenious method has been devised by Lincoln (*The Medical News*, Sept. 1st, 1900), who employs straps of rubber adhesive plaster cut in a peculiar way, the broader portions being attached to the ventral surface and the narrow portions crossing in the back. By this means the binder remains fixed in one position, supports the lower portion of the abdomen, and usually gives more or less relief, or at the very least, an agreeable sensation of support. Such mechanical methods can at least do no harm, and if they accomplish nothing more than the encouragement of the patient, are well worth a trial.

A Liberal Education and the Study of Medicine.

—The *Outlook* has recently published a laudatory notice of the utterances of Dr. Edmund W. Holmes, of this city, in respect to a liberal education for professional men, especially medical men. Dr. Holmes has analyzed the figures supplied by a number of American universities, and finds in some of them, especially those which are noted for their medical curriculum, a distinct tendency away from what is usually called a "liberal education." He attributes this tendency to three principal causes. First, the desire to begin professional work early. Second, the encouragement of the belief, held by some professional men, that a college education is a waste of time. Third, the popular error that a professional or technical education is of itself a liberal education. Dr. Holmes does not agree with these views, and we agree with Dr. Holmes. We have never sympathized with the opinions of those medical teachers who are constantly declaiming against a liberal education for the medical student. We understand fully the grounds upon which they base their objections. It is, if we mistake not, the utilitarian objection that a liberal education is not necessary to success in the practice of medicine. We do not attempt to combat this statement. We know that it is in large part true. It is easy to point to very many men who have been eminent in our profession without the assistance of a liberal education. We grant this without dispute, and we honor these men not the less, but rather the more. We think, however, that the argument is doubly fallacious and unreliable, and that in fact it has nothing whatever to do with the real question. A liberal education is not intended for mere utilitarian advantages. One might as well speak against the fine arts, or literature, or ethics, or even against religion itself, because these are not absolutely essential to a techni-

cal training, as to decry a liberal education. Such an education is not intended to be a mere aid in the winning of bread and butter, neither is it intended to be a mere accessory to a technical training, although we believe the time is coming when it will be more and more a necessity for success in some of the purely technical pursuits. But, laying that aside, it can be broadly stated that a liberal education has an entirely different object, and that that object is the cultivation of the mind, the broadening of the intellect, the endowment of the moral sense, the acquaintance with the best attainments, history, cultivation, literature, and development of the race, and that it is far above all considerations of mere utilitarianism.

The case of Huxley is well in point. This eminent man suffered from the deficiencies of his early education, but he realized this so fully, and devoted himself so assiduously and so successfully to the remedy of these defects, that he became a man of wide cultivation, not only in science, but in literature, languages, philosophy, metaphysics, history, and even theology, to all of which he added the advantages of a fine literary style. Was this liberal education of no advantage to Huxley?

With respect to medicine, which is a profession that brings a man most intimately into contact with his fellows, we believe that from a mere personal standpoint, a liberal education is a desirable and appropriate thing for a physician to have. We do not contend for a moment, however, that it is a necessity for his success or profit. We think it should be apparent, nevertheless, to most thoughtful observers that the argument that a young man cannot spare the time to be liberally educated is a most unconvincing one. It makes practically little difference to his success whether a young man receives his medical degree at twenty-two or twenty-three, on the one hand, or twenty-five or twenty-six years of age, on the other. If there is any advantage it is on the side of his not taking his degree too early. Few men succeed in the practice of medicine until they are well past thirty, and the years before thirty can well be devoted to education in the widest sense of that word. A young man has lost nothing who has given a few additional years to the cultivation of his mind. Such a curriculum certainly does not disable him for anything, while as a rule it not only makes him more readily efficient as a student of the intricate sciences of medicine, but it gives him a personal endowment which is of inestimable advantage to him as an individual and a citizen. The claim that a young man wastes three or four years of his life in the cultivation of his mind in attaining a liberal education can only be based upon an erroneous view of what constitutes one of the highest aims in life.

Reviews.

"The History of Medicine in the United States.—A collection of Facts and Documents Relating to the History of Science in This Country, From the Earliest Colonization to the Year 1800; with a Supplemental Chapter on the Discovery of Anesthesia," by Francis Randolph Packard, M. D. Philadelphia and London: J. B. Lipincott Company, 1901.

Those who have read the interesting articles from the pen of Francis R. Packard on various subjects relating to the early history of medicine can imagine the value of this volume, and can appreciate the author's peculiar fitness for the work which he has undertaken. The author displays too great modesty when he describes his work as a "collection of facts and documents relating to the history of medical science in this country," for although this in some degree describes the work, yet these facts and documents are so placed in their relation to one another and with such entertaining comments and paragraphs by the author, that it would seem to us that the simple word history would best describe what is to be found between the covers of this interesting volume. Not only will the reader find this work pleasing and entertaining, but it will also serve a most excellent purpose as a book of reference, being filled as it is with such accurate accounts and notes regarding the histories of medical men, of epidemic diseases, hospitals, medical societies, etc., during the colonial period and the early part of our national life.

The book is composed of 11 chapters and 5 appendices. The illustrations are particularly interesting and many of them are produced for the first time. The thoroughness of the work extends through the index, which will be found most satisfactory by those wishing to refer to any of the subjects treated in the text.

Chapter I relates the medical events connected with the early history of the English colonies in America. In it are to be found many amusing and entertaining accounts of the medical treatment received by the early colonists. Chapters II and III refers to the history of the various epidemic sicknesses which were prevalent from the earliest colonization to the year 1800. Here the author gives an interesting account of the use of inoculation with smallpox, and of the trouble which its early advocate, Dr. Zabdiel Boylston, suffered at the hands of those who were opposed to this method of prevention of smallpox. It was not long, however, before this practice became very popular, many prominent men, among whom was Benjamin Franklin, having undergone the most radical change regarding their attitude toward it. So prevalent did this treatment become that inoculation developed into a specialty and houses were especially set aside for the care of those undergoing the treatment. The introduction of vaccination into the United States is ascribed to Dr. Benjamin Waterhouse, who in 1800 obtained some vaccine virus from England and vaccinated his own son.

The terror and ravages of yellow fever epidemics so frequent in the early days, and the various methods of their prevention and control are interestingly related, particularly the experience of Philadelphia with this disease. In this connection the author has introduced a number of interesting anecdotes regarding the controversies in relation to the treatment of yellow fever, which were indulged in by the adherents of Dr. Rush on one side and of Dr. Kuhn on the other. These disputes at the time so acrimonious now afford the reader only amusement. Canings, duellings and lawsuits were quite common among medical men at this time.

The courage and adherence to duty displayed by the medical men of Philadelphia at this time is shown by the fact that many lost their lives by remaining in the city and attending to the stricken at a time when everybody who could afford it went to the country.

Chapter IV deals with medical education before the foundation of medical schools in this country. This chapter is illustrated by the reproduction of a number of interesting certificates granted students by their preceptors. Many American students went abroad at this time to complete their education, and Packard has reproduced some of the tickets issued by the hospitals and universities admit-

ting students to the lecture and clinics, and it is amusing to find there permits printed on the back of playing-cards.

The first medical degree in this country was conferred by Yale on Daniel Turner in 1720. This, however, was an honorary degree. Packard thinks the first degree conferred after a course of medical study was that of John Archer, from the College of Philadelphia in 1768. The first law regulating the practice of physic was passed by the Virginia Assembly in 1736. Philadelphia seems to have been the center in these early days for medical teaching, and Packard goes very thoroughly into the history of this time. The part taken by the Pennsylvania Hospital in the education of students of medicine is carefully reviewed in this chapter. An interesting figure in the medical world at this time was Dr. Abraham Choquet, of whom many amusing stories are related, and a reproduction of a wax medallion made "by his servant, Dr. Eckhout" inserted as an illustration. Chapter V deals with the early medical schools, the first of which was the University of Pennsylvania, and the second the College of Physicians and Surgeons of New York. Anyone interested in military medicine will find Chapter VI full of entertainment, for here the author in a pleasing style has gone deeply into the medical men and methods of the Continental Army. Those who suffered unjust criticism and abuse during our recent war with Spain will find comfort in these pages. In Chapter VII the early hospitals are discussed, and the Pennsylvania Hospital, which is the oldest institution of the kind in America, is allowed a number of pages in which are described briefly but entertainingly its origin, progress and its benefits both to suffering humanity and to the medical profession. The improvement in the treatment of the insane in this institution brought about by Dr. Rush, is pleasingly related. The history of the New York Hospital is also briefly reported. Chapter VIII deals with the history of medical societies in the United States before the year 1800, and Packard tells us that the oldest medical society now extant is that of the State of New Jersey. The author deserves great credit for the care he has taken in the preparation of this chapter and of the next, which refers to the pre-revolutionary medical bibliography. Chapter X briefly refers to the laws passed by the various colonial legislatures regarding the practice of medicine. Chapter XI is devoted to a discussion of the discovery of anesthesia, and the author unreservedly gives to Dr. Crawford W. Long, of Georgia, the honor of having first used ether anesthesia for the performance of surgical operations, and fortifies this position with most conclusive arguments. To Dr. W. J. G. Morton is, however, accorded the credit of demonstrating to the medical profession and to the world the use of ether.

After reading this interesting book one can but feel that the medical profession owes Packard a debt of gratitude for the great amount of labor which he has spent in the preparation of this work, and for the entertaining manner in which he has related the many facts regarding the early history of medicine in America. It is just this sort of work which has been too much neglected by the medical profession in this material age, and it is a pleasure to see that one of its members has been willing to devote so much of his time to this labor of love. [J. H. G.]

The Walcher Position During Parturition.—Dr. Valère Cocq, (in *La Presse Médicale Belge*, 1901, No. 19), has reviewed the different positions suggested during labor. The erect position, in use yet among savage tribes, he advocates in primiparae during the first stage of labor. The dorsal position, the patient lying upon her back, is only indicated when great weakness exists. In normal cases he considers a reclining position, half down and half sitting up, advantageous until the head reaches the perineum. The genu-pectoral position is only indicated when certain pathological conditions exist, prolapse of the cord, or difficult version. The lateral position is the best when the head reaches the perineum. The Walcher position, extreme hyperextension, is brought about by placing a cushion under the sacrum to elevate it, the legs being allowed to hang freely. In this position the true conjugate is increased some millimeters. This may be advantageous when the superior strait is narrow, or in cases of contracted or kyphotic pelves. But it is not advised after the head passes the superior strait. [M. O.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

The Kensington Hospital for Women.—During the month of May seventy-one patients were under treatment. There were thirty-five patients in the Hospital May 1st, and twenty-nine are under treatment at the present time. Fourteen abdominal sections and fifty-nine other operations have been performed. In the Dispensary there have been thirty-three new patients, who have made one hundred and twenty-seven visits.

College of Physicians of Philadelphia.—At the meeting of June 5, Dr. Jay F. Schamberg exhibited two patients showing epithelial cancer of the cheek treated by chemical caustics. The first patient was a woman of 83, who has only a short linear scar marking the site of an epithelioma of 15 years standing. The treatment consisted in the application of 25% carbolic acid ointment for a week and then a 50% solution of caustic potash followed by 25% arsenious acid. These applications were made after swabbing the parts with cocaine. In 4 weeks the growth was completely healed. The second patient was a man who is at present undergoing the same treatment.

Drs. J. S. Jopson and R. S. White reported a case of sarcoma of the large intestine in a boy of 4 years. Practically all the abdominal viscera were infiltrated by the growth. The literature of the subject was reviewed, 22 cases being recorded.

Dr. J. M. Spellisy read for Dr. Wilson and himself the report of over 100 cases of thermic fever and heat exhaustion in the Pennsylvania Hospital, occurring mainly in the year 1892. Dr. Spellisy reviewed at length the statistics of the hospital regarding the above cases. In 1764 the first case was recognized and was recorded under the heading, "Drinking Cold Water."

In the discussion Dr. Morris B. Lewis said that a great deal was yet to be done in the study of these cases by examination of the blood. Dr. J. C. Wilson stated that many of the symptoms were due to auto-intoxication and for this reason injections of salt solution should be employed in addition to treatment by cold. Dr. F. A. Packard spoke of some features of these cases which are not noted in the majority of the text books. First was the curious, mousy odor, which he considers diagnostic of thermic fever. Second is a crooning sort of groan emitted, which is also of diagnostic importance. Third, the character of the stools, and fourth the admixture of tonic and clonic convulsions. The lack of serosity of the blood is probably the cause of the symptoms and for that reason hypodermoclysis is indicated. Dr. James Tyson said that from the above view a possible explanation of the good effect of baths in the treatment was that submersion caused a certain amount of absorption of fluid. Recovery is generally more rapid when the patient is immersed than when he is simply rubbed with ice.

Suicide of Dr. W. H. Daly.—One of the remorseless onslaughts of fate was exemplified by the pathetic instances surrounding the death of Dr. W. H. Daly, at Pittsburg, Pa., Chief Volunteer Surgeon in the war with Spain in 1898. Major Daly was 59 years old and was one of the best known physicians in Pennsylvania. He was a close friend of Lieut. Gen. Nelson A. Miles, and after his appointment as chief surgeon of volunteers was assigned to duty on General Miles' staff at Tampa while the head of the army was at that place. His friends first noticed his despondency when the beef court of inquiry submitted its voluminous report, in which it criticised Dr. Daly's testimony regarding analysis of beef he had made. When his wife died at Garner, Iowa, several months later he became worse. His friends advised him to go away on a Rocky Mountain hunting trip and he did so. He frequently hunted with General Miles and William Cody ("Buffalo Bill"). After his return he did not show much improvement. He was a specialist in throat disease, but lost interest in his profession. About 9.45 o'clock on the morning of June 9 the body of Dr. Daly was found dead in the bath room

of the house in which he lived, and a 38 calibre revolver was found beside him with one chamber empty, the bullet having entered his right temple.

Poisoning of Dogs a Penal Offence.—A bill was introduced in the House making it a misdemeanor, punishable by a fine not exceeding \$500 and three years' imprisonment, to wilfully poison dogs.

Vital Statistics of Philadelphia for the week ending June 8, 1901.

Total mortality	410	Cases.	Deaths.
Inflammation of the appendix 3, bladder 1, brain 16, bronchi 2, heart 3, kidneys 20, larynx 1, liver 2, lungs 41, peritoneum 6, stomach and bowels 17, uterus 1			113
Marasmus 9, debility 7, inanition 12			28
Tuberculosis of the lungs			61
Apoplexy 10, paralysis 8			18
Heart-disease of 34, fatty degeneration of 3			37
Uremia 10, Bright's disease 5			15
Carcinoma of the bowels 1, breast 4, stomach 2, uterus 1, liver 1, neck 1			10
Convulsions			7
Diphtheria	63		
Brain-congestion of 1, softening of 2			3
Typhoid fever	120		12
Old age			7
Scarlet fever	77		5
Influenza 1, abscess, of breast 1, pelvic 1, liver 1, throat 1, alcoholism 2, asthma 2, atheroma 1, casualties 7, cerebro-spinal meningitis 1, congestion of the lungs 2, cirrhosis of the liver 3, consumption of the bowels 2, croup, membranous 2, cyanosis 3, diarrhoea 9, drowned 6, dropsy 1, dropsy abdominal 1, epilepsy 2, erysipelas 3, goitre 1, gangrene, lungs 2, hemorrhage from uterus 2, intussusception 1, jaundice 1, leukemia 2, measles 2, obstruction of the bowels 3, edema of the lungs 2, pyemia 1, rheumatism 2, sclerosis, spine 1, liver 1, septicemia 4, smallpox 1, sarcoma, lungs 1, pharynx 1, suffocation 1, suicide 2, teething 3, unknown coroner case 1, whooping cough 7			94

NEW JERSEY.

Monmouth Physicians.—The Monmouth County Medical Society held its annual meeting at the Monmouth House, Freehold, on Monday, May 20, 1901. Dr. C. Knecht, of Matawan, was the presiding officer. After dinner the society were addressed by Dr. Knecht, the retiring president, upon "An advance in clinical diagnosis." Dr. Forman read a paper upon appendicitis, in which he presented the consensus of the most recent views of the leading American surgeons upon this disease, and gave his personal experience as well as the results of treatment at the Monmouth Memorial Hospital. The following members were elected delegates to the N. J. State Medical Society: Drs. Long, MacMillan, Roberts, Shaw, Wooley and A. G. Brown. Officers for the ensuing year: Dr. Ed. F. Taylor, President; W. M. Hepburn, Vice President; I. S. Long, Treasurer; D. M. Forman, Secretary; Wooley, Reporter.

NEW YORK.

Cornell Medical College.—The third annual commencement of Cornell University Medical College was held June 5 at the college building in New York City. The degree of M. D. was conferred upon 26 graduates by President Jacob C. Schurman.

Dr. W. E. Young, recently in charge of the Randall's Island hospitals, has been appointed superintendent of the insane pavilion at Bellevue Hospital.

Dr. Frederick Peterson has been appointed Clinical Lecturer in Psychiatry in the College of Physicians and Surgeons, Columbia University.

NEW ENGLAND.

Smallpox in New England.—It is stated that smallpox is more prevalent in New England than it has been for many years. At Berlin, N. H., and Cranston, R. I., the number of cases is large. Smallpox is in Boston, 13 cases being in the Roxbury district. Galloupe's Island in Boston Harbor has 19 cases in quarantine, which came on a pest schooner from Cape Verde Islands. There are cases also at Providence and other places in Rhode Island; Marlboro, Worcester, Leominster, Fitchburg and other places in that State, and isolated cases in New Hampshire and Vermont.

Narcotics in New England.—Dr. A. P. Grinnell, of Burlington, Vt., has reported upon the use of narcotics in that State. He finds that every month there is sold, exclusive of patent medicines and physicians' prescriptions, 3,300,000 doses of opium. Some storekeepers refused to state the amount of sales of opium or its derivatives. These are not counted in the estimate, so that the actual amount is higher than that stated. About 40,000,000 grains of opium are sold a year.

WESTERN STATES.

Fiftieth Anniversary of the Invention of the Ophthalmoscope.—The section on ophthalmology of the American Medical Association devoted the greater part of its morning session on June 5th, 1901, toward observing the fiftieth anniversary of the invention of the ophthalmoscope. Dr. H. Friedenwald of Baltimore, Md., delivered an address on the origin and development of the instrument together with a description of the historic exhibit of the ophthalmoscope and publications on ophthalmoscopy prepared for this meeting. An address on the life of Helmholtz was delivered by Dr. C. A. Wood of Chicago, Ill. In a room adjoining the one in which the section met there was an exhibition of specimens and new instruments as well as some noteworthy publications, and especially ophthalmoscopy which was held under the auspices of the ophthalmic section which was held under the auspices of the ophthalmic section will be remembered with much gratification by those who witnessed it. The original pattern of Helmholtz stood out as a forceful reminder of its illustrious inventor and was surrounded by the models of its successors among which there were the patterns of Liebreich, Yaeger, Galezowski, Schweigger and others. There was an exhibition of the tools used in making the first American model of the Loring ophthalmoscope by machinery. The original article by Helmholtz entitled "Beschreibung eines Augen-Spiegels zur Untersuchung der Netzhaut im lebenden Auge" was also exhibited.

SOUTHERN STATES.

Dr. William Royal Stokes, City Bacteriologist in Baltimore, has been elected a member of the faculty of the College of Physicians and Surgeons in that city, and has been given the chair of pathology.

Dr. A. H. Kunst has been elected superintendent of the Weston (W. Va.) Lunatic Asylum to succeed Dr. W. E. Stathers.

Monstrosity Resembling a Mermaid.—The *Baltimore Sun* states that there was exhibited at the Health Department at Baltimore recently the body of a white child, normal from the waist up, but having instead of legs, a single appendage terminating in a four-toed foot. The child was dead when born. The monstrosity is a source of much interest to physicians, who declare it the most remarkable ever seen at the department, resembling, as it does in general appearance, the mermaid of fable. It will be preserved.

CANADA.

FROM THE SPECIAL CORRESPONDENT.

The Canadian Nurses' Association which has been seeking incorporation at the hands of the Dominion Parliament has not been very successful. When the measure was first brought before the House Private Bills Committee strong opposition developed against it, but after numerous amendments had been offered and the board of examiners so arranged that a majority of medical men would constitute its personnel the Bill was permitted to go before the House of Commons. Here, many and great objections were urged against the measure becoming law as it was thought to infringe on the rights of certain English and Welsh nurses now carrying on their profession in the Canadian Northwest Territories, as well as favoring the larger hospitals at the expense of the smaller. Finally the Bill received the six months' hoist; and during the recess of parliament the physicians throughout the Dominion are to be made more thoroughly acquainted with the scope of the measure. It shall probably be re-introduced the next session.

The Montreal Foundling Hospital is in need of a new, larger and more modern building. At the recent annual meeting held a couple of weeks ago, it was stated that the requirements of the hospital and the need of extra accommodation were so urgent that a new building would be absolutely necessary at no distant date. The medical report as well as that of the treasurer was submitted to the meeting. The latter showed that the receipts had been \$6,951 during the past year and that the disbursements had amounted to \$6,762, leaving a balance on hand of \$189. By the medical report it was shown that there were in the hospital on the 15th of May, one year ago, thirty-six babies, and there had been admitted since one hundred and thirty-seven, making a total of one hundred and seventy-three, or an increase over the previous years of twenty-two. Very nearly one half of the babies admitted were under one week old, and of these thirty-one were under twenty-four hours old. There were removed during the year by adoption, eight; by parents, twenty-six; death, one hundred and six; Protestant Orphan Asylum, one; and there remained in the hospital on the 15th of May, 1901, thirty-two. Pneumonia and bronchitis in a serious form, subsequent to la grippe, carried off many of the patients. An out-door dispensary will shortly be opened in connection with this institution.

The Ottawa Contagious Disease Hospital seems to be as far off in being established as it was over a year ago. Recently Mr. Justice Boyd, Chancellor of Ontario, has given judgment in Toronto, restraining the city of Ottawa from building a new hospital for cases of this character on the property of the Parks Commissioners, a judgment which will have a very serious effect upon the city. At the present time there are numerous cases of infectious diseases in the city and no hospital to isolate them. The provincial board of health has condemned the old site at Porter's Island in the Ottawa River. From the judgment of Chancellor Boyd, it would appear that the city and its board of health is absolutely powerless in the matter and can only expropriate land for temporary purposes in cases of emergency, but can do nothing towards establishing a permanent hospital. The city by-laws regarding the proximity of other buildings are very strict; and the suburban places object to the presence of a contagious diseases hospital in their midst.

The Doctors of Three Rivers, Que., met on the 30th of May in that city in response to a call to meet and organize a medical association for the advancement of the profession, the study of Dominion or Interprovincial Registration and other such like measures. The meetings will be held monthly, the next assembly to be held on the 24th of June. After organizing routine, the following officers were elected: Hon. President, Dr. Desaulniers of Nicolet; Hon.

Vice-President, Dr. Grenier, St. Maurice; President, Dr. L. P. Normand; 1st vice-president, Dr. Marchand; 2nd vice-president, Dr. H. Tudel; treasurer, Dr. J. H. Leduc; secretary, Dr. C. E. Darche; Executive Committee, Drs. Fiset, Lacoursiere, Planta, H. Desilets and Panneton. A committee to continue and complete the organization was named, the members of which are, Drs. J. E. Desilets, W. Ferron, Planta, Grenier, and Lambert.

Medical Research at McGill University is said to form part of the plan which the newly incorporated Rockefeller Institute of Medical Research is to carry on in several of the universities of the United States and Canada. It is understood that of the \$500,000 at the disposal of the Institute that McGill will have the use of \$50,000 to commence work with. The work will be conducted in the pathological laboratories of McGill under the supervision of Professor Adami.

Western Hospital, Montreal.—The annual meeting of the Committee of Management of this hospital was held on the 28th of May when the various reports submitted showed that the institution had just passed through the most successful year in its history. The medical report showed that at the out-door department there had been received for treatment 3,500 patients, as compared with 2,457 for the previous year. In the in-door department 396 were treated, against 380 for last year; there were 133 private patients as against 162 in the preceding twelve months, but the receipts from these had been more than for the previous year. Sixty-three per cent. of the patients in the wards were surgical cases. There had been twenty-four deaths or six per cent., and if the eight who died within forty-eight hours of their admission were deducted, the proportion would be only four per cent. The average daily cost of all the patients was 90 cents; of the public patients, 45 cents. The receipts totalled \$9,381.91 and the expenditure amounted to \$8,944.79. The debt was decreased from \$10,000 to \$8,000 and this in the face of many improvements.

Sir William Hingston is again the recipient of distinguished honor but this time by His Holiness, the Pope. The honor is the Papal Cross "for the Church and Pontiff" in recognition of his eminent services in the cause of charity and his unalterable devotion to the Church. His Grace Archbishop Bruchesi conveyed to Sir William, the gift of the head of the Church, which was accompanied by the following letter from Cardinal Rampolla, the papal Secretary of State:—"His Holiness has deigned to accord 'the Cross for the Church and Pontiff', to Sir William Hingston, as a recognition of his devotion and fidelity to the Church and its Supreme Head. The Cardinal Secretary of State has the pleasure to transmit him the diploma and the said cross, in order that he may wear it on his breast, as it is customary to do with other decorations."

Convocation at Toronto University was held on the afternoon of the 7th of June and the annual banquet of the Alumni Association in the evening thereof. Dr. R. A. Reeve, Dean of the Medical Faculty, and president of the Alumni Association, presided, and the Chancellor of the University, Sir William R. Meredith took advantage of the occasion to review the work and developments of the year. Speaking of the progress in the Medical Department: Three years ago the number who entered that department was sixty-one. Now it has reached the number of one hundred and twenty-four. The number of students enrolled three years ago was 230, while the number at the present time is 340, besides fifty-five occasional students. The department of pathology has during the past year had put at its head, Dr. J. J. MacKenzie in whom the Chancellor expressed the utmost confidence. Two recent graduates have received appointments as assistants in the department of anatomy of Cornell University. Sir William then proceeded to score the Ontario Government for unsatisfactory financial assistance to the university.

Dr. James Third, professor of medicine at Queen's Uni-

versity, Canada, had an attack of apoplexy recently and is not expected to recover.

Prof. J. George Adami, of McGill University, Montreal, Canada, has been appointed vice-president of the section of pathology and bacteriology of the International Congress on Tuberculosis, to be held in London, England, in July, under the patronage of his Majesty, King Edward VII.

MISCELLANY.

Obituary.—Dr. P. A. Harris, at Glendale, Ore., on May 30.—Dr. Allen T. Barnes, at Bloomington, Ill., on May 30.—Dr. James M. Stone, at Baltimore, Md., on June 5, aged 80 years.—Dr. Seth B. Sprague, at Jersey City, N. J., on June 5, aged 61 years.—Dr. D. C. Frost, at Mount Vernon, Ill., on June 5, aged 69 years.—Dr. William C. Parsons, at Chicago, Ill., on June 2.—Dr. E. Gansel, at Milwaukee, Wis., on June 2, aged 27 years.—Dr. Joseph E. Wright, at Philadelphia, Pa., on June 9, aged 43 years.—Dr. Edwin R. Lewis, at Kansas City, Mo., on June 8, aged 48 years.—Dr. A. J. Bloch, at Denver, Col., on June 8, aged 34 years.—Dr. E. P. Sale, at Memphis, Tenn., on June 8.

Dr. Van Buren Dixon, at Montevue Hospital, Frederick County, Md., on June 10, aged 62 years.—Dr. D. B. McKee, at Hutchinson, Kan., on June 10, aged 62 years.

A Dangerous Office.—According to the *London Daily Express*, an aurist, who was lately treating the Sultan, for an affection of the ear, accidentally touched the drum membrane, causing his patient intense pain. His Majesty, believing that an attempt was being made on his life, drew a revolver and shot the physician dead. A chamberlain, hearing the shot, entered, and the Sultan fired at him, and wounded him.

Plague in Turkey.—The Public Health Reports of June 7, 1901, state that in Bassora, Turkey, according to a supplementary communication of April 26, three persons have been taken sick with symptoms suspicious of plague, and have been strictly isolated in the hospital. In the house of the first 2 persons dead rats were discovered. The patients had not left Bassora for a long time and had never been in contact with any suspected plague patients. The rooms which these patients had occupied were at once disinfected and closed up.

The American Climatological Association.—At the annual meeting of the American Climatological Association held at Coronado, Cal., the following officers were elected: President, Dr. Samuel A. Fiske of Denver, Col.; Vice-Presidents, Dr. Norman Bridge, Los Angeles and Dr. W. F. R. Phillips of Washington; Secretary, Dr. Guy Hinsdale of Philadelphia.

Chinese Twins.—The *Medical Press and Circular* states that a double monster, technically known as "Xiphopagus," is now being exhibited on the Continent. The union between the twins is by a sternal band which is of a fleshy character situated in each of the two individuals at the lower border of the sternum. By means of the X-rays it has been determined that the communicating tissue contains no bones, but within it can be observed the peritoneum of each individual. The twins are described as very intelligent, mirthful, and fond of each other. The easiest position for the two to walk, run, and even leap is when they proceed forward side by side in a manner somewhat similar to two men forming a two-handed seat for the transport of wounded. Their functions are quite independent; in each the urine varies not only in regard to time but also in regard to quantity. While one sleeps the other may be awake, and there is great difference in the appetite of the two. The effect of alcohol has been noticed on the twins, for when on one occasion whisky was given to only one they both became intoxicated, and the one that had not tasted the whisky became much more so than the other. This is the eleventh known living instance of this peculiar kind of double monster, and it is a curious fact that the other examples have been born in mountainous districts; the present Chinese example, how-

ever, was born in a level country only slightly elevated above the sea. There was only one cord, and but one placenta.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended June 8, 1901:

			Cases	Deaths
SMALLPOX—UNITED STATES.				
CALIFORNIA:	Los Angeles.	May 18-25 . . .	1	
	San Francisco	May 18-25 . . .	5	
DISTRICT OF COLUMBIA:	Washington	May 25-June 1 . .	1	
ILLINOIS:	Chicago	May 25-June 1 . .	7	
IOWA:	Ottumwa	Apr. 27-June 1 . .	16	
KANSAS:	Leavenworth	May 1-31	3	
	Wichita	May 18-June 1 . .	42	
LOUISIANA:	New Orleans.	May 25-June 1 . .	4	
MASSACHUSETTS:	Boston	May 25-June 1 . .	1	
	Fitchburg.	May 17-24	1	
	New Bedford	May 25-June 1 . .	1	
	Quincy	May 25-June 1 . .	1	
MICHIGAN:	Detroit	May 25-June 1 . .	57	
MINNESOTA	Grand Rapids	May 25-June 1 . .	2	
	Minneapolis.	May 18-June 4 . .	15	
MISSOURI	Winona	May 25-June 1 . .	1	
NEBRASKA:	St. Louis	May 19-26	27	
	Nebraska City.	Apr. 27-May 18 . .	6	
	Omaha	May 17-June 1 . .	25	
	South Omaha	May 24-31	26	
	Manchester.	May 25-June 1 . .	7	
NEW HAMPSHIRE	Jersey City.	May 26-June 2 . .	4	
NEW JERSEY:	Newark	May 25-June 1 . .	2	
NEW YORK:	New York.	May 25-June 1 . .	64	17
NORTH CAROLINA	Charlotte	May 1-31	11	
OHIO:	Cincinnati	May 1-31	10	
	Cleveland	May 25-June 1 . .	31	1
	Youngstown	May 18-25	1	
PENNSYLVANIA:	Lebanon	May 25-31	5	
	Philadelphia	May 25-June 1 . .	4	
	Pittsburg	May 18-June 1 . .	7	
RHODE ISLAND	Providence	May 25-June 1 . .	1	
TENNESSEE:	Warwick	May 23-30	1	
	Memphis	May 25-June 1 . .	13	
WEST VIRGINIA:	Nashville.	May 25-June 1 . .	6	
	Green Bay	May 26-June 2 . .	4	
	Milwaukee	May 25-June 1 . .	2	
UTAH:	Salt Lake City	May 18-June 1 . .	19	1
WASHINGTON:	Aberdeen	May 21	4	

SMALLPOX—FOREIGN.				
ARGENTINA:	Buenos Ayres	Mar. 1-31. . . .	76	
AUSTRIA:	Prague	May 11-18. . . .	5	
BELGIUM:	Antwerp	May 6-11. . . .	7	2
CEYLON:	Colombo	Apr. 20.	1	1
COLOMBIA:	Panama	May 20-27. . . .	6	
FRANCE:	Paris	May 11-18. . . .	15	
GREAT BRITAIN:	Glasgow	May 11-18. . . .	3	
	Nottingham	May 16, case apparently transmitted from Salt Lake City, Utah, by fomites.		
ITALY:	Naples	May 3-10	114	2
INDIA:	Bombay	Apr. 3-May 7. . .	1	
	Calcutta	Apr. 20-May 4. . .	12	
	Karachi	Apr. 19-28. . . .	8	
	Madras	Apr. 26-May 3 . .	2	
RUSSIA:	Moscow	May 4-18. . . .	20	1
	Odessa	May 1-11. . . .	5	
	Warsaw	Apr. 13-May 4 . .	1	
SWITZERLAND:	Geneva.	May 4-11. . . .	1	

YELLOW FEVER.				
COSTA RICA:	Liberia.	May 25, Present.		

CHOLERA.				
INDIA:	Bombay	Apr. 22-May 7. . .		
	Calcutta	Apr. 20-May 4. . .		
	Madras	Apr. 20-May 3 . .		

PLAGUE.				
AFRICA:	Cape Town	To Apr. 27	37	10
INDIA:	Bombay	Apr. 1-May 7. . .	7	
	Calcutta	Apr. 20-May 4 . .	17	
	Karachi	Apr. 21-28. . . .	23	2

Changes in the Medical Corps of the Navy for Week ended June 8, 1901.

DOCTORS J. W. BACKUS, F. A. ASSERSON, J. F. MURPHY, W. SEAMAN and R. R. RICHARDSON appointed assistant surgeons in the Navy—June 1.
SURGEON F. J. B. CORDEIRO, detached from the Buffalo, June 10, and ordered home to wait orders—June 4.
SURGEON L. W. CURTIS, ordered to the Buffalo, June 10—June 4.
P. A. SURGEON E. S. BOGERT, JR., commissioned surgeon, from December 15, 1900—June 4.

ASSISTANT SURGEON R. W. PLUMMER, detached from the Nashville and ordered to the Princeton—June 6.
ASSISTANT SURGEON W. SEAMAN, ordered to the Independence, June 17—June 6.
ASSISTANT SURGEON H. H. HASS, detached from Naval Hospital, New York, and ordered to the Norfolk Navy Yard, June 10—June 6.
ASSISTANT SURGEON R. R. RICHARDSON, ordered to Naval Hospital, New York, June 10—June 6.
ASSISTANT SURGEON J. M. BRISTER, detached from the Independence, June 17, and ordered to the Asiatic Station via Transport Hancock—June 6.

Official list of the changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Service for the 7 days ended May 30, 1901.

H. R. CARTER, surgeon, to inspect the local quarantine station at Baltimore, Maryland—May 25, 1901.
R. M. WOODWARD, surgeon, granted two weeks' extension of leave of absence from May 25, 1901.
G. T. VAUGHAN, surgeon, detailed as delegate to represent the service at the meetings of the Association of Military Surgeons of the United States, May 30, and American Medical Association, June 4, at St. Paul, Minn—May 27, 1901.
J. C. COBB, passed assistant surgeon, relieved from duty at Fort Stanton, N. M., and directed to proceed to Portland, Oregon, May 29, 1901.
C. P. WERTENBAKER, passed assistant surgeon, detailed to represent the service at meetings of the Association of military surgeons of the United States, May 30; and American Medical Association, June 4, at St. Paul, Minn—May 27, 1901.
C. P. GARDNER, passed assistant surgeon, detailed to represent service at meeting of the Washington State Medical Society at Seattle, Washington, June 18 to 20, 1901, inclusive—May 27, 1901.
C. E. DECKER, assistant surgeon, granted leave of absence for 10 days—May 28, 1901.
W. C. HODBY, assistant surgeon, to proceed to Thomson, Ga., for special temporary duty—May 27, 1901.
J. W. HARGIS, acting assistant surgeon, granted leave of absence for 4 days from May 28, 1901.
E. T. OLSEN, hospital steward, granted leave of absence for 1 day from June 13, 1901.
L. C. SPANGLER, hospital steward, to proceed to Delaware Breakwater, Del., and report to medical officer in command for duty and assignment to quarters—May 28, 1901.

APPOINTMENT.

LEWIS C. SPANGLER, of Ohio, appointed hospital steward in the U. S. Marine Hospital Service—May 27, 1901.

GREAT BRITAIN.

Dr. Thomas Bond Commits Suicide.—Dr. Thomas Bond, a well known surgeon and analyst, committed suicide June 6, by throwing himself from a third story window of his residence. He had been suffering from melancholia for some time. Dr. Bond, who was the late Mr. Gladstone's surgeon, was noted in connection with investigations and discoveries in the cases of several sensational crimes, notably the Lefroy, Lamson and Camp murders.

CONTINENTAL EUROPE.

The New Siberia a Foul Dungeon.—The island of Sachalin designed by the Russian Government to take place of Siberia has been repeatedly condemned as an unsanitary place even for exiles, but all such demonstrations received denial from a few Russian hirelings. Now an official admits that the condition of the prisoners is far from satisfactory.

A New Journal to take the Place of the Vrach.—The present publishers of the *Vrach*, which by the will of its late editor is to be discontinued, ask permission to publish a medical journal entitled "*Russki Vrach*" (Russian Physician). Prof. W. W. Podwisotski and Dr. S. W. Wladislawlew will be the editors.

Sanitary Conditions of the Russian Isba.—Dr. A. Baloff, in describing the peasant's home in some parts of Russia, gives a graphic account of their mode of life. It appears that the entire family, often composed of ten or more persons, lives in one room badly heated, poorly ventilated and meagerly lighted. In this room they eat, sleep, cook, work and entertain themselves. Here the smaller domestic animals find a resting place, while the larger cattle dwell in a basement under the floor, which as a rule is made loosely enough to admit the odors from below. In some houses there are no chimneys and during the process of heating the oven the smoke finds its only exit through the open door.

Society Reports.

FIFTY-SECOND MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

GENERAL SESSION.

FIRST DAY, JUNE 4th, 1901.

The General Session convened in the Metropolitan Opera House, St. Paul, Minn., at 10.30 A. M. The meeting was opened with prayer by Bishop Whipple, the audience joining with him in the Lord's prayer. The Association was welcomed by the Mayor of St. Paul. The State of Minnesota, he said, showed a remarkably low mortality record, due, he believed largely to the work of the medical profession. He suggested that any patients whom the visiting members could not cure be sent to St. Paul and that they would be sent back in such condition, if not living monuments of professional skill, at least they will live long enough to be useful members of society. The Governor of the State who had been expected, was, through a misunderstanding of two invitations, not at the meeting. Dr. Reed requested that the former Presidents and Vice Presidents come to the platform. In approaching the discharge of his duties as President of the 52nd meeting of the Association, Dr. Reed expressed his appreciation of being called to such a conspicuous honor, an appreciation all the more pronounced when he reflected upon the magnitude and achievement of this great national body, and upon the lustre of the distinguished men who had presided over these deliberations. A sad duty was to bring to the attention of the members the fact that since the last reunion three of the most illustrious predecessors had been called to their reward. They were Alfred Stille, Louis A. Sayre, and Hunter Maguire, each a former president, and they had died within a single week. It was urged that steps be taken to secure portraits of the gentlemen to be placed in a gallery until the Association shall have a proper repository for them. It was also recommended that suitable formal action relative to the life and distinguished services of these lamented confrères be taken by the Association. In his address the President called attention to the satisfactory condition of the affairs of the Association as indicated by the consolidated report of the Treasurer and Board of Trustees, showing under the judicious management a balance at the end of the fiscal year of \$31,400.67, being an excess of over \$3,000.00 over the preceding year. There was safely invested the sum of \$25,000.00, to be appropriated to the purchase of a home for the Journal. The circulation shows a large excess over any other weekly medical journal in the world. An expression of appreciation of the valued service of the accomplished Editor, Dr. George H. Simmons, was tendered. The incorporation of the Association was highly commended, without which much of the success could not have been attained. Although the circulation of the Journal was so satisfactory, it was a matter of some regret that it exceeded the membership of the Association by $2\frac{1}{2}$ times. The question was considered whether the accumulated funds should be applied to the further exploiting of the Journal, establishing a home for the Association, should the members receive annual dividends, or should the money be devoted to original scientific research on subjects of universal interest to the profession. The President ventured the suggestion that a reserve should be held in hand large enough to meet possible contingencies in connection with the Journal. He advocated that the present generous policy regarding the conduct of the Journal be continued. The question of tuberculosis, the tenement house problem, the prevention of endemic diseases, and many subjects of a specific character demanded the fostering care of the Association. The subjects he hoped would be taken up subsequently under auspicious circumstances. The inefficiency of the profession in its influence upon Congress was deplored and special mention made of this lack in connection with the Army Medical Corps. That which discriminates against the status of the Army Medical Corps strikes at the status of every medical man in the country, and it becomes the duty of every medical man to resent as a personal stigma legislation adverse to the Army Medical

Corps. It behooved the Association to put itself in position to influence the largest number of votes; every physician should in a respectable sense become an active politician. The status of the medical profession in relation to the Commonwealth was stated to be that of the largest, truest and most intelligent of the world, moving in harmony with the most advanced influences of civilization. The necessity for complete organization of the profession was touched upon. Certain results could only be attained by the unification of the profession. In the progress of the profession events of to-day proclaim the existence of a new school of medicine as distinct from the schools of 50 years ago as is the Christian dispensation from its Pagan antecedents. It is a school of human tolerance and scientific research, ready to abandon a truth of yesterday if it be demonstrated an error of to-day. It recognizes that he is the greatest among men who reveals the most truth. It examines all things; it judges all things. Upon the deliberations of the exponents of "this new school of this new generation of this new century," the representatives of the democracy of science, the President invoked the spirit of courage, the spirit of progress, the spirit of truth. On motion the address of the President was referred to the Executive Committee with instructions to report to the Association upon its many valuable recommendations. A portrait of Dr. N. S. Davis was presented to the Association, recognized as pre-eminently the founder of the American Medical Association, and for more than 50 years its most constant, eminent and faithful guide in every department of its work, one who has been a pioneer investigator in the department of physiology and in the field of preventive medicine, an untiring and valuable contributor to medical science and literature and who has enjoyed the highest honors that his profession could bestow as President of this Association, and of the Ninth International Medical Congress; one who in his own city organized the first general hospital and established clinical instruction therein, and who was one of the founders and active supporters of the Chicago Relief Hospital for the Poor, the Chicago Academy of Sciences, the Historical Society and the Chicago Medical Society. Though Dr. Davis is in his 85th year of life and 65th year of medical practice, he still devotes 5 or 6 hours daily to his patients. He is happiest when contributing most to the happiness of others. A motion was adopted for the appointment of a Committee for securing to the Association, without cost, the portraits of the ex-Presidents of the Association. The hope was at the same time expressed that the time might come when the Association would have a magnificent home, a building of its own wherein might hang the portraits of the living ex-Presidents, President of the Association and those of the noble men who have gone beyond. The report of the Secretary showed the present membership to be something over 10,600, an increase of 1500 or 1600, the largest increase in any year in the history of the Association. There had been submitted to the Judicial Council for action the correspondence in regard to two cases of membership. The report of the Executive Committee called attention to a gratifying diminution in the number of papers offered in the different sections in accordance with a former recommendation. The total number on the program was 391 as against 491 last year and 615 in 1898, the largest number being in Practice of Medicine—43 papers. Attention was called to the rule that abstracts should be furnished and compliance urged. The report further stated that the pathological lecture by Dr. Simon Flexner, of Philadelphia, could not be given, Dr. Flexner being unable to be present. The Report of the Board of Trustees combined with it the report of the Treasurer a detailed account of which had been circulated. The financial policy of the Journal had been a success. It was urged that there should be no change in the program after May 30th of each year; previous changes had much increased the expenses of this department. It was suggested that too many papers were read by title and that if a man on the program for a paper did not consider it of sufficient worth to be present and read it, it should be treated as a volunteer paper and should so appear in the paper of the Journal. Preference should be given to the men who write but one paper. In order to further improve the quality of the work the Trustees would submit that no paper presented to any section should be printed until it received the approval of three members of the Executive Committee of that section, evidenced by their signature. Dr. Gordon, of Maine, thought the Journal had been

used long enough as an advertising medium for men who sent papers to be published and did not attend the meetings, and he was glad the Committee had taken the matter in hand. He also hoped that the violation in taking 40 minutes to an hour for reading a paper and 20 to 40 minutes for discussion would be corrected. Dr. J. R. Pennington, of Illinois; Dr. Louis Rodman, of Pennsylvania, and Dr. Dandridge were appointed a Committee to secure portraits of the ex-Presidents of the Association and invested with the power to deposit them in some art gallery until a proper place can be provided by the Association. The Committee on National Legislation reported that the Anti-vivisection Bill had probably been defeated; that the bill giving additional power to the Marine Hospital Service had been passed, and that the defeat of the bill increasing postal-rates had been accomplished. The Committee further reported that the medical societies of the several States and territories are appreciating the importance of State co-operation in medical matters. The Committee was present at the conference held in Washington in February and appointed a standing committee of the Annual Conference with power to act for the various States and territories. It was recommended that the American Medical Association request affiliated societies of States and territories to provide in their constitution for the appointment of their State Legislation Committees, whose duty shall be to consider all medical legislation arising in the State Legislature and Congress and to advise the constituent members thereon. The report of the Committee on Reorganization was on motion referred to a joint committee composed of the General Executive Committee and the enlarged Committee on Reorganization representing all the States, with an opportunity for a hearing of those who desired to discuss the subject, and that a report be made in the General Session the following morning.

ORATION ON SURGERY BY DR. JOHN A. WYETH.

The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice.

The surgeon of experience soon learns that it requires more than asepsis and the rapid and skilful performance of an operation to achieve the fullest measure of success. It is essential in the highest degree to call into requisition the invaluable aid which laboratory research alone can give to make a diagnosis accurate, and to indicate the rational measures of treatment before, during and after the operation. Chemical analysis, clinical microscopy and bacteriology should form part of the educational requirements of the surgeon. Laboratory research has placed not only the medical profession but the entire human family under lasting obligations, and has done more than all else in accomplishing the revolution in surgical thought and practice that has taken place. The discovery of the bacillus of diphtheria alone would emphasize this statement, since it has had its logical sequence in Behring's invaluable discovery that the blood of animals rendered immune to diphtheria by inoculation contained a substance capable of neutralizing the effects of this bacillus and its toxin, reducing the death rate of diphtheria from its former mortality to the insignificant rate of the ordinary disease.

What is true of diphtheria is undoubtedly true of all pathogenic organisms, the spirillum of cholera, the pneumococcus, tetanus, and other similar organisms. The elaboration of the typhoid bacillus by Eberth and Gaffky with Widal's demonstration was an invaluable discovery, and will be the means of saving innumerable lives since it affords an early and accurate diagnosis as indication for, or against a surgical operation. The laboratory has made clear the diagnosis and treatment of actinomycosis, anthrax, malignant edema, bubonic plague and other diseases.

Bacteriological research has robbed the puerperal state of its great anxiety and dread; not only by preventing sepsis, but by recognizing the character of the infection already established in time to prevent general peritonitis or septicemia, and enables us to determine whether or not the infection is of a type sufficiently grave to justify a hysterectomy and drainage instead of curetting.

Chemical analysis of the stomach juices and of the contents clears up many doubtful conditions of this organ, and enables the surgeon as well as the physician to determine whether or not free hydrochloric acid exists, and the quantity of this fluid.

The test breakfast of Ewald and Boas, and the more elaborate test meal of Germain See enables us to determine the exact condition of the organ; as in the presence of lactic acid, which is dependent upon a special bacillus thriving in the stomach only under abnormal conditions, the diagnosis of carcinoma is practically established.

In the differentiation between the pathogenic organisms of specific and non-specific urethritis, microscopy and bacteriology are our only infallible guides. They teach us to eliminate the various bacteria not bearing directly upon the etiology of urethritis, and to recognize distinctly the two forms of diplococcus, the gonococcus of Neisser and the pseudo-diplococcus. Bearing in mind the fact that these dangerous organisms may remain dormant in these passages for months, or for years, incapable of a further inoculation of the seemingly immunized patient, but capable of exciting the most acute and injurious inflammation in an innocent victim, it becomes a matter of the greatest importance to subject to most careful study the external genito urinary passages where an infection has once existed.

In pyelitis the differentiation between simple pyogenic infection and the presence of the bacilli of tuberculosis can be determined by laboratory research without the extreme measure of exploration. In fact, pathological conditions of the substance of the kidney, the calices, the hilum, the pelvis, the urethra and the bladder, and important changes in the tissues beyond these organs are evidenced by the presence of oxyuria.

Uric acid and the various other deposits in the urine, results of abnormal conditions of the digestive and assimilative apparatus, are made evident by the microscope and by chemical analysis, and are of invaluable aid to the surgeon.

In glycosuria he must know whether he is dealing with what Pavy designates "alimentary diabetes," in which the sugar eliminated by the urine is derived solely from the food as result of defective carbohydrate assimilation, or whether that almost hopeless condition of "composite diabetes," in which abnormal disintegration is taking place, is present.

No less important is the estimate of the amount of urea which can be determined by the simple laboratory process of Doremus.

The presence of blood when not made clear by the eye or the microscope, is now evident in the fine chemical test in which the blood crystals of Teichmann may be recognized even while the corpuscles have entirely disappeared.

One of the most attractive subjects of laboratory research is the blood, and although hematology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a surgical case a knowledge of the blood is as essential as that of the urine. It gives us information in regard to anemia, and often tells us whether it is a type of blood impoverished which can be corrected, or whether it is of the graver or more pernicious form which would either preclude an operation, or, if this were absolutely necessary, would enable him to announce to those entitled to information, the gravity of the outlook.

The determination of the richness of the hemoglobin by von Fleischl's hemometer, or a count of the red cells and of the leukocytes, and the differentiation of the various types of cells all point clearly to certain conditions which it is the duty of the surgeon to comprehend.

In the early recognition of septic process, chiefly pyogenic, surgery can no longer disregard the value of the blood count, and this is especially valuable in the early stages of those inflammatory processes which occur in the peritoneal cavity.

We know that in a certain proportion of cases of infection, temperature does not always indicate the increasing gravity of the lesion, while the degree of sepsis can be in great measure determined by the leukocyte count. In impaction of feces, extrauterine pregnancy, floating kidney, gall-stone colic, renal colic, ovarian neuralgia, intussusception, volvulus, internal hernia, twisted pedicle, etc. there is no leukocytosis unless complicated with an acute septic process. In abscess of the liver, the leukocyte count ranges from 12,000 to 48,000, while there is a marked increase in all the septic pyogenic processes of the lungs and the pleura.

In osteomyelitis the leukocyte count ranges as a rule from 15,000 to 25,000, and at times higher. Since in the early stages of this disease it is at times difficult by sub-

jective symptoms to differentiate between rheumatism or gout, the leukocyte count is invaluable in demonstrating at once the pyogenic process.

In that very rare disease, trichiniasis, the leukocytes register sometimes as high as 30,000, but the special feature is the presence of a large number of eosinophile cells, sometimes as high as 50%, and in rare cases 67% of the total number of leukocytes being reported within this form of corpuscle. A very considerable number of cases have been reported within the last year in which the diagnosis had been determined by the presence of eosinophiles.

Not only can the presence of the plasmodium malariae be recognized between the different varieties of the malarial parasite. It has shown that the tertian organism takes forty-eight hours to develop and undergo sporulation, the quartan 72, while the estivo-autumnal passes through irregular phases, varying from forty-eight hours to several days.

We are enabled to demonstrate also the presence of the spirochaete of relapsing fever discovered by Overmeier in 1873. Although the cork-screw or spiral threads are rarely seen unless the blood is examined in the height of the fever paroxysms, diplococcus-shaped bodies believed to be the spores of this organism are found in the periods of remission.

SECOND DAY, JUNE 5th, 1901.

The meeting was called to order by the president at 11 A. M. President Reed then introduced Governor S. R. Van Sant, who as the chief executive of the State, stood for every interest promotive of the highest and most advanced stand in medicine; who exercised a fostering care over the State University, the fame of which extends throughout the land. Governor Van Sant remarked that his welcome was none the less cordial from being 24 hours late, and that age improves some things used in the medical profession. Referring to the possibility of the next meeting being held in the South he stated that when the Grand Army Reunion was held in Louisville a royal welcome was given. At night electric lights blazed forth with the words, and even over the jail in great large letters was the word "Welcome." The medical profession, he sometimes thought, had special privileges. For instance "if I treat you I pay the bill, if you treat me or my family I pay the bill still." The address closed with the expression of a most cordial welcome to the city and State. The minutes of the preceding meeting were read by the Secretary, Dr. George H. Simmons. The report of the Joint Committee consisting of the Executive Committee on Organization upon the report of the Committee on Reorganization was read by Dr. Walker, of Michigan. The Committee recommended on motion of Dr. Reynolds that the instrument of the whole and amended was adopted. The President stated that in view of the fact that some modifications of minor importance had been made, he thought, in the interest of fairness, it would be well for the assembly to listen to a reading of the entire document as about to be presented for final consideration. The document was read. Dr. L. D. Buckley, of New York, thought that all would recognize that the time was one of the most crucial in the history of the organization, one to test the willingness of the members to do that which seemed best for the good of the profession at large. From being first opposed to the reorganization he had been convinced after repeatedly fighting the changes proposed. The question had been fully considered by representative men who had been most patiently heard time and again by the Committee in going over the sections. Considerable changes had been made; one of particular value was that the house of delegates should have two representatives from each section instead of only one, making it possible for a large number of scientific men to attend the meetings. He called attention to the fact that in 1887 Dr. Davis had wanted the present change and in 1891 another similar effort had been thwarted. A number of things of smaller importance were not entirely satisfactory, but these could be adjusted by the house of delegates. He moved that the recommendation of the Committee be unanimously adopted. Dr. McCormack, of Kentucky, moved that if the question was to be discussed those holding opposite views should be heard alternately. He wanted the Association to understand that the earnest desire of the Committee was that those opposing or favoring the recommendation be fairly heard. The motion to accept the report of the Committee on Re-

organization was seconded and carried by a large majority. The oration on Surgery was afterward given by Dr. Weyth.

THIRD DAY, JUNE 6th, 1901.

In calling the meeting to order Dr. Reed announced that he had agreed with the Committee of Arrangements to allow ten minutes to the representative of the American Woman's Christian Temperance Union relative to entertain questions of sanitation in the army. The meeting was then addressed by Miss Susan B. Anthony and the Rev. Anna M. Shaw. Miss Anthony said in part: "It is with great fear and trepidation that I come before you this morning to speak upon a question very near the heart of all true women. You are, many of you, in favor, and some opposed to the system of regulating vice in Manila, Hawaii and Porto Rico and our new possessions. We call to your attention the fact that when you gather up the young men for the army you take them from the care and protection of the home. We ask you to remember that these are the sons of mothers who are watching and caring for their boys and care more that they should be returned unpolluted than that they shall not come at all. If need be, better their death than their ruin. It is the man who proves untrue to one woman who loses the respect for all. I call your attention to the fact that when our Northern army made its pilgrimage through the South with Sherman's march to the sea, it left a whole army of children to be born of the mixed races. When the army leaves Manila and the Philippines this tract is left. The race is being degenerated. We shall be lost, as we might say, in this condition. I hope you will in making or influencing any resolution, for you know your opinion will go far in influencing Congress, take the position that it is your own son, your own daughter who is involved." Rev. Anna M. Shaw then addressed the meeting urging that any resolutions passed by the American Medical Association might stand for the principle that virtue must always be protected everywhere and under all circumstances, for there is no part of God's universe in which virtue should have greater protection than under this government, which stands before the world as the greatest Christian civilization under the light of the sun. Dr. Seaman, of New York stated that vital statistics of the army in Pekin show that 50 per cent. of the patients treated were affected with venereal disease, and since the abolition of the army canteen the extent of these diseases had doubled. He thought the misguided enthusiasts who had opposed the army canteen should not further indulge in their self-congratulation, but stop interfering with matters in the army which they did not understand. Before Dr. Seaman had finished his statements, hisses were heard in some parts of the audience, and cries of "Time," "Time," were being shouted from all parts of the house, while cheers and applause came from other sections. President Reed declared that the session would proceed with its usual business. The Trustees were authorized to grant the Reorganization Committee \$400.00 to pay the expenses they had incurred in preparing the new constitution. The Committee on Legislation was continued. The recommendation of the Executive Committee that a committee of three be appointed to revise the Code of Ethics called forth a lively discussion. On the first reading of the report Dr. Happel, of Tennessee, had demanded that this recommendation be considered separately. "We have had enough railroading at this meeting of the Association," said the doctor. "If the Association desires a new code, I suppose I can live as I did in the sixties, under almost anything, but let us have the action fair and open." It was moved that the recommendation of the Executive Committee lay upon the table. The vote seemed about evenly divided and the Chair could not decide. Dr. Happel demanded a roll call. The Secretary announced that there were about 1300 delegates whose credentials had been received. Dr. Happel stated that if the gentlemen who were urging revision insisted upon bringing the matter to a vote at this session he would stand by the demand for a roll call, and that the session would not finish its business today or tomorrow. Dr. Bishop, of Pennsylvania, moved that the calling of the roll be postponed until the next annual meeting of the General Session. This brought forth a hearty round of laughter and the motion was carried by a large majority. The recommendation for the fusion of the sections on pathology and bacteriology, and of that on physiology and dietetics, was adopted. A motion was made for the appoint-

ment of a committee of three to influence the appeal of the law abolishing the army canteen. An objection was made that such a resolution would not be creditable to the American Medical Association, certainly not in consonance with the sentiments of the founder of the Association, Dr. N. S. Davis, whose portrait had just been presented to the Association. The object was over-ruled and the matter referred to the standing committee at Washington. A resolution was passed that the American Medical Association disapproves of the act of Congress in failing to pass a bill which provided for the proper and adequate recognition of the medical corps of the United States Army. A resolution was passed favoring the establishment in Washington of a psycho-physiological laboratory. The oration on Medicine was delivered by Dr. N. S. Davis, Jr., of Chicago. Dr. Davis reviewed the advancement in medicine during the past century and declared that progress had been more rapid than in any other. Death rates from many causes had decreased among civilized people. Some diseases, such as nervous ailments, had been more rapid than in any other. Death rates from any cause had decreased among civilized people. Bright's disease and heart disease had increased owing to more rapid ways of living. Better sanitary regulations and more temperate habits had checked the spread of diseases. The public must be educated in sanitary and health truths in order to better prevent disease. It is to be hoped that physicians will learn to measure more accurately the effect of drugs so as to reduce the number of drugs and the quantity used. Medical men must depend largely on the aid and faith, the faith of the patient that all will be done for him that can be. Antitoxin for diphtheria had reduced the death rate and led to hopes that an antitoxin would be discovered for typhoid, pneumonia and other fevers. The following officers were elected for the coming year: President, Dr. John A. Wyeth, of New York City; First Vice-President, Dr. Alonzo Garcelon, of Maine; Second Vice-President, Dr. A. J. Stone, of St. Paul; Third Vice-President, Dr. A. Y. Jones, of Nebraska; Fourth Vice-President, Dr. John R. Dibrell, of Arkansas; Treasurer, Dr. Henry P. Newman, of Illinois; Secretary, Dr. George H. Simmons, of Illinois; Librarian, Dr. George W. Webster, of Illinois. Board of Trustees: Dr. W. W. Grant, Denver, Col.; Dr. John F. Fulton, Minn.; Dr. T. J. Happel, Tennessee. Judicial Council: Dr. George Cook, N. H.; Dr. H. H. Grant, Kentucky; Dr. John B. Murphy, Illinois; Dr. Philip Marvel, of New York; Dr. Louis H. Taylor, Pa.; Dr. John C. Dawson, S. C., and Dr. N. Fred Essig, Washington. The following selections were made for preparations of the General Session for next year: On surgery, Dr. Henry Sherman, Cal.; on medicine, Dr. Frank Billings, Ill.; on State medicine, Dr. J. M. Emmert, Iowa. The place of the next meeting is Saratoga, N. Y.; Dr. G. Y. Comstock to be Chairman of Committee on Arrangements.

FOURTH DAY, JUNE 7th, 1901.

The final session was called to order by the President at 11 o'clock. A vote was taken in favor of re-establishing the army canteen. The oration on State medicine was delivered by Dr. George B. Kober, of Washington, D. C. Dr. Judson Daland, of Philadelphia, was appointed delegate to the World's Tuberculosis Congress in London during July. A resolution was adopted thanking Mr. John D. Rockefeller for his generous gift of \$200,000 donated to the cause of scientific research under the direction of Dr. William H. Welch, of Johns Hopkins University. President Reed named ex-Presidents Dr. H. O. Marcy, of Boston, and Dr. Magruder, of Washington, a committee to escort the President-elect to the platform. Dr. Wyeth said he was inclined to follow the precedent established the previous day, and to postpone until the next annual meeting of the Association any remarks he might have to make; that he appreciated most deeply and fully the honor conferred upon him. "It will take my best efforts," he said, "to repay the Association even in part for what it has done, but such as they are you will have them, and I will do, as in the past, my best for the highest, most generous, noblest interests of medicine and surgery of our country." A motion was adopted thanking the retiring President, the Committee on Arrangements, and the physicians of the Twin Cities, for the splendid management of the convention. Dr. H. O. Marcy, of Boston, called for a rising vote of thanks to the President who had presided over their meetings with such courtesy and rare fairness, and to the officers of sections.

and to the citizens of the two cities. President Reed spoke of the extreme harmony which had prevailed, and of his belief that the meeting would redound to the welfare of the profession. In returning thanks for the resolution, he said: "I feel a sense of personal obligation to you, gentlemen, to the officers of the sections, to the faithful and efficient Secretary, and to those distinguished gentlemen from all over the country, who have come to this convention, bringing the best garnered efforts of their experience whereby we have this week given to the world the best scientific program in the history of the American Medical Association. My administration, while a source of some labor, has been a source of constant pleasure, for I was confident every moment of the co-operation of those whose co-operation meant success." The 52nd annual meeting of the American Medical Association was then declared adjourned.

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY, JUNE 4th.

J. M. Anders, M. D., of Philadelphia, in the Chair.

Dr. J. M. Anders, of Philadelphia, delivered his address and attempted to point out a few lines on which the organization and professional progress should be conducted. He believed that if the American Medical Association hoped to be one of the great powers of the country it was of great importance that the proposed reorganization scheme be promptly effected and due efforts be made to establish and maintain proper respect and forbearance between the various sections to the end that they may work in perfect harmony with one another.

Dr. John B. Deaver, of Philadelphia, then read a paper on **appendicitis**. He stated that the appendix was the most vulnerable of all the abdominal organs for the following reason: It is a structure in the process of retrograde metamorphosis; it is deficient in blood, nerve and lymphatic supply; it is long and its calibre is small, hence its drainage is easily interfered with; it is subjected to traumatism by the movement of the psoas muscle upon which it lies. Therefore it is apparent that the appendix may easily become the target for the destructive micro-organisms where from any cause these are incited into activity; and it is especially noteworthy that a hollow, glandular organ remains intact only so long as the production and evacuation of its secretions continue normally. When this function is deranged there are first, retention, stagnation, and decomposition of the appendix contents; second, pressure leading to ulceration of the appendix wall; third, and the most important, the bacteria, especially the colon bacilli are so increased in number and virulence that they are able to penetrate the coats of the appendix and set up their irritant processes in varying degrees. Such he considered to be the brief pathogenesis of appendicitis.

The following classification was suggested as convenient and well founded:

Acute Appendicitis:	First—Catarrhal.
	Second—Interstitial.
	Third—Ulcerative.
	Fourth—Gangrenous.
Chronic Appendicitis:	First—Catarrhal.
	Second—Interstitial.
	Third—Obliterating.

He had never seen much good from the efforts of nature to cure. The abscess itself, by its tendency to infect the peritoneum, is a grave menace, and even if the abscess ruptured into a hollow viscus the situation is not much better. The speaker then considered certain features of the pathology and two points were especially emphasized: First, the practical non-existence of any form of inflammation which by obliterating its lumen rendered the appendix harmless. Second, the appalling rapidity and suddenness with which the appendix may suffer bacterial invasion and necrotic degeneration with resulting general peritonitis. Upon these two facts he based proper treatment and the justice of claiming appendicitis as a purely surgical affection. No disease presented its signs and symptoms in such varied form and locality as appendicitis, and he made it a rule therefore, in all abdominal cases, to first exclude appendicial irritation, because careful examination will

often reveal as due to it the affections otherwise apt to be classified as "enterocolitis," "acute dyspepsia;" "cholera morbus," etc.

In all inflammations of the appendix there are three cardinal symptoms, viz.: pain, tenderness and rigidity. Pain is by all means the most significant, so much so that the speaker regarded with suspicion every clinical history with belly-ache, inflammation of the bowels, neuralgia of the stomach, etc. The pain of appendicitis is paroxysmal, cramp-like and colicky and may at intervals almost disappear. It is usually first referred to the umbilical and epigastric regions becoming localized in the right iliac fossa, only after the lapse of several hours, and that not in all cases. He advised that we should at first examine away from the disease, and then slowly and gently approach the tender area. A localized spot of extreme tenderness he considered to be surest indication of pus formation; conversely abrupt cessation is apt to denote complete gangrenous change and a paralysis of peripheral nerve filaments by toxin absorption. After referring briefly to some of the other symptoms of appendicitis he stated that he did not depend to any extent upon blood examinations; a leukocytosis of over 20,000 indicates pus usually unless either shut off by adhesion or the individual is overwhelmed by septic absorption. The symptoms of appendicitis are seldom in proportion to the appendix regions, therefore it should suffice to diagnose early the inflammatory involvement which is of itself proper enough indication for rational treatment. He did believe there was but one treatment for appendicitis, viz.: the aseptic scalpel of a surgeon, and it should be called upon as promptly as the diagnosis was made.

Dr. DeLancey, Rochester, of Buffalo, N. Y., made a strong plea for the blood count as a diagnostic aid of these conditions during the acute inflammatory state and particularly during the development of pus. With an elevation of temperature there was usually a higher leukocytosis. He also believed that the aseptic scalpel was the only treatment for appendicitis.

Dr. J. B. Kelley, of Philadelphia, did not think that any medical man should treat a case of appendicitis after the first twenty-four hours.

Dr. J. B. McElroy, of Mississippi, read a paper on **some phases of malaria**. In this he related in detail a case in order that he might discuss some of the phases of malaria that were suggested by it. In referring to the perniciousness in malaria he said that it was a well-known fact that in these affections the aestivo-autumnal parasites are found in very large numbers. There are usually two predominating broods of parasites in the blood of patients with pernicious fever, but Marchiafava and Bignami report cases in which the viscera as well as the peripheral circulation show a very small number of parasites. It is evident that we must look for the causes of malignancy in some other direction than merely in the large quantity of parasites. These causes may be found in what has been termed in the biological characteristics of the aestivo-autumnal parasites. The first of these is their capacity for rapid propagation. It is another characteristic of these parasites to disappear from a peripheral circulation to complete their cycle of development in other vascular areas. Another factor in the forms of pernicious malaria, the virulence of these parasites, should be taken into account. Many attempts have been made to demonstrate a malarial toxin, and there is good evidence to believe that such exists although it cannot be demonstrated. It is, therefore, probable that this property of the aestivo-autumnal parasites more than any other accounts for malignancy in malaria. Another proof of the great virulence of these parasites is the occurrence of hemoglobinuria in these affections than the mere offers other evidences of malarial infections than the mere pigmented leukocytes, and the characteristic leukocytic variation of malarial infection. In all the cases studied by him there were pigmented leukocytes. After quite an exhaustive consideration of this subject he stated that if pigmentation and leukocytic variation are evidences of malarial infections where the parasites are few or absent in the peripheral circulation, hemoglobinuria must be malarial, and being malaria, is a most striking evidence of the virulence of the aestivo-autumnal parasites. Phenomena occurring in these infections after the disappearance of the parasite, which have been termed post-malaria, are also evidences of the toxin theory.

It has not infrequently been stated that the negro is relatively immune from malarial infections. These statements are not in accord with his experience of eight years with the negroes living in the Southern Mississippi valley. On the plantation where he resided there were 24 whites, of whom 41 were infected with malaria. There were 184 blacks, and of these 61 were infected.

In considering the subject of gangrene he said that Professor Osler divided it into three groups: First, in connection with Raynaud's disease; second, multiple spontaneous gangrene in association with the acute infections like measles, typhoid fever, typhus fever, scarlet fever, diphtheria and malaria. Multiple spontaneous gangrene of the limbs in young and middle-aged people may occur without any obvious cause. The case he reported was one of multiple gangrene in aestivo-autumnal infections.

Dr. E. H. Martin, of Mississippi, said that hemoglobinuria was pernicious, not in the sense that pernicious is usually regarded; it was malignant in that the germs cause an absolute destruction of the blood cells. In the other forms he considered there was simply an overdose of the toxins. In the negro very few cases of pernicious malaria were seen in proportion to the number of cases of malaria met with. In small children, especially among the whites, they had a great many cases, and it was unusual for a family to raise two out of five children in Mississippi on account of pernicious malaria. The blood of the children was very rich in the necessary pabulum for the malarial germs, and the child, when small, having but poor resisting power, the germs attack the child and there is really an overdose of malaria.

SECOND DAY, JUNE 5th, 1901.

Dr. W. D. Kelly, of St Paul, read a paper on **The Clinical and Microscopical Examination of the Blood**. The blood serum containing serum albumin and serum globulin is subject to chemical changes in puerperal septicemia, and in certain febrile diseases the globulin is less subject to change than the serum albumin. Pathological variations in the phosphates are but slight, and of the chlorides not very great, although this principle is chiefly responsible for the isotonic relation of cells in serum. In anemia there is usually a high percentage of chlorides. The larger the proportion of plasma the greater is the percentage of chlorides in the blood. In the plasma are chiefly found the sodium salts; these are usually increased in watery blood. Potassium found in the red cells is diminished in hydremic conditions. Chauveau, Seegen, Cavazzani, and others found, in normal blood, traces of glucose, which was increased by a diet of carbohydrates and diminished by muscular exercise. In the red cells is found the diastase, also in the serum, and Precka and others believe it to have the power of coagulating the blood; it is inhibited by neuclein and increased by sodium sulphate and chloride. Fat has been demonstrated in the blood after a hearty meal. Free fat, both in health and disease, has been frequently found. Acetone has been found in fevers. V. Taksch demonstrated fatty acids in the blood in leukemia, acute yellow atrophy of the liver and infectious diseases.

In cholemia, the poisonous symptoms that develop have been referred by most authorities to the presence of biliary acids. Isotonic tension and increased resistance of the red blood cells are peculiar characteristics of red blood in jaundice. Bile acids affect the union of hemoglobin with the stroma of the red cell, rendering the hemoglobin more easily soluble, and this accounts for the solution of red cells in jaundice, as well as in other conditions. Icteric blood has also an increase in the nitrogenous bodies. Well marked cholemia may be detected by the inspection of serum or foam on heating to 50 degrees, I. C. Bilirubin may be changed to biliverdin by that process. In the rabbit, by the intravenous injection of glacial acetic acid, he had been able to get an acid reaction several hours afterward by the phenolphthalein test. The specific gravity of the blood is increased by sweating, by lack of food, muscular exertion; and it may be decreased by freely imbibing in water or fluids. Homberger found that albumins and chlorides behave differently after changing osmotic conditions. If a little acid is added to the blood, albumin and phosphates pass from red cells to the serum, while chlorides pass from serum to cells; but when alkalis are added the opposite conditions are induced.

In order that a satisfactory examination of the blood

might be made, the following things were requisite: Apparatus must be absolutely clean. The various stages of the process must be performed rapidly because the cell coagulation of the blood will interfere with any of the tests. The work must be done accurately. By making large quantities of the stain and keeping some in glass-stoppered bottles, will standardize the solution, so that one will receive the minimum variations in intensity of stain. Fixing a specimen by continuous heat, with as slight a degree in variation in distributing the heat as possible, is of value.

Dr. Thomas McCrae, of Baltimore, read a paper entitled "Pernicious Anemia: Report of a Series of Cases." In this he made the report of 40 cases that had occurred in the service of Dr. Osler, at the Johns Hopkins Hospital in a period during ten and eleven years. During the same time there were about 12,500 medical patients. Of the 40 patients, 32 were males, and 8 females. Two were colored. The ages varied from ten to seventy years, the largest number occurring in the fifth decade. As to the etiology, worry and mental strain were only present in 3 cases. Pregnancy was associated in 1. Oral sepsis was not invariably present in the recent cases. Among the symptoms, the most frequent were weakness, change of color, and loss in weight. The latter symptom occurred in more than one-half of the cases, and emaciation was marked in 10 cases. Pigmentation of the skin was found in 8, and petechiae in 4 instances. In the abdomen the liver was felt in 2 cases, and the spleen in 6, but in none was the enlargement at all marked. When the cases first came under observation, the hemoglobin averaged 30 per cent., the red cells 1,560,000, and leukocytes 6929 per cubic millimetre. Of the 16 cases, with a count below 1,000,000, only 4 recovered. The average differential count for 36 cases was: polymorphonuclears, 61%; small mononuclears, 31%; large mononuclears and transitionals, 4%; eosinophiles, 2%, and a fraction of 1 per cent. of myelocytes. The average number of nucleated reds per 1000 leukocytes was 37, of which 23 were normoblasts, 5 were megaloblasts, and 9 were intermediary forms. In a comparison of the fatal and the non-fatal cases, the average percentage of small normoblasts was rather higher in the cases that recovered, but the number of megaloblasts was eleven times greater in the fatal cases. There were nervous manifestations in 14 cases. These varied from slight disturbances only to complete paraplegia. It is not possible to group these cases under any division, as the symptoms were so varied. The prevailing type, however, was of a more or less spastic condition, with some inco-ordination and marked sensory disturbances. In some the nervous symptom seemed to vary with the state of the blood. As to diagnosis, the distinction from gastric cancer may be difficult. In this the higher count of the red cells usually found, the lower color index, lower percentage of small mononuclear and absence of megaloblasts are all important factors. Certain cases which show some features of splenic anemia are hard to place, of which 3 were cited. They had a prolonged course, marked enlarged spleen, ascites in 2, and the general blood conditions of pernicious anemia. They were not included in this series. The average duration of 17 fatal cases was 12 months. In 8 the course was under 6 months. One case recovered and came under observation 7 years later with cancer of the stomach, and one is in good condition 6 years after the onset. He summed up the treatment into rest, fresh air, good food and arsenic.

Dr. George Douglas Head, of Minneapolis, read a paper on "The Leukocyte Count in Hemorrhage." He desired to place on record some experimental work upon the leukocytes in hemorrhage which had given results somewhat different from the generally accepted views. In his experiments upon dogs the same law seems to govern the increase or decrease of leukocytes in the circulating blood as in man. Where there is a leukocytosis of digestion, or following septic infections, it is the same in dogs as in man. The variation of leukocytes in the circulating blood of man is the same as in dogs. In all probability the conclusions arrived at from his experiments in dogs, he thought, would apply equally well to the human beings. He formulated his results as follows: 1. In dogs a diminution in the number of white cells in the circulating blood immediately follows a profound hemorrhage. 2. This initial leukopenia is followed sooner or later by an increase in the number of leukocytes in the circulating blood. This is the so-called post-hemorrhagic leukocytosis of all writ-

ters. 3. This leukocytosis of hemorrhage continues for at least seven days, and, in some cases, much longer.

Dr. W. T. Higgins, of Courtland, N. Y., stated that Hunter's success in the treatment of this disease seemed to offer something in favor of his theory. He had treated every case on the lines laid down by Hunter with success. Asepsis of the mouth should not only be secured, but also of the upper air passages as well.

Dr. McCrae, of Baltimore, said that brilliant results had been obtained from the use of arsenic. In 1890 he had a case who is alive and well to-day. Another case he had treated returned six years after with cancer of the stomach. Cases he had seen get well when treated by arsenic, fresh air, good food, rest, Epsom salts and the employment of oral asepsis.

Dr. Heinrich Stern, of New York, read a paper on "Osmotic Pressure and its Relation to Uremic Manifestations." He believed that we were looking in the wrong direction when we tried to fasten the origin of uremia and kindred affections upon a purely physiologico-chemical basis. Most of the effete products *per se* were little toxic. Potassium seems to exert the greatest poisonous qualities. Urine, injected into the veins for experimental purposes, has shown that uremia is not the consequence of one, but of the retention of all those substances which normally enter into the composition of the urine. In the urine we do not encounter any other factors but those that are prevalent in the normal state. The only difference is the quantity. Uremia is, therefore, rather a physical than a chemical anomaly.

In referring to osmotic pressure in the body fluids he stated that all organic matter is saturated with water; that the cells of the body are more or less permeable for water. If the contents of the organism are soluble salts and remain unaltered in water, so that for a certain period neither salts nor water are introduced nor eliminated, all the watery constituents of the organism would become one homogenous liquid and the same osmotic pressure would prevail over the entire system. The molecules of a number of compounds, when dissolved, were divided up and dissected into "ions." The higher the dilution the more perfect the dissociation, as a rule. There is no vital process in which diffusion, or osmosis, does not participate. Conditions for the evolution of osmotic pressure always exist in the organism, for whenever two solutions come in contact by means of a semi-permeable wall, osmotic tension is displayed. When the excretory activity of the kidney is materially interfered with, the products of catabolism are retained in the blood. The great number of molecules dissolved in the plasma exert a high osmotic tension, and tend to diffundate (?) toward the less concentrated body liquids. Ultimately all the fluids of the body exhibit a similar degree of concentration, which is accompanied by a series of manifestations co-ordinate and successive, which have been grouped together under the term "uremia." This is really a mechanical intoxication, not one of chemical origin, but one due to an abnormal increase in osmotic tension of the blood plasma and the fluid of the body.

The phenomena which occur in the blood after the injection of large amounts of concentrated salt solution are the same as those which occur in uremia. They make their appearance together with the increase in the concentration of the blood, when the elimination of the accumulative qualities of the tissues does not occur any longer. Noss noticed in dogs tonic and clonic convulsions after intravenous injections of 10 per cent. sodium chloride solution, and, in such event, that the blood had attained twice its former concentration.

Dr. Charles G. Strocton, of Buffalo, N. Y., read a paper entitled "Circulatory Disturbances Accompanying Cirrhoses with Inoculation of the Portal Branches with Systemic Veins." Some practical conclusions could be drawn from the data given. The first of these, to which it would seem unnecessary to call attention, but that it appeared to have been somewhat overlooked, is that the normal osmotic pressure in the portal vein is low; that when it is suddenly raised, it is apt to be followed by symptoms of toxemia, and that these symptoms may be promptly relieved by purgation. A second important conclusion is that when the vascular changes, and the raised portal blood pressure that permit the passage of the portal blood into the systemic vein, are brought about gradually, the subject is better able to resist the toxemia, becoming, as it were, immunized to the offending portal blood, hence symptoms are less striking.

and with proper care as to diet and purgatives may be practically overcome.

Dr. Victor C. Vaughan, of Ann Arbor, Mich., made a few remarks on **Cirrhoses of the Liver** due to metallic poisons and said that lead and copper were the substances which should be considered so far as their effect upon the liver were concerned, and particularly upon the changes in the connective tissue of the liver. Alcohol is one of the most important factors in the production of the cirrhosis of Laënnec. Lead and copper generally, if not always, produce changes in the liver cells which are characterized by a fatty degeneration or fatty deposit in the liver cells. There had been considerable discussion as to whether the first changes take place in the hepatic cells or in the connective tissues. But so far as the metallic poisons were concerned he thought the changes in the liver cells were prior in time to the changes in the connective tissues. Certainly they are recognizable earlier than the other changes. He had seen a number of cases of cirrhosis of the liver due to lead poisoning. It is not often that we see cases in the early stages of liver changes at autopsy; therefore we must rely on animal experimentation in our endeavor to trace the relationship of these changes. In a number of cases of metallic poisoning there occurs subsequently an overgrowth in the connective tissue of the liver.

Dr. John H. Musser, of Philadelphia, spoke on the subject of **Treatment of Cirrhoses of the Liver**. He divided these cases of cirrhoses of the liver into (1) those in which no symptoms occurred during life, the cirrhoses having been found at autopsy, the patient dying from other causes; (2) those cases that were not suspected until such an accident as hemorrhage made it apparent, i. e., latent cirrhoses of the liver; (3) cases with the symptoms of portal obstruction and (4) on the other hand biliary obstruction. The lines of treatment were largely dietetic and hygienic, great care being taken to see that the functions of the gastrointestinal tract were kept in action and the renal secretions properly regulated, as well as the action of the skin. He raised a word of caution in regard to the presence of hemorrhoids. He had seen two or three deaths follow the operative treatment of hemorrhoids and, at the autopsy, cirrhoses of the liver was learned of for the first time. In all cases of hemorrhoidal disease a thorough knowledge of the state of the liver should be known before any operative interference is advised.

The treatment of ascites occurring in cirrhoses is today particularly interesting because of the recent attempts to cure this condition by operation. The speaker was accustomed to use mild purgation and calomel from time to time; he also used calomel in 1-40th of a grain dose, every three hours, as a diuretic. He also relied upon the old-fashioned pill digitalis, squills, and calomel. He also had considerable confidence in the use of the oil of copaiba. In any case of ascites he resorted to tapping early and frequently. The question of permanent drainage was then considered and he referred to a case that was operated upon by Dr. Frazer; the abdomen was opened, the peritoneum was scarified and the omentum attached. This was done 12 months ago and the patient is cured, there having been no recurrence.

Dr. Thomas D. Fletcher, of Baltimore, read a paper entitled **Cirrhoses with Pigmentation**. The association of pigmentation of the skin and tissues with a form of hypertrophic cirrhoses of the liver rather than with the atrophic form was emphasized, and he discussed at length the pigmentation associated with hypertrophic cirrhoses of the liver which occurs in the disease described by von Recklinghausen as "hemochromatosis." He also dwelt upon the source, chemical composition and distribution of the pigment. He endeavored to show that diabetic cirrhoses with bronzing of the skin, *diabete-bronze* was probably identical with von Recklinghausen's hemochromatosis. So far as he was aware but 4 cases of cirrhosis of the liver with general pigmentation (hemachromatosis) have been reported from this country.

Dr. James J. Walsh, of New York, read a paper entitled **Rheumatic Stimulants**, in which he stated there were three terms in medicine that had an indefinite signification—rheumatism, gout and catarrh, and curiously enough these terms are descriptive of the same idea. Acute rheumatic arthritis we have come to realize as being an acute infectious disease of microorganismal origin. Its very similar-

ity to gonorrheal rheumatism points strongly to the microbic origin of the disease. He referred to a series of joint symptoms that occurred in connection with certain toxemias. Observations were made pointing to the fact that there might be serious involvement of joint structures without there necessarily being any microbic metastasis. Painful affections around a joint point to two facts, (1) the nervous mechanism supplying joints, owing to its greater use than most of the other groups of nerves makes it extremely sensitive to disturbances of the circulation; (2) tissues in the neighborhood of joints being much used and subjected to injury are liable to take on chronic inflammatory conditions. In a series of cases occurring in the service of Professor Katzenbach at the New York Polyclinic certain observations were made. These cases presented painful symptoms which are usually referred to the neighborhood of joints and which have been diagnosed as rheumatism. When the patient was not able to give a straight history of acute rheumatism with red swollen joints, fever and sweating, the case was at once assumed not to be rheumatic in character and very seldom was it necessary to retract this assumption. Among 40 cases presented, 15 had so-called rheumatic symptoms of the lower limbs due to flat foot, and this proportion, a little more than one-third, represented very nearly the ratio in which flat foot symptoms are mistaken for rheumatism. Very often the symptoms are worse on rainy days or in damp weather, probably from the fact that on damp muddy days these patients are apt to wear old shoes which do not furnish good support to the arch of the foot. Again, the nerves are much more sensitive when there is dampness. In speaking of occupation neuroses he said that there was no occupation that involves a frequent repetition of muscular movements, but what might produce it. For instance, so simple an action as sweeping, if done as a regular occupation and constantly performed with a broom in the hand will, in individuals who are run down give rise to painful feelings, either in the shoulder if the broom is grasped too high up to enable the person to take advantage of the proper leverage in making the sweep, or in the leg if the body is constantly supported on one leg during the process of sweeping. The brachyalgia that occurs in connection with frequent and badly directed use of the small muscles of the forearm is well-known, occurring in telegraphers, in writers, in penmen, in typewriters, in piano players, etc., as a result of a sort of sympathy with the lower arm, and the shoulder often suffers from a decided ache, and it is surprising how often this ache is treated for rheumatism.

Dr. Charles Lyman Greene, of St. Paul, Minn., presented to the section **A Case of Acromegaly Presenting Certain Features of Unusual Interest**. The young man was 25 years of age and had had no fixed occupation but for some years prior to the development of the disease had spent the winter months on the ice, a point of some importance; inasmuch as the history of many of these cases has strongly suggested the influence of long exposure to cold and dampness as a predisposing or exciting cause. The family history was negative. Lues was denied. At five years of age he noticed a rapid enlargement of the hands and feet and the members of his family noticed a change in his physiognomy. The enlargement of the hands and feet steadily continued and progressed quite rapidly up to the time that he presented himself three years ago, when the hands and feet were found to be of enormous size. The wrists and ankles were free from inflammations, but were quite bulky, thick and in strong contrast with the forearms and legs. He complained of languor and weakness but has had none of the severer vertical pains so common in acromegaly nor did he complain of pain in the lumbar region of limbs. The senses and the nervous system were not disturbed. The skin was nearly normal and lacked the hardness of myxedema. The appearance of the face was especially interesting the skin being thickened and hypertrophied, though not rough. The upper and lower eyelids were thickened, and the ears appeared clumsy and tumid, as also did the nose. The nasal arch is prominent, the malar bones project and the lower jaw is apparently enlarged from the ankle to the symphysis and vertically. The enlargement of the upper jaw had no doubt masked the changes in the lower jaw, depriving the case of one of the so-called typical signs of the disease. The tongue is large, the larynx is enlarged and its cartilages appear to be the seat of hypertrophy. The radiograph demonstrated the remarkable en-

largement of the bones. The feet presented the same typical characteristics as the hands. There were no marked enlargements of the great toes. The hands and feet were not the seat of pain nor were their movements much restricted. A feature of especial importance is the marked increase in the bulk of the overlying tissues which present the appearance and sensation of a hard edema exactly like that of myxedema. The treatment had been solely by thyroid extract, the result being an immediate and marked amelioration of the disease.

The Election of Officers: For Chairman, Dr. Frank A. Jones, of Memphis, Tenn.; for Secretary, Dr. Robert B. Preble, of Chicago.

THIRD DAY, JUNE 6th, 1901.

Dr. T. B. Greenley, of Meadow Lawn, Tenn., read a paper on **The Modified Treatment of Typhoid Fever**, in which he advocated the use of acetanilid with quinine; acetanilid he claimed had soothing and quieting effect, and prevented the possible irritating effects of the quinine. No depressing effects of this drug upon the heart had ever occurred among his cases. The dose was increased or diminished according to the rise or fall of the temperature.

Dr. O. T. Osborne, of New Haven, Conn., read a paper entitled **Mental Shock**. He did not wish to appear as advocating the use of this term for conditions of failing heart due to distinct pathological conditions, or due to a gradual break-up in the system by very acute or prolonged intense processes: he thought the term was justifiable when a badly acting and gradually weakening heart was the most urgent cause for anxiety and its weakness was out of proportion to the pathological conditions or symptoms present. He believed that we were justified in using the term surgical shock. The symptoms were more or less rapid heart, irregular, perhaps dicrotic or intermittent pulse, incomplete respirations without much actual dyspnea, interspersed with frequent sighs, and the subjective symptoms of precordial oppression. The temperature was generally low, the flesh cool and clammy, if quick relief be not obtained, death will soon take place by heart failure or mental shock. He believed that mental shock was just as certainly a vaso-motor paralysis as is surgical shock, and as a consequence, the major part of the blood is to be found in the abdominal veins. The blood flows slowly into the dilated, and therefore non-elastic arterioles, hence slowly into the capillaries, and returning slowly in the veins and imperfectly fills the heart cavities. The heart contracts irregularly, incompletely, and arrhythmically. The aorta has not the pressure ahead or the forcible quota of blood from behind and consequently does not give enough elastic rebound to force blood properly into the coronary arteries, and the heart muscle is improperly nourished. By the lowered blood pressure the functions of the body begin to fall, all digestive processes are impaired and molecular death begins to take place. Severe acute nerve pain will, if continued, give a lowered vasomotor tension, and if too long continued or too severe, vasomotor paralysis or shock perfectly similar to that due to profound injuries of these nerves, or surgical shock. In acute feverish processes our aim should be to make the elimination at least equal to the production of the decomposing and fermenting products and to prevent the absorption of these products if possible. In all diseases and conditions there is a piling up in the blood of absorbed poisons, be they from typhoid fever, or dysenteric ulcers, from pus collections, from malarial plasmodia or hemoglobinuric debris, from cancerous disintegration, from unhealthy catarrhal, edematous mucous membranes, etc., any treatment which hastens the evacuation of the extreted bile impregnated with toxins, will prevent systemic and nervous poisoning, and ultimately vaso-motor disturbances and mental shock.

Dr. L. Napoleon Boston, of Philadelphia, read a paper on **Coughing as a Means of Disseminating Tubercle Bacilli: A Study of Fifty Cases**. The conditions which prompted him to investigate as to the degree with which tubercle bacilli were disseminated were first, that from the mouth of an inmate of the Philadelphia Hospital he noticed that fine droplets of sputum were ejected with each act of coughing, and second, that coughing was often excited by eating. He thought that this possibly explained why patients in the early stages of the disease did badly in this institution where every possible attention was given to ventilation, light and the disinfection of the sputum. The spray was collected by a mask, the essential features of

which were that it was made of German silver wire, one piece of which was moulded to fit the face, resting on the nose, cheeks and chin. To prevent irritation it was covered with rubber tubing. Suspended from this wire was a second oblong portion provided with two lateral grooves which served to accommodate two microscopic slides. When the mask was in position the slides were held in front of the mouth and nose at a point about three inches distant from the lips. The piece is held in position by an elastic band. The patients were allowed to wear this about an hour and only during that part of the day when they coughed the least, and they were instructed to remove it during attacks of coughing. Of the 59 specimens obtained from 50 patients, 38 were found to contain tubercle bacilli in variable numbers, four to six being the smallest found in any specimen. In 3 of the 12 negative cases the patients were so weak that they could hardly talk while wearing the mask. It was shown that the secretions of the mouth and respiratory tract are atomized and given off in the form of sprays, in both health and disease, and that this spray contains bacteria and other cellular elements known to be common to such secretions, and therefore it was rational to suppose that many other diseases were conveyed by this media, and that the work accomplished through the study of consumptives was but a step in a direction which bids fair to modify the hygiene of infection. Conditions affecting these organs and consequently their secretions must of necessity be spread in this way: especially was this true of diphtheria, tonsillitis, and possibly small-pox, measles, scarlet fever, whooping-cough, mumps, etc. Droplets alighting on clothing must serve as a favorable means of conveying the disease from house to house; and men may become infected by the spray projected by horses, cows, etc., and other domestic animals suffering from glanders, tuberculosis, and similar affections, and this appeared to be highly probable.

Dr. M. H. Fussell, of Philadelphia, presented a paper entitled **The Value of Throat Cultures in Diphtheria**, in which he said that the following could be proven: (1) True cases of diphtheria may have few or no clinical symptoms. (2) Cases of tonsillitis or pharyngitis may have severe symptoms and be serious, but no true diphtheria be present, or the presence of the Klebs-Loeffler bacillus, and consequently the patient was not able to transmit the disease. (3) A diphtheritic exudate may be easily detached and leave no bleeding surface. (4) An exudate due to some other organism may be true membrane, impossible to detach from the mucous membrane. He said that cultures can most surely and with less risk of mistake be made at the laboratories, but that they could be made at home, and that they should be made there if we intend to keep pace with the rapid strides of recent medicine.

Dr. Ferd. C. Valentine, of New York, presented a paper on **Genito-Urinary Examinations by the General Practitioner: With Demonstrations on Patient**. It was his desire to show (1) that all genito-urinary examinations should be painless: (2) the operator should conduct no examinations unless his arms were bared to above the elbows and his clothing protected by a gown and apron: (3) during every examination, the physician should protect his eyes with spectacles (not eye-glasses) even if he had no visual defects: (4) ideal examinations are made in the morning before the patient has passed his urine: (5) the amount and character of a urethral discharge can be estimated only by correct technique in expressing the urethral contents: (6) the color of the urethral discharge changes when it dries upon the patient's garments: (7) the meatus should be cleaned before passing urine for examination: (8) the manner of urinating is often pathognomonic: (9) the epithelium found in the urine is indicative of the locality of the lesion: (10) examination of the urethral adnexa is a necessary part of the steps for complete diagnosis: (11) no instrumental ingression of the urethra should be attempted without most thorough efforts at rendering it aseptic: (12) the technique of striving at urethral asepsis is neither complicating nor difficult: (13) the soft bougie-à-boule is the only instrument that can be used for tactile exploration of the urethra: it is purely a diagnostic instrument: the rigid sound is wholly a therapeutic instrument: (14) urethroscopy with a modern instrument is not difficult: (15) the general practitioner is perfectly competent to examine the vast majority of genito-urinary cases: (16) such examinations only exceptionally require extra-ordinary skill or a large armamentarium: (17) the

pathology of genito-urinary diseases in no wise differs from that of other affections.

Dr. Frank Billings, of Chicago, read a paper on **Clinical Observations in Pericarditis**, in which he stated that pericarditis is essentially a secondary process occurring in the course of some general infection. The local manifestations may be so slight as to escape observation and the general symptoms to which the local disease may give rise may be obscured by the constitutional disturbance of the primary general infections. Therefore it often happens that the diagnosis of pericarditis is more often made at autopsy than clinically. The histories of several cases were given which presented clinically, as far as the heart and pericardium were concerned, practically the same signs and symptoms. The cases further illustrated the importance of the three cardinal signs of pericarditis, namely, the pericardial friction rub, the form of outline of the pericardial dullness, and the position of the apex beat especially in relation to the left border of pericardial dullness. In every case the pericardial friction rub is doubtless present in some period of its course. It is practically the sole local sign in plastic pericarditis. In pericarditis with effusion it may not be recognized, although it is probably present in every case at an early stage of the disease, and in cases of recovery after the disappearance of the effusion; it may be present too during the stage of effusion. The form of this outline of dullness in pericardial effusion is also characteristic. The pear-shaped outline with the base downward; the dullness, even in the early stage of effusion, in the fifth right interspace close to the sternum, obliterating the resonant angle formed by the lung, heart and liver; the dullness over the sternum extending to or above the second rib, together with the outline of the left border dullness are easily recognized and are almost pathognomonic. It is also true that a greatly enlarged heart with all the chambers dilated from myocarditis and a weak diffusible apex beat may present an outline of dullness which so nearly resembles that of pericarditis with effusion that it may be impossible to differentiate between them without puncture. The location of the apex beat in pericarditis with effusion is characteristic. It will always be found, when it is perceptible, that the left border of dullness is relatively far removed from it as it is not in any other cardia disease. It may be obscured, in large effusions, and at other times the right ventricle may strike the chest wall in the region of the nipple, or undulatory waves may be seen as the only evidence of the heart beat against the chest wall. However, it matters not how the apex beat or the impulse of some other part of the heart against the chest wall be ascertained it will be found that the point of contact of the heart against the chest wall is always relatively far removed from the left border of precordial dullness as compared with the relations of the apex beat to the left border dullness in all other conditions. The signs of compression of the left lung evinced by the left subscapular dullness and bronchial breathing, the relatively rapid respiration and dyspnea, the rapid heart action, the pulsus paradoxus and the asymmetry in size of the pulse of the radials, the irregular type of temperature, the paralysis of the left recurrent laryngeal nerve, the unequal pupils, the disturbed mental state of the patient and still other phenomena are signs and symptoms not so characteristic as the three cardinal signs first named, but are important and significant when present. Frequent careful systematic examination of the precordium should be made in all infectious diseases, and if this is done by the clinician pericarditis will not escape him. Pericarditis is an easily recognized condition.

Pathology and Pathogenesis of pericarditis. This paper was read by Dr. Jos. McFarland, of Philadelphia. He said that it is more frequent in men than in women, probably because they were more exposed to its causes. It is customary to divide the cases into those which are primary or idiopathic and those which are secondary or metastatic. Concerning the relative frequency authors vary. Traumatism as a cause of pericarditis is of importance only as it affords an avenue of entrance for micro-organisms, or produces conditions favorable to their colonization in the tissues. Lymphogenous metastasis may occur in many of the local affections in which no actual traumatic lesions existed. In this manner disease of the mediastinum, pleura, etc., may occasion pericarditis. Hematogenous metastasis is seen in nearly all of the infectious diseases,

but especially in rheumatism, pyemia, septicemia, pneumonia, chorea, scarlatina, etc. There is no specific micro-organism of the pericarditis. Breitung collected 324 cases of pericarditis among the autopsies of the Berlin Charité between the years 1866 and 1876 and found them distributed as follows: Pericarditis sero-fibrenosa, 108; pericarditis hemorrhagia, 30; pericarditis purulenta, 24; pericarditis tuberculosa denteropathia, 24; pericarditis tuberculosa idiopathica, 2 pericarditis adhesiva partialis, 111; pericarditis adhesiva totalis, 23; pericarditis ossificans, 2. It is an error to think of these names as referring to distinct forms of the disease; they are for the most part stages of the same process. In 39 cases studied by Louis the exudations were serous, 9; purulent, 7; sero-sanguinolent, 10; sero-purulent, 13.

The effect upon the heart of pericarditis is of great importance; no considerable disease of the epicardium is possible without involvement of the heart. The superficial layers of muscular fibres usually show cloudy swelling, later, hyaline or fatty degeneration. The pus may also gradually work its way between the muscular bundles, in cases with purulent exudate. The changes that thus take place during the height of the disease predisposes to acute dilatation of the heart and a fatal termination of the disease may thus be brought about. If this does not occur and if the patient recovers from the pericarditis, the regenerative cicatricial processes that go on lead to fibroid interstitial changes in the wall of the heart.

Robert B. Preble, of Chicago, read a paper on **The General Etiology of Pericarditis**. He made the following conclusions:

1. Cases of acute pericarditis, clinically primary occur, but are rare.
2. Diseases to which pericarditis appears as a complication are in order of their frequency; pneumonias, 34%; rheumatism, 23.36%; chronic diffuse nephritis, 11.2%; tuberculosis, 10%; sepsis, 4.7%; aneurysm, 2.6%; typhoid, 1.7%.
3. The more extensive a pneumonia, the greater the danger of this complication.
4. The danger is somewhat greater with left than with right side pneumonia.
5. Where only one lobe is involved, the danger is least with a right upper lobed pneumonia and greatest with a right middle or left upper lobed pneumonia.
6. With a unilobar pneumonia, the changes of a pericarditis are one in forty, with a bilobar or trilobar, one in ten, with a quadrilobar, one in five and with a pneumonia of the entire left lung, one in eight.
7. The mortality of pneumonias with pericarditis is 92.4%.
8. Rheumatic pericarditis is complicated by endocarditis in 60% of the cases, i. e., three to four times the normal rate of cases of endocarditis.
9. The danger of pericarditis complicating rheumatism is the greater the younger the individual, and is somewhat greater with males than with females.
10. So far as acute pericarditis is concerned, the site and extent of the endocarditis is apparently of no importance.
11. Pericarditis appears as a complication of all forms of nephritis, but particularly the chronic diffuse nephritis with contraction.
12. It is an extremely ominous thing, for 22, i. e., 84.6% of the cases died.
13. It is still uncertain whether the pericarditis is toxic or infectious.
14. Tuberculosis excites only 1-10 of the cases, and when one considers the extreme frequency of tuberculosis pericarditis must be regarded as a rare complication.
15. Pericarditis may be a part of a generalized acute tuberculosis, but is more often the result of a chronic tuberculosis of the lungs or mediastinal glands.
16. Septicemia and pyemia contribute a very considerable number of cases of pericarditis. The primary focus may be remote or close to the pericardium.
17. Aneurysm of the aorta causes 2.6% of all the cases, a very high figure, when one recalls the comparative infrequency of aneurysm.
18. Typhoid fever, which is rarely complicated by inflammation of the serous membranes, other than the peritoneum, contributed 4 cases, which is 1.7%.
19. The cases of obliteration of the pericardium are due to the following causes arranged in order of importance: endocarditis, tuberculosis, chronic nephritis, aneurysm.
20. More than one-half of the cases, in which the cause was clear, were due to endocarditis, or rather to some cause common to both the endocarditis and the pericarditis, and more than one half of these cases showed a combined aortic and mitral endocarditis.
21. Relatively six times as many cases of obliteration of the pericardium occur with aortic and mitral endocarditis than with either lesion single.
22. Tuberculosis causes but few cases of obliterative pericarditis.
23. Pericarditis, accompanying nephritis is

not always fatal, but may apparently end in the formation of adhesions.

A paper on **Adherent Pericardium** was given by Robert E. Babcock, of Chicago, in which he stated that adherent pericardium was encountered in two forms, first in which adhesions between the two layers of the sac, but not of the pericardium to the surrounding parts, pericarditis interna; and second, the pericardium adherent to the epicardium and also to the neighboring structures, pericarditis interna et externa. He then considered the effects on the heart and general circulation, with special consideration of its effect on the liver, leading to the so-called pseudotrophic cirrhoses of the liver. Diagnosis, in the first form mentioned was usually very difficult and often impossible. He then made a cursory examination of signs. If the adhesions are limited to the two layers of the sac, and if they are unassociated with valvular diseases, the result may be only hypertrophy of the heart, and the circulation will be carried on adequately and no subjective symptoms are produced. If pericarditis leads to adhesions while the heart is in dilatation from endocarditis, then the heart is prevented from ultimately returning to its previous size and the symptoms are likely to occur, viz.: those to stasis. In the second form mentioned the diagnosis was often easy in consequence of the signs resulting from the pulling of the adhesions upon the surrounding soft parts.

Tuberculous Pericarditis. C. F. McGahan, of Aikin, S. C., read this paper, in which he stated that this disease was much more prevalent than had heretofore been generally accepted. He believed that a great many cases of obscure heart troubles occurring in the anemic when we could find no valvular disease without marked symptoms of pericarditis, but where we have certain marked symptoms of the disease, is due to tubercular pericarditis, particularly if later the patient begins to lose weight and assume a cachectic appearance. This condition usually progresses insidiously, and he believed that it was communicated to the pericardium through the lymphatics, arterial and venous systems, and from all that tends to cause tubercular troubles in the peritoneum. The symptoms of tubercular pericarditis are those that we would get from enlarged heart, together with the general symptoms of malaise, and more disturbances of the general system that could be found in a simple pericarditis, or that secondary to rheumatism, or one of the exanthematous diseases.

Cardiac Lesions as Observed in the Negro; with Special Reference to Pericarditis. This paper was read by Frank A. Jones, of Memphis Tenn. He made the following recapitulation: (1) Aortic regurgitation in the negro was the most frequent and most dangerous of all valvular lesions. (2) The most frequent, aortic stenosis. (3) The next, mitral regurgitation. (4) Mitral stenosis had not been diagnosed in the cases he reported from the physical signs and symptoms. (5) Tuberculosis and syphilis acted both as exciting and predisposing causes in the production of muscular and valvular lesions. (6) Syphilitic history in mitral regurgitation was more frequently found than that of rheumatic. (7) The murmur of aortic regurgitation was most frequently musical.

Some Points in the Treatment of Pericarditis. Frank Parsons Norbury, of Jacksonville, Ind., said that it behooved us in the treatment of rheumatism, acute infectious fevers and septic processes to keep ever in mind the possibility of pericarditis as an aftermath and govern ourselves accordingly by insisting upon absolute rest and quiet until this danger is past. Each case must be treated upon its individual merits. Quiet surroundings and rest must be enforced; this is important because it "curbs the symptoms and places the patient under the most favorable condition for speedy recovery." Milk is the most suitable diet. It should be given in small quantities every two or three hours. It is well to remember that most all cases of rheumatic pericarditis get well, if we will let them alone; keep them at rest and carefully meet indications as they arise. A blister over the pericardium will be sufficient for the relief of pain, or if it continues, cold applications, cold cloths, or an ice bag used as needed. When other means fail morphine should be given, guarding it with proper cardiac support. For the restlessness he preferred bromide of soda given usually during the day, usually commencing about noon, again at four in the afternoon, and at bed time. For the sleep he used trional. If combined with sulphonal its effects are prolonged. For the cardiac distress strychnine may be given or, if neces-

sary, digitalis with strophantus. To properly care for the effusion is one of the prime essentials of treatment. If moderate, unless septic, it will be absorbed, and even if large, the chances are that with cautious use of diuretics and purgatives it will disappear. The indications for surgical interference are, according to Osler, "dyspnea, small, rapid pulse, dusky anxious countenance," and we will add the physical signs of extensive effusion. The aspirator was recommended.

PRACTICE OF MEDICINE, HYGIENE, AND SANITARY SCIENCE.

JOINT SESSION, JUNE 7th.

Dr. T. J. Happell, of Trenton, Tenn., read an interesting paper on "**Further Report on Pseudo or Modified Smallpox.**" At the Atlantic City meeting of the Association last year he reported to the Section his experience with 300 cases of pseudo, or modified smallpox, which he had made from a bedside study of the cases in all stages of the disease. This paper dwelt upon some of the anomalies met with in 400 cases that had recently come under his observation. In many cases the disease was not communicable. Many persons that had been vaccinated had the disease, while many that had not been vaccinated escaped the disease. He considered the diagnostic points between this epidemic that occurred in Gibson county, Tenn., and variola vera of the writer's prior to 1895. He asked whether this could be called variola vera, or was it a hybrid? He presented the following differential points for the consideration of the Section: In the modified form there did not appear to be any prevailing types of the disease; they had the same general character, differing in degree only: the incubation was from fourteen to eighteen days. In smallpox, the types were varioloid, discrete, hemorrhagic and confluent, and the incubation period was from fourteen days to twenty-one days.

Symptoms—From the first to the third day.—In the modified form at the onset the patient complained of cold; they felt as though an attack of grippe or tonsillitis was coming on. Temperature 102-105. Little or no vomiting. Pulse rapid and full. Little or no prostration. No delirium. No convulsions in the young. In a few cases there may be sleeplessness. In smallpox the onset is sudden, with violent chill, persistent vomiting, agonizing pains in the back and limbs and head. Temperature 103-104. Pulse full, strong and rapid. Prostration great from the onset. Eyes injected. Sleeplessness, delirium and convulsions in the young. **Third Day.**—In modified smallpox, no coarse red spots appear. In smallpox, coarse red spots appear on the lips and forehead. With the appearance of these spots the temperature falls to the normal and the patient is comfortable. **Fourth Day.**—In the modified form the eruption appears, whose character is generally that of an acne. In some instances the shop-like papules appear, but it is rare. The temperature falls to the normal and the patient invariably gets up, if he has gone to bed, and he states that he is well. The eruption first appears on the face. In most about the forehead, cheeks and chin. In women and children irregularly about the face. There is usually a sore throat. In smallpox the small red spots appear on the forehead at the juncture of the hair, and is followed by their appearance on the extremities. Papules follow the red spots. They have a shot-like feel. **Fifth Day.**—In the modified form the acne-like eruption develops into vesicles which assume an opalescence at once. These vesicles are unicellular and are not umbilicated. The serum which exudes at their apices dries and turns brown, which, in some cases, gives them the appearance of umbilication. There is no puckering of the vesicle at its border. The temperature is generally normal unless it arises from abscesses or other causes. The vesicle may dry up and the disease may be then said to have aborted. A rapid recovery follows. In smallpox papules appear on the wrists and forehead. **Sixth to the Ninth Day.**—In the modified form the vesicle becomes filled with an opaque lymphoid fluid; in some cases with a brown nucleus in the center, which gives it an umbilicated appearance. This vesicle with its opaque fluid, mis-called pus, shrinks to $\frac{1}{4}$ its diameter and becomes a thin brown scab, perfectly circular. There is no stench. The patient is well after the appearance of the eruption, and insists upon getting up and having plenty to eat. If the eruption is copious he looks bad but he will tell you that he is all right and feels

good. The eruption in a few cases affects the conjunctivae. There is no secondary fever. From this time on it is simply a matter of scabs falling off. By the tenth day the patient is entirely well. If the eruption spreads over the entire body he may not be clear from scabs until the fourteenth day. In true smallpox the vesicles appear in place of the papules, and the eruption spreads gradually over the entire body. The vesicles are umbilicated and multilocular. On the 8th and 9th days the vesicles become pustular, and each is surrounded with broad, red bands, or efflorescence, the features become distorted, there are several rigors and fever, the original symptoms appear, stench is beginning, etc. There is great delirium and convulsions in the young. This is the critical period.

Tenth to Twelfth Day.—In smallpox the pus oozes and forms scabs, and the stench is particularly bad. **Seventeenth to the Twenty-first Day.**—In smallpox the scabs drop off, leaving red glistening pits which soon become white. Ulceration is deep, reaching the corium. Ophthalmia is generally present. Pustules pervade the mouth, larynx, pharynx and trachea. Petechiae form on the lower part of the abdomen and inner aspects of the thighs on the first and second days in some cases. **Papules.**—In the modified form papules, when present, are the same size as in smallpox, perhaps a little smaller, but fewer in extent. There may be no papules. Vesicles range in size from the head of a pin to the size of a split pea. They are not umbilicated, and, when punctured, collapse. The vesicle is unilocular. Convalescence begins on the appearance of the eruption. The so-called pustule does not extend into the derma. The epidermis is the only structure of the skin involved: there is, hence, no pitting. The vaccinated take the disease. In smallpox the pustules are about the size of No. 4 shot and have a translucent appearance, encroaching on the entire body, including the palms and soles. It appears first on the face and hands. Vesicles are umbilicated and multilocular. So is the pustule, and neither will collapse in toto if pricked with the needle.

..Dr. W. L. Beebe, of St. Cloud, Minn., read a paper entitled "The Old and the New." He said that he had been identified with two epidemics (20 years apart), and though they were evidently both species of smallpox, they were dissimilar in many characteristics. He thought that many of the recent cases of smallpox had been diagnosticated chickenpox.

..Dr. Louis Leroy, of Nashville, Tenn., read a paper on "Remarks Covering the Sanitary Features of Smallpox." In the event of an outbreak, he said that a competent physician should be placed in charge and given absolute power to act; he should communicate with Boards of Health; he should have police backing if necessary. Daily official reports should be made to the newspapers, stating the exact condition of affairs. Smallpox treated in private, he considered a makeshift; complete and perfect isolation he insisted upon. All articles should be disinfected in the usual manner; everything possible should be destroyed by fire after the patient had been discharged as cured.

In Tennessee this year he had introduced on a large scale the hypodermic needle as a means of vaccinating. He had first tried this method in Philadelphia in 1895, using then the aqueous solution he now uses in glycerinated lymph. A solid piston needle was used. The skin was cleansed in the customary manner and the needle inserted into the skin, not through it, and a drop of the lymph was forced between the epithelial cells and it diffused at exactly the locality required. It had many advantages; in cases of compulsory vaccination it cannot be washed off; there is absolute freedom from infection at the time of vaccination; it is painless and no immediate dressing is necessary.

..Dr. Heman Spalding, of Chicago, read a paper on "The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in This Country." On February 15th, 1899, smallpox was introduced into Chicago from Cincinnati; in the 17 months following there had been 72 cases; 25 of these from direct importation. For a period of 3½ months the city was entirely freed from the disease. Then another outbreak occurred. These two outbreaks gave him an opportunity of studying 310 cases in Chicago in the Isolation Hospital.

1 hemorrhagic case	died	1
13 confluent cases	died	3
24 semi-confluent cases	died	2
54 severe discrete cases	died	0
179 mild discrete cases	died	0
39 modified form of cases	died	0
310 cases	died	6

He did not think the term varioloid should be used; many persons were under the impression that varioloid was not smallpox, and think that if they are taken to a hospital while sick with the former they will contract the latter disease. It was a useless term and should be discarded. In Chicago they placed all patient, whether afflicted with hemorrhagic, confluent, or so mild that they would go to work unless prevented, into the same wards in the hospital. 271 of the cases reported had never been vaccinated. None of those afflicted with the mild form of disease contracted smallpox from the severer typical cases in the wards where the exposure had been long and certain. The mild form of the disease gives immunity from smallpox and yet will transmit typical confluent, or hemorrhagic, smallpox, of which he had abundant proof in Chicago.

Dr. Frederick Leavitt, of St. Paul, Minn., read a paper on "The Distinguishing Characteristics Between Mild Discrete Smallpox and Chickenpox," in which he made the following summary:

	SMALLPOX.	CHICKENPOX.
Age.	Any age.	Childhood.
Incubation.	Two Weeks.	13-17 days.
Invasion.	Marked headache, backache, fever, general malaise, lasting 3-4 days.	Is none, or at most only slight indisposition.
Surfaces attacked.	Worse on the exposed parts extremities. Invariably on the palms.	Worse on the covered portions—thorax; rarely or never seen on the palms and soles.
Character of the eruption.	Progressive; papules, vesicles, pustules, crusts.	Papules and crusts. Lesion very superficial. Easy to rupture.
Histology.	Lesion includes the lower layers of the derma. Hard to rupture. Multilocular.	Unilocular.
Temperature.	Remains high (103-105) till the eruption appears; then it drops and does not rise again for a week, and not then in mild discrete forms.	Rises with the severity of the attack.
Contour of eruption.	Quite uniform in size. Has a reddened area at base. Frequently umbilicated.	Not uniform. Also inflamed area about the vesicle, but less marked.
Sensation.	Painful to the touch; it may itch.	Not painful to touch.
Duration, including period of invasion and desquamation.	Two to four weeks.	Seven to fourteen days.
Vaccination.	Protects.	Does not protect.
Pitting.	When confluent on face will occasionally mark in the discrete form.	Seldom unless infected.
Complications.	Generally none.	None.
Mortality.	High in severe confluent and hemorrhagic types.	Nil
Resolution.	By crisis.	By lysis.

..Dr. H. M. Bracken, of St. Paul, read a paper on "Variola," in which he stated that Minnesota had reported 7211 cases of variola with 49 reported deaths during the past two-and-a-half years. He did not think we could be governed in our diagnosis of all cases in this present epidemic by the usual text-book description of variola. Typical prodromal symptoms may be present, but the rash may vary in degree, in form, in type of progress, and in final disappearance in a way that is described in but few text-books. He asked if vaccination protected against

the disease. Of 662 cases in 244 houses, but 10 patients had been vaccinated successfully at any time prior to their infection, and of these 10, over 30 years had elapsed since successful vaccination for 2 of them, over 25 years for 4 of them, 20 years for 1 of them, and 6 years for 1. The Chicago Board of Health made the following statement: "Out of a total of 171 cases of smallpox found in Chicago between November 30th and April 10th, 1901, 140 had never been vaccinated. Of the remaining 31 cases, 29 were in adults showing faint, poor or irregular scars, claimed to be evidences of attempted vaccination in infancy or childhood—the most recent being 23 years old. Only 2 out of the 171 cases exhibited scars of successful vaccination." Since vaccination had been made compulsory in the schools of Chicago, smallpox had disappeared from them. The degree of immunity depends upon, in part at least, the intensity of the infection. Marson gave a death-rate as follows among those who have been vaccinated: One cicatrix 7.73 per cent.; two cicatrices, 4.7 per cent.; three cicatrices, 1.95 per cent.; four or more cicatrices, .55 per cent.

SECTION ON SURGERY AND ANATOMY.

FIRST DAY, JUNE 4th, 1901.

Dr. A. J. Oschner read a paper entitled, "Cause of Diffuse Peritonitis Complicating Appendicitis and Its Prevention." The author reviewed the anatomical and pathological relationship existing between the appendix and the adjacent organs. He showed how the appendix was protected and pointed out the enormous blood-supply of the omentum. The value of rest as a preventive to the extension of infection in any part of the body cannot be overestimated, and if this is gained another point is secured in the right direction. Infection of the general peritoneal cavity is caused by disturbance of the intestines. Theoretically and practically food and cathartics should not be taken into the stomach. The doctor cited cases in which the ingestion of these products greatly irritated the condition. His mortality in cases of perforative peritonitis was less than $\frac{1}{4}$ as high as cases operated at once; in cases of diffuse peritonitis there has been a great decrease. From January 1898 to May 1901 he had operated 565 cases of appendicitis with 20 deaths, a mortality of $3\frac{1}{2}$ per cent. Danger of rupture of the circumscribed abscess into the general peritoneal cavity has been a cause of great anxiety. There is increased safety in operating during the quiescent state and as a result of this treatment fecal fistulae never result. The doctor advocated gastric lavage, in cases of food in the stomach or intestines, above the ileo-cecal valve. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases. Dr. Andrew McCosh read a paper on "Remarks on the Surgery of the Spinal Cord, with Illustrative Cases." He was of the opinion that pressure on the cord was urgent reason for operating and that early operations are important. He likewise believed that it was wiser to do the exploratory operation, because there the danger was slight. It was the routine practice to cut down on the skull to find out if there was fracture. If relief is to be expected, operation should be done at once. He had performed six laminectomies, two recovered and four died, but not as a direct result of operation. He did not think it was incumbent to apply any special support to the spinal cord. "Spina Bifida with Report of an Interesting Case," was the theme of Dr. Paul E. Eve's paper. Associated with spina bifida are hydrocephalus, talipes and hare-lip; it may consist of a tumor varying in size from a marble to an adult's head, occupying the central portion of the canal over the posterior aspect of the vertebral column. There are three varieties of this disease, namely-meningocele, the protrusion consisting of fluid in the spinal cord; meningo-myoele, where there is a portion of the cord in the sac, and syringo-myoele, the central part of the spinal cord being dilated. Various remedial measures were suggested, such as acupuncture, injection of iodide of potassium, etc. Extirpation is unjustifiable in young infants, and the indications for operation are where the child is over 7 years old and where the tumor was rapid in growth and rapidly threatened. The subject of Dr. Christian Fenger's paper was "The Methodical Exploration of the Brain for Fluid." The doctor described a case having a previous history of suppurating disease of the ear, an attack of appendicitis subsequently, of short duration and then swelling of the

elbow joint. He explored the brain methodically, going from one place to another. There was a cicatrix behind the ear, which was the only guiding point. After exploring the brain on the affected side of the head with no results, he then tried the opposite side, where the pus was found, and the patient recovered. The doctor said that methodical exploration of the brain was preferable to all others. Function, he said, was harmless, as Spitzka had previously proved in the needle-tracings in the brain which were aseptic. The author illustrated his paper with photographs, instruments and human skulls. The contribution of Dr. D. S. Fairchild, on "The Immediate and Remote Effects of Brain Injury" dealt with the value of first symptoms in determining the nature and extent of the lesion; the bearing on the question of treatment and prognosis; the possibility of the lesion being more or less serious than is indicated by the apparent gravity of the early symptoms; the danger of being misled on these points; the remote effects of trauma on the integrity of the brain-tissue in producing epilepsy and mental impairment; falls from a height or from a rapidly moving train. If the first symptom of intracranial hemorrhage is rupture of the middle meningeal, the immediate effect thereof is considered serious, unless surgery intervenes. The doctor reviewed scar proliferation from scars of the brain and said that these cases were amenable to surgical treatment. He presented the question of liability and medico-legal aspect of cases of brain injury. Dr. Frazier, Philadelphia, presented a contribution on the subject of operation for the relief of tic douloureux, or trifacial neuralgia, differing from the operations now in vogue, in that it depends for its success on the division of the sensory root of the ganglion and not upon the removal of the ganglion itself. The doctor very interestingly covered the besetting difficulties with which the surgeon meets, the technic of the operation and its applicability in present cases.

Discussion: Dr. W. W. Keen believed the time had come when cases of spina bifida should be submitted to operative treatment. In relation to Dr. Fenger's paper, he was sorry that he limited the exploration to search for pus, that there should be a very clear distinction made in exploring the brain for pus, purulent matter or serum. Ten years ago he had proposed a methodical operation and formulated several routes by which the ventricles could be reached. Dr. Keen cited interesting cases of exploring the brain for fluid. As to Dr. Fairchild's paper, he thought the doctor had taken the right ground, that interference was imperative. He reviewed the phenomena of the state of unconsciousness produced by trauma.

Dr. McLean agreed with Dr. Fairchild's idea of going without support; he had found it difficult to keep the support on; he thought it was a good step in spina bifida (Dr. Eve's paper) to attempt closure at operation, without aspirating or injecting fluid. He believed the skull was elastic and compressible in both young and adult, as was proved by clamping it; the tissue within must change and there must be movement within. The spinal canal is not a bony canal, but made up partially of fibrous tissue. The doctor referred to concussion and compression of the brain and subsequent extra-dural, subdural and cranial hemorrhage. "Now, I think, there is another point, where you might have depression of the skull. In that case the cerebral fluid will escape from the cranium, lessen the cranial tension and escape in the spinal cord. Doctor Weir did not believe that we had yet arrived at a conclusion with regard to depressed fractures of the skull without symptoms. In regard to wounds of the scalp, he had recently changed his ideas—he did not now let them alone. Surgeons feared, in penetrating the dura, making adhesions; adhesions must be expected; the discussor advocated the use of celluloid plates at the time of operation or at a secondary operation. Dr. Frank had tapped the lateral ventricles as early as 1890, with good results. He did not agree with Dr. McLean, that if a person was hit on the head it would draw the fluid into the spinal column, but it is not necessary to receive a blow on the head to become unconscious or give symptoms of concussion. Doctor Earl was of the opinion that the time was at hand when surgical treatment for injuries of the skull must be employed. Dr. Moore believed in the surgical treatment of spina bifida rather than the injections. Dr. Dawbarn related an interesting case of a man who was struck on the side of the head, with symptoms of hemiplegia. Operating on the paralyzed there could not be detected a clot or anything abnormal. At the autopsy, however, it was found that the

to that affected, there was revealed an enormous blood clot. Others who joined in the discussion were Drs. Bernays, Maxwell, Means, Crile, Tagart, McKnight, Baldwin and Vaughan, St. Louis.

SECOND DAY, JUNE 5th, 1901.

Paper by **Dr. John B. Deaver** (Philadelphia): "**The Mortality of Appendicitis.**" Dr. Deaver began by saying that during the year 1900 there were reported at the German Hospital in Philadelphia 268 cases of appendicitis, of which 144 were acute attacks of the disease and 124 were chronic. Of those operated during the acute stage 26 died or from some intercurrent illness arising during the illness or previously existing. In the cases not subjected to surgical treatment by far the largest factor is septic peritonitis. As to the number of attacks, the doctor said, that the fatal attack may be the "solitary severe one." "Severe attacks without fatal issue subside to varying degrees, but commonly render the internal symptoms more aggravated." In cases complicated with adhesions, but without septic infection, the mortality is very low. In one case the doctor operated 12 hours after the onset of the attack and found an advanced general purulent peritonitis, a condition from which I have never seen a recovery, and believed that where there is located pus the success of the operation depends upon the success in emptying and draining every pocket; merely opening and draining the main abscess will not do, the great problem being how to drain all these collections without infecting the general peritoneal cavity. Post-caecal collections of pus offer a serious problem. As to the advisability of removing the appendix in the presence of pus, the opinion of the author was that it should be removed, except in certain cases. Another very common cause of death is necrosis of the bowel. Dr. Deaver's experience showed that recurrent attacks of appendicitis are progressive in their severity, each one adding fuel to the flame; that the position of the appendix was an important feature; that delay in operating is responsible for more deaths in appendicitis than all the factors which have to do with the disease; that operation in the first 12, and at the latest 18 to 24 hours, would save patients, without subsequent complications, as fecal fistula, etc. On every case of appendicitis that dies in the German Hospital, there is made an autopsy. Paper by **Dr. Ernest LaPlace** (Philadelphia): "**Some Unusual Features of Appendicitis and Their Treatment.**" The doctor said that, as on a former occasion, he would repeat a statement: "In every case of fatal appendicitis, there was a time when, had the operation been performed, the patient would have survived. He was of the opinion that it was not the appendicitis that killed, but the peritonitis incident thereto. He divided the appendicitis into three different periods or stages: (1) That of appendicitis; (2) That of peritonitis; (3) That of septicemia. He believed in rapid operative procedure in peritonitis from chronic appendiceal abscess that has perforated or an acute peritonitis set up by appendicitis. Careful cleansing of the operative field should be instituted, with flushing of the abdominal cavity. When septicemia and peritonitis are both present, then simply wash out the abdominal cavity, close, and drain with gauze. He believed that it must be taken for granted that the phagocytes will compete more successfully with a slight amount of septicemia than with septicemia which is continually increasing by constantly forming toxins taken up from the peritonitis. Flushing continually the peritoneal cavity for at least a few hours after the operation would constitute the local treatment, whereby the arrest of progressive septicemia may be hoped for. Dr. Homer Gage, of Worcester, Mass., was detained by illness. The subject of his paper was: "**Abdominal Contusions Associated with Rupture of the Intestine.**" Dr. F. Gregory Connell (Chicago) read a paper entitled, "**The Knot Within the Lumen in Intestinal Surgery with Report of Eight Cases.**" The doctor said that the possibility of placing all the knots in enterorrhaphy within the lumen is no longer in doubt, but the advisability of such a procedure is still a disputed question by those who never used it. Perforation of all coats, when the knot is placed within the lumen, are not the same. The doctor said that death, in no case, can be attributed either to the method of suture employed or the manner of employing it; to include all the coats of the bowel-wall removes the danger of stitch yielding, that to fail to include the seromuscular layers an insecure stitch; that it is not only possible, but practical to place all the knots of an enterorrhaphy of the lumen.

Paper by **Dr. Roswell Park**, Buffalo, N. Y., "**The Nature of the Cancerous Process.**" "Like a huge and frowning sphinx at the very gateway or entrance to the field of surgical pathology has stood for centuries the great problem of the nature of cancer. This has, at least until recently, remained the inscrutable mystery of ages." The doctor reviewed Cohnheim's theory, and said that the parasitic or infectious theory of cancer is the only one which satisfies the needs of both pathologist and clinician. In the New York State Laboratory, with which Dr. Park is connected, the disease is studied by the pathologist, biologist, chemist, histologist and clinician, all working in close association. As to causation, the doctor was of the opinion that cancer was due to an extrinsic cause, i. e., to be parasitic in its nature. He took the analogy of vegetable life to sustain the parasitic theory, stating that the woody masses or xylomata or knots in trees suggest the tumor or cancer idea, which destroy the tree; they are frequently spoken of as tree-cancers. Tumors are also common in the lower animal forms. He believed that tumors in man and animal are due to the same general causes, and said that it was not too strong a statement to make that Dr. Gaylord and the Laboratory staff have absolutely produced adenocarcinoma by inoculation in a number of animals and that this can be produced in such a way as to afford unmistakable evidences of the infectivity of the disease. "**The Present Status of the Carcinoma Question,**" by **Dr. Nicholas Senn**. This, the doctor considered, is the most important research of to-day. Carcinoma results from atypical proliferation of epithelial cells. As carcinoma originates in epithelial cells its development is impossible in meso-blastic tissues. Histology does not support the parasitic theory. The progressive extension of a tumor into the adjacent tissues is proof positive of malignancy. This is by the lymphatics only. The increase of carcinoma is more imaginary than real. There is more basis to heredity than is believed by the profession at large. The age is important, although usually over forty it may be below twenty and in these cases it is almost always malignant. "**Early Diagnosis of Carcinoma—Methods,**" **Dr. Charles A. Powers**, Denver, Col. The salient features that the doctor desired to bring forth was the early recognition, thorough operative removal of the widest possible area, and a careful, systematic surveillance of the patient during the rest of his life. The laity should be instructed. The doctor reviewed the diagnostic reaction of the use of cancer-serum and auto-inoculation as an aid in the early diagnosis of cancer. "**The Pathology of Breast Carcinoma and Its Relation to Early Diagnosis and Treatment,**" **Dr. William S. Halsted** and **Dr. J. C. Bloodgood**. The doctor grouped the tumors under multiple, malignant, benign and those associated with various acini changes in the tissues of the breast. The doctor said: "In our experience of some 294 cases, the number of cases of malignant tumors which have been admitted to the hospital at such an early stage that the clinical picture was suggestive of a benign tumor, is about 9%, or about 23 cases. What it will be in the future I am not prepared to say." "**Carcinoma of the Cecum,**" **Dr. William J. Mayo**, Rochester, Minn. The doctor said that carcinoma of cecum occurs in 7% of all cancers of the intestines and is of the columnar cell variety. Colloidal changes are frequent. It is usually annular in form, but may present a well marked tumor. Glandular infection occurs in less than one half of the cases dying from that malady. Age is not so important a feature as is carcinoma of other organs. It is not infrequently in the comparatively young. This disease may be confused with chronic appendicitis, tuberculosis of cecum, fecal impaction, etc. The results of radical operations, both immediate and remote, are good and compare favorably with cancer in other situations of the body. "**Improved Method for Resecting High Rectal Carcinoma,**" **Dr. Robert F. Weir**, New York City. The doctor considered the Kraske operation unsatisfactory for the removal of high-seated cancers of the rectum, but practices Maunsell's operation. He especially covered the technic (illustrated by drawings), surgical cleanliness, the anus and its drainage, with a list of cases. "**The Treatment of Malignant Disease by Surgical Operation,**" **Dr. Fredric S. Dennis**, New York. The treatment considered included surgical, toxins, drugs, caustics, electricity, Röntgen rays. Surgical operation is successful only when it is performed early, when it is radical in character and when it is repeated indefinitely. Cases are not considered unless three years at least have elapsed since operation, and,

by some, this period is estimated as too short. The importance of education of physicians of necessity of early operations as the essential feature of cure should be borne in mind, as well as the importance of microscopical examinations of every growth as the only means to obtain accurate information for the future study of malignant disease. It is necessary to keep a careful record of every case with its subsequent history. He proposed that the increase of cancer is not explainable. The writer was of the opinion that the action of the toxins upon malignant tumors was only explainable upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recently expressed opinion of Czerny. Surgical intervention is the only resource since all drugs have proved ineffectual.

Discussion: Dr. Bernays, St. Louis, believed that we were to face an epidemic of cancer and that it affects all classes. "Dare we hope for a curative remedy? I think not!" Many men had worked on this question, but all had failed to solve the nature of cancer. As to etiology, some, he thought, were of embryonal nature, some parasitic and others rudimentary developmental. He thought we might "hope to exercise a sort of prophylaxis as we now do in tuberculosis." Dr. Crile, Cleveland, spoke of a screw-clamp to close the arteries, and thus prevent hemorrhage, in operation for cancer of the tongue. Dr. Rodman, Philadelphia, said that there was accumulating evidence to show that carcinoma is due to parasitic origin; that until recently it was supposed that carcinoma was not found as frequently in the Indian and negroes, yet it is found in both those races as in the white, certainly carcinoma of the breast, and in the negro probably a little more than in the whites. Dr. Fritterer, Chicago, was opposed to the parasitic theory, but did not wish to discourage research along that line. He referred to the mechanical theory, the displacement of the epithelial cells in the deeper layers, and the Cohnheim theory. The doctor had, in the exhibit, a pathological specimen—cancer of the stomach—an implantation from an ulcerating carcinoma in the esophagus high up. Dr. Massey, Philadelphia, in speaking of cancer, thought that there was a separate entity, separate from the man or woman on which the disease feeds. He spoke of the use of the electric current, causing chemical disintegration of the growth at once under ether, which he had presented in Philadelphia in 1897. Dr. Dawbarn, New York, commended the joint paper by Drs. Halsted and Bloodgood, in the extirpation of tumors or lumps in the breast, whatsoever they might be. In operations for cancer of the tongue he believed death was caused by shock and that the chief cause of shock is hemorrhage. The doctor had forty personal operations in the region of the mouth and external carotid. Dr. Leavings, Milwaukee, referring to cancerous growths coming from a development of epithelial cells, embryonal or post-natal in character, drew an analogy between that and the embryology of the teeth or "enamel organ." Dr. McKenzie, Oregon, from the standpoint of the clinician, thought that in considering the origin of cancer, the point of locality had a great deal to do with it: that when it develops in any part of the human body it develops in tissues which are not normal anatomically and in organs which are not normal physiologically.

At the close of the morning session Dr. C. M. Jackson, of the University of Missouri, gave an interesting talk on the subject of "A Method for the Study of Relational Anatomy," in which he said that the relative inefficiency of the present courses of instructions in anatomy is largely due to the lack of a practical method of studying the topographical relations of the various organs. For this purpose sections are necessary. Method of frozen sections unsatisfactory. The author has obtained excellent results by sectioning bodies hardened by arterial injections of formalin. A detailed account of this method as applied in teaching relational anatomy in the University of Missouri, a new apparatus for making rapid and accurate drawings of sections. The possibilities of this method for teaching anatomy and surgery, and also for the study of relational anatomy by the practitioner.

Officers for following year: Dr. De Forest Willard (Philadelphia), Chairman. Dr. Jas. B. Bullitt (Louisville), Secretary.

THIRD DAY, JUNE 10th, 1901

Paper by Dr. John A. Wyeth, New York City: "Hemostasis in Amputation at the Hip-joint—A Resume of 262

Cases by the Author's Method." The operation has had 11 years trial; the author has collected 267 cases, in which the operation had been done. The operation was first made public at a meeting of the American Medical Association at Nashville in 1890. The 267 cases are classified as to neoplasms, sarcoma, epithelioma and osteo-carcinoma. While the mortality is large, the injuries were of a very severe type. The death rate in 1881 for all causes was 64%, now 19.8%. The death rate 20 years ago for all causes was equal to that for crushes from railway trucks or heavy machinery at this date. Antisepsis must share with the improved hemostasis the credit of this diminished rate of mortality. In the discussion, Dr. Means of Columbus, stated that his experience was limited to two cases. He thought that the use of these pins in hemostasis could be extended quite as well to various other portions of the body. He felt that the profession should congratulate Dr. Wyeth for the principle involved in this method of controlling hemorrhage. Dr. Henry concurred in the expressions of the value of this method of Dr. Wyeth. Dr. Walker said that the ease with which hemorrhage could be controlled was a revelation to him. He asked why the operation could not be done without the use of the pins—why not do the ligation primarily? Dr. Sylvester considered it a very scientific and satisfactory operation. He was in the habit of tying the silk-worm sutures in bow knots, and the bow knots can be untied without the use of an anaesthetic. Dr. Wright, of Bridgeport, Conn., uses a heavy rubber bandage and converts it into a roll, passing it around the groin. He has been able to produce a hemostasis which was quite satisfactory. It occluded the vessels and saved the necessity of the pins. "Autoplastic Suture in Hernia and other Ventral Wounds," Dr. L. L. McArthur, Chicago. As to Suture material, the Doctor said that he would not have presented the paper if he did not believe that it possesses additional merits, viz.: (1) The obtaining of a living suture; (2) Lessened chance of failure through avoidance of introduction of dead or foreign tissue; (3) The incorporation in the resisting cicatrix of organized white fibrous tissue. He felt that failure of cure in hernial operations by any of the recognized methods is practically due to associated infection, for the Bassini, the Andrews or the Girard, un-associated with infection can be said to be practically always successful. Dr. Powers of Denver believed that Dr. McArthur's proposition was well worthy of trial. He did not know whether the essayist had operated on any children by this method. The discussor had operated on a boy of ten years. Dr. G. F. Shimonek of Milwaukee believed that this tissue so united, was of rather low vitality, as all tissues of that kind are, and that by passing it through the opening and putting it on a stretch it must become de-vitalized. The Chair remarked that an important point to observe was that after it was sewed there was no tension. That instead of being constricted the way the tissues are when they are tied with catgut, no constriction occurs. Dr. McArthur said that he had found that the edge did not tear out any more than it would in using any other suture material. The Doctor reported a case of rather a rare type of hernia, which is spoken of as the "sacless hernia." "New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery," Drs. L. E. Schmidt and G. Kolischer (Chicago). Skiagraphy for medical purposes was especially advanced and perfected in America. Calculous deposits were especially attractive for X-Ray diagnosis. The authors' paper was elucidated by illustration, one showing a kidney and renal stone. By their method they are able to determine the course of the ureters, location on the renal pelvis, diagnosis of dilatation of the renal pelvis, and the location of the renal calculi; also the possibility of differentiating gall stones from renal stones. "Prostatotomy versus Prostatectomy for Prostatic Hypertrophy," Dr. Raymon Guiteras, New York City. The Doctor outlined the history of prostatectomy and prostatotomy, saying that each had been developed by a gradual evolution. His personal preference is the vesico-rectal method and the most important part of his technique is the inserting of two fingers high up in the rectum. It is too grave a condition, such as hypertrophy of the prostate, to allow of logrolling. There are three main classes of these cases: the first, the physiology young, suitable for radical operations; the second, older, can withstand palliative bottini. The third class fortunately small, and growing smaller are able to stand no operation whatever.

Statistics show the mortality of prostatectomy as yet to be three times that of prostatotomy.

"Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction," Dr. Eugene Fuller, New York City. The Doctor opened his paper with a plea for radical operative relief in these cases. At the present time, if practitioners allow a patient to die from appendicitis without resorting to surgery or, at least to raising of surgical interference, the community at large blames him severely; the same ought to apply to prostatic obstructions. The Doctor showed how, under proper surgical management, the mortality, under favorable circumstances, is not over from 8 to 10%. The question of castration for relief of this condition is passed over and cast aside as a discarded method. The Bottini method was freely considered. "A Further Report on Permanent Catheterization," Dr. J. R. Eastman, Indianapolis, Ind. Permanent catheterization in the male was practiced in 15 cases in each case the catheter was retained for 10 days; in two cases 60 days. Cystitis was not produced in the author's cases sufficiently severe to produce symptoms. Hydrogen peroxide was introduced into the bladder. Regular flushing of the bladder was not done except in two cases. It is essential that the catheter be introduced just far enough, that the tip project into the bladder and be accurately secured. "Fallacies in the Treatment of Urethral Diseases," Dr. Robert Holmes Greene, New York City. The Doctor covered the technique pathology quite extensively and added to the realism of his subject by well-defined drawings of cases. "Perineal Prostatectomy," Dr. Parker Syms, New York City. The Doctor said that while prostatectomy by most methods had shown a large death rate, he had so far been fortunate enough in not having lost a patient and having a complete cure in all cases except the second one.

Discussion: Dr. Robert H. W. Dearborn presented the subject of an apparatus of his own for supra-pubic drainage, which had already had the test of ten years. He thoroughly described the technique thereof by specimen presented. It consists of a fountain syringe, regulated by either an artery-forceps or, as the Doctor used, the catch that comes with the syringe. Dr. Rockey considered that the question of prostatic hypertrophy was one of vastly greater importance than it seemed to receive from the profession. He believed the operation of prostatectomy has been an evolution, and that the question to decide was the method. He believed that the information was to allow the operation to become one of last resort, that it should be taken up much earlier. Dr. McGowan, of Los Angeles, had operated on about fifty old men by prostatectomy and prostatectomy; the men varied from 65 to 81 years; the results were not perfect by either method. Dr. Guiteras, speaking of retention of urine, said that the bladder ought never to be emptied at one time; never draw more than a pint the first time. In speaking of the Bottini operation, the Doctor said that it held the same position to-day as did Hysterectomy a few years ago, but that some day a good operation that could be done with ease and without danger to the patient would be devised. Other discussers were Drs. Eastman, Greene, and Syms.

Paper by Dr. J. D. Murphy, Chicago, "Pneumectomy and Pneumotomy." The doctor said that pneumectomy is frequently indicated. It can be performed with safety to the patient; the danger of pneumothorax is not great, and their unpleasant manifestations are entirely overcome when the causes of the symptoms are understood. Portions of the lung may be amputated without danger of hemorrhage and without danger of pneumothorax from division of the branches of the bronchi. Pneumotomy is frequently indicated, is not a dangerous procedure and may be accomplished with or without adhesions of the lung; the hemorrhage is usually controlled. The doctor showed why the scalpel should be used in place of the Paquelin cautery in opening pulmonary abscesses, interlobar abscesses and bronchiectatic cavities, and portrayed the probabilities of pneumectomy and pneumotomy. Dr. DeForest Willard, Philadelphia, "Removal of Foreign Bodies from the Trachea and Bronchi." Foreign bodies, the doctor said, such as seeds, nuts, toys, food, etc., are exceedingly liable, especially in children, to be sucked into the trachea during laughing, crying, etc. The violent efforts at coughing usually dislodge the offender if it has not

reached the larynx but it may be arrested at the vocal cords, or may pass on and become impacted in one of the bronchi, usually the right, from anatomical reasons. A low tracheotomy should at once be performed and a large opening made. When the object to be sought for is metallic, an X-ray representation may prove of great value. Should gangrene of the lung occur, a free incision should be made down to the pleura. "Treatment of Empyema," Dr. James H. Dunn, Minneapolis. The doctor said that the average treatment of empyema is still far from satisfactory and decidedly behind the present state of surgical science. He assigned as some of the causes of failure, tardy diagnosis, inefficient drainage and slovenly after-treatment. A pleural suppuration should be at once removed. The drainage opening should be large. The doctor, in a very interesting way, covered the technique diagnostic and prognostic features.

Dr. Vernays said that he believed that the time had come when surgery would attack the ravages of tuberculosis in the lungs and that it would be done successfully. The doctor then related postmortem findings of tuberculous tissue, which proved of great interest to the Section. The doctor believed that this department of surgery is in its infancy. Dr. Willard had so completely covered the subject of foreign bodies in the air passages that he had nothing to add. As to Dr. Dunn's paper, he said that the treatment of empyema depends on the microscopic findings in the fluid that has been drawn out by the exploratory needle. Dr. Barbet had expected to present a paper on thoracic surgery. He had performed experiments on dogs and had devised a special apparatus. Dr. Jopson, of Iowa, considered that the removal of foreign bodies from the air passages forms an important part in general surgery; that in every instance of foreign bodies in the air passages, the trachea should be opened. He did not believe that emetics, holding the patient upside down, were availing. He said that when the trachea is once opened we immediately know whether it is distal to the opening or proximal, whether it is toward the lung or whether it is located in the larynx by the breathing, and the thing in the larynx can easily be removed by a pair of forceps.

Dr. Frank, of Chicago, said that he had had experience in lung surgery in two cases and that he found from these two cases and from experiments on dogs that surgery of the lung is not as easy as most speakers would lead one to believe. The first case was that of a politician, who made a good recovery. The doctor had inserted a syringe with a catheter into the trachea and made suction. Dr. LeMoyné Wills, of Los Angeles, said that the trouble in Southern California and all parts of the country is that much opposition to anything in the way of draining the superficial cavity, or anything in the chest, that it is put off until it is too late to do any good, and that it is for the profession to overcome that opposition and not let their patients go on in a septic dying condition and then send them away to Arizona and New Mexico and Southern California, thereby putting the responsibility on the other fellow's shoulders. Dr. Norred, Minnesota, related a case of a child two and a half years of age, who in 1869, had swallowed a peanut kernel, which was drawn into the bifurcation. His two consultants said there was no hope, but he persisted and suggested that they relax the child completely and thus prevent any muscular contraction. The child was, therefore, given morphia and vomiting was provoked, whereupon the peanut kernel was dislodged and came up. And accompanying pneumonia was also checked. "And," said the doctor, "I have to say with great gratification, that the young man recovered and is in your presence this afternoon." (Applause). Dr. Keen, of Philadelphia, spoke in relation to puncturing the lungs. The points which he emphasized was the means of obtaining adhesions where none exist in puncturing the lung, and the safety of a very large suture of lung tissue to the chest wall. In the first case the doctor made his incision parallel to the ribs for about two inches, carefully dissecting the muscles, separating them as he went down, until he reached the pleura which was very easily recognized and the muscles very easily separated from the pleura. The other was the case of a woman who had a sarcoma of the chest-wall, reaching from the outer border of the breast nearly all the way back to the vertebral column. Dr. Means, of Columbus, had, within the last 18 months two cases, one of them demonstrating the possibility of recovery, after a fearful gunshot wound of the chest; in the other he was unable to reach a pus cavity. Dr. Willard, of Philadelphia, said that

satisfaction at the success of the meeting, not only from the interest manifest, but by the high-class papers presented and scientific nature of the discussions.

Adjourned.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

FIRST DAY, JUNE 4th, 1901.

The Chairman, Henry P. Newman of Chicago, presented his address in which he made some suggestions on the improvements of the methods of conducting the section meetings, and then proceeded to review the year's progress in gynecology and obstetrics. Among the most noteworthy innovations of the year is the clinical adoption of the method best known as cocaineization by spinal puncture. Bier, of Germany, made the first injection, and Tuffier, of France, followed him. The latter has now covered in his experience 400 cases and has collected the records of 2000 cases with but 6 deaths. He considers the method as absolutely safe, but in this he is opposed by others. Newman claims that its limitations are somewhat reduced, and that the method will probably never be so popular here as abroad. The patient plays a very important part in the method, which is not applicable to children and sensitive adults, nor for grave major operations. Full consciousness is not desirable. In obstetric operations the method has been found undesirable. There is no relaxation of the muscular tissue as with the use of other anesthetics. The Protozoan of Cancer. Gaylord's experiments seem to show that these micro-organisms are the cause of cancer. Until a specific be discovered, however, wherewith to destroy the disease, surgical operation will not be contraindicated, even up to the eleventh hour. The early correction of all epithelial lesions of the genital tract will largely prevent the subsequent development of malignant diseases, which is now so rapidly growing in frequency. Ovarian grafting or transplantation has gained ground during the year, as evidenced by the encouraging reports from the various experimentors. Cesarean Section for placenta previa is valuable if done under aseptic precautions and before the patient is exhausted. The operation is probably contraindicated in eclampsia. A large percentage of the gastric symptoms of pelvic disease is due to the accompanying visceral displacement, as is also a large percentage of the neurasthenia. The different splanchnoptoses, such as floating kidney, floating spleen, etc., also give rise to grave nervous manifestations. Uterine fibroids. The use of saline infusions in the treatment of the hemorrhage from these growths has grown during the year. We have now outgrown the dangerous theory that because these tumors may atrophy at the time of the menopause it is safe to leave them undisturbed until that time. The importance of prophylaxis in gynecologic treatment was emphasized. The trained nurse should supplant the monthly nurse. There will always be the need of intelligent obstetrics, while nothing but gynecology will eliminate gynecology. Dr. A. H. Cordier, of Kansas City, Mo., read a paper on Post-operative Intra-peritoneal Hemorrhage. He remarked that no condition is more horrifying than hemorrhage after an abdominal operation. The use of unstable ligature material has cost many patients their lives. His three cases of post-operative hemorrhage have occurred in easy cases. The symptoms of concealed hemorrhage very closely simulate those of shock, hence there is a danger of making a fatal mistake. In making the diagnosis he suggests the advisability of cutting one of the abdominal sutures and introducing a sterilized tube or a pair of hemostats; if hemorrhage be present the blood will begin to flow out. Many so-called cases of shock are in reality cases of post-operative hemorrhage. In such cases the only duty of the surgeon is to control the hemorrhage, not by strychnin and hot applications, but by resection. The proper use of the decinormal saline solution is of great value. It is best to introduce the fluid in two sittings, for a large quantity is needed. Dr. McMurtry, of Louisville, remarked that post-operative hemorrhage is due to breaking or slipping of a ligature, and almost invariably to the latter. He does not think that the material used has much to do with the accident. It is rather due to the method of application. Intravenous injections of salt solution should never be given while the hemorrhage is going on. Profound collapse or death may follow the loss of a very little blood

after an operation: hence the hemostats must be prompt, and in some cases packing with gauze is necessary. Dr. Gordon, of Maine, criticized Dr. Cordier's paper in two ways. First, in the material used. He has used no ligature material but catgut for 17 years, and thinks only absorbable ligatures should be used. He prefers ligating by a needle only, and always secures the first ligature by a second placed below it. He would not introduce a drainage tube in cases which do not need such a tube. Kelly, of Baltimore, reported a case of hemorrhage resulting from the early absorption of a ligature. He does not care for any other substance than silk (and fine silk) for ligatures. He always gives a good pedicle beyond the tie. Most important is a thorough review of the field after the operation. In suspected cases of hemorrhage he opens up at once, and the salt solution is given as the patient goes upon the table. Marcy, of Boston, believes that defective technique is the most common fault in hemorrhage. He favors the absorbable sutures, and thinks that the buried animal suture is the best contribution to surgery. Rubber gloves and silk will not prevent infection and irritation. Frederick, of Buffalo, has used catgut exclusively for 10 years, covering nearly 1000 cases. Formalin catgut will remain 2 to 3 weeks when tied taut. He applies first one knot and then a double knot, leaving the ends from $\frac{1}{2}$ to $\frac{3}{4}$ inch long. Dr. J. G. Clark, of Philadelphia presented a paper on the Contributing Factors in the Production of Peritonitis. He stated that in 1896 he suggested the natural method of drainage of the peritoneal cavity. He found that the peritoneal lymph currents sweep toward the diaphragm, and that the rapidity of absorption is so great as to render impossible the localization by mechanical means of infectious matter in any part of the abdominal cavity. He was astonished by the remarkable absorbing power of the peritoneum, not only for liquids, but also for solid granules. Within eight minutes after the introduction of granules into the abdominal cavity they appear about the diaphragm. After the introduction of septic organisms in the peritoneal cavity there occurs primarily a distribution. Later the leukocytes begin to disappear, and when found they contain the granules. This proves that the leukocytes are the phagocytes, killing the parasites and carrying them into the general circulation. Given a minimum amount of infection at the end of an operation, it is proper to wash out the cavity and introduce a substance which will favor absorption of the poisons. The central tendon of the diaphragm absorbs quickly, and some of the poison is eliminated through the lungs, liver, intestines, spleen and kidneys. There is no possibility of limiting the infectious material to any portion of the peritoneal cavity. Thorough irrigation followed by the leaving of one liter of 6/10% salt solution is the best method of treating patients feared to be septic. Peritoneal infusions may, however, be dangerous in ascitic cases in which the natural peritoneal drainage is already deficient, and also in cases of general surgical peritonitis. Wiggins, of New York, has found that his section cases do better after using irrigation, and have less adhesions. Kelly, of Baltimore, remarked that the whole status of drainage is changed. Formerly 95% of the cases were drained, now scarcely any. General septic peritonitis from appendicitis must be drained. He occasionally uses gauze in the abdominal cavity to sequester, not to drain. Baldy, of Philadelphia, states that Baer, of Philadelphia, long before Johns Hopkins Hospital took up the subject, closed the abdomen in desperate cases without drainage. He does not drain in 2% of his cases, and he never leaves fluid in the abdominal cavity, nor does he have much sepsis. He does not believe the fluid does the work. If the pus be streptococcal the patient will die notwithstanding irrigation. Kollischer, of Chicago, stated that no man could say in what direction the peritoneal lymph channels drain. Moreover, the poison does not remain on the surface, but penetrates the serous coat and is carried by the subserous lymph-chains. Irrigations, therefore, can only affect the surface poison and not that which has penetrated. Deaver, of Philadelphia, objects to the doing away of abdominal drainage. If we fill the infected abdominal cavity with a saline solution we leave the last stage of our patient worse than the first. He advocates practice versus theory. By invitation, Dr. M. D. Mann, of Buffalo, N. Y., read a paper entitled A New Operation for Extirpation of Cancer of the Rectum in which he stated that Edeholds has recently suggested resection of the rectum from above. The operation Mann advocates is as

follows: The rectum and vagina are well cleansed, and after exposing the bowel, the rectum is clamped above the growth and cut off; the meso-rectum and rectum are then cut away and all large vessels tied. The lower end of the rectum is then seized and drawn up; a Murphy button is inserted and the two ends clamped, the lower button being held up by 1 or 2 fingers introduced into the rectum.

SECOND DAY, JUNE 5th, 1901.

Dr. O. Thienhaus, of Milwaukee, Wis., read a paper entitled *Atresia hymenalis*, and presented a specimen of a girl 14 years of age, the condition resulting from atresia of the hymen. Infection of the vulva and vagina and inflammation of these structures, he claims, is the main cause of atresia.

Traumatism, pessaries and burnings may also cause the condition. An examination should be made in all cases of delayed menstruation. Hematokolpos is discovered and a hematosalpinx suspected and abdominal incision should first be made, and the tubal tumor be removed and then the incision made below. Goldspohn, of Chicago, would avoid opening the abdomen when the accumulation existed in the vagina only as it usually did. Dr. A. Goldspohn, of Chicago, presented a paper on *The Indications, Technique and Results of Salpingostomy with Ignipuncture of the Ovaries*. He remarked that ovarian disease is due largely to inflammatory action. Conservative work on the ovaries was commenced by Karl Schroeder, who was soon followed by A. Martin, Polk, Dudley and others. Personally he has been able to follow 97 cases after conservative processes had been adopted. An examination of 27 of these showed the parts in perfect health. Cases without pus, extreme adhesions or retroversion of the uterus may be operated upon through the vagina. Nine of such cases he had followed and 5 are well; the other 4 are ailing. In the larger number of cases a decided retroversion or retroversion existed with adhesions, but no pus. Such cases were operated upon through the vaginal canal, and when so treated they stand the test of pregnancy and do not permit of the return of the abdominal condition. He has followed 56 cases of this class, and 49 or 87.5% show perfect results, 9% give partial results, and only 3% showed positive failures. In patients who are not near the menopause and who are not tainted by tuberculosis or malignant disease, a part of one or both ovaries should be retained. Also in extirpating dermoids of the ovary, a part of the organ should be retained if possible. Asepsis of the highest degree is necessary in the removal of the adnexa, and the smallest amount of suture material possible should be used, as should also sterile rubber gloves. A generous medium ventral incision is best for the conservative treatment in those cases in which extreme adhesions and pus are found. In less severe cases the inguinal ring is better. The vaginal operation does not provide an easy access for excision of the ovaries. Ignipuncture is valuable in many cases. The writer then presented the histories of typical cases. Bovee of Washington claimed that much can be done by the conservative surgery of the ovaries, and less in diseased condition of the tubes. The object of conservative surgery is primarily the health of the individual, secondarily function, and thirdly mental impression. Many cases of simple punctures will result in dense adhesions. Sclerocystic ovaries are not suitable for resection, but should be removed. Eastman, of Indianapolis, remarked that the retention of a stormy menstruation is better than the abolition of menstruation, and also the retention of the sexual impulse.

Goldspohn, in closing the discussion, said that in his 97 cases there followed 10 pregnancies. Ventral suspension by the sound ligaments is next in value to the inguinal operation, but it is not ideal.

Dr. A. J. Downes, of Philadelphia, presented a paper on *Electrothermic Hemostasis in Abdominal and Pelvic Surgery*.

Dr. Downes defined Ideal Hemostasis as that method by which not only the vessels are occluded with certainty but so that no complication, either immediate or remote, results. He pointed out how no correct method fulfilled the definition. Reference was made to Keith's original application of pressure and heat to blood vessels and to Skene's development of the first electro forceps. Dr. Downes exhibited new instruments, electro thermic angiostribe forceps, electro thermic forceps, and artery forceps electro-therm. They are rapid and certain in use

and free from the objection to earlier instruments. The essential requirements in electro thermic hemostasis were pointed out, as also the safeguards. A number of abdominal operations in which the hemostasis was used were reported, including appendectomies, hysterectomies, salpingo oophorectomies, ovarian cysts, ovarian abscesses. The necessity of a meter in the circuit and mathematical exactness was insisted upon. Aseptic nonadhering stumps were claimed as also greater freedom from pain after sections.

Martin, of Chicago, remarked that the combining of heat with a crushing instrument is a distinct advantage. Anything that will enable the surgeon to do away with the ligature is great progress. The white material formed by the electricity is a homogenous tissue without evidence of blood vessels or nerves in the compressed area.

Dr. E. E. Montgomery, of Philadelphia, opened the symposium on uterine fibroid by a paper entitled *How Shall we Deal with Uterine Myomata?* He states that much of the good apparently done by the animal extracts in the treatment of uterine neoplasms is due to suggestion. The thyroid extract has been most useful, its action being exerted upon the mucous membrane. He would not use these extracts in cases in which surgery should be used. In removing myomata the uterine incision should be longitudinal, the growth seized by tenacula and extirpated. After removal of all growths the ragged tissues should be excised and the uterine wound sutured. In extensive wounding of the uterus a gauze drain should be introduced through the abdominal wall. The number of growths is not so important as the size of the tumors. Small fibroids that do not give rise to symptoms need not be removed. Small fibroids producing hemorrhage are usually submucous and should then be removed through the vagina.

Small multiple fibroids inaccessible to the vagina should be removed from above. Eshman, of Indianapolis, stated that he did not find to-day the large fibroids seen 10-15 years ago. He regards the menopause as a dangerous period when degenerative changes are liable to occur in these uterine tumors. When one fibroid is present no one can say there are not others. Conservatism means the conservation of the woman's health, and this is best done by hysterectomy. Nahten, of Louisville, does not believe every fibroid tumor should be removed. But only when they give rise to symptoms. He does not believe in oophorectomy, nor in myomectomy. He would only do a hysterectomy and also take out the cervix in order to avoid subsequent cancer. He gets the best results per vaginam, if the tumor be not too large. He removes the uterus first after clamping, and then ligates the vessel. Dudley, of New York, would do a myomectomy provided the appendages are healthy and the uterus will not be so scarred as to give rise to trouble. Dr. J. M. Baldy, of Philadelphia, read a paper entitled *Cancer of the Uterine Neck*, in which he remarked that this disease is surgery's disgrace. The best statistics show but 5% recovery. The best recorded statistics are those of Johns Hopkins Hospital, with 20% recovery, but this does not include a large number of inoperable cases, and again some of the cases reported as cured are but 9 to 14 months old, too early to warrant an absolute cure. The microscope is not a sure means of diagnosis, and therefore some cases are operated upon that are not cancerous. Winter's statistics from Germany show that the disease is almost incurable. The early discovery of the disease is most important. The question of the laboratory is becoming a fad. Clinical observations of facts precede the laboratory, and are more important. Hemorrhage is the most important early symptom. Carstus, of Detroit, and Zinke, of Cincinnati, believe that early operation is a sure cure. Clark, of Philadelphia, would not trust solely to clinical evidence. Ries, of Chicago, objected to the reader's paper. He thinks that the operation of total extirpation of the glands, broad ligament, round ligament, and all other tissues will cure the patient. Recurrence occurs in a large majority of cases within six months. Wertheim's primary mortality is large, but of the cases that have recovered no recurrence has taken place. The mortality of this extensive operation is 10%. Kollischer, of Chicago, claimed that Baldy's statistics are absolutely correct. Cancer of the portio, however, is relatively harmless since it can be cured. Baldy, in closing, stated that recurrence when it does take place does so in the wound and below, not above, hence

the extirpation of the glands is uncalled for. No man can remove every gland from the pelvis of a living woman. Dr. J. Wesley Bovee, of Washington, D. C., presented a paper on **The Relative Merits of the Different Methods of Utero-Ureteral Anastomosis**, and describes some of his experimental work in this line of surgery. He describes the four methods, namely end to end, side to side, end to side, and obliquely end to end. The indications are not the same for each method.

Most of the reported cases of ureteral injury requiring this operation have resulted accidentally in uterine operations.

Dr. A. Plamer Dudley, of New York, read a paper on **Some Results of Ovarian Surgery with Further Report upon Intra-uterine Inflammation of Ovarian Tissues**. He has done 190 such operations to date without a failure, six cases of intra-uterine inflammation of the ovary being included. In almost all the cases some other work was performed in addition to the work on the ovary. He cannot believe that because a woman's ovaries are gone she should also lose her womb. The age of the patient and her social position, her previous history, the patient's wishes, and the diseased condition of the ovaries found will all influence the operation. Only young women are open to the operation. The hard working woman is not a suitable case. The history of a hereditary taint of syphilis, tuberculosis, or other disease, would debar the operation. Uterine gonorrheal infections and fibroid conditions greatly distorting the uterus would prevent conservative work. One hundred and thirty-seven cases of the 190 are cured, and only 42 have not been heard from. Twenty-eight pregnancies have followed the operation. He uses a fine floss silk which cannot be bought at an instrument store. He does not use catgut, nor does he employ the thermo or galvanocautery. He has had no case of ovarian suppuration. The dangers of ovarian transplantation are three-fold; the implantation of diseased tissue; the development of ovarian cystomata from this tissue; and the development of an abdominal pregnancy. He modifies the technique as follows: He implants the ovarian structure attacked to its own ligaments into the horn of the uterus and stitches the graft so that the ovarian tissue is dependent inside the uterus. Goldspohn, of Chicago, would never use any suture material upon the ovary that is not absorbable. Golfe, of New York, prefers doing his conservative work on the ovaries and tubes through the vaginal vault.

Dr. Howard A. Kelly, of Baltimore, presented a magic lantern exhibition of **The Various Incisions Appropriate to the Different Renal Operations**. He showed the best incision for suspension of the kidney, and that when the kidney is enlarged and its enucleation liable to be attended with difficulty. Also the method of removing the kidney with its ureter. The author's plan of nephro-ureterectomy without division of muscular fibers avoids the extensive wound and the weakening of the abdominal wall following the long incision from the back down to the symphysis pubis. He makes two incisions instead.

THIRD DAY, JUNE 6th, 1901.

Dr. Emil Ries, of Chicago, read a paper on **A New Operation for Retrodisplacement of the Uterus**. He remarked that shortening of the round ligament met with considerable favor in this country and abroad. Shortening of the utero-sacral ligament was not received with favor. The vaginal operation which he now does will preserve the mobility of the uterus and will not depend on serous adhesions nor interfere with the function of the tube. January 13, 1899, he operated on his first case. Since then he has operated 20 times. The patient is placed in the lithotomy position, the anterior lip of the cervix is seized with vulsellum forceps, and an incision made in front of the cervix extending up to the uterus. The vault is then opened posteriorly, the fundus of the uterus is drawn down into the vagina, and the appendages are operated upon, and whatever is left is returned. After this vaginal celeotomy is performed, his special operation is done. The round ligament is detached for 4 to 5 cm., and a long catgut suture passed through the ligament and then around the ligament. The thread is left long, and the needle remains attached. The same is done on the other side. An incision or tunnel is now made across the uterus from one to the other round ligament, midway between the mucous and serous surfaces. After this tunnel is formed a curved artery forcep is passed through, grasps the needle and

thread on that side and pulls them through to the opposite side. The same is done with the other thread. Thus far no traction has been made upon the ligaments. The thread only passed through the tunnel on the anterior surface of the uterus. The fundus is now pushed back into the peritoneal cavity and the threads are pulled upon, whereupon the ligaments pass through the tunnel. They are thus shortened the length of the tunnel or more. They pass through a raw surface so that adhesions form quickly and the ligaments are held in their new position. The peritoneum of the bladder is stitched to the peritoneum of the uterus by catgut and a vaginal wound is then sutured. The after treatment is the same as after an ordinary vaginal celeotomy. There were 14 operations in 1899 to 1900. In all examined (7) the uterus remained in good condition. In one case pregnancy followed and the uterus did not fall posteriorly. Dr. Franklin H. Martin, of Chicago, read on the **Surgical Treatment of Retroversion of the Uterus**. He gave a short historical sketch of Alexander's operation. The troubles arising from suture material have been the cause of the numerous modifications of the Alexander operation. He then described his operation for this condition which, he claims, is superior to all others because it insures a uniform shortening and firm fixation of the ligaments without ligatures, and hence without the formation of fistulous tracts. It seldom causes pain at the traction. He has performed 61 cases up to September 29, 1900, with 7 cases of pregnancy, 6 of which passed through a normal labor, and one aborted without apparent cause. Martin then gave a historical sketch of the operation of ventral suspension which he states was first practiced by Olshausen and then by Kelly. If the suspension is accompanied by an absorbable suture the operation will often fail. Fowler's suggestion of suspending the uterus from the urachus was a distinct advance. Martin prefers to use a strip of peritoneal tissue which is not so firm as the urachus, also, the urachus may be absent or in some cases it remains pervious from the bladder-end. He has done 173 operations by his method of suspension by peritoneal strip. No permanent buried sutures are required. The abdomen is opened in the Trendelenburg position, the uterus is freed and also the posterior surface of the broad ligament. The uterus is then brought forward and a strip of peritoneum is dissected free from the abdominal wall one-half inch wide and three inches in length. A needle is passed through the uterus at the fundus from behind forward. The strip of peritoneum is grasped and drawn through and the free end sutured by small catgut sutures to the peritoneal surface of the abdominal wound above the uterus. The uterus is also temporarily held forward by small catgut sutures. In 173 cases there have been 9 failures including six deaths. Goffe, of New York, remarked that a misconception of the dynamics of the female pelvis is the cause of much of the wrong treatment of retrodisplacement. The symphysis pubis is on a lower level than the tip of the coccyx in the normal condition. The uterus lies on its anterior face and is held in place by its ligaments. The perineum is not a support.

The most important ligamentous support are the utero-sacral ligaments plus the utero-vesical ligaments. The ideal operation for the restoration of the uterus to its normal position is by means of the utero-sacral ligaments. If these cannot be used the round ligaments are next best, and then ventral suspension. He is opposed to the operation which involves opening of the abdominal wall for the cure of retroversion. He denounces Alexander's operation in toto. Gordon, of Maine, protested against this so-called conservative surgery. After removal of the appendages the uterus is a gestation-bag without subsequent use. He would therefore remove the uterus in these cases. Goldspohn, of Chicago, claimed that the round ligaments are the only structures that can be rationally used for the cure of this condition, because they are part of the uterus. The uterus has "arms," and these arms should be used. The round ligaments are wedge shaped, longer near the uterus than at the abdominal wall. When the round ligaments are folded upon themselves the thick part is used and the weak part left. Alexander's operation is better because it does away with the weak position of the ligament. Kelly, of Baltimore, claimed that the ventral suspension was more rational than the operation of shortening the round ligaments. These ligaments, in the normal condition, are always flaccid structures with a kink in them. He has performed 214 ventral suspensions. 43 of the patients became pregnant with-

out trouble following. In most cases the uterus remained in good position. A symposium on Obstetrics was opened by Dr. Joseph Price, of Philadelphia, whose paper was entitled *Obstetrics as a Specialty*. Dr. E. Gustave Zinke, of Cincinnati, followed with a paper on *The Practice of Obstetrics as it is and as it should be*, in which he dwelt on the value of antiseptics and asepsis, the differences experienced in the management of labor at the home of patients versus the management of labor in lying-in hospitals. The inadequacy of obstetrics fees was then considered and the very important question as to whether or not the training and practice of midwives should be encouraged. Dr. J. F. Moran, of Washington, D. C., in his paper on *The Prophylaxis and Treatment of Puerperal Sepsis*, made a bacteriologic and pathologic study of puerperal sepsis and the normal and pathologic vaginal secretions before and after labor. He reviewed the question of the treatment of puerperal sepsis including the unsatisfactory results obtained from the antitonic serums. Dr. H. D. Fry, of Washington, D. C., presented a paper on *The Indications and Contraindications for the Use of the Curette in Obstetric Practice*, in which he emphasized the great harm that results from the too indiscriminate use of the curette. He believes that as a rule there is too much interference with the uterus in puerperal fever. The curette should not be used until the indications are marked, as a putrid discharge from the uterine cavity, with an escape of a grumous material. Dr. W. D. Porter, of Cincinnati, in his paper on *Position of the Patient during Delivery*, claimed that the usual obstetric position was an unfortunate and even bad position for the patient to occupy. He favors placing the patient across the bed on a Kelly pad, with the hips projecting well over the edge of the bed. This increases the size of the conjugate and renders the patient easy of access for whatever obstetric manipulation or operation that may be required. Dr. George J. Engelmann, of Boston, read a paper on *The Increasing Sterility of American Women*, on which he made the statement that the percentage of sterility in the United States is higher now than that reported in any other country, the percentage of miscarriage and divorce is likewise higher, while that of fecundity is lower than in any other country. In the one century that has passed the positions of American women as regards the reproductive function have been relegated from that of pre-eminence to one inferior to that of women of all other countries. Sterility, one hundred years ago the least, is now the greatest, and this with miscarriage, have increased as gynecological science has progressed. Twenty per cent. of miscarriages are now sterile, while a century ago only 2% were sterile. The fecundity, one hundred years ago was 6 children to a family; now it is not two children to a family. The causes are moral rather than medical. The sterility in graduates from female colleges is 33%. Greater luxury goes hand in hand with higher sterility. The European general fecundity is 45%; French Canadian 21%; the Colonial period of this country 6%; at the close of the Eighteenth century 4½%; now in this country 1.8% to 2% and for college graduates 1.4%. Miscarriage occurs once to 5½ labors at full term according to the books.

In Europe it occurs once to 3.3 labors and in this country once to 2.8 labors. Duff, of Pittsburg, considers this a most important subject. He remarked that civilization and Christianity increases sterility. We are past becoming a nation of abstinence, and herein lies the trouble. Dr. W. H. Nathan, of Louisville, read a paper on *ectopic gestation*, and presented some specimens, one of which he believed to be ovarian in nature. As regards the treatment of this accident before rupture he thinks that vaginal method is preferable; also after rupture when the blood is confined between the broad ligament layer or in the pouch of Douglas; and in intraabdominal rupture when there is but little hemorrhage. In all other conditions the suprapubic method should be

SECTION ON OPHTHALMOLOGY.

FIRST DAY, JUNE 4th, 1901.

The meeting was called to order at 2 P. M. by the Chairman of the Section, Dr. J. A. Lippincott, of Pittsburg, Pa. His address embraced a historical retrospect of ophthalmology and the achievements of Von Graefe, Donders, Helmholtz, and others. He called attention to the problems still to be solved in the treatment of the extrinsic ocular muscle, heterophoria, and strabismus; also the changes produced by toxic agents. He referred in his address to the fiftieth anniversary of the invention of the ophthalmoscope and the fifty years of ever-increasing usefulness in ophthalmology that followed its introduction into ophthalmic practice.

"Treatment of Strabismus; Measures Other than Operative." By Dr. Edward Jackson, Denver Col. The author states that the operative treatment of strabismus is less applicable than non-operative measures. In order to bring about a perfect cure, some non-operative treatment is requisite. The objects in view are: 1. To bring about normal innervation of the muscles concerned in the movements of the eyeball, by removing abnormal requirements; 2. To keep the eyes as far as is possible upon the best plane of visual acuity, and to equalize the efforts that are required of them; 3. To eradicate abnormal ways of using the eyes, especially when one eye is used, to the practical non-use of its fellow; 4. To develop normal binocular vision. In the majority of cases, treatment should be instituted as soon as the strabismus is first noticed. The establishment and perfection of binocular vision is the aim of the non-operative treatment, and from a practical point of view, the correction of refractive errors, stands pre-eminent in the treatment of strabismus. The occlusion bandage, constantly and correctly applied in young children, is of value. Intelligently performed skiascopy is essential. Mydriatics are of no use unless they absolutely paralyze accommodation. Of the apparatuses employed for the development of binocular vision (the primary object being to induce the patient to see with both eyes at once), Jackson prefers the fusion tubes of Priestly Smith, and especially in the form shown by him before the Section. Next to these he prefers the reflecting stereoscope as modified by Worth. Ordinary stereoscope lenses are so decentered that they practically act like prisms with bases out.

"Treatment of Strabismus; Operative Measures." Dr. C. F. Clark, of Columbus, Ohio, the author of this paper, calls attention to, and discusses the variety of, opinions that exist among ophthalmologists: 1. As to the degree of deviation and the character of the cases which they consider proper subjects for operation; 2. As to the age at which an operation should be performed; 3. As to the choice between tenotomy and advancement; 4. As to the amount of deviation that may be safely corrected by tenotomy; 5. As to whether the operation should be confined to the eye which most constantly deviates or its effect distributed between the two eyes so as to preserve ocular balance; 6. As to full correction of the error in the first operation or delaying a portion of the operative procedure until the effect of the first division may be properly established; 7. As to the practicability of partial or graduated tenotomy or advancement; 8. As to the value of orthoptic exercise before and after operation; 9. As to the value of tests made with prisms and otherwise during the progress of an operation; 10. As to the importance of the subconjunctival method of Snellen and of suturing the conjunctival wound; 11. As to the necessity of bandaging one or both eyes after an operation for tenotomy or advancement; 12. As to the relative importance of operations upon the superior and inferior recti-muscles in cases of hyperphoria and hyperopia associated with lateral deviations, and 13. As to the most approved form of operation for tenotomy and advancement. The author predicts that within a few years many of those who have heretofore depended mainly upon tenotomy for the correction of strabismus will find themselves adopting the more tedious but far more conservative operation of advancement or resection, almost as a routine practice. The peculiar insertion of the superior and inferior recti muscles should be taken into consideration. Whether tenotomy or advancement are adopted, the operative effect must be so distributed among the various ocular muscles as to preserve the control of the eyes in all ordinary movements. The well-marked heterony-

mous diplopia, with the images widely separated, which not infrequently results after carefully performed operations for convergent strabismus and dependent upon the presence of what is sometimes called a false macula, should not disconcert the surgeon, as it rarely causes serious disturbance, although it increases the difficulty in determining the result obtained from the operation. The author is convinced that in the operative correction of squint, advancement or resection combined with a very limited tenotomy ought, as a rule, be performed in place of a simple tenotomy.

"Strabismus: Its Treatment." Dr. A. E. Davis, of New York City, read this paper by invitation. After considering the different tests for strabismus, he states that it is desirable that a uniform or standard set of tests be adopted for accurately measuring strabismus. He makes a plea for a better understanding, not only of the physiological action of the ocular muscles, but of physiology in general, by those treating cases of strabismus. He believes that in most cases of convergent squint, the amblyopia is acquired and functional, and only in rare instances is it congenital. As soon as the strabismus is observed, the non-operative treatment is capable of doing considerable good. By means of this manner of treatment, if instituted in time, forced fixation and suppression of the image in the squinting eye are prevented, fusion of the images assisted, and true binocular single vision frequently preserved. About 30% of all cases of strabismus may be cured simply by the non-operative treatment. As soon as non-operative measures cease to bring improvement, operation should be undertaken; but if operation is delayed after this, it becomes not only useless, but harmful, increasing the amblyopia, because the habit of suppressing the image in the squinting eye persists. He believes that after operation the stereoscope, occlusion bandage, bar-reading, glasses, etc., are very useful. He recommends Panas' method of operating for strabismus as safe, quick and efficient; but it should never be performed while the patient's eyes are being influenced by a mydriatic.

"The Cosmetic and Visual Results in Squint." Dr. J. M. Ray, of Louisville, Ky., the author of this paper, believes that glasses should be adjusted to the eyes of children affected with strabismus as early as possible, depending upon the power of the parent to control the child. The glasses should always be worn for a long enough time to ascertain their effect upon convergence before an operation is undertaken. Dr. Ray considers the use of the exclusion pad and orthoptic exercises as advisable steps, principally for preserving the power of simultaneous action of the muscles when the child arrives at the proper age for operation. Parallelism of the visual lines does not mean single binocular vision, and the latter is not present in more than 7% of cases of strabismus. Cosmetic results can be produced and preserved when the power of fusion is absent, both in monocular squint attended by considerable amblyopia as well as in alternating squint. In the latter variety, if the hypermetropia is high, the chances for the production of parallelism are better than when the hypermetropia is low. The amount of abduction present in the corresponding externus influences the effect of a tenotomy to a considerable degree. Two tenotomies on the same internus is to be considered as bad surgery on account of the resulting sinking of the caruncle and the divergence which later ensues. From a cosmetic point of view the operative correction of strabismus is not as simple as supposed, especially when one considers the noticeable exophthalmos and the both inward and outward limitations of the ocular excursions which sometimes follow. A study of 100 cases during the past four years showed that binocular vision was rarely produced. Glasses should always be tried, but stereoscopic exercises are of little value.

Discussion: Dr. C. M. Culver, of Albany, N. Y., believed that the operation for squint was like that of talipes, in that it does not cure, but provides for a cure. In order to be fair to the patient, non-operative treatment should be instituted before the operation. Dr. F. C. Todd, of Minneapolis, Minn., believed that the length of time prevented the proper execution of the non-operative treatment, although it appears that the patients ought to be willing to take the time instead of subjecting themselves to repeated operations. He is of the opinion that the operation of advancement is steadily gaining ground, notwithstanding that tenotomy is still in vogue. Dr. G. C. Savage, of Nash-

ville, Tenn., discussed the application of the terms "convergence," "planing," and "parallelism." Dr. A. R. Baker, of Cleveland, Ohio, considers the bandage not always necessary, but often required, that alternating squint in young individuals is not so difficult as is supposed, and that it can be cured by proper glasses and exercise. Dr. F. C. Hotz, of Chicago, endorses the distribution of the operative effect among the two eyes so as to preserve the harmonious action of the muscles. He advocates simple tenotomy in mild cases, advancement in cases of medium degree, and both in excessive cases. In alternating squint of modern degree simple tenotomy will do the work perfectly well. Dr. D. M. Campbell, of Detroit, Mich., believed that the problem varies according to the variety of strabismus. A complicated strabismus, such as a convergent strabismus and a turning up of one eye, is a different problem than a simple strabismus. Many cases of convergent strabismus may be cured with a tenotomy, but a post-operative divergent strabismus cannot be treated by tenotomy of the external recti.

Dr. C. A. Veasey, Philadelphia, stated that the method employed in the service of Dr. de Schweinitz, at the Jefferson Medical Hospital, was a combination of several of the methods described with some modifications. The patient was first glassed, and it was insisted that the full correction of the refractive error should be constantly worn. The angle of squint was carefully measured from time to time to note improvement. If the angle was small orthoptic exercises with the stereoscope were employed at once. If the angle was large, operation was performed after the glasses had produced their full effect. A tenotomy, alone or combined with advancement, was employed. Convergent squints were slightly undercorrected and divergent squints slightly overcorrected and orthoptic exercises used at once. By this method the cosmetic effect was not only good, but binocular single vision was frequently obtained.

"Concerning the Check Ligament." By Dr. J. E. Colburn, of Chicago, Ill. The author presented a composite drawing, the result of many experiments on the cadaver, and demonstrating the orbito-ocular and orbito-muscular bands of the check ligament, with a discussion of the various groups of bands and the function of the check ligament.

SECOND DAY, JUNE 5th, 1901.

The morning session opened with an exhibition of specimens and new instruments, consisting of ophthalmoscopes and ophthalmic literature, as an observation of the fiftieth anniversary of the invention of the ophthalmoscope (See Western News of this issue). Dr. H. Friedenwald, of Baltimore, Md., read a paper entitled, "Address on the Origin and Development of the Instrument, together with a description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy Prepared for this Meeting, followed by an address on the life of Reimnitz, by Dr. Casey A. Wood.

"Iarsadenitis Meibomica," according to the definition of the author, Dr. M. F. Weymann, of St. Joseph, Mo., is as follows: "A subacute chronic infection of the Meibomian glands, tending to periodical acute exacerbation, and secondarily, altering the whole structure of the tarsal cartilages, chiefly the upper." According to Weymann chalazia may undergo suppuration and chronic inflammatory softening. It is the latter which gives rise to the condition he calls tarsadenitis Meibomica. The most pronounced symptoms are smarting and itching, the appearance of "nipple orifices" which cannot be squeezed to such an extent as to disappear, and, above all, a peculiar alligator-leather appearance of the conjunctiva lining the tarsal cartilage.

"Report of a Case of Retroflexion of the Iris." Dr. A. A. Hubbell, of Buffalo, N. Y., reports a case of retroflexion of the iris in a laborer, aged 56, who struck the left side of his head against a pavement. The eyes had previously always been healthy. The patient had sustained a violent concussion, and when he first presented himself there was ecchymosis of the left eyelid and deep congestion of the episcleral tissues, but no pain. The cornea was slightly hazy, there was hyphemia, and tension somewhat diminished notwithstanding that there had been no laceration. After treatment the blood became absorbed. Examination showed no trace of the iris, ciliary processes, or crystalline lens. The invisibility of the iris was explained as due to its being reflected against the ciliary body, and Hubbell believes that the lens was absorbed.

"Treatment of Heterophoria: Non-Surgical Measures," by Dr. George M. Gould, of Philadelphia. The author of this paper concludes from experience in his private practice that there is no surgical treatment, properly speaking, of heterophoria. He states that for six years he has observed no case of heterophoria requiring operation, and that he has obtained no unsatisfactory results when the cases were treated with common sense instead of with the scissors. He believes that in hyperphoria accurate refraction, temporary but partial prismatic neutralization, supplemented by ocular gymnastics and the observance of ophthalmic hygiene constitute the proper treatment. He strongly advocates the non-surgical treatment of exophoria as indicated by the following remarks: "If words are not minced, then tendon-cutting in exophoria is positive malpractice." "Surgery is the despair of medicine, and we should never adopt surgical methods while there is a glimmer of hope by natural means in the direction indicated by the subtle and adherent strivings for normality." The other ocular insufficiencies were also discussed by him.

"Treatment of Heterophoria: Surgical Treatment," Dr. G. C. Savage, of Nashville, Tenn., believed that no operation should be done in cases of heterophoria intrinsic in character where gymnastic exercises, even if required for a long time, would cause relief. The two objects in view in operating on eye muscles are the alteration of the muscular tension and the change of plane of action. The existence of a cyclophoria should be first excluded. In no variety of heterophoria should a complete tenotomy ever be performed. The plane of a muscle should never be altered unless a correction of cyclophoria is required. Cyclophoria may be present alone, and so high as to require operative relief which is accomplished by operating upon both superior or inferior recti muscles. He describes the various operations for sthenic and asthenic forms of heterophoria with their various complications.

Discussions: Dr. S. D. Risley, of Philadelphia, stated that the profession cannot afford to be dogmatic on this subject. He endorses the conclusion of Dr. Savage. He called attention to the direction of the orbital planes which may be altered by distortions of the skull itself. The aponeurotic pole, the check ligament, the orbital attachments, all may be modified by abnormalities of the conditions in the orbit. Dr. M. F. Weymann, of St. Joseph, Mo., believed that we cannot be entirely guided by a mathematical rule in cyclophoric conditions. Dr. D. S. Reynolds, of Louisville, Ky., called attention to the fact that general nutrition bears a definite relation to ametropia and abnormal conditions of the eyeball. Age, habit, loss of sleep, coffee, etc., must all be taken into consideration. The physical conformations, as stated by Dr. Risley, are never to be lost sight of. Even the bones of the neck, as well as extraneous causes, modify these conditions of the eye. Dr. J. E. Colburn, Chicago, Ill., believes that errors of refraction cause pseudo-heterophoria, and that in many instances general debility itself is not the cause, but it nevertheless unveils many cases of heterophoria. There is a neuromuscular condition which plays an important part; it may remain, and can only be overcome by improvement of the general condition. Dr. C. H. Williams, of Boston, Mass., before operating on the external ocular muscles, always ascertains the variety and the amount of deviation. He showed before the section an instrument devised by him for this purpose. Dr. F. Allport, of Chicago, Ill., rarely performs a tenotomy for asthenopia, and rarely prescribes prisms. Good sanitary surroundings, the correction of ametropia rarely compels one to do a tenotomy. Dr. H. Woods, of Baltimore, Md., is of the opinion that school and home hygiene has much to do with the treatment of these conditions. Although the non-operative treatment sometimes gives remarkable results, some cases which in a few months do not yield to a non-operative treatment require tenotomy. Dr. L. Connor, of Detroit, Mich., believed that the following causes should be looked for: 1, reflex causes, as in nasal disease; 2, malnutrition of some portion of the eye so that the muscles are unable to perform their functions, as is the case with muscles in any other portion of the body; 3, physiological lack of power; 4, anatomical defects. When we have definitely determined that anatomi-

cal defect is the cause, operation is the only procedure. The influence on the patient by the operator and also the effect of the operation itself frequently benefit. Dr. A. E. Davis, of New York City, stated that it is not only the muscles, but nerves that should be considered.

"Table of Paralysis of Ocular Muscles," by Dr. H. M. Starkey, of Chicago, Ill. The author of this paper presented a table reviewing the nomenclature of the associated movements of the eye, the muscles producing these movements and a delineation of the law of projection.

In the discussion, Dr. F. C. Hotz, of Chicago, called attention to the difficulty which is frequently encountered in teaching the paralyzes of the ocular muscles. Too much stress is laid on describing the paralysis of each individual muscle, instead of practically emphasizing prominent combination of symptoms. Dr. W. Wilder, of Chicago, believed that the difficulties are not in ocular paralysis, but in paresis where there is not much diplopia.

The Extraction of Hard Cataract Without Iridectomy by Dr. S. D. Risley, of Philadelphia. Until recently Risley has performed cataract extraction by the combined method, but prompted by the favorable report of other ophthalmic surgeons, has in selected cases adopted the method of simple extraction. The requisites for the selection of such a case are the absence of any special pathological history, the absence of pronounced disease of the uveal tract, an iris which reacts promptly, a pupil which is readily responsive, and dilates to at least a moderate degree under a mydriatic, and a ripe cataract. He describes the operation in detail. After the last sterilization of the eye he instills a solution of salicylate of eserine. He states that this maintains for an hour or more the contraction of the pupil and diminished the chances of prolapse during the most critical period of convalescence. After this atropine is resumed. He prefers to trust to the absorption of small remnants of cortex rather than risk rupturing the suspensory ligament by continuous efforts to remove the debris by manipulation and irrigation of the anterior chamber. He appends a table of cases showing the notes of the operation, the description of convalescence, the complications and the vision.

THIRD DAY, JUNE 6th, 1901

The first paper read was by Dr. H. V. Wuerdemann, of Milwaukee, Wis., on **Economic Limitations of the Visual Acuity in the Various Trades and Professions.** The meaning of blindness as used in daily life is a much narrower one than is embraced in the scientific term. It has been determined that ordinary coarse work like that of a common laborer does not require more than one-half of the normal for a condition of success, but on the other hand a corresponding diminution in the vision of a skilled mechanic would so decrease the clearness of the retinal impressions to which he has been accustomed in the performance of his duties, as to seriously hamper him. Individual members of certain occupations do not have the same visual demands exacted from them. Dr. Wuerdemann divides the occupation into two groups. The occupations requiring higher degrees of visual acuity and a range from 0.75 to 0.15 are, medicine, theology, law, art, engineering, students of all professions, fine mechanics, iron and steel workers, rolling mill workers, machinists and metal workers, musical instrument makers, the linen industry, the textile industry, the silk industry, paper workers, leather workers, garment makers, printers, marine employes, mine workers, railway and steamship employes (including city roads), soldiers and sailors, telegraph operators and skilled labor generally. Group 2. The trades requiring lower degrees of visual acuity and a range from 0.50 to 0.05 are, glass blowers, mineral workers, quarry men, builders, pottery makers, brick makers, workers in the chemical industries, employes in gas and water works, paper makers, wood workers, mill employes, manufacturers of food articles, sugar factory employes, brewers and maltsters, tobacco workers, chimney sweepers, street railway employes (horse cars), employes of elevators and wine cellars, teamsters, bargemen on inland waters (rivers, etc.), farmers, day laborers, unskilled labor, etc. The author compiled a table showing the scientific standard of the visual acuity converted into economic terms.

There was then a report of the railway committee of the ophthalmic section of the American Medical Association by the Chairman, Dr. Allport, of Chicago, Ill., followed

by Dr. Allport, who read a paper entitled **Further Report on the Visual and Aural Qualifications of Transportation Employees.** The author obtained statistics from numerous railroads concerning this subject and shows the statistics and answers to the question, "Do you require examination from time to time, and if so, at what intervals, or under what circumstances?" "Do you require perfect vision, color sense and hearing in new employes, and what concessions do you permit from a perfect standard in the case of old employes?" "Do you permit old employes to wear glasses while on duty?" He found that out of 112 roads reported, 77 required some kind of systematic eye and ear examination of those employes actively engaged in running trains and in giving and receiving signals. Twenty-nine of these roads required such examinations to be made by regularly appointed railway surgeons; thirty-one allowed various kinds of instructed railway employes to make examinations; nine roads sent doubtful cases to an eye and ear surgeon; sixteen required examinations to be made by regularly appointed eye and ear surgeons; four allowed such examinations to be made by the medical director of railway relief associations.

Mules' Operation, with Cases. The author of this paper, Dr. Frank C. Todd, of Minneapolis, Minn., called attention to the various operations employed as substitutes for enucleation and called attention to the operations of Mules, Frost and Lang. The failures in Mules' operation are due to escape of the globe, sympathetic inflammation, and irritable stump. He quoted the valuable statistics of Dr. G. E. de Schweinitz on this subject. Among the conditions causing failures and especially escape of the globe are: Hemorrhage, sepsis with consequent sloughing, imperfect or non-coaptation of the sclera, not enough sutures and the too early wearing of a prosthesis. Moist dressings are not advisable, as they promote suppuration. He sterilizes the ball in hot water, carefully examines it as to size and admissibility into the scleral cup. There is so little vascularity of the sclerotic coat, that union does not very easily take place. It is best to wait a month before employing a prosthesis.

Discussions.—In the absence of Dr. Fox, of Philadelphia, Dr. F. Allport, of Chicago, Ill., opened the discussion. He stated that ophthalmic surgeons are usually anxious to completely fill the scleral cup while a slack of scleral tissue should be left. He never uses a large globe. He inserts plenty of stitches into the sclera, not a certain definite number, but as many as the sclera will hold. He follows the suggestion of Dr. Prince, of Springfield, Ill., by swabbing out the scleral sac with 95% carbolic acid followed immediately by alcohol. He waits until hemorrhage has practically ceased before inserting the glass globe and controls the hemorrhage by very hot bichloride solution and then wipes out the scleral cup with iodoform gauze. He does not like the aluminum globe, neither does he use adrenalin on account of its reactionary results. Dr. M. Black, of Denver, Col., has abandoned Mules' operation, and has used the Snellen eye with just as good results. He prefers even filling the scleral cup with wax and thus believes that all the disadvantages resulting from a Mules' operation are removed.

The Inverted Image and Mirror Writing. This paper was read by Dr. Hale, of Chicago, whose name was omitted from programme by mistake. The author discussed the various theories advanced concerning the inversion of the image and mirror writing. He states that the theory that the image is transmitted by a special fibre to the brain, and that the upper portion of the retina was depicted on the corresponding lower portion of the brain and vice versa, cannot be accepted either by physiologists or psychologists. While the phenomena of vision are well known, the reproduction of the visual impressions is what particularly interests us. Mirror writing is not a pathological process, *per se*, but is frequently found in healthy children. Mirror writing especially has been more studied in the motor sense than in the psychological sense. The adult mind has acquired how to associate tactile sensation with visual impressions as is exemplified by difficult movements that can be co-ordinately made before a looking-glass. The paper was treated throughout with due regard to physiological and psychological factors. The paper was discussed by Drs. Savage, Weymann and Hale.

Report of Two Cases of Orbital Surgery by Dr. Adeline Portman. The paper comprised a report of the insertion of a glass ball into the orbit sometime after the enucleation

of the eye. Also a case of transplantation of mucous membrane into the orbit for cicatricial deformity, following a burn.

The Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents, by Dr. H. Friedenwald, of Baltimore, Md. The paper embraced the consideration of the various pathological changes caused by toxic agents and the microscopical appearances described by Nissi, as well as original investigations upon animals made by the author by feeding them with toxic substances.

Atrophy of the Retina by Dr. D. S. Reynolds of Louisville, Ky. The author reports two cases of atrophy of the retina unassociated at first with ophthalmoscopic changes. In one case beginning with headache, failing of vision, loss of color perception, and latter progressive contraction of the field with central scotomata. The patient at last could not recognize any objects. The second case began with failing of vision that no glasses would improve, and later on contraction of the field and central scotomata and atrophy of the retina.

A Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger.—Dr. H. Moulton of Fort Smith, Ark., the author of this paper, reported twelve cases of methyl alcohol amblyopia compared with eight reported cases of Jamaica ginger amblyopia, and identity of symptoms and ophthalmoscopic findings pointed out. In recently reported cases of essence of ginger poisoning the toxic agent is wood alcohol or its deodorized product, Columbian spirits. Jamaica ginger essence not considered poisonous until Columbian spirits came into use. Report of a case of blindness due to drinking bay rum.

Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria, with Symptoms of Bright's Disease. Dr. C. A. Veasey, of Philadelphia, Pa., reported the case of a woman, aged thirty-five, who had for eight months persistent hematuria, vertigo, dyspnea and loss of weight. There was occasionally edema of the legs and moderate cardiac hypertrophy. Ophthalmoscopic examination showed the typical stellate white figure in the macular region. The fields were slightly contracted for form and color, but there were no scotomata. Examination of the urine showed considerable blood and albumen, but no casts. Examination of the blood showed mild secondary anemia. The patient was placed on a strict milk diet and Basham's Mixture, after which she gained in weight, and nine months from the time of the first examination no ophthalmoscopic signs of the disease remained nor any loss in visual acuity or contraction of the visual field.

The Election of officers was as follows: Chairman, Dr. Frank Allport, Chicago, Ill.; Secretary, Dr. C. A. Veasey, Philadelphia, Pa.; delegates to the House of Delegates, Dr. J. A. Lippincott, Pittsburg, Pa., and Dr. H. V. Wuerdermann, Milwaukee, Wis.

SECTION ON NERVOUS AND MENTAL DISEASES.

FIRST DAY JUNE 16, 1901

H. A. Tomlinson, M. D., of St. Peter, Minn., Chairman.

Address of the Chairman: Dr. Tomlinson spoke on the subject of **The Relation of Nervous and Mental Diseases to General Medicine.** He called attention to the close relationship between somatic disturbances and chronic nervous disease, and stated that while the symptoms manifested may have their origin in a destructive or degenerative process in some part of the nervous system, the real disease, upon the cure of which the ultimate recovery of the patient depends, has its existence in the vegetative organs. He said it may be safely asserted that all disease processes begin as intoxications, and that this is so even with chronic degenerative processes in the nervous system. During ten years of careful observation of the phenomena connected with the development and manifestations of insanity, in more than three thousand cases, he has never failed to find intoxication; either the result of im-

perfect elimination, or failure in the process of digestion and assimilation. Failure in elimination is most common, and involves most frequently the kidneys, then the lungs and skin. **Etiology of Paretic Dementia:** By Dr. Frank P. Norbury, of Jacksonville, Ill. He stated that the lesion of paretic dementia is a diffuse parenchymatous atrophy of the nerve cells, and partly, at least, of the neuroglia. The process is essentially chronic and involves more or less the whole of the cortex, even extending to the basal ganglia and cord. The question of the cause of this now well recognized degeneration is still in dispute, but in the light of the accumulated knowledge of to-day we find syphilis paramount as an etiological factor. In fact, it is the one factor—the primary factor, and with Dana we can say that “if there were no syphilis there would be no paretic dementia.” It is not, in truth, a syphilitic disease, but a para-syphilitic disease due to the effects of the syphilitic poison. In an etiological study of about 200 cases of paretic dementia, the author obtained a history of syphilis in fully 60%. His conclusions were as follows: 1. Syphilis is the chief factor in the causation of paretic dementia. 2. Infectious fevers, with their toxic influences, are contributing factors. 3. Heredity is a potent factor. Dr. Sydney Kuh, of Chicago, said there was much evidence to show that syphilis is by far the most important etiologic factor both in paralytic dementia and in that other disease which is so closely related to it, namely, tabes. Whether or not syphilis is the only etiological factor it is impossible to say to-day. We should recollect that in countries where syphilis is common, paralytic dementia and tabes are very rare, but this cannot be used as an argument either for or against the theory that there is a connection between the diseases mentioned. Dr. Edward E. Mayer, of Pittsburg, thought the claim that paretic dementia was dependent upon syphilis should be based upon a more scientific basis. Because a patient with paretic dementia has had syphilis, we should not take it for granted that syphilis is the etiological factor. Many years have usually elapsed between the occurrence of the two diseases, and the lesions of syphilis have not been found at post mortem in cases of paretic dementia. **Symptomatology of Cerebral Hemorrhage:** Dr. F. Savary Pearce, of Philadelphia, said that under the head of cerebral hemorrhage we include not only an extravasation of blood in or about the brain, but also thrombosis or emboli producing symptoms of acute softening; it is difficult to differentiate the latter condition from a slow exudation of blood within the encephalon. The symptoms of a typical case of cerebral hemorrhage are divided into those of the acute stage and those of the later, or chronic stage. While the patient may have some premonitory signs, such as dizziness, headache and dulness of mentality for some days or weeks before the onset of the attack, still it is the rule that he is feeling particularly well immediately preceding the apoplexy. The attack, in the majority of instances, occurs during the sleeping hours of the night. This is probably explained by the fact that inhibition generally is lessened during the early hours of the morning, and very likely there is much less resistance within the encephalon, thus allowing over-distension of the cerebral vessels, which produces the “breaking strain” in sclerosed cerebral arteries. If the hemorrhage has been massive the patient will be found comatose. The conjugate deviation will occur towards the affected side. Other symptoms are the unequal dilatation of the pupils, temporary abolition of the reflexes, the peculiar breathing, and the difference in the temperature between the two sides of the body. The paralyzed extremities may be hyperesthetic. If the patient is to recover, the temperature drops at the end of four to six hours, the pulse will become softer, its frequency will be but slightly above the normal, and the flushing and cyanosis of the face will disappear. Dr. Hugh T. Patrick, of Chicago, said the common belief that cerebral hemorrhage is apt to occur more frequently during the

sleeping hours is not based on facts and has been disproven a number of times. Dr. F. W. Langdon, of Cincinnati, said he agreed with the statement made by Dr. Patrick regarding the frequency of cerebral hemorrhage at night. An attack coming on during the sleeping hours, is more apt to indicate thrombosis than hemorrhage. The former accompanies low blood pressure; the latter high blood pressure. Dr. John Punton, of Kansas City, referred to the importance of coma as a prognostic condition in cerebral hemorrhage. The longer the duration of the coma, the less chance has the patient to recover. The symptom of coma should also receive more attention in studying cerebral hemorrhage from a surgical standpoint. Dr. Punton called attention to the fact that hemorrhage of the brain not infrequently occurs much earlier in life than formerly. The text-books teach that it is a disease occurring rather beyond middle life, usually between 50 and 60. The speaker said he had seen several cases which occurred between the ages of 30 and 35 years. **What can be done for the Epileptic in a Medical Way?** Dr. Robert H. Porter, of Chicago, presented a paper with this title. He said that the utter hopelessness with which the epileptic is usually regarded has retarded very much the proper study and treatment of the disease. A thorough and careful examination of the patient should be made in every case, in order to discover, if possible, the primary origin of the disease, the exciting cause and any complications that may exist. The speaker said he favored the theory that the primary origin of idiopathic epilepsy was due to a degeneration of the cells of the central nervous system, resulting from impaired nutrition. When these brain cells, with their impaired or perverted nutrition, are excited or greatly stimulated, they produce incoordination or perverted functional activity. Dr. Porter next referred to the strong physical element present in some cases of epilepsy. Whatever serves to stimulate the brain circulation, such as excitement, worry, hard study or close mental application usually increases the severity and frequency of these attacks. Remedies that stimulate the brain or produce an increase in the blood pressure generally have the same effect. On the other hand, the various measures that diminish the brain circulation and reduce the blood pressure aid greatly in controlling the seizures.

In the treatment of epilepsy, the speaker said, it is a well known fact that a mental impression is often sufficient to arrest the convulsion, even in the worst cases. Dr. Lambert Ott, of Philadelphia, said he had listened to Dr. Porter's paper with rapt attention, hoping to hear of some new remedy for epilepsy, but he was disappointed. The speaker said that after a large experience with this disease he had come to the conclusion that we possess absolutely no remedy which cures epilepsy, and we have but one which influences the epileptic seizures decidedly, and that is the bromide of potassium. Dr. Kuh said that various theories have been advanced regarding the cause of the epileptic seizure, but the subject is still in doubt. The experiments that have been made have given absolutely conflicting results. Some claim that hyperemia of the brain is the cause; others, anemia. Dr. Riggs said that while a discussion of the subject of epilepsy was a good field for mental gymnastics, it was not very profitable. He was not in sympathy, however, with the trend of opinion that nothing can be done for these patients. With use of the bromides, and proper attention to the digestion and elimination, as well as the correction of the habits of life, much can often be accomplished. One cause of failure in the treatment of epilepsy is that the patients are not kept under observation long enough. Dr. S. Savary Pearce, of Philadelphia, said he believed in the general systemic treatment of epilepsy, and the correction of all reflex causes of irritation. The speaker said that in a number of cases during the past winter he had given the fluid extract of *soianum carolinense* (horse-nettle) in fairly large doses with apparently good results. Dr. C. A. Drew, of Massa-

chusetts, said he thought the epileptic seizure was partly due to irritants circulating in the blood. He did not regard the reflexes as the basal cause of epilepsy, but he believed that all sources of reflex irritation should be corrected. His experience with bromides has not been very encouraging.

SECOND DAY, JUNE 5th, 1901.

The Treatment of the Acute Psychoses in Private Practice. By Dr. C. Eugene Riggs, of St. Paul. The essayist said that since the representative medical schools have introduced a course of Psychiatry as an essential part of their curriculum, the attitude of the profession has radically changed with reference to insanity. It is now believed that no person ought to be sent to an institution who is a suitable subject for home treatment. Dr. Riggs said he was convinced, as the result of a large experience, that home care in properly selected cases (by home care meaning either in a private family or private hospital) would materially shorten the length of an attack. He said there could be no question that the association of the insane with each other not only added greatly to their suffering as the result of personal contact, but that auto-suggestion intensified and prolonged indefinitely the morbid mental state. It is the absence of these conditions, together with the opportunity for individualization of treatment which makes home care so desirable and successful. **Dr. Richard Dewey**, of Wauwatosa, Wis., said the general practitioner very seldom considers for a moment the possibility of keeping an insane patient at home. The speaker said he had seen such patients who might well have been cared for in their own homes sent away to institutions. Generally speaking, however, such cases are better taken care of in proper institution than they could be at their homes or in general hospitals. A physician who has not had the opportunity of studying this class of patients is apt to fail in appreciating the necessities of the case. **Dr. Punton** said in the treatment of any form of acute psychosis he is a firm believer in the importance of absolute isolation of the patient, whether the treatment is carried out at home or away from home. Many general practitioners cannot realize the importance of this measure and make all sorts of compromises with the family which prove harmful to the patient. Acute insanity rapidly passes from a curable to an incurable stage, and it is upon our treatment during the first three months that the patient's chance of recovery largely depends. **Dr. J. G. Biller**, of Cherokee, Iowa, said he differed somewhat from the writer of the paper in regard to treating cases of acute insanity at home. Such experiments usually result disastrously, and generally speaking, the sooner the patients are removed from home, the better their chances of recovery. Such patients require constant, intelligent and careful watching, and this they can only get in a well kept hospital. **Dr. F. W. Langdon**, of Cincinnati, said he had been obliged to treat a number of cases of acute psychoses outside of institutions, and a fair portion of these terminated favorably. We know, however, that the environment of a patient in which his abnormal state developed is not the best for his recovery, and while under exceptional circumstances such cases may be successfully treated at home, the wisdom of this course is open to doubt. **Dr. Harold N. Moyer**, of Chicago, said that while he was in accord with the general consensus of opinion that cases of acute psychosis are best taken care of in general special institutions, there are some families who will not consent to having the patient removed from home, and under those circumstances we must do the best we can. **Nervous Manifestations of Syphilis of the Brain:** **Dr. Hugh T. Patrick**, of Chicago, read a paper on this subject, in which he enumerated the various popular fallacies regarding cerebral syphilis and described the most characteristic and important traits of the disease. **The Psychoses in Cerebral Syphilis:** **Dr. Richard Dewey**, of Wauwatosa, Wis., read a paper on this subject. He said

that in connection with it, several questions arise which must be taken into consideration. One is, the evidence of syphilis. Another, the very frequent existence in these cases of causes other than syphilis which have their share in determining the mental state, such as alcoholism, senile changes, arterial disease, kidney and heart disease and tumors of non-specific origin. The speaker gave the following statistics as the result of his personal observation: Among 1200 cases of all forms of nervous and mental disease he found 45 cases of well-substantiated constitutional syphilis. There were doubtless many more, which were rejected because the history of syphilis was not positive. Of the 45 cases in which there was an undoubted syphilitic history, 17 were diagnosed as paresis; 12 as cases of syphilitic brain disease with symptoms of an organic lesion; seven were cases of psychosis with marked delusional characteristics and without symptoms of brain syphilis; four were cases of hypochondriacal melancholia and two were cases of tabes with emotional symptoms. In addition to the above there was one case each of dementia, (slight), melancholia, and dementia paralytica of the senile type. **Dr. C. B. Burr**, of Michigan, said there were two interesting varieties of cerebral syphilis, accompanied by marked disturbances of the mental operations. There is one in which the motor symptoms predominate: the other, in which the symptoms are altogether psychical. In the one the symptoms are clinically difficult to distinguish from those of parietic dementia. However, there is apt to be expansive delusions, remissions are more frequent and the disease is of longer duration. Both varieties are characterized by reduction, this being their most conspicuous quality. In the second variety there is psychical reduction, manifested in dementia, the symptom of loss of memory being the most prominent. There is also hebétude and the patient is dull and unresponsive. **Suggestions for Lessening the Frequency of Relapse After Treatment of Morphinism:** **Dr. A. J. Pressey**, of Cleveland, spoke in favor of the gradual reduction of the amount of morphine taken, but he reduction must be so effected that the patient will feel better during the entire course of the treatment than he felt while he was taking the drug *ad libitum*. The quantity of morphine taken by those addicted to this habit is usually largely in excess of what is required to make them comfortable. It can, therefore, usually be reduced immediately by at least one-half. From that time on **Dr. Pressey** administers the drug four times daily, reducing the dose very slightly each day until it is as small as 1-120th of a grain, and even smaller in some cases. The morphine should never be discontinued entirely while the dose is still so large that its withdrawal will be felt by the patient. No set rules can be laid down to govern all cases. Each case must be treated according to the indications. In addition to a gradual reduction of the morphine, the patient should be given nerve tonics. Static electricity is also very beneficial. **Dr. T. D. Crothers**, of Hartford, said that the method of reduction in a case of morphinism, whether rapid or slow, can only be decided by the status of the individual case. The speaker said he had seen cases where a rapid reduction of the drug proved entirely satisfactory. After a patient who has been accustomed to take from ten to twenty grains daily is reduced to one grain, the drug can usually be withdrawn entirely without causing much discomfort, or some other alkaloid substituted if necessary. The greatest difficulty in the treatment of these patients, **Dr. Crothers** said, was to overcome the fascination of the hypodermic needle. **Dr. John Punton**, of Kansas City, said that the majority of persons who are slaves to morphine are usually suffering from mal-nutrition and are greatly reduced in flesh as the result of the habit. On this account, attention to the nutrition of the patient is just as important as the withdrawal of the drug. **Injuries, Feigned and Real, with their Differentiation and Medicolegal Aspect:** **Dr. Lambert Ott**, of Philadelphia, divided injuries into two classes:

1. Those with visible signs and symptoms.
2. Those with invisible symptoms.

Thes peaker referred to the frequency with which corporations are mulcted for heavy damages. With the increased number of accidents incident to modern methods of transportations this abuse has grown to such an extent that many of the larger corporations even pay unjust claims rather than submit the question of liability and damages to a prejudiced jury. The speaker referred to the frequency with which a verdict in these cases is the result of testimony given by biased or mercenary men. He spoke of the opprobrium which now rests on medical and expert testimony and concluded his paper with a plea for the more thorough and scientific examination of injured persons, so as to discover whether the symptoms of which they complain are real or feigned. Dr. Leo M. Crafts, of Minneapolis, said he would not agree with the reader of the paper as to the common occurrence of malingering by persons who have been injured, and the frequency with which corporations are mulcted. The statement that the plaintiff is more likely to be influenced by a moneyed consideration than the other party certainly does not obtain in the West. Dr. Richard Dewey said the even a patient who is perfectly honest may complain of certain symptoms which are not genuine. This has been observed in cases where there is no question of damages or suspicion of fraud. Dr. J. G. Biller said that several times in the course of his professional career he had been imposed upon by persons who claimed that they were suffering from certain symptoms as the result of injuries received, and who immediately recovered when their claim for damages was paid.

THIRD DAY, JUNE 6th, 1901.

Treatment of Neurasthenia: By Dr J. G. Biller, of Cherokee, Iowa. The speaker said that as the nervous system controls the organs in the body, and as these in turn affect the nervous system, it was no easy task to tell whether the neurasthenia was the result of disturbed bodily function or of a disturbance in the nervous system itself. The first requirement, in the treatment of a case of neurasthenia, is to make a thorough examination. Even if we accomplish nothing else by this, it will at least aid us in gaining the confidence of the patient, which is perhaps the most important element in bringing about a cure. Proper feeding is another important element of the treatment, and one that is often neglected. A plain, nourishing diet is preferable to the prepared or concentrated foods. On the other hand, some of these patients are suffering from over-feeding, or improper feeding. In addition to regulating the diet, we should see that these patients get plenty of sleep. Sulphonal in small doses may be necessary to induce sleep; if so, the drug should be dispensed by the physician himself and the patient should be kept in ignorance of its nature. A change of scene may prove beneficial in some cases, but not infrequently it does harm. As regards drugs, they should be sparingly used. We should not depend on the so-called tonics. The best remedies are those that assist the digestion and increase the activity of the liver. Small doses of calomel at intervals often prove beneficial. **The Psychoses of Chorea:** Dr. Harold M. Moyer, of Chicago, read a paper with this title. The following were his conclusions: 1. A well-marked alteration of the character and mentality can be noted in the majority of cases of chorea, usually preceding by some weeks the onset of the choreic movements. 2. Distinct hallucinatory phenomena are present in a considerable number of cases, which are not, however, of sufficient severity to merit being called a distinct psychosis. 3. The mental disturbance in chorea usually comes on after the choreic movements, but it may precede them. 4. The type is usually maniacal, though it may be melancholic, or present the character of acute delirium. 5. Mental disturbances are commoner in older children; they are rarely observed before the 12th year. 6. Chorea which are ac-

companied by mental disturbance later in life are almost always accompanied by organic changes in the central nervous system. 7. The prognosis is favorable where the mental disease complicates a simple acute chorea of Sydenham. **Dr. Augustus A. Eshner**, of Philadelphia, reported **Three Cases of Paralysis of the Serratus Magnus and the Trapezius. Mirror Writing and Inverted Vision:** **Drs. Albert B. Hale and Sydney Kuh**, of Chicago, presented a paper upon this subject, which was read by Dr. Kuh. They discussed the optics of the retinal image and the various theories that have been advanced in explanation of mirror writing and inverted image. The authors, in the main, agreed with the theory that the phenomena were the result of a disturbance in the co-ordination of the eye-muscles. While this is the most important factor, it is not the only one. If any one of the factors that aid us in forming a mental picture of an object is disturbed, a faulty image must of course result. **Fear as an Element of Nervous Diseases and its Treatment:** By Dr. John Punton, of Kansas City. The speaker stated that morbid fear is a common and potent element of nervous disease. In the treatment of this factor, we must take cognizance of both the mind and body of the patient. First, we must endeavor to gain the confidence and full control of the patient, and study the cause of his morbid fear. Isolation is essential, preferably away from home, but the isolation in on locality must not be too prolonged; otherwise, the patient will become too well acquainted with its new surroundings. We should endeavor to restore to the will its normal control of the emotions and intellect, and teach the patient to become more self-reliant. If the general health is impaired, proper medication is indicated. In addition to this, the judicious use of baths, massage and electricity in its various forms will prove beneficial. **Dr. W. A. Jones**, of Minneapolis, reported **Ten Cases of Multiple Neuritis** which came under his observation in the city of Minneapolis between the 15th of February and the 15th of March of the present year. Six of the ten case occurred during one week. Two of them proved fatal. Some of the cases corresponded with the usual description of multiple neuritis, while others closely simulated Landry's paralysis. The influenza bacillus was regarded as the etiological factor. **A Case of Localized Amnesia, with Remarks Thereon:** By Dr. Edward E. Mayer, of Pittsburg. The case reported was that of a young man, who was born in Pennsylvania in 1800. In 1884 he was on a railway train which was wrecked. He felt himself hurled through the air and then his mind became a blank. He has no recollection or knowledge of anything that occurred during the five years following the accident, and no one could be found who can give any information about him. Twelve years ago, that is, in 1889, he first came to Pittsburg and met his present wife, and two years later married her. He was never able to give her any information regarding his previous life, although he had not forgotten his name. Nine years ago, shortly before the birth of the eldest of his four children, he wandered away one Sunday afternoon and did not return until Monday evening. Upon his return home, he could offer no explanation for his absence. As he was a total abstainer, it was regarded as very peculiar. About a year later he again disappeared for several days, and during his absence he wrote a postal card to his wife, telling her that the memory of his mother had suddenly returned to him and he had gone to pay her a visit. He returned home a day or two later. The man's occupation, before he met with the railway accident, was that of a carpenter; subsequent to his marriage, he was employed at different times as a farmer, stock raiser, and painter. At this time he complained of symptoms which were regarded by his physician as evidences of a hepatic abscess. In February, 1901, while suffering intensely from abdominal pain, he fell to the floor and remained unconscious for several hours. When he regained consciousness, the memory of the last seventeen years of his life was apparently entirely obliterated. His mind had reverted to the time

previous to the accident. He insisted that he was 24 years old, and had neither wife nor children. The surroundings among which he had lived for the past twelve years were apparently strange to him, and it required much persuasion to induce him to believe the story of the true state of affairs. From that time on all his symptoms of hepatic abscess disappeared. He tried to resume his work as a carpenter, but had forgotten all about it and was obliged to begin as an apprentice. On March 8th of the present year he disappeared for twelve hours, and upon his return home he stated that he had walked about thirty miles in the country. The following day his wife gave him \$25.00 with which to buy some groceries. He failed to return home and no trace or word has been received from him since. **Dementia Following Inebriety:** Dr. T. D. Crothers, of Hartford, read a paper on this subject, in which he dwelt strongly upon the dangers of steady moderate indulgence in alcoholic stimulants. He stated that steady drinking, even without intoxication, was injurious, and the so-called "moderate drinker" was certain to suffer both physically and mentally from the practice. He said that the evidences of dementia were more often apparent in the moderate drinker than in the man who indulges occasionally to the point of intoxication and then sobers up and regains his mental physical balance. The life of the moderate drinker becomes more and more automatic. He has less spontaneity; less originality. He cannot adapt himself to new conditions with the necessary energy and judgment. His digestion becomes impaired, and this results in defective nutrition. He suffers from a spirit of unrest; there is a constant craving for excitement and change. There may be a craze for powerful drugs, which is a form of dementia; sometimes there is a craze for travel or for gambling and many forms of immorality. **The Importance of Heredity as a Cause of Insanity:** By Dr. Arthur McGugan, of Kalamazoo. The reader said that according to his observations 95 per cent. of the insane had a family history of impaired mental or physical health. In only a small percentage of cases was insanity due to physical or mental stress apart from hereditary weakness. Dr. Leo. M. Crafts, of Minneapolis, reported a case of **Persistent Brachial Neuralgia** resulting from a hypodermic injection in the wrist. He also reported a case of **Incipient Lateral Sclerosis, with Recovery.**

Election of Officers: The following officers were elected for the ensuing year:

Chairman, Dr. J. T. Eskridge, of Colorado.
Secretary, Dr. F. Savary Pearce, of Philadelphia.
Members of the House of Delegates.

The retiring Chairman, Dr. H. A. Tomlinson, of Minn.
Dr. Harold N. Moyer, of Ill.

A Case of Simultaneous Extra- and Intra-uterine Pregnancy. L. N. Varnek (*Medicinskoje Obosrenie, February, 1901.*) after pointing out the rarity of the condition, reports a case of a widow, 34 years old, multipara, who presented obscure pelvic symptoms which lead to a diagnosis of double salpingo-oophoritis. Severe hemorrhage supervening, she was treated with hot douches, ergot and hydrastis without, however, any marked benefit. These symptoms together with the appearance of a swelling on the right side of the uterus gave rise to a suspicion of **tubal pregnancy** which was confirmed by the admission of the woman that such a condition was possible. The simultaneous enlargement of the uterus however, still obscured the diagnosis, and an exploratory laparotomy was decided upon. The operation disclosed a **pregnant uterus** of 6 months and a **ruptured tube** filled with old blood clots. The tube was removed and the uterus returned into the abdominal cavity. The woman made an uneventful recovery and was delivered at term of a healthy child. The noteworthy feature in this case is the resistance of the pregnant uterus to the action of hot douches, ergotin, hydrastis and the surgical intervention. [A. R.]

TWENTY-SIXTH ANNUAL MEETING OF THE AMERICAN ACADEMY OF MEDICINE.

Held at the Hotel Aberdeen, St. Paul, Minnesota.

June 1-3, 1901.

SECTION ON MEDICINE.

The meeting called to order by the President, Dr. S. D. Risley of Philadelphia.

A short Executive Session was held. Forty-two new members were elected. The Nominating Committee was appointed as follows: Drs. L. Duncan Bulkley of New York; Dr. Thomas D. Davis of Pittsburg, and Dr. G. Hudson Makuen of Philadelphia.

The scientific business was then taken up in open session.

THE FIRST YEAR MEDICAL CURRICULUM.

Dr. Thomas D. Davis of Pittsburg, Pa., presented this paper. He said there had been great changes in the curriculum of the academical departments of all our institutions of learning—changes—not advances. He did not agree that many of the changes had been improvements in education. It would appear that the courses in arts and sciences had been arranged mainly to give a short cut into the profession rather than to broaden and deepen the foundations of true mental development. It is his conviction that no plan surpasses for true professional education foundation the old severe classical course, particularly valuable in developing the judgment and reason and forming the habits of application and mental concentration. Anything that cannot show its advantages in dollars and cents has been placed in the background. He impressed the importance of the subjects taught in the last two years of a college course, and believes that the first year course of a medical school should approach the last year course in a college. A four year medical course is not of itself an advancement in medical education. An entire re-arrangement of the curriculum in our medical schools is necessary to correspond to the four years required. Rhetoric could be taught with advantage. Botany should be taught, to give a more correct foundation for the vegetable materia medica. Logic, if not taught before, should be taught in our medical schools. In no way it was stated, could the practice of medicine be improved more rapidly and thoroughly than by training men to think, judge, and decide logically.

Psychology or mental philosophy were mentioned as of greater importance than all. The intimate mysterious relation of the mind to the body have been recognized, but the laws governing the mind and the many phenomena that have been observed and classified are, to a great extent unknown to medical men. The physician who fails to recognize and use mental influence loses a mighty power, yet our medical schools teach none of the laws of this influence. In the opinion of the author, a medical college offering a course for the first nine months which would embrace rhetoric, botany, logic and psychology, biology, osteology and general chemistry will, at the end of its four years course of nine months each, turn out far better equipped medical men than are to be found at graduation now. Under the present conditions a college graduate with three years in a medical school will be better posted in medicine and better prepared to practice it than a common school graduate can possibly be after four years in the same medical school.

Dr. Connor of Detroit believed that colleges of all kinds were committing a grievous wrong to their students in not having them taught so to write that they could be understood clearly and forcibly, as well as in not teaching them how to talk when upon their feet. Without this training they are handicapped. If necessary, this instruction should be put in with the study of anatomy and chemistry. Manual training in that their fingers might be able to follow out the students' preceptions was also advocated; as was

also "a little bit of business training" which would make the physician more prosperous, and more reputable in the minds of those in business circles. A number of physicians are wrecked because they lack business training.

Dr. Vaughan thought it a mistake that our students were not more frequently compelled to write theses, and that the abolition of the requirement was a backward step. Before a man studies medicine he should know mathematics through plain trigonometry. Also, the man who will get the best out of medicine must have a reading knowledge of French and German. He should have some knowledge of both Latin and Greek. The fact that a man has an A. B. degree may mean much or almost absolutely nothing. He thought it time that those interested in medical education in this country should force the literary school to give courses that properly lead to medicine. He expressed himself in sympathy with the law enacted by the New York legislature compelling every student to stay four years in a medical school, no matter what degree he may have.

Dr. Goldspohn of Chicago heartily endorsed Dr. Vaughan's sentiments in regard to a knowledge of French and German. While not judging England and all she represents in science, yet more original productions, more real contributions pertaining to pathological anatomy come from Italy and Switzerland, the smallest European governments, than we have from England herself in the last five or ten years. He felt that there is no possibility of a man keeping abreast with what the world affords unless he were a thorough student of German and French, from them getting the substance of what the rest of the world produces. A deficiency in the medical curriculum of to-day is the failure to appreciate the power of mind over matter, the want of a proper understanding of this psychological part of man. The amount of instruction in histology is grossly defective. He felt that a good thorough college course and then a four years medical course likely to do the most good.

Dr. Jackson of Denver, thought that the study of logic and psychology as carried on furnished a very poor outfit, or a very insufficient guarantee of a logical mind or an ability to apply psychological principles to general facts. In illustration, a base-ball or billard player learns to do a certain thing with perfect accuracy, promptness and ease, and yet knows nothing perhaps of the names or forms of classification or arrangement of the muscles by which he does it, still less of the nerve paths by which he accomplishes his purposes.

Dr. L. Duncan Buckley remarked that the crowning evil of medicine, the advertising drug business, was due to faulty education in our medical schools. Another fault was in too great a crowding from minutiae. He emphatically approved of the suggestion that students be required to write a thesis at the end of each year. He had seen too often in young men coming up for hospital examinations, a want of concentration of thought, and of logic.

"Is the Demand for Reciprocity Based upon Fact or Fancy?"

Dr. Charles McIntire of Easton, in this paper gave the results in the examination of reports of the various state boards of medicine examiners for 1900, in order to form an estimate of the comparative number of physicians who seek to move from one state to another. The figures quoted in the paper give the entire number examined, the number failing, and of those failing, the number who were not graduates of the last class. A tabulated statement showed that out of all 511 individuals, 292 could have had an opportunity of taking a state examination elsewhere. A considerable number failed, and were coming up for a second, only to fail again. It would be far from the truth to infer that of the larger number who were sustained in their examinations, the same proportion of older men presented themselves; at the same time, many such are in-

cluded in those who receive a license, and it will not be an overstatement to assume that the number of those who passed the examinations, who would have had the privilege of reciprocity extended to them, fully offsets the number who failed in the examinations, who had never made the effort to practice elsewhere. If so, there are at least 292 out of the total number examined who would have been able to avail themselves of the privilege of reciprocity, or about 7½ per cent.

"The Desirability of Reciprocity in Medical Licensure."

A paper with this title by Dr. J. N. Hall of Denver, was presented. An experience of six years on the Colorado State Board of Medical Examiners demonstrated that many physicians of excellent repute seek a residence in that State because of illness, either personal or otherwise. Though such men are fitted to practice medicine they are rusty on the details of the foundation studies. Reciprocity between States having stringent requirements would be of the utmost benefit to men of this type. Reciprocity, however, should not be established, except among those states where requirements are essentially equivalent.

Reciprocity in Medical Licensure from the Standpoint of a Physician who changes his residence.

Dr. Edward Jackson of Denver, in this contribution said that about one in every four or five physicians changes his field of practice from one state to another, at some time during his professional career. In making such a change the difficulty is not with the practical branches, but with passing the examination in what may be regarded as the preliminary studies,—chemistry, anatomy, etc. The physician who removes across state lines cannot justly be expected to keep better posted in those branches than the most of those who do not move. "Reciprocity" seems liable to be awaiting for others to do something rather than a practical measure of relief. The acceptance of the certificate of another state board, as evidence of a proper acquaintance with much preliminary studies, would remove the chief hardship. The main obstacle to this is fear of "lowering the standard." But the "Standard" in many states is already "so high" as to favor evasion and special legislation letting in all sorts of irregular practitioners and to threaten the permanence of laws regulating medical practice.

"Away with Reciprocity."

Dr. Charles McIntire in this paper stated that Reciprocity is an *ignis fatuus*, which will lead us far astray. Physicians already possessing the legal right to practice in one state, should have privileges, in removing to another state, not accorded to those who have not, as yet, been licensed to practice. These privileges must not be such as to act unfairly either to the people of the state or the physicians already practising in the state.

It is well to remember that those states which have medical practice acts at all worthy the name, divide into two classes—those which accept certain diplomas as the evidence of fitness; and, those which require an examination. In both instances the text is an educational one. The first class have no personal interest in this question, since they do not inquire into the personal knowledge of the applicant. In the very nature of the thought, there is concession in reciprocity which precludes the idea of strict equality. If we seek reciprocity we must seek to secure an agreement between the various boards, for each to accept without question the licenses issued by each other. Physicians already possessing the legal right to practice in one state, should have privileges in removing to another state, not accorded to those who have not, as yet, been licensed to practice. It might be said that the man distinguished enough to be called \$800 or 1,000 miles to occupy a professor's chair might be admitted upon his reputation. Unfortunately, were this done in one case, there would be the danger of pronouncing it reputation, but spelling it influence. Whatever privilege is given to the older man, a favor to him, must be fair to all concerned.

ADDRESS OF THE PRESIDENT, DR. S. D. RISLEY.

"Some of the Ethical and Sociologic Relations of the Physician to the Community."

Dr. Risley in his address showed that a most striking characteristic of the medical man is a sense of obligation to the community, that this ethical attitude finds expression, not only in the daily routine of his laborious professional service, but in a pronounced educational influence on all those lives which pertain to the healthfulness of the people and their socio-medical welfare; that this influence is signally exerted in the investigations and control of the relation which our defective classes sustain to the social body. Almost suddenly the student of social evolution has come to realize that through the altruistic spirit of our civilization a rapidly increasing percentage of degenerates have grown up in our midst, a fact which presents a serious and most complex problem for solution by the new century. Two suggestions are made for its arrest. First, the legalization of means to prevent propagation of defectives by asexualization; and, second, by a wider education of the community regarding the importance of selection in the marriage contract and its control by the State. To solve it wisely and humanely will require the best efforts of the churchman and the physician and the statesman.

SECOND DAY.

In the short executive session preceding the scientific business a few additional names were numbered with the fellowship, and the resignations of three accepted. Some slight changes in the by-laws were inaugurated and the Secretary called to the attention of the Academy the work of the *Bulletin*, the official organ of the body.

The first paper was entitled:

Abuses of Institutionalism.

by Dr. Eugene G. Carpenter of Columbus, Ohio. Dr. Carpenter stated in regard to institutionalism that it is an outgrowth of organization and is the result of routinism. Routinism it was declared develops prefunctionism, which in turn leads to automatism, differing little from that which is mechanical. That which is mechanical moves in fixed lines and is consequently opposed to progress. Too often the institutionalist is dominated by the institution. The true institutionalist, however, remains the master of the institution. The executive of the institution sets the pace for the other participants of the organization. The policy therefore should be broad and liberal. The preventive measures to the abuses, above every measure are to be kept in mind. These are found in the *individual equation* which goes to make up the warp and woof of the fabric. The institutionalist should glean everywhere for that which makes progress and gives to his labors the widest possible usefulness.

Tendencies in Hospitals for the Insane with Some Suggestions, was the name of a paper by Dr. Robbins of Danville. The paper was read by title. Dr. Hill was unable to be present owing to the additional duties devolving upon the staff members from the death of Dr. Johnson, whom it may be remembered was stabbed by a patient under treatment.

The Advantage of Civil Service Principles in the Conduct of State Hospitals for the Insane.

Dr. Gershom H. Hill of Independence, Iowa, and Superintendent of the Iowa State Hospital for the Insane in this paper treated of the benefits resulting from the system and underlying principles in having a board of three in control of the state institutions of Iowa, in practice for two and a half years. It was shown that the system was free from political influence. A careful supervision is had over the expenses of supplies. In the hospital under Dr. Hill's supervision, the personal element in the treatment of patients is preserved, and there is no interference with individually approved ways of treating patients. A medical society is held in connection with the hospital, scientific papers are read and discussed and a quarterly bulletin pub-

lished. Contributions are solicited from other institutions in Iowa and other states. Solicitation on the part of the board for the selection of an employé is counted a misdemeanor. It is the distinction of the board of control law to do the business of the state institutions on the same principles and methods used by the United States Government in buying supplies or by the up to date business man. The tendency is for the legislature to trust the board of control, to adopt their recommendations and to appropriate all the money asked for as the resources of the state will permit. Merit is the criterion in selecting help. The results under these civil service rules is to secure as nearly as possible perfection.

The Need of National Co-operation in the Establishment of Sanatoria for Tuberculosis.

Dr. A. Mansfield Holmes of Denver, detailed the advantages of sanatoria in that they increase the chances of recovery; afford an opportunity for rigid sanitary regulations among patients, and furnish a means of educating those infected, and the public, against sources of infection. He divided the varieties of sanatoria into three classifications: for patients of limited means; for those of moderate means, and for the well to do. The methods of conducting sanatoria were outlined under the purely charitable institutions; co-operative institutions, and those conducted for profit. In considering the location of the sanatoria, there should be for the incurable cases sanatoria located near large centers of population regardless of climatic conditions; for the incipient cases the most favorable climatic conditions should be chosen for the location of the sanatoria. Co-operative sanatoria established on the proper plan and wisely conducted would, in the author's opinion, overcome many of the present difficulties. State and municipal aid together with individual philanthropy could do much in this field.

"Evils in some Asylums, Hospitals, Infirmarys and Training Schools for Nurses that might be avoided by placing them under Civil Service Rules, and by Proper Requirements, Regulations and Inspections on the part of a properly constituted and authorized Board of Health in each State." Dr. Albert Goldspohn of Chicago, spoke on this subject, contending that many of these institutions did not yield their intended degree of usefulness because of too exclusively lay management and lay selection and appointment of medical men, which very frequently resulted in the appointment of inferior men. A still greater evil frequently occurred in the public hospitals and asylums that were under political influence. Many governors, county commissioners, etc., regarded medical appointments like all others as something with which they had a right to reward their political henchmen, who among doctors were generally of an inferior grade professionally. He advocated giving the State Boards of Health the additional duties, powers and emoluments of a medical civil service board; that this board should select and submit all the candidates for political medical appointments; that it should oblige laymen trustees of private or denominational hospitals, etc., to have their candidates for medical positions selected by some creditable local medical society; that it should determine the fitness of all superintendents and matrons of hospitals and license them for such positions, and that a representation of such a board should examine or inspect every such institution at least once a year.

"Hospitals and Sanatoria Founded, Owned and Controlled by the Medical Profession: A Case in Hand."

Dr. H. Bert Ellis of Los Angeles, stated in this paper that hospitals may be divided into three broad classifications: Charitable, private, and a hybrid class, where private wards and free beds are mingled for the pecuniary gain of the hospital. The description of a hospital owned and controlled by physicians is given. It is the outgrowth of a corporation known as the California Hospital Company. The first building erected for the hospital was soon found

to be inadequate and was added to. At present the hospital owns a corner property 323 feet by 185½.

Patients select any reputable physician and pay him for services. Every physician prescribes for and operates upon his patients as if in the patient's own home and prescriptions are filled at the drug store. Connected with the hospital is a training school for nurses. The absolute management of the Hospital is vested in a Board of nine directors elected annually from among the stockholders. The plan of the management is recommended to Eastern confrères because the construction of the building and the hospital service are entirely in accord with the desires of the physicians; patients realize that they are in a hospital controlled and practically owned by their own physician, which insures confidence; and whatever profits accrue from the hospital revert to the physician, thus giving safe investments. In the opinion of Dr. Ellis it is as essential that the profession own and control the hospitals and sanatoria as that they should own and control their medical journals in order to keep them as free as possible from commercialism.

"A Suppressed Educational Problem."

Dr. James L. Taylor of Wheelersburg, Ohio, urged in this contribution an enlightened "Natural Selection" in lieu of the ignorant, haphazard methods of selection among people, which result so generally in physical as well as intellectual deterioration.

"The Relation of the Clinical Laboratory to Its Hospital."

Dr. Henry W. Cattell of Philadelphia, presented a paper under this title, in which he takes for granted that the time has gone by when it is necessary to argue for the existence of a clinical laboratory in connection with a hospital. The questions to be considered in the internal administration of a hospital are the relations of the clinical laboratory to the board of managers, the medical and surgical staff, the chief resident physician, the resident physicians, the superintendent, the nurses, the out-patient department, etc. Questions such as these should be asked, discussed and answered. How shall the laboratory be built, equipped and conducted? Shall there be a laboratory attached to each ward, a general laboratory, or a combination of both? Shall the director and his assistants be paid for their work? What relations shall exist between the laboratory worker and the clinician. What are the usual causes of friction arising from the new state of affairs? Should the members of the staff be expected to bring urine, sputum, blood, etc., of their *pay* patients both in and out of the hospital and make the laboratory make these examinations free of charge? Shall original investigations be carried on in such laboratories? Shall the workers in the laboratory be permitted to perform and to charge for work received from their own patients or from those desiring such services for money?

From personal experience extending over a period of twelve years, and from an intimate connection with a number of hospitals in various capacities, Dr. Cattell gives his personal views in regard to the answers to some of these questions.

Dr. W. W. Keen of Philadelphia, said he was glad indeed to have heard the paper of Dr. Cattell. He was less interested, perhaps, in the clinical laboratory from the administrative point of view than from the scientific and surgical. He emphasized the statement that it was granted that at the present time every hospital, small or large, should have a clinical laboratory, and more than that, such a laboratory needs a larger field of usefulness, which in ten or twenty years would be doubled or even tripled. Dr. Keen emphasized also the fact that the poorest patient to-day receives better care in a well managed hospital than the well to do or even rich could get at their own homes.

"Necessity for Revising Medical Fees."

Dr. P. Maxwell Foshay of Cleveland read this paper, stating that the custom of charging a fixed sum for each

visit was a relic of antiquity and illogical. Other callings are differently regulated as is also the special practice in the profession. The author thinks there is every reason in the world for the general practitioner to proportion his charge in all cases to the value of the service rendered and to the ability of his patient to pay. The need of a "fee-bill" is stated to establish a standard agreed upon by physicians in their societies to which the profession can appeal when dealing with patients. This also is of definite service in court when suing to recover the amount of a bill.

A greater object urged for this new method is its means of checking to some extent the pernicious custom of giving "commissions." No present retrogressive tendency in the evolution of the medical profession is at present so strong as this of the physician dividing fees behind the patient's back. It saps morality to its foundations.

"Refraction."

A paper by this title was presented by Dr. James A. Spalding of Portland, Me. Dr. Spalding gave a personal experience of an ophthalmologist suffering from a sudden loss of vision and consulting first the optician and then the oculist for aid, showing the inefficiency of the former and the great help which the latter gave to him. In view of this Dr. Spalding asks, would it not be preferable for the profession to address the public through the public press regarding all sorts of ailments, thereby preventing them accepting the beguilements of charlatans. Physicians too ought to be careful in referring their patients only to those who have a proper knowledge of disease. An increase in the solidarity of the profession is needed.

Dr. Tuckerman of Cleveland, and Dr. Risley of Philadelphia, referred to cases in which grievous damage had been done through failure of the patients to be referred to an oculist rather than to the advertising optician.

The meeting at his point went into executive session. The Nominating Committee named the following officers who were elected:

President, Dr. V. C. Vaughan; 1st Vice-President, Dr. James L. Taylor, of Wheelersburg, Ohio; 2nd Vice-President, Dr. W. A. N. Dorland, of Philadelphia; 3rd Vice-President, Dr. H. P. Ritchie of St. Paul, 4th Vice-President, Dr. H. Bert Ellis of Los Angeles of Cal.; Secretary and Treasurer Dr. Charles McIntire of Easton; Assistant Secretary, Dr. A. R. Craig of Columbia, Pa.

After a few remarks by the retiring President, Dr. S. D. Risley, the meeting was declared adjourned.

A Case of Barlow's Disease.—Dr. G. Variet reports a case of infantile scurvy with pseudo-paralysis of both legs, in a boy of 7 months (*Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris*, 1901, No. 8). The child had been taking Gaertner's milk, which is cow's milk with half its casein deducted and lactose added, since the age of two months. He had no teeth. Upon diluted, unboiled milk and orange juice, the conditions cleared in two weeks. After a full review of the literature of the subject, Variet concludes that Barlow's disease bears no relation to adult scurvy; that it is probably hemorrhagic rickets; that it is very rare in France, though sterilized milk is very generally used; that modified milk rather than pure milk causes it; and that it is not a serious condition, as change of diet will effect a cure. [M. O.]

The Influence of Work, Nourishment, and Dust upon Tuberculosis.—Lannelongue, Achard, and Gaillard report their experiments upon 100 rabbits inoculated with tubercle bacilli, in the (*Bulletin Medical*, 1901, No. 36). The inhalation of dust-laden air proved fatal to 17 out of 20 animals. Those which were left alone at rest are still living, while those which did the most work died first. Insufficient food by itself hastens death from tuberculosis. But those animals died soonest which received but scanty food yet did hard work; they also showed great loss of weight. Whence they conclude that the emaciation often found with tuberculosis in man is the result of nutritive disturbances, especially alimentary, not of the tuberculous process. [M. O.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

May 25th, 1901.

1. A Clinical Lecture on Appendicitis and its Surgical Treatment. J. (CRAWFORD) RENTON.
2. An Address on the Symptoms and Modern Methods of Diagnosis of Stone in the Bladder, Kidney and Ureter. P. J. FREYER.
3. Notes on 206 Operations for Stone. W. F. ADAMS.
4. A Method of Sterilizing Soft Catheters. HERBERT T. HERRING.
5. A Case of Almost Universal Ankylosis. T. K. MONRO.
6. Strangulation of Meckel's Diverticulum. KEITH CAMPBELL.
7. A Case of Cancer of the Larynx with a Long Course. E. DONALDSON.
8. Furunculosis of the External Auditory Canal Simulating Mastoid Periostritis. JAMES GALBRAITH CONNALL.

1.—In this clinical lecture J. C. Renton discusses the various forms of appendicitis and the established treatment of each. [J. H. G.]

2.—P. J. Freyer discusses the symptoms and diagnosis of stone in the bladder, kidney and ureter. Hematuria, although not the first or most distressing symptom of stone in the bladder, is usually the one which causes the patient to seek medical advice. It comes on gradually and toward the end of micturition. The amount of blood is increased by exercise. The stoppage of the flow of urine is not the most common symptom of stone, but occurs more frequently in the earlier than in the later stages. Attention is called to the fact that frequent micturition occurring from stone in the bladder takes place during the day when the patient is moving about. The author has operated upon over 1000 cases of stone and among these there were only 23 females. The author reminds us that other conditions than stone give rise to reflex pain at the glans, among these being enlarged prostatic middle lobe, tubercle of the prostate, local cystitis, ulcer of the bladder, clots of blood, etc. The pain of stricture when it does occur accompanies the act of micturition and is felt at the location of the stricture; pain of an enlarged prostate precedes the act and is as a rule referred to the hypogastric region; whereas the pain of a vesicle calculus follows the act of urination and is felt behind the glans. It must be remembered that prostatic enlargement and calculus are very frequently associated. In tumors of the bladder the bleeding is more profuse than in cases of stone, and the urine is uniformly mixed with blood. Tubercle of the bladder more closely resembles stone than any other condition. The sound and the cystoscope here will enable one to make a diagnosis. Always a rectal examination should be made before sounding. An anesthetic should always be employed in children. There is no better sound than that known as Mercier's. When all other means of diagnosis fail the author uses a method which he brought out a number of years ago which consists in introducing one of the canulae of the Bigelow apparatus into the bladder and applying the aspirator. Finally, Leiter's electric cystoscope will be found of the greatest advantage in making diagnoses of bladder conditions. The symptoms of renal calculus are next described. Renal colic occurs as a symptom when the stone is small, but after the malady has existed for some time, perhaps two or three years, the typical renal colic attacks gradually subside, to be replaced by a constant heavy aching pain fixed in the loin. Hematuria follows attacks of renal colic and rarely it occurs periodically as the first symptom noticed by the patient. As a rule the quantity of blood passed is not large. It is in the early stages that this symptom is most marked. Attention is called to the

fact that heredity plays a considerable part in the causation of stone. The Röntgen rays may be employed to form a diagnosis of stone but if no stone is found by this means one should not be deterred from exploring the kidney if the symptoms of stone are well marked. Stone in the ureter is next described and reference is made to the use of the cystoscope for the diagnosis of stones lodged in the lower extremity of the ureter. [J. H. G.]

3.—W. F. Adams reports 206 operations done in India for stone. The author used lithotripsy in 153 males and lithotomy in 36. He has never found a stone too hard to crush. 48 of the cases were in boys under 10 years of age, and 15 were in boys under 3 years of age. One death occurred in a boy 3½ years of age. The author derived great advantage from the introduction of a drachm of oil into the urethra prior to the passage of the instrument and in young boys the crevices of the crushing instrument were filled with soap before introduction to avoid scratching the mucous membrane. When the instrument cannot be readily and easily passed he thinks lithotomy had better be resorted to. Three deaths occurred out of 36 cases of lithotomy and three out of 161 cases of crushing. Two of these deaths could hardly be attributed to the operation, which was lithotripsy. [J. H. G.]

4.—Herbert T. Herring recommends moist heat as a method of sterilization of soft catheters. Water at 150 degrees F., even for ½ minute is a reliable sterilization for catheters for ordinary work (that is it would not in this time kill bacteria with spores, but these are not likely to be met with). The author then describes a metal case which he uses for heating and at the same time lubricating soft catheters. [J. H. G.]

5.—Monro reports the case of a man who died at the age of 46 years, with all his joints ankylosed. The disease began when the patient was 18 years of age. He was an iron turner by occupation and it is very probable that the disease was caused by frequent wetting, as the patient was going to and from his work. The course of the disease was very painful until the joints affected became fixed, and then the pain in that particular joint would disappear. The patient was obliged to give up work 2 years after the onset of the disease, and 2 years later became bed ridden. The right eye was the seat of an acute iridocyclitis, which rapidly went on to atrophy of the globe with subsequent ossification of the choroid coat. Death occurred during an attack of bronchitis and pleuritis from accumulation of bronchial secretion. There was no autopsy. The author considers the case to be one of universal bony ankylosis or arthritis ossificans. [J. M. S.]

6.—Keith Campbell reports a case of strangulation of Meckel's diverticulum which occurred in an old man 70 years of age suffering with senile dementia. The diverticulum was 4¼ inches long and was herniated into the left crural canal and here adherent to an inflamed gland. It closely resembled the small intestine but was smaller than this gut. Its proximal attachment was 2¾ feet from the ileo-cecal valve. In addition to the strangulation in the hernial sac the diverticulum was also twisted upon itself. No operation was done, the condition described being learned post-mortem. [J. H. G.]

7.—E. Donaldson reports a case of cancer of the larynx which ran over a course of 10 years. The case illustrates the fact that a warty benign growth may present symptoms of a benign tumor for a number of years and in the end become malignant. [J. H. G.]

8.—James Galbraith Connal reports two cases of furunculosis of the external auditory canal which gave rise to symptoms very closely resembling mastoiditis. In these cases without an examination of the canal one would have supposed them to be cases of periostritis of the mastoid. The swelling and edema of the mastoid area is due to the extension of the inflammation from the external auditory canal through the fissures of Santorini, or along the fibrous band in the roof of the canal. [J. H. G.]

LANCET.

May 25, 1901. (No. 4056.)

1. An Address on the operative Treatment of Abscess when situated on the Brain. CHAS. A. BALLANCE.
2. The Erasmus Wilson Lectures on the Pathology and Diseases of the Thyroid Gland. WALTER EDMUNDS.
3. The Surgical Treatment of Chronic Ulcer of the Stomach. A. W. MAYO ROBSON.
4. Analyses of Stools and Urine from Epileptic Patients under Treatment with "Brominol" compared with similar Specimens from Patients under Potassium Bromide. V. HARRISON MARTINDALE.
5. Two Cases of Carcinoma treated with Cacodylate of Soda. EDWARD MARTIN PAYNE.
6. Acute Colitis in Children. EDMUND CAUTLEY.

1.—Charles A. Ballance discusses in this address the operative treatment of abscess of the brain. He thinks that it is important to determine the nature of the micro-organism producing the abscess at as early a period as possible. The various details of operation from the sterilizing of the skin to the application of the dressing are minutely described. He recommends very strongly a large opening in the skull after first turning down a large scalp flap. For the drainage of an abscess in the temporo-sphenoidal lobe the trephine opening should be made 7-8" above the supra-meatal spine. In operating for a cerebellar abscess the trephine should be placed with its upper edge just below Reid's base line and its anterior edge touching the posterior border of the mastoid process. In incising the dura mater the opening should be made by a flap rather than by a crucial incision. Ballance recommends the use of a long, narrow, straight bistoury for the purpose of exploration rather than the use of the exploring needle or canula, as the incised wound of the brain heals better than the punctured wound. The finger is also to be used for exploration, irrigation of an abscess of the brain should only be done when there is free exit for the fluid such as is accomplished by the use of a tube. The author does not approve of tamponing these cavities with gauze. Recurrence of symptoms is not an uncommon thing a few days after the opening of a brain abscess and it is due either to a reaccumulation of the fluid or else to an entirely new formation of pus in another part of the same lobe. This is particularly true of the cerebellum.

[J. G. H.]

2.—Edmunds delivered three lectures on the pathology and diseases of the thyroid gland before the Royal College of Surgeons of England. He describes the histology of the thyroid gland stating that it is composed of closed vesicles lined with epithelial cells. The secreting cells are cubical and elaborate the colloid material, which may be readily detected by microscopical tinctorial tests. It has been demonstrated that the nerves of the gland are in close proximity to the secreting cells. He also states that the parathyroid glands, which are small glands in relation to the thyroid gland, are composed almost exclusively of cells, and that they do not contain vesicles and very little, if any, colloid material. Four of these glands have been described, one behind and above, and another in front and below each lobe of the thyroid gland. They are developed prior to the thyroid lobes. The parathyroid glands are with difficulty differentiated from accessory thyroid glands; the main point of difference being that the parathyroid tissue is composed almost exclusively of cells. Complete removal of the thyroid glands and the parathyroid glands in a dog is followed by well defined symptoms in forty-eight hours, and by death on or about the fifth day after extirpation. An early symptom is a fibrillar twitching of the muscles. General convulsions may occur. During these the temperature rises and the respirations are hurried. These seizures may last for about an hour and may recur.

In a day or two the animal becomes listless, the hair falls out, the animal has difficulty to maintain its equilibrium, the limbs later become rigid, the urine may contain albumin, less commonly sugar, and the temperature is sub-normal. Occasionally dogs recover after total extirpation of the thyroid gland. Removal of the thyroid gland in rabbits produces no effect whatever, for the reason, as Gley has demonstrated, that in rabbits two of the parathyroid glands are separated from the thyroid gland proper, and when the latter is excised these two structures escape removal. This observer also showed that when the parathyroid glands and the thyroid gland were removed the rabbit as a rule, died. Excision of the thyroid gland in monkeys produces symptoms which are almost identical with those seen in dogs, and that death nearly always occurs in these animals after removal. After some experiments Edmunds pointed out that thyroid-feeding in dogs, after excision of the thyroid gland, modified the symptoms somewhat and delayed death for a few days and decreased the mortality slightly. In monkeys similar results were obtained. Removal of two parathyroid glands and a single lobe of the thyroid in dogs was not followed by death, but a subsequent removal of the remaining thyroid lobe and its parathyroid glands was followed by a fatal issue. When but a single lobe was excised hypertrophy occurred in the remaining portion. If the thyroid gland and three parathyroid glands were removed in a dog, care being taken not to interfere with the blood supply of the remaining parathyroid gland, death did not occur as a rule, and no obvious effects followed. The parathyroid gland remaining became hypertrophied but did not develop into thyroid tissue,—vesicles did not form. The subsequent removal of this gland and two parathyroids was followed, by death. In rabbits extirpation of the thyroid gland and two parathyroids was followed after several months, by impairment of the health, falling out of the hair, and swelling of the lower part of the face. The palpebral fissure became very narrow. Complete parathyroidectomy leaving the thyroid lobes, in nine dogs, was followed by death in four animals, temporary symptoms in three, and no ill effects in two. The author emphasizes that it is very difficult to remove all of the parathyroid tissue. He refers to the conclusions of Vassale and Generali, who demonstrated that complete parathyroidectomy in dogs was followed by death. After excision of the parathyroid glands the thyroid lobes did not enlarge, but the secreting cells became columnar, the vesicles were filled with a watery secretion, and the colloid material diminished or completely disappeared. He maintains that the parathyroid glands probably secrete a material which is stored in the thyroid lobes, and that the thyroid lobes which are left after the removal of the parathyroids are in a state of what may be termed "compensatory hypertrophy." Excision of one thyroid lobe, in the five dogs which survived, after total extirpation of the parathyroids, produced death in two, and in the remaining three subsequently the other thyroid lobe was removed. Death occurred in one, and two survived and recovered after temporary symptoms. The symptoms developing in the animals that subsequently died, were great weakness, emaciation, tremors, narrowing of the palpebral fissure, unsteadiness of the gait, followed by paralysis of the hind legs. Seven dogs were subjected to partial parathyroidectomy;—one died after seventy-two days, and four developed symptoms from which they recovered. In one of the six remaining dogs the removal of both thyroid lobes produced death in three days. One thyroid lobe was excised in the remaining five dogs, and death resulted in three instances, while two recovered and one of these manifested definite symptoms. Finally, the removal of the remaining thyroid gland in the two animals that survived, produced death. Incomplete extirpation of the parathyroid glands, in two of the dogs was followed by a swelling of the palpebral fissure, and after a subsequent operation the eyes became narrowed and re-

tracted. In one of the dogs in which incomplete parathyroidectomy was performed, the animal developed no ocular manifestations, but the excision of one thyroid lobe and parathyroid gland in this animal produced a widening of the palpebral fissure. The author concludes that complete parathyroidectomy probably induces exophthalmos in the non-fatal cases, while in those instances in which death results, either from total thyroidectomy or removal of the parathyroid glands, the palpebral fissure becomes very narrow. The author emphasizes that these observations lend strong support to the view that the parathyroid glands are involved in Grave's disease. By a series of experiments he has demonstrated that the nerve supply of the thyroid gland has much to do with the control of its internal secretion. He excised a part of the supra-laryngeal nerve and a portion of the vago-sympathetic on one side, and removed the thyroid lobe with its parathyroid glands on the opposite side. Of nine dogs experimented upon three died, four of the remaining animals developed athyroidic symptoms, and the remaining two developed no symptoms. The author states that we must admit the possibility of disturbances with the nerve supply in the pathology of thyroid disease. Reference is made to the symptoms which result from the administration of large quantities of thyroid extract in man. He mentions the results of a number of observers who have shown that the administration of the thyroid gland produces: increase in the pulse rate and respirations, fever, sensations of heat and increased perspiration, tremors, increased secretion of urine, often albuminuria, and mental agitation. He fed dogs upon large quantities of thyroid extract without any obvious effect. In monkeys the administration of the thyroid extract produced exophthalmos, a widening of the palpebral fissure, dilatation of the pupils, emaciation and weakness, falling out of the hair in patches, and paralysis of one or more extremities. Seventy-six days was the average duration of life of the monkeys fed upon thyroid extract. The effects produced upon the eyes were undoubtedly due to the action of the thyroid extract upon the cervical sympathetics. He administered thyroid extract to two monkeys in which the cervical sympathetic had been excised on one side. After twelve days he found that on the unoperated side there was exophthalmos, dilatation of the pupils, and widening of the palpebral fissure; while on the other side the pupil was not dilated nor was the eye-ball prominent, and the palpebral fissure was narrow. The author states that very little is known in regard to the action produced by the administration of the parathyroid gland. With respect to myxedema and cretinism he is inclined to agree with the view set forth by Allen Starr, that the narrowing of the palpebral fissure cannot be attributed to the swollen condition of the eye-lids. Edmunds believes that the administration of thyroid extract is the best treatment for sporadic goitre. In regard to the pathology of Graves's disease evidence points strongly to the view that the symptoms are due to the secretions from the goitre. The thyroid gland, in cases of Grave's disease, appears to be in a state of active secretion. Microscopically, it has been shown that the secreting cells lining the vesicles are columnar instead of cubical, the colloid material within the vesicles is diminished or absent, and replaced by a secretion which reacts poorly to stains. These changes are practically identical to the compensatory hypertrophy in animals after removal of part of the gland, and finally he suggests that the primary lesion may possibly be found in the parathyroid glands. The article is concluded with a discussion of the treatment of Graves's disease. [F. J. K.]

3.—This article on the surgical treatment of chronic ulcer of the stomach will be found at length in the *Philadelphia Medical Journal* of May 25th. [J. H. G.]

4.—Martindale maintains that brominol, a compound of bromine and sesame oil, containing 33½% of the halogen in chemical combination, deserves a more extensive trial. He believes that on account of the close combination of

the bromine atoms in the molecules of the fatty acids there is a remarkable stability of the compound brominol. The effort necessary to separate and absorb the bromine from this compound is probably advantageous to the economy. It may be argued that brominol possesses advantages over the potassium bromide on account of its more stable chemical combination. On account of the great chemical solubility of the alkaline bromide, it is absorbed and passes off rapidly without inducing its full action. In a comparative table the author gives the results of analysis of stools and urine from epileptic patients who were under treatment with brominol, and others with potassium bromide.

5.—Payne discusses the value of cacodylate of soda in the treatment of two cases of carcinoma. The first case was that of a woman, 45 years of age, who consulted the author on January 14, 1900, and complained of irregular and profuse hemorrhages from the vagina. On October 5th the patient had a severe hemorrhage from the vagina. The examination at this time revealed ulceration of the cervix and fixation of the uterus. The morbid process was so extensive that operative interference was deemed unwise. On December 16th cacodylate of soda was used hypodermically. The first dose was 2 centigrams. On January 16th, 1901, the dose had been increased up to 7.5 centigrams. The patient refused to continue the treatment on March 14th. The patient's general health had improved, she had gained in weight, and the vaginal hemorrhages had ceased. The patient declared that she had never had cancer and for that reason she gave up the treatment. The second case the author reports occurred in a man 70 years of age, who first came under his observation on August 2, 1900, complaining of a sore mouth and tongue. On examination the tongue was found to be ulcerated. The diagnosis of carcinoma was made on March 17th hypodermic injections of cacodylate of soda were begun. After six weeks of this treatment the author is convinced that the local trouble improved. The author maintains that cacodylate of soda is a valuable palliative remedy in the treatment of cancer, and that this drug should at least be given a trial in inoperable cases. [F. J. K.]

6.—Cautley writes upon acute colitis in children and gives a report of a limited outbreak which came under his observation. All of the cases occurred in certain London barracks. In this dwelling the epidemic began on the third floor, then spread to the ground floor, and then to the first floor. After a most careful investigation the author was unable to ascertain the source of infection. He gives a short account of four cases. Case 1: On June 28th, 1900, a girl, 5 years of age, was admitted into the Belgrave Hospital for Children, complaining of vomiting and diarrhea. Her temperature was normal and the pulse 140. The patient did not complain of pain. The child rapidly grew weaker and died on July 1st. Case 2: This patient, a boy 3 years of age, was admitted to the Hospital on July 1st, complaining of vomiting, diarrhea, and abdominal pain. Fever continued throughout his illness, and the patient died on July 8th. Case 3: On July 18th a female infant, 2 years of age, was admitted into the Hospital suffering from diarrhea and vomiting, and the temperature was 101° F. The diarrhea continued for some time, the child gradually improved and recovered. Case 4: On August 11th, a male child, 3 years of age, was admitted into the Hospital also complaining of diarrhea and vomiting. The temperature was 100° F. and the pulse rate was 130. This patient gradually improved and was discharged recovered on September 17, 1900. Upon postmortem examination in the first case it was found that the entire large intestine was thickened, affecting especially the mucous membrane. Superficial ulcerations were present and small hemorrhages were found in the coats of the bowel. Acute inflammation also involved the last few inches of the ileum, and the mesenteric glands were enlarged. The postmortem examination in the second case presented similar anatomical

lesions. The author concludes the article with a discussion on the nomenclature, suggesting the term "acute catarrhal colitis" for this disease, and a general description of the condition, outlining its course, symptomatology, and treatment. [F. J. K.]

MEDICAL RECORD.

June 8th, 1901.

1. The President's Address. CHARLES A. L. REED.
See page 1119 Philadelphia Medical Journal of this week.
2. Internal Medicine in the Nineteenth Century. N. S. DAVIS.
See page 1122 Philadelphia Medical Journal of this week.
3. The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. JOHN A. WYETH.
See page 1120 Philadelphia Medical Journal of this week.
4. The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. GEORGE M. KOBER.
See page 1122 Philadelphia Medical Journal of this week.

THE NEW YORK MEDICAL JOURNAL.

June 8th, 1901.

1. The Address of the President of the American Medical Association. CHARLES A. L. REED.
See page 1119 Philadelphia Medical Journal of this week.
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MEDICAL NEWS.

June 8th, 1901.

1. The President's Address. CHARLES A. L. REED.
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2. Internal Medicine in the Nineteenth Century. N. S. DAVIS.
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See page 1122 Philadelphia Medical Journal of this week.
4. The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. GEORGE M. KOBER.
- 1.—See page 1120 this issue Philadelphia Medical Journal week.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 6, 1901.

1. The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. JOHN M. WYETH.
2. The Surgical Treatment of Gastric Ulcer, with Report of Cases. F. B. LUND.

3. Iopathic Abscess of the Kidney. A. T. CABOT.
4. The Effects of Training; Second Paper. EUGENE A. DARLING.

1.—See page — this issue Philadelphia Medical Journal.

2.—Lund reports a case of perforating gastric ulcer for which he operated 16 hours after the symptoms of perforation appeared. A general peritonitis of such marked degree was present at the time of operation that it was necessary to drain both flanks through the wound in the epigastrium and the pelvis by a second incision, which was made below the umbilicus and through which a tube and gauze were passed. The patient was in perfect health and had normal digestion for a year and 8 months following the operation. Then he was overcome by gas while working in a manhole, but was rescued and resuscitated. An attack of vomiting ensued later, and on the same day he was seized with agonizing abdominal pain. On the fourth day after the attack he was operated upon for acute intestinal obstruction by a band. On opening the abdomen the stomach was found to be normal in size and entirely healthy in appearance. The pylorus was adherent to the under surface of the liver by firm adhesion. The bands that caused the obstruction ran from below the pelvic incision to the jejunum, which at the point of attachment of the second band was sharply kinked and completely obstructed. When, in the course of the operation the intestinal tension was relieved, the patient began to vomit large quantities of feces. He stopped vomiting at about 6 o'clock on the night of the operation; his bowels moved the next morning, and he passed a very satisfactory convalescence. There can be no question that the mortality of the cases operated upon promptly, that is within 12 or 34 hours of the perforation, is and will be remarkably low. The importance of such early operation cannot but be obvious on comparing perforating ulcer of the stomach with appendicitis. The author also referred to a case of a single girl, aged 17 years, who was suffering from chlorosis and who had symptoms of gastric ulcer. She was operated on 10 hours after the onset of the pain which probably signalized perforation. After the operation the young woman had no serious symptoms except a left femoral phlebitis and she left the hospital in 5 weeks. There was a history of gradual aggravation of the symptoms of ulcer during the week preceding perforation, that probably coincided with a gradual increase in the depth and extent of the ulcer, and possibly with the formation of light fibrin deposits upon the peritoneum covering it. These symptoms were sufficiently marked, it would seem, in case they had been observed by a physician to suggest a "preperforative stage." It is fortunate for the surgeon that, although a vastly larger number of ulcers of the stomach are situated upon the posterior than the anterior wall, perforation of the ulcers of the anterior wall is much more frequent than those of the posterior. This fact is undoubtedly due to the greater fixedness of the posterior wall, more frequent affording opportunity for the formation of adhesion that prevent perforation. In case of chronic or intractable ulcer of the stomach, when the situation of the ulcer and the condition of the patient permit it, the surgeon may excise the ulcer and suture the defect in the stomach, thus getting rid of the diseased tissue and affording the most favorable conditions for healing. In cases in which the ulcer is situated near the pylorus, excision of the ulcer may be combined with pyloroplasty, thus relieving the constant irritating spasm of the pylorus, which does so much to keep the ulcer in an active state. If on account of the situation of the ulcer or the condition of the patient excision is difficult, gastro-enterostomy may insure a free passage of the stomach contents into the intestines with the minimum of work on the part of the stomach wall and the maximum of rest, therefore, for the ulcerated surface and the surrounding infiltrated tissue. During the first attack of severe hemorrhage operation is contraindicated, and it would seem that treatment should be limited to rest, opium and salt infusion, as in.

hemorrhage elsewhere. When, however, a first copious hemorrhage is followed by a second, too long delay is hazardous. In spite of the greater complication of the measures required in dealing with a bleeding ulcer of the stomach as compared with a ruptured tube, for example, the use of salt infusion and stimulation, and such measures as prove so successful in intra-abdominal hemorrhage from other causes, will save a certain number of even the most desperate cases from death. The author concludes: (1) That in perforation immediate operation is absolutely indicated. (2) That in cases in which the symptoms fail to yield after medical treatment for a reasonable period, operation, consisting either of excision of the ulcer or gastro-enterostomy, should be performed, and this before the patient has become so exhausted as to render surgical intervention dangerous. (3) That in hemorrhage, were slight, frequently-repeated bleeding promises to produce grave anemia or exhaustion, similar early operation should be done. (4) That in case a patient has suffered from more than one copious hemorrhage, operation should be performed, and the extent and nature of the procedure should be decided upon according to the power of the patient to withstand operative manipulation and the conditions found during the progress of the operation. [J. M. S.]

3.—Abscess of the kidney may be due (1) to injury, (2) to the direct extension of inflammation from contiguous parts, (3) to the extension of inflammation of the pelvis of the kidney through the uriniferous tubules into the substance of the organ and (4) to organisms brought to the kidney by the blood. In the latter cases, except those abscesses that result from the action of the tubercle bacillus, the streptococcus, the staphylococcus pyogenes aureus, the bacterium coli communis, the pneumococcus and the typhoid bacillus are the offending organisms. [J. M. S.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

June 8th, 1901.

1. The President's Address delivered at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn. CHARLES A. L. REED.
See page 1119 Philadelphia Medical Journal of this week.
2. Internal Medicine in the Nineteenth Century. N. S. DAVIS, JR.
See page 1122 Philadelphia Medical Journal of this week.
3. The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. JOHN A. WYETH.
See page 1120 Philadelphia Medical Journal of this week.
4. The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. GEORGE M. KOBER.
See page 1122 Philadelphia Medical Journal of this week.

AMERICAN MEDICINE.

June 8th, 1901.

1. The Address of the President of the American Medical Association. CHARLES A. L. REED.
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DEUTSCHE ZEITSCHRIFT FUER NERVENHEIL- KUNDE.

Vol. 18. December 17th, 1900.

The present volume is a *Festschrift* printed in honor of Geheimrath Wilhelm Erb at the completion of his 60th year. It contains 23 articles written by his friends and students.

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1. The Pathology of Non-Suppurating Encephalitis. Twelve Cases of Encephalitis of the Cerebrum or Cerebellum. Two with Anatomical Investigations. NONNE.
2. Erb's Disease. (Myesthesia. Pseudo-paralytica. Assthenic Bulbar Paralysis.) GIESE and SCHULTZ.
3. The Clinical Characteristics and Pathological Anatomy of Beri Beri. RUMPF and LUCE.
- 4.—Contribution to the Knowledge of Allochiria. DETERMANN.
5. Contribution to the Knowledge of Cerebellar Cysts. SCHUELE.
6. Cases of Hemorrhagic Encephalitis Following Influenza. STADELMANN.
7. Contribution to the Symptomatology of Tumors of the Mid-Brain and the Tegmentum. VON OORDT.
8. The Position of the Fibres in the Pyramidal Tract That Control the Movements of the Hand. HOCHÉ.
9. Casuistic Contribution to the Combined Systemic Degenerations. SCHOENBORN.
10. The Inhibitory Paralysis of Early Childhood (Syphilitic, Rachitic, and other Palsies). VIERORDT.
11. The Relations between Impaired Hearing and Word Deafness. KAST.
12. Thomsen's Disease, with a Special Consideration of the Muscular Atrophies that Occur in it. HOFFMAN.

1.—Nonne gives the histories of 12 exceedingly interesting cases that he diagnoses **encephalitis**. It is difficult to summarize them. In the abstract they are as follows: Case 1. A girl 14 months of age, in the course of an influenza epidemic developed fever, loss of consciousness, vomiting and convulsions, which in a late stage of the disease were limited to the left side of the body. This side was paretic, the reflexes were exaggerated, and there was no disturbance of the eyes. Complete recovery ensued. Case 2. A woman of 34, had an attack of fever, on the 3d day of which she became delirious, had headache, paresis of the left facial nerve followed by paresis of the left side with exaggeration of the knee-jerks. The Widal reaction was negative. As the fever disappeared the paresis improved and the patient recovered completely. An epidemic of influenza prevailed at the time of the attack. Both cases Nonne regards as encephalitis due to influenza. Case 3. A man of 23, became confused, was brought to the hospital, where he developed fever, followed by right facial paresis, sluggish pupillary reaction, some trismus, and on the 5th day an attack of focal epilepsy beginning in the neck muscles on the right side. There was complete aphasia. On the 7th day the fever dropped, and the patient apparently recovered completely with the exception of the aphasia. On the 9th day the patient was capable of recognizing objects, could not understand words, there was complete paraphasia and paragrammatism. On the 12th day he began to be able to repeat words, and two weeks later could understand words perfectly, and exhibited only a slight degree of paraphasia. All forms of infection or intoxication could apparently be excluded in this case, and Nonne suspects that it is possibly a form of hemorrhagic encephalitis. Case 4. A man of 24, had a severe attack of headache followed by confusion, diffuse tenderness of the skull, gradually developing stupor and slow pulse. There was hyperemia of the retina and inequality of the pupils. The reflexes were greatly increased, especially on the right side, and there was ankle clonus. Later the patient improved, and with the exception of a slight disturbance of equilibrium and occasional vertigo, recovered completely. As it seemed possible to exclude brain tumor and serous meningitis, encephalitis was the only condition that could explain the symptoms. Case 5. A man of 28, after a severe journey, appeared much exhausted, then suddenly developed fever, headache, and vomiting. He was delirious

tion, suppurative had irregularity of the pulse and Cheyn-Stokes respiration. Lumbar puncture was negative. Later he had transient nystagnus, strabismus, mydriasis, trismus, and developed a pleural effusion. In the 4th week his symptoms rapidly disappeared, with the exception of a slight sluggish reaction to light in the left pupil. As in the other cases meningitis was apparently to be excluded and encephalitis is the only possible diagnosis. Case 6. A boy of 14, developed a severe headache with vomiting, became confused, delirious, comatose, had severe coric movements, and on the second day, paresis of the left leg, with loss of tendon reflexes. Lumbar puncture was negative. On the 4th day the coma was complete, the whole left side was paretic, and there was marked stiffness in the muscles of the neck. Later there was cutaneous hyperesthesia, but consciousness returned and the patient complained of a severe headache in the back of the head. At the end of the 4th week there was slight atrophy of both optic nerves, occasional vomiting, tenderness of the skull and headache. At the end of 11 weeks the patient was discharged, but even up to that time there were occasional attacks of headache and vomiting. In these cases the diagnosis was encephalitis associated with basal meningitis due to the same cause. Case 7. A man of 45, was exposed to cold and had an attack of fever followed by headache and vomiting. In the course of 4 days the only nervous symptom was diminution of the muscle tone. He later developed a typical cerebellar gait. There was exaggeration of the tendon reflexes, but at the end of a week the condition improved considerably and the patient ultimately recovered completely. This is probably a case of encephalitis in the cerebellum. Case 8. A man of 28, had for three months been rapidly emaciating. He developed severe headache with vomiting, inability to stand, and was quite delirious. From time to time there were clonic contractions in the legs; the gait was typically cerebellar in type; there was diminution in power. There was ankle clonus on the right side, and slight nystagnus, but the patient gradually recovered, and, with the exception of a permanent exaggeration of the reflexes, seemed perfectly well. This is also probably a case of cerebellar encephalitis. Case 9 was very interesting, showing briefly the following changes: After acute cerebral symptoms in the 11th year of age there developed incoordination of motion and of speech, insufficiency of the external muscles of the eye, impairment of intelligence, active tendon reflexes, but no disturbance of sensation nor of the action of the sphincters. Case 10. A man of 29, 15 months after sunstroke, showed the following changes. Incoordination of the extremities and speech, although mimicry was not disturbed. Insufficiency of the eye muscles, exaggeration of the tendon reflexes, hyper-tonicity of the muscles, but no disturbance of the action of the sphincters. These symptoms persisted unchanged for 4 years. These 2 cases present great difficulties in diagnosis. Multiple sclerosis and spinal disease seem to be excluded, and Nonne therefore includes them in the group of forms of encephalitis. Case 11 had inflammation of the throat, then weakness of the muscles of the neck, intelligence was undisturbed, respiration was very rapid. There was considerable pain if the head were forcibly bent backward. The left arm became paralyzed, then the face. The patient developed nystagnus, and finally there was paresis of the left leg. The reflexes remained normal. At the autopsy nothing was found either macroscopically or microscopically that could be considered pathological, and the case therefore is sufficient proof of the fact, hitherto not recognized, that encephalitis may exist, and even lead to death, without producing any recognizable changes. Case 12. A woman of 38 had felt depressed for several weeks, then developed weakness in the left leg. There was headache, nausea, and clonic contractions in the left side of the face. There was stiffness in the neck, diverging strabismus, and mydriasis of the left pupil, and total loss of pupillary reaction. Lumbar puncture gave a hemorrhagic fluid under considerable pressure, although no bacteria were found in it. The patient developed convulsions, the left hemiplegia became complete, and death occurred as the result of increase in the temperature. At the autopsy there were found numerous grayish-yellow nodules in the central convolutions and brownish discoloration of the brainy substance on the left side, from the frontal to the parietal regions. Microscopically there was inflammation and

infiltration of the pia, and round cell infiltration of the brain substance. The walls of the arteries and capillaries were infiltrated with round cells, and many of them were obstructed. Tuberculosis of the pleura and lungs existed, and Nonne considers this a form of encephalitis due to the poison of this microorganism. [J. S.]

2.—The following is reported as a case of Erb's disease. A woman, 24, with negative family history, had an attack of coryza and bronchitis associated with severe pain in the right side of the head. A few days later there was diplopia, then difficulty in swallowing with regurgitation of fluids through the nose. Shortly after this there was difficulty in speaking, fatigue after chewing, and later ptosis, transient paralysis of some of the fingers after use, and general fatigue after any kind of exertion. Intelligence and sensation were not affected. When examined 4 months later there was ptosis on the right side, the right internal rectus was completely paralyzed; there was paralysis of the soft palate and paresis of the tongue. All the muscles were well developed; there was no fibrillary twitching, but there was distinct paresis, and fatigue occurred very rapidly. The tendon reflexes were present, but not abnormal. There were no reactions of degeneration in the muscles, but an imperfect myasthenic reaction was present. The voice showed partial aphonia, otherwise everything was negative. The patient showed slight improvement, although fatigue occurred so rapidly that when the lips were exposed, the upper lip would sink from exhaustion at the end of a minute. Subsequently the patient became again somewhat worse: the tendon reflexes were diminished, but the patient left the hospital. From these symptoms a diagnosis of asthenic muscular paralysis was made. Subsequently the aphonia became complete, and the patient developed dyspnea, increased rapidity of the pulse rate, and finally died. The autopsy was absolutely negative, both microscopically and macroscopically, thus confirming the diagnosis. Schultz, in some concluding remarks, approves the name "Erb's disease" because we know so little about the true pathology of the condition that a more accurate designation is not at present possible. He believes, however, that it represents some form of intoxication, and calls attention to the presence of cystinuria as a proof that intestinal putrefaction was probably present, although the earlier symptoms recall those of diphtheria, and diphtheritic paralysis might have been suspected; the later course of the disease was sufficient to exclude this complication. [J. S.]

3.—Rumpf and Luce have had the opportunity of studying 10 cases of *beri beri*, which occurred in sailors, chiefly Chinese, arriving from the Orient. Nine recovered and one died. The symptoms were those ordinarily described, that is, slight disturbance of sensation, paresis or paralysis in the limbs, disappearance of the tendon reflexes, and qualitative or quantitative disturbances in the electrical reactions of the muscles. It is perhaps of interest to note that 6 of the patients were Chinese stokers. Microscopically, changes were found in the peripheral nerves with fatty infiltration of the connective tissue and moderate reduction of the myeline sheaves. In the spinal cord there was a recent degeneration of the myeline sheathes, local areas of degeneration, and a very slight degeneration in the cells of the anterior cornua. There was a chronic interstitial neuritis involving the posterior roots. This confirmed the findings of the other investigators. They therefore concluded that the disease represented the action of some inflammation upon the peripheral nervous system. All the cases showed the anemic type; the symptoms corresponded to those of polyneuritis, complicated in all probability by some changes in the muscle substance itself. A curious feature is that in none of these, nor in the majority of recorded cases, was the paralysis absolute in any of the muscles. It is probable that in the hydropic form there is serious disturbance of the kidneys. [J. S.]

4.—Deternann reports the following interesting case: The patient, who had had luetic infection, had diplopia, slight feeling of numbness in the hands, and slight difficulty in their use. The tendon reflexes were abolished; all forms of sensation were diminished in the hands; the stereognostic sense was diminished; the muscular power was fairly good. When the patient was stuck with a pin in the right hand there was a similar sense of contact about two seconds later, if slightly larger in area, in the left hand. The case represents one of locomotor ataxia affecting chief-

ly the cervical region, presenting the interesting features of *allochiria*. The case represents the 2 types of reflex and sensory *allochiria*, and is interesting because the patient had in the left hand the sense of burning pain and contact, moreover because the sensations commenced gradually, although the irritant in the right hand was applied only for a moment. Determann believes that the theory, that sensation is shifted in the spinal cord to the wrong tract, so that it is conveyed to the hemisphere on the same side and produces the sense of pain in the opposite side of the body, applies to the majority of cases, but not to those in which the symptoms are purely hysterical. [J. S.]

5.—Schüle reports the case of a man 39 years of age, an alcoholic. He had a severe fall, striking the back of his head, and after this complained of headache. There was loss of memory, attacks of vertigo, frequent vomiting and loss of weight. There was slight venous hyperemia of the eye-brows, but otherwise all the ocular phenomena were normal. There were no tremors, but slight ataxia in the upper extremities. From time to time there were attacks in which the patient seemed confused and groaned loudly, and appeared to be extremely restless, but no true convulsions occurred. Death occurred about 7 weeks after the injury. A diagnosis was made of tumor of the cerebellum, particularly on account of a tendency to fall backward. At the autopsy the skull was found perfectly normal, and the cerebellum appeared normal, but was slightly elastic, and upon a median incision a large cyst was found in the vermiciform process lined by a smooth wall, and about 3.5 by 4.5 cm.. The floor of the cyst formed the roof of the 4th ventricle. In all likelihood there was in this case a congenital diverticulum into which as a result of the injury there was a sudden effusion of liquid, causing the symptoms. Only a single similar case is to be found in the literature. [J. S.]

6.—Stadelmann reports the case of a man 28 years of age who had had an attack of influenza that had commenced with headache, fever, and vomiting. This lasted about 8 days and then was replaced by pain in the back. When admitted to the hospital there was moderate fever, inability to bend the head forward and backward, although it could readily be bent from side to side, some stiffness in the back of the neck, and tenderness over the 10th to the 12th dorsal vertebrae. A diagnosis of neuralgia following influenza was made, and the patient improved upon treatment. On the 10th day, however, he had a relapse, and appeared as if about to die. The temperature rose, then fell suddenly, and the patient had remittent fever with increasing apathy, bitter complaints of headache, right hemiplegia, with anesthesia and finally death. 10 days after the collapse. Spinal puncture had shown the existence of a reddish fluid. At the autopsy there was found chronic spinal meningitis, hemorrhages into the brain, hemorrhagic and anemic softening in the left hemisphere, hematoma of the left lateral ventricle, and of the subarachnoid space. Stadelmann regards the case as one of *cerebral softening following influenza* and producing hemorrhage. [J. S.]

7.—Van Oordt reports the following case: The patient, a girl, 8½ years of age, had developed slight weakness of the muscles of the right side of the face, bilateral ptosis and disturbance of gait. When admitted to the hospital it was found that the speech was slow and scanning, the eyes were normal; there was no disturbance of the other muscles excepting slight paresis of the superior and inferior recti on the right side, and possibly of the external rectus. There was also slight paralysis of the lower branch of the facial nerve on the right side. There was no paresis of the extremities, but a marked extension of tremor, and ataxia of both arms, more pronounced on the left side. Occasionally there were athetoid and choreitoid movements of the hands. There was considerable staggering during walking. There was alimentary glycosuria, and subsequently some evidence of diabetes. This improved rapidly upon suitable diet. About 3 months after the first symptoms the patient had violent vomiting, clonic convulsions in the right arm and died. There was a *tubercle of the tegmentum* about the size of a nut that obliterated the aqueduct of Sylvius and destroyed the right portion of this area, the right posterior longitudinal tract of fibres, and the right lateral nucleus of the fillet; it partially destroyed the right posterior corpus quadrigeminum and a considerable portion of the left posterior quadrigeminum, and the nucleus of the oculomotorius. There was some compression of the structures on the left side. Van Oordt also re-

ports the presence of a nucleus between the fibres of the restiform body near the mesial border of this structure consisting of from 25 to 40 round, pear-shaped ganglion cells similar to those of the olive. The right olivary body was degenerated, but this nucleus remained intact, and its cells differed slightly in size from those of the normal olive. Van Oordt regards it as a normal structure. After a brief description of the secondary degenerations he discusses the diagnosis from the symptoms. In view of the paresis of the right eye and of the left half of the body the localization of the tumor was made quite readily. The hypalgesia of the left side can be explained by the lesion of the tegmentum; the ataxia, by the involvement of the corpora quadrigemina and the tracts to the cerebellum. The patient had complete control of the stereognostic sense, probably due to the fact that the median fillet was nearly intact on both sides. There was no diminution in the visual activity, and there were no symptoms of brain compression until the convulsions just before death. It was doubtful whether the glycosuria was due to the tumor, but Van Oordt has collected 31 cases, in which this symptom appeared, 18 of these involved the floor of the 4th ventricle, and some the pons and the corpora quadrigemina. [J. S.]

8.—Hoche reports the case of a woman, 54 years of age, in whom the symptoms commenced with a typical attack of epilepsy, which was subsequently followed by attacks of twitching and paresthesia of the left arm. There was no vomiting, but slow development of weakness in the left hand. An operation was accordingly performed and a small tumor found in the *ascending frontal gyrus* about the level of the superior sulcus, which extended more than 1.5 cm. into the brain substance, and was not sharply delimited. It was found to be a spindle-cell sarcoma. The patient gradually grew worse; the paralysis of the left side extended, and finally death occurred. An interesting feature is that the typical cortical convulsions persisted after the operation. The degenerated fibres traced from this area formed, in the crus, a triangular area about the centre. In the pons, the whole pyramidal area contained degenerated fibres. This was also true of the pyramidal tracts in the cervical cord. The interesting feature of this case is that such a functionally distinct group of fibres as those supplying the hand, are not collected into an individual bundle at any point below the crus. [J. S.]

9.—Schoenborn reports two interesting cases. A boy of 13, the son of nearly related parents, with 4 healthy brothers, and one who suffered from the same disease, at the age of 13 noticed some twitching in the knees. This was followed by some uncertainty in gait and the legs seemed weak. The ataxia was more pronounced in the dark, and there was scanning speech. The patient had bilateral ptosis, moderate nystagmus, no muscular atrophies, some hyper-extension of the fingers and toes, no disturbance of sensation, moderate diminution of the tendon reflexes, slight lateral deviation of the spinal column. There was no defect of intelligence. The 2nd patient, a brother of the one just described, now 27 years of age, developed the first symptoms at the age of 25. These were essentially the same as those of his younger brother. Atrophy in the legs, some pains, slight tremor of the arms, scanning speech, and static ataxia without disturbance of sensation or atrophy of the muscles. The reflexes were much exaggerated on both sides, and Babinski's reflex was present. Regarding the nature of this condition Schoenborn is inclined to believe that it is really a form of combined sclerosis of the cord, although many of the symptoms resemble those of Friedrich's ataxia, or cerebellar ataxia. Many other symptoms and characteristics of the disease failed to agree with these two conditions, particularly the exaggeration of the reflexes, and the late onset of the second case. [J. S.]

10.—Vierordt discusses the *pseudo-paralyses of children*. He criticises Parrot's idea that in these cases syphilitic and rachitic disease of the bone is sufficient to explain the paralytic symptoms. He reports 2 cases which were characterized by paralysis of the lower extremities, coming on at the age of 1½ and 2 years. In the latter case the child was able to stand before the disease developed. The limbs were not especially tender; the spinal column was excessively mobile; there were no signs of syphilis, but modern rachitis in both. The paralysis was flaccid, but there were no reactions of degeneration. Both recov-

ered completely. Vierordt regards the paralysis as the result of loss of power, and the hypertonicity of the muscles. He excludes the possibility of Chassaignac's disease on account of the absence of pain. He also calls attention to a condition of paralysis of the muscles of deglutition that occurs in children who have been subjected to tracheotomy. He has observed it in 70% of the children under 2½ years that have had this operation performed upon them in his clinic. It usually persists during the period that the canula is in position. In conclusion he states that in young children paralysis may occur as the result of peripheral irritation, especially of the skeleton, and that therefore we are justified in assuming the existence of a pure functional paralysis, the result of irritation of the inhibitory centres, and that this paralysis disappears as soon as the peripheral irritation discontinues. [J. S.]

11.—The following case is interesting because there is reason to believe that as a result of a peripheral affection of hearing the patient developed a certain degree of word-deafness. He was a man 34 years of age, who in pursuance of his occupation of letter-carrier in the country, was exposed to severe weather. He had 2 attacks of pneumonia, both of which were associated with severe cerebral symptoms. Convalescence was slow. He then developed weakness of memory, ataxia, severe headache, and gradually impaired hearing in the right ear that soon reached complete deafness. The same thing occurred a short time later in the left ear, after which there was moderate improvement. It became impossible to communicate with the patient except by writing, nevertheless, careful observation showed that he perceived sounds, and testing proved that the watch could be heard at a distance of 60 cm. on the left, and 30 cm. on the right side. He could hear distinctly all musical notes, but in his attempts to reproduce them always struck an octave higher. When words were spoken he perceived only an indistinguishable sound. He was unable to repeat any of the vowels, could not understand any of the consonants, but realized that there was more of a blowing tone in "P" and "V" than in the others. He was unable to recognize tunes, but if started in singing one that was familiar, could carry it through very well. He could recognize the quality of voices so that when a person spoke that he could not see, he could state who it was. He was also capable of distinguishing whether the sound was made by striking wood, metal or glass. He had distinct ataxia increased by closing the eyes. As a result of careful treatment considerable improvement took place in his hearing, and he was able to make an attempt to imitate words that were spoken to him. The ataxia, however, increased, and later the deafness was stationary. Kast reports the case as probably due to meningitis following pneumonia with involvement of the labyrinth, and probably a functional word deafness. [J. S.]

12.—Hoffmann reports 2 cases of myotonia congenita in a brother and sister. The first, a man of 26, first noticed the symptoms at the age of 22, after 3 years service in the cavalry during which he was exposed to very cold weather. He noticed that his hands became very much weaker, that his face and arms got thinner, that it was difficult for him to speak in the morning, and that cold greatly increased his weakness. The muscles showed some quantitative diminution of electric excitability and distinct myotonic symptoms. These symptoms were present only in the muscles of the face and arms. A sister, 32 years of age, had had rheumatism at the age of 24, but believed herself to be perfectly healthy. There was atrophy of the muscles of the face and fore-arms and hands, distinct myotonic reactions in these muscles and in those of the lower extremities. The common characteristics of the 2 cases, therefore, were the myotonia and the atrophy of the muscles in the upper extremities and sterno cleido mastoid. Hoffmann has carefully studied the literature, and has been able to collect 5 cases in which myotonia was associated with muscular atrophy, and 3 cases in which there was reason to believe that the loss was in part a feature of the disease. He suggests 3 possible hypotheses. First, that the 2 conditions accidentally occurred in the same individual, that there is progressive muscular atrophy with myotonia, or that there is myotonia as a result of which muscular atrophy occurs. He does not decide which of these is correct, although he believes in his own case that the combination is not accidental. He calls attention to some other interesting cases in which the myotonia occurred suddenly, apparently as a result of excessive exertion. In conclusion he

mentions the case of a man 42 years of age, with luetic history, whose organs were apparently normal, the pupils reacted well, but there was disappearance of the patella reflex, some paresthesia in the extremities and difficulty in walking in the dark. There was a distinct myotonic reaction to percussion. Hoffman makes a diagnosis of myotonia with beginning locomotor ataxia. [J. S.]

(To be Continued.)

MUENCHENER MEDICINISCHE WOCHENSCHRIFT.

April 9th.

1. The Transfusion of Blood, Particularly of Blood from Other Animals, and Its Applicability For Curative Purposes, Considered from The Latest Standpoints. BIER.
2. The Treatment of Gun-Shot Wounds of the Abdomen. PETERSEN.
3. Experiences Derived from the War in South Africa Concerning Wounds and Asepsis. STHAMER.
4. Multiple Primary Malignant Tumors. NEHRKORN.
5. Further Studies Upon the Information of the Serous Membranes. HEINZ.
6. Two Cases of Embolism of the Abdominal Aorta. BUEHRER.
7. The Value of the Glutoid Capsules for the Diagnosis of Inflammatory Disease, Especially of Diseases of the Pancreas. FROMME.
8. Bismuth Poisoning. MUEHLIG.
9. Further Contributions to the Knowledge of Malign Diseases of the Esophagus Which Give the Clinical Picture of Stenosis. SCHUETZ.
10. Severe Cauterization With Soft Soap In a Child of 18 Months. LANGER.
11. The New Principle For the Treatment of Whooping-Cough. SPIESS.
12. Unilateral Dislocation of the Lower Jaw. KAREHNKE.

1.—Bier has performed a series of most interesting experiments by the **transfusion of blood** from an animal of one species to one of another. Starting out with the idea that the animal organism can accustom itself to very varied conditions, he attempted to accustom rabbits to injections of lamb's blood. At first the animals appeared to agree with the theory, and then, as the dose of blood was increased, they suddenly died with all the manifestations of transfusion collapse. The autopsies showed capillary congestion of the intestines, spleen, liver, lungs, kidneys, etc. The symptoms of transfusion are dyspnea, with bloody expectoration, flushing, subjective heat of the skin, pain in the back, and increased peristalsis. Usually there is also some fever. It is possible that the increase in the symptoms is due to the fact that the blood of the receiving animal gradually acquires increased hemolytic qualities, and may, in the end, dissolve its own corpuscles. Nevertheless, as by transfusion it is possible to combat severe anemias, or to bring about conditions of hyperemia Bier undertook a series of clinical experiments. These were performed in the following manner. Blood was obtained from a lamb and carefully defibrinated under aseptic precautions, then a needle was thrust into a distended vein at the bend of the elbow, the pressure above removed, and injection commenced. As a rule a syringe holding 50 cc. was employed, and the injection continued until slight symptoms of transfusion appeared. It was found that at first larger and larger quantities could be used, then suddenly only very small quantities. He reports in great detail the case of a man 22 years of age who had severe tuberculosis of both sacro-iliac synchondroses, which had suppurred and broken through the skin at numerous places. He was given ascending doses of lamb's blood until 10 ccm. had been injected. After this it was found that only smaller and smaller doses could be used until finally only 1.5 ccm. could be employed with safety. The general condition of the patient improved remarkably; the suppuration almost entirely ceased; the appetite increased, and the weight im-

proved slightly. The patient was under observation about 2½ months. Further, 10 cases of other forms of tuberculosis, nearly all of them presumably fatal, with the exception of 4 cases of lupus, were under observation. Three of these died, one of starvation on account of the tuberculosis of the esophagus; one of sepsis, the condition existing before the treatment was commenced, and one of tuberculosis of the brain. The others improved, or at least remained stationary. The majority of cases of pulmonary tuberculosis gained considerably in weight. The 4 cases of lupus, all of which had been previously subjected to treatment without results, showed extraordinary improvement. Whether this is permanent or only temporary, remains to be seen. Certain clinical observations were made: First, there was generally flushing of the face; the majority of patients felt a desire to defecate and usually expelled a large stool some time after the injection. Occasionally urticaria appeared. Nearly all the patients developed excessive appetite; most of them had fever and chill without any subjective signs of discomfort, and the majority had a feeling of dryness in the mouth, and very severe thirst. The author believes that the action is due to the following changes. First, temporary hyperemia produced by capillary congestion, giving rise to a serious infiltration of various parts of the body, and probably most severe in the diseased regions. Second, vigorous stimulation of metabolism. Third, an aseptic transfusion fever. Fourth, possible alteration in the quality of the blood. As lamb blood appears to be least toxic for men, it is probably the most available. [J. S.]

2.—Petersen calls attention to the great difference in the statistics of **gun-shot wounds of the abdomen** in civil and military practice. In the first the mortality appears to have decreased, probably chiefly because the patients are seen earlier. In military surgery it seems to be the chief opinion that a conservative treatment gives the best results, but even in civil practice there is much diversity of opinion regarding the necessity of immediate operation. He reports a number of cases. Eight were operated upon as soon as possible, of whom 3 died and 5 recovered. Two were not operated upon. One of these died of diffuse peritonitis; the other recovered. However, the results showed that in all cases in which operation was performed it was imperatively necessary. In regard to the indications for operation, he believes that the *absence of liver dullness* is of less significance than is usually believed. The *disappearance of liver dullness* is however, of more value. The most important symptoms were tension of the abdominal muscles, local meteorisms, and dullness in the region of the wound. The general symptoms were those of peritonitis. He concludes that the treatment should not be influenced by the statistics of military surgeons, but that in all cases in which there is a suspicion of perforation, operation should be performed at once. As delay in operation is more serious than an exploratory incision, the latter is always indicated. Expectant treatment should never be employed unless the patient can remain under constant supervision. [J. S.]

3.—The result of the war in South Africa in regard to **wounds produced by bullets of small calibre**, are exceedingly interesting. Simple perforative wounds of the soft parts usually heal in the course of from 14 to 18 days, without further disturbance. Occasionally if the muzzle of the gun was close to the flesh at the time of discharge there is superficial necrosis. In cases where there is hemorrhage into the cavities of the body the prognosis is rather less favorable. It does not appear that nerve trunks are often divided. Injuries to the diaphyses of the bones often causes splintering; those to the epiphyses, sometimes simple perforation. The joint is, however, often involved in the latter case. The prognosis in these, as in all other injuries, is favorable provided infection does not occur. However, it is an interesting fact that vigorous disinfection of the wound does more harm than good. Sthamer has been in the habit of cleaning the surrounding skin sufficiently

to fix an occlusive dressing, and of avoiding any contact with the opening of the wound. The object of this treatment is of course to admit the development of clots and thus prevent the entrance of an infectious element. It is not even necessary to have the bandage antiseptic. On the other hand it must be dry and capable of absorption. He reports some remarkable cases. One soldier was shot through the region of the stomach. He then rode 3000 meters and was obliged to remain overnight in the camp and only on the following day he was transported to the hospital. There was no fever; the pulse was strong and slow. Death however, occurred suddenly as a result of bleeding from a small vessel in the mesentery. The colon and stomach had been perforated, but there were no signs of peritonitis. In another case the patient was shot through the stomach and kidney; there was blood in the urine, but no other symptoms and recovery ensued. [J. S.]

4.—Discussing the theories of **multiplicity of primary malignant tumors**, Nehr Korn calls attention to the great importance of multiple carcinoma of the skin, which may be due either to some chronic irritation or multiple implantation. He reports 3 cases; the first, in which 2 small carcinomas appeared upon the left temple of an old man; the 2d in a man of 52 when 3 small carcinomas were found also in the skin of the head; and the 3d, an old woman with tumor of the ear and upper lip; the former a squamous epithelium, the other an adenoid carcinoma. The reason why skin carcinomas are more frequently multiple than intestinal carcinomas that are also exposed to multiple implantation, is that the latter more readily escape observation and as the primary growth develops more rapidly, the other foci do not have time to appear. Simultaneous involvement of symmetrical glands is relatively uncommon for the breast and quite common for the ovaries. Tumors may also occur simultaneously in different parts of the body. He reports the case of a woman 58 years of age who had carcinoma of the breast and uterus at the same time. Another patient, a man of 62 who had a carcinoma of the bladder, and subsequently one of the rectum. Of a man of 62 who had an epithelial tumor in the pharynx, and another at the side of the tongue, and finally, a woman who had a melanotic sarcoma with multiple metastases, and carcinoma of the uterus. In conclusion he laments the unsatisfactory state of our theories upon this subject. [J. S.]

5.—Heinz has performed a series of studies upon the pleural cavity in order to determine certain facts regarding caustic action. Having failed with turpentine suspended in water to produce a reaction he employed the aleuronat suspended in water, and was able to produce a typical inflammation, but not a pure leukocytosis. On the second day he found in the exudate in addition to the white and red blood corpuscles, fibrin and plasma, a number of large mononuclear cells evidently from the endothelial surface. When these were examined under a microscope placed in a thermostat he found that they exhibited very active amoeboid movements. This merely proves that they have the same qualities as the endothelium lining the blood vessels. [J. S.]

6.—The first case, a woman 41 years of age, had symptoms of mitral stenosis. While under observation she suddenly developed cramp-like pains in both legs, then pallor and cold, with loss of sensibility and active movements. These symptoms rapidly extended upward, and were associated with extreme pains in the limbs. Gangrene appeared, the pulse in the ural artery was lost. At the amputation of both legs, it was found that the crural arteries were thrombosed. The patient died, and at the autopsy embolism and thrombosis of the abdominal aorta was discovered. The 2d patient also had the symptoms of mitral stenosis during which he developed severe pains in the legs, with loss of power and sensation, coldness and absence of pulse in the crural arteries. Gangrene occurred and there were symptoms of peritonitis. The patient had albumin and casts in the urine. At the autopsy there was embolism of the left artery of the Sylvian fossa and abdominal aorta, and numerous infarcts in the spleen and kidneys. These cases are interesting because they indi-

cate very clearly the etiology of the lesion, that is, the mitral stenosis. In one case the thrombus of the heart was probably dislodged by the medication with digitalis. The symptoms of embolism of the aorta are variable, according to the extent and location of the obstruction of the aorta; but in general they consist of cold and pallor, then livid discoloration of the skin of the limbs, loss of sensation, motion, and pulse, and finally gangrene. It is interesting to note that in one case the stethoscope placed over the crural artery transmitted a dull tone that evidently came from the aorta. Both cases showed intense pain in the limbs throughout the course. In the second case the abdominal symptoms were due to occlusion of the mesenteric artery. The prognosis of this condition is fatal, and the treatment of course, unavailing. [J. S.]

7.—Fromme has endeavored to determine the value of glutoid capsules for the diagnosis of gastric motility. He found that there is considerable difference in the time in which the reaction with iodine occurs, and concludes that if it appears between $3\frac{1}{2}$ and 5 hours it indicates good gastric motility and good pancreatic function. If it appears later than 7 or 8 hours this may be due to various causes. It may be retained in the stomach, or it may have become dissolved in the stomach, for there is no way of proving that the capsule itself is still present in that organ. [J. S.]

8.—Muehlig reports 2 cases in which as the result of extensive burns upon the arm bismuth dressings were applied causing bluish discoloration, swelling and superficial ulcers of the gums. These were only controlled when the bismuth still adhering to the granulations was removed.

9.—Schueltz reports the case of a man 62 years of age, who after an attack of influenza, had difficulty of deglutition, with a sensation of obstruction just above the stomach. The passage of a no. 22 sound was without result. The stomach contents contained no free HCl, but there was some lactic acid. Microscopical examination showed masses of squamous epithelium and some blood. A soft stomach tube was therefore passed every day and partial faradism applied to the esophagus. The patient was soon able to swallow without difficulty and recovered his health entirely. After excluding ulcer and carcinoma, Schueltz attempts to make a differential diagnosis of atony of the esophagus, and esophagitis. He believes that the latter was present partly on account of the discovery of blood, and partly because the condition of the stomach predisposed to this affection. [J. S.]

10.—Langer reports the case of a child 18 months old who swallowed a considerable amount of soft soap. Treatment was unavailing and the child died the same night. At the autopsy changes were found in the gastro-intestinal tract that indicated the presence of some caustic substance, and at the same time the presence of an inflammation of the lung. It was not certain whether the poison was sufficient to cause this inflammation, but the latter was evidently the immediate cause of death. The amount of potassium or sodium hydrate in soft soap from 8.5 to 12%. Administered to 2 dogs through an esophageal sound it caused vomiting in a short time. Both animals however, recovered in the course of 4 or 5 days. In one dog that was killed there was some irritation at the cardiac end and along the lesser curvature. The results prove the great danger of many common substances to children. [J. S.]

11.—Spiess highly recommends orthoform for whooping-cough. In order to combat the local alteration in the mucous membranes of the pharynx he insufflates 2 or 3 times every 2 hours, and in small children 3 or 4 times in the course of a day. It causes no discomfort and apparently relieves the attacks. [J. S.]

12.—Karehnke reports the case of a man 72 years of age, who in attempting to bite a crust of bread, dislocated the left maxillary articulation, but it was replaced without difficulty. [J. S.]

WIENER KLINISCHE WOCHENSCHRIFT.

March 21, 1901. (XIV Jahrgang, No. 12.)

1. Mushroom Poisoning. HUGO GOLDMAN.
2. Affections of the Joints in Scarlet Fever. EDMUND HOMA.
3. The Primitive Organs of Sight. THEODOR BEER.

1.—Last summer Goldman treated 11 cases of poisoning following the ingestion of the agaricus torminosus. The first cases were three children from 2 to 14 years of age, who had gathered the mushrooms, cut them up, and eaten them. The youngest one died in spite of all treatment, in 24 hours. Soon afterward, eight Polish laborers, mistaking the agaricus for an edible mushroom, collected and ate them. Out of this number, two women, who had eaten most heartily, died from 5 to 6 days afterward. Still, they only received their first treatment on the third day of illness, while all the rest received immediate attention. The agaricus is very common in the woods about Vienna all summer, it is yellowish white, stands about 4 cm. high, and burns slightly when tasted. It looks much like the 'champignon.' The poison in it is unknown. The symptoms are those ordinarily seen in cholera morbus, coming on about four hours after the mushrooms have been eaten. Goldman found the skin dry and icteric, pupils dilated, tongue deeply coated, and tremulous, very slight fever, abdomen and epigastrium somewhat tender, much vomiting and severe diarrhea. At autopsy, acute gastro-intestinal catarrh and slight fatty degeneration of the liver, kidneys, and heart were found. Goldman's treatment was tannin by mouth and rectum. As prophylaxis, he recommends that the market officials and the people, especially the children, be taught to recognize the poisonous varieties of mushrooms. [M. O.]

2.—Joint inflammation is not uncommon in the infectious diseases. After reviewing the literature, Homa reports 14 cases in which synovitis occurred during scarlet fever. In only one of these was the effusion purulent. He treated 506 cases in five years. The joint affection appears in the first or second week of scarlet fever, about the beginning of desquamation, in severe cases, with pain and some added elevation of temperature. Swelling was only observed in 5 cases. The symptoms generally disappear inside of a week. 6 of the cases had two such attacks, one case three. The wrist was affected 8 times, the elbow 7, knee 5, ankle 4, and the hip and shoulder once each. In 10 of these it occurred on both sides of the body. The treatment was rest, moist dressings, and in four cases only, sodium salicylate. Homa could not find any peculiarly favorable action of the salicylates. The histories of his 14 cases follow in detail. [M. O.]

3.—Will be abstracted when concluded.

March 28, 1901. (XIV Jahrgang, No. 13.)

1. The Pathology and Treatment of Migraine. M. SIHLE.
2. Three Cases of Cataract from Lightning-Stroke. JOSEF PREINDLSBERGER.
3. The Primitive Organs of Sight. THEODOR BEER.

1.—In spite of the frequency of migraine, its origin is still obscure. Sihle calls attention to the fact that the aura, a limited area of paresthesia, hyperesthesia, etc., is generally found upon the opposite side from that upon which the migraine occurs. Sihle reports his own case. He is now 38 years old. His father had lung trouble; his mother much headache, and her brother was epileptic. His brother had migraine and rheumatism. Sihle had pleurisy nine years ago, followed by frequent cough and hemoptysis. It was at this time that he first noticed "gleams of light" or "bright specks" before the eyes. This has often recurred since, succeeded by severe migraine. Tubercle bacilli were found in his sputum 8 years ago. Pleurisy occurred the next year upon the other side, followed by aphonia. For the past 5 years he has been better physically, and fully able to work. He noted that the appearance of these "bright specks" was to one side of the point of fixation, while the headache which followed occurred over the temporal bone of the opposite side, and was very severe. This migraine lasted two hours or longer. These attacks occurred about once a month, growing gradually more seldom. During the past three years he has had none. Of the 10 attacks observed by him in detail, the "light" appeared 7 times to the right, and only three times to the left, so that the pathological change occurred more

often in the left hemisphere. As the pain occurs after the aura, and upon the opposite side, it has probably but secondary significance. Omitting the pain, the position of the probable cause of migraine can be determined. This is a **hemispherical change, probably degenerative**, found not in any one especial place, but in **several parts of the brain cortex**. The degeneration can evidently recover. Tuberculosis, or any other toxic condition can undoubtedly be the exciting cause of the migraine. After a full discussion of the theories advanced to account for the occurrence of migraine, he suggests that the **pain may be due to irritation of the meninges**, secondary to the effect upon the cortex of the toxic cause of the migraine. Intoxication must be the main cause of both epilepsy and migraine, and the headache in migraine and in epilepsy is but the secondary manifestation of the toxin. They are not the same illness, though they have the same causes. Is migraine epilepsy without convulsions, or is epilepsy an advanced stage of migraine? The answers Sihle leaves to the future. [M.O.]

2.—Two of the three cases reported which had been struck by lightning had cataract develop in both eyes, two days afterward. One was a boy of 13, the other 11. Both were unconscious, the elder for a short time only, the younger for two days. He had also been burned. In both cases **linear extraction** was performed, with success. The third case was a man of 24, who had been struck by lightning 6 years before. He was unconscious for 10 minutes only. A cataract developed in the right eye alone, some months later. Preindlsberger performed **extraction with iridectomy** with success. The condition is quite rare. [M.O.]

3.—Beer's article is most modern and complete, yet technical. He uses an entirely new nomenclature. He describes the **primitive organs of sight** in the lowest animals, tracing them up to the higher, from the simple, pigmentless cells, to the pigmented, highly specialized organs of man. He minutely gives means of telling whether an animal is or is not blind. [M.O.]

ARCHIVES DE MEDECINE EXPERIMENTALE.

March, 1901. (13me. Année, No. 2.)

1. A Case of Purpura Simplex. G. CARRIERE.
2. Hemorrhagic Pancreatitis in Typhoid Fever. A. CHAUFFARD and P. RAVAUT.
3. The Action of Typhoid Bacilli on Human Blood. E. MAUREL.
4. Primary Massive Tuberculosis of the Spleen. F. J. COLLET and LOUIS GALLAVARDIN.
5. Arterial Sutures. J. BOUGLE.
6. The Histogenesis of the Tubercle. CHALES MOREL and DALOUS.
7. Carcinomatous Lymphangitis of the Lung. E. TROISIER and M. LETULLE.

1.—Carrière reports a case of **purpura simplex** occurring in a boy of 14. Anorexia has existed for a month, with some emaciation and weakness. There has been slight pain in the knees, ankles, and legs before the eruption appeared. This was almost symmetrically arranged about the joints, with some ecchymoses on one nostril and eyelid, and larger spots on the right scapula and left buttock. There was no fever or edema; though bleeding from the gums occurred. Blood examination showed 17,900 leucocytes to 4,350,000 red corpuscles. 65% of the leucocytes were polynuclear; 15% were eosinophiles; and there were no large lymphocytes. Cultures from the blood with inoculation and experiments gave a **bacillus**, aerobic and anaerobic, similar to that found by Achalmé and Thirlix in acute rheumatism. Carrière, who has also investigated that bacillus, believes that they are identical. It shows remarkable polymorphism, and is probably the same microorganism taken by other observers for staphylococci or diplococci. [M.O.]

2.—The first reported case of hemorrhagic pancreatitis occurring in the course of typhoid fever is described by Chauffard and Ravaut. A man of 40 entered the hospital on the day before his rose-spots came out. Defervescence began on the 19th day. A few days later the temperature rose and a relapse was feared; but in 10 days all symptoms had disappeared. On the 52nd day he had a sudden pain

in the right hypochondrium, in the umbilical line, followed by distension. His pulse shot up to 120-160, and became small and filiform. Fever only appeared two days later. It was supposed that perforation had occurred, yet the symptoms gradually subsided. 66 days later dyspnea appeared with left sided bronchopneumonia, and he died a week later. The pancreas was found surrounded with hemorrhagic cellular tissue. There was no trace of perforation or peritonitis. Both pancreas and lungs showed marked congestion. Perforation generally occurs before the 52d day. Death by syncope 66 days after the pancreatitis was perhaps brought about by the sympathetic nerve plexus. Examination of the pancreas shows the absence of fatty degeneration; evident venous stasis; with most hemorrhage behind the pancreas, in the tissue about the gland. There was no evidence of any inflammation of the pancreas. After reviewing the literature and describing a number of experiments upon the liver and pancreas, Chauffard and Ravaut conclude without giving a satisfactory explanation for the occurrence of hemorrhagic pancreatitis in typhoid fever. Perhaps the lack of nourishing food during the fever and the activity of the pancreas necessary during convalescence, from the stronger food ingested, may account for the possibility of hemorrhagic pancreatitis. [M.O.]

3.—After three experiments, with control tests, of human blood mixed with typhoid bacilli, Maurel concludes that **human leucocytes absorb typhoid bacilli**, but succumb to this absorption in less than a half hour; therefore this bacillus is one of the most virulent for the human leucocytes; that in these experiments the leucocytes have never sought or fled from the bacilli; that only the absorption of the bacilli, and not of their products, is dangerous to the leucocytes; that fever from 103 to 104° F. is favorable to the leucocytes in their struggle with the bacilli; and that the typhoid bacilli precipitate the fibrin of the blood, but much less than certain other micro-organisms. Under the influence of the conditions in which these experiments were performed, with little oxygen, and some contamination of the surroundings, the number of typhoid bacilli decreased rather than increased; whence he concludes that such conditions are unfavorable to its development. [M.O.]

4.—Collet and Gallavardin report a case of massive primary tuberculosis of the spleen, a man of 60, in whom a tumor had existed for two years in the left hypochondrium. For two months gastric symptoms have been frequent. He has lost 20 pounds. Examination showed a spleen which reached into the left hypochondrium as far as the spinous process of the ilium. It was nodular, but not tender. The liver extended four finger breadths below the margin of the ribs. There was slight fever, but no cachexia or malaria. Bacteriologically and microscopically, after autopsy, massive primary tuberculosis of the spleen was found, which, when inoculated in a rabbit, produced giant cells. The liver was also tuberculous, and an old calcareous tubercle was found at the apex of one lung. This was a case of the spleno-hepatic, not purely splenic, nor were the lymph-glands affected. The literature of the subject is fully reviewed. [M.O.]

5.—Early in the eighteenth century Lambert advised suturing arteries. In 1757 it was first attempted. In 1889 Jassinowsky first succeeded in obtaining permeability of the sutured vessel. Thus far sutures applied to join arteries which had been cut clean across have failed. This procedure is still in the experimental stage. Glück covered the artery, after suturing the ends together, with a cuff formed by a fresh vein or artery sutured about it. Brian and Jaboulay turn out the edges of the apposing cut ends, and apply sutures tightly through the edges. Murphy invaginates one end in the other, suturing both ends, but not passing the sutures through into the lumen of the vessel. Bouglé, after numerous experiments upon the arteries of dogs, finally sutured the ends of cut arteries together with sutures which did not pass through the walls into the lumen of the vessel. He found that investigation

was not necessary. He advises arterial suture in man should opportunity present. [M. O.]

6.—Morel and Dalous have performed a series of eight experiments upon rabbits to study the **histogenesis of the tubercle**. From their minute and detailed observations, after the staining of many slides and the preparation of many sections, it is shown that in the alveoli of the lungs and the bronchial cavities, **tubercles develop exclusively at the expense of the leucocytes**, especially those large mononuclear cells which arrive quickly at each focus of infection. The fixed cells of the alveoli and the epithelial cells of the bronchial walls play absolutely no role in the histogenesis of the tubercles. [M. O.]

7.—Troisier and Letulle have made further researches upon **carcinomatous lymphangitis of the lungs**. They describe specimens of an epithelioma of the lymphatics secondary to visceral cancer. The thoracic duct is the last part of the lymphatic system to become affected. The vessel invaded becomes a thick, gray, or yellow cord, its lumen obstructed by a caseous mass of cancer cells. On the thoracic duct cancerous nodules may appear, as the lymph-glands become involved. Sections of the preparation are described. [M. O.]

REVUE MEDICALE LE L'EST.

April 1, 1901. 28me. Année, No. 7.)

1. Histology. A. PREUAUT.

1.—**Histology** is no longer the simple study of the cells which form the tissues. It is rather a general anatomy and physiology from the comparison of structure and function observed. Two theories have been proposed to explain histology, the classic vitalist theory, and the modern physico-chemical theory. For while the structure studied is living, it is composed of chemical matter, constituted physically. A histological structure is what is actually observed in a tissue or cell. A cell is an elementary, well limited, organism, living alone or in association with others. Protoplasm, a term formerly much used, no longer holds a place in histology. It is but a morphologic idea, seen only through the microscope. Physically it cannot be found. Living matter possesses the faculty of changing its substance, its form, and its energy. But these changes are possible in bodies that are not alive, and have been shown to be purely chemical in character. Thus the early vitalist theory has been disproved, while the physico-chemical theory not only is better understood, but is now considered the only scientific theory. With physiology, histology, reduced to physics and chemistry, joins the vanguard of biology. [M. O.]

REVUE DE CHIRURGIE.

April, 1901. (21me. Année, No. 4.)

1. Hemothorax. TH. TUFFIER and G. MILIAN.
2. Hydatid Cysts. HERRERA VEGAS and DANIEL J. CRANWELL.
3. Fractures of the Upper Jaw. RENE LE FORT.
4. The Perihepatic and Pleural Complications of Appendicitis. L. LAPEYRE.
5. Primary Tuberculosis of the Parotid. P. LECENE.
6. Genital Tuberculosis in Women. MARIE GOROVITZ.

1.—A man of 37, neurasthenic and syphilitic, in an attack of hypochondria tried to shoot himself through the heart. The bullet entered about the nipple and lodged posteriorly, near the angle of the scapula, where it could not be palpated. No suppuration occurred and the wound healed by first intention. But on the day after the accident slight **hemothorax** was found, without pneumothorax. The further evolution of this hemothorax has been most carefully studied. The liquid has been frequently examined bacteriologically, its red and white corpuscles counted, and cover-glass preparations made. Up to the 21st. day, the liquid increased in volume but was less dark in color; then the dulness began to diminish and the effusion grew perceptibly lighter. By the 38th day it was yellow. On the 44th day, when the patient left the hospital, there was but three or four finger-breadths of dulness remaining. Fever disappeared on the fifth day to return two weeks later, with

a gradual rise to 101.5°F. From the bacteriological examinations, no bacteria at any time developed. The process was absolutely aseptic. The red corpuscles in the fluid began to disappear on the 18th day, and were almost gone on the 32nd. From the cover-glass preparations it is seen that the total number of leucocytes fell on the 18th day from 6000 per c.mm., reaching 1300 on the 26th day. On the 37th day they were 2700, but on the 44th, 1500 again. The polynuclear leucocytes fell on the 16th day from 2600 to practically nothing on the 26th day. The later increase in the leucocytes was due to the lymphocytes. The following conclusions were drawn by Tuffier and Milian: the increase in the effusion about the 15th day is not due to hemorrhage, but to a serous exudate, as is easily shown by puncture. This is therefore not a cause for operation. Nor is the fever which moderates in a few days an indication to operate. But persistence of the **polynuclear leucocytes in the effusion after the 21st day will suggest suppuration**. Should the polynuclear leucocytes fail to decrease from day to day, remain stationary, or increase, suppuration is to be suspected. The correct treatment for traumatic hemothorax is withdrawal of the fluid about the 15th day, when the bloody effusion is well diluted, and the pulmonary wound has sufficiently healed to prevent renewed hemorrhage on removing the pressure of the liquid in the pleura. [M. O.]

2.—During the past 13 years, 952 cases of **hydatid cysts** have been recorded in the Republic of Argentine. Vegas and Cranwell believe that as many as 1500 cases have occurred. 914 cases were seen in Buenos Ayres, 173 in one year, 1898. The causes of this frequency of hydatids is probably the immense number of cattle and dogs in Argentine, most of which have hydatids. Of the 952 cases recorded, hydatid cysts appeared 641 times in the liver, 54 times in the lung, 30 times in the spleen, 26 times in the cellular tissue, 25 times in the female pelvis, and 21 times in the mesentery. There were also multiple cysts in the abdomen in 21 cases. 27 cases had cysts in two different organs. The liquid in hydatid cysts may be aseptic, the pericystic membrane containing the germs; the liquid, even though clear, may contain the germs; or, as the liquid is an excellent culture medium, it may contain streptococci, staphylococci, colon bacilli, or typhoid bacilli. The mortality from hydatid cysts, with operation in almost all cases, is 11.11%. The most dangerous cases are multiple cysts of the abdomen or brain. The operation to be preferred is the slow but sure method, **marsupialization with drainage**. In rare cases, in hydatids of the brain, etc., extraction of the cyst with its entire membrane, without drainage, is done. [M. O.]

3.—The upper jaw includes most of the bones of the skull and face. Partial fractures are quite common in the nasal and superior maxillary bones. (palatine or orbital.) They may result from gunshot or sabre wounds. **Fractures of the upper jaw** may be direct, occurring at the point of injury, or indirect, occurring at a distance from the point of injury. Direct fractures are generally limited; yet an indirect fracture may accompany a direct fracture. Both kinds of fractures are due to severe injury, and show no displacement. Le Fort's experiments, 35 in number, were made upon the cadaver. They include fractures due to violence applied anteriorly at the level of the upper lip; laterally on the lower part of the superior maxilla; from below upon the superior maxilla; anteriorly upon the lower part of the face; from above upon the root of the nose; from below upon the inferior maxillary and malar bones, either laterally, the head not being supported, or the moving head striking a resisting body; anteriorly upon the malar bone, the head resting on the occiput; externally on one malar bone, the head resting on the other; or anteriorly upon the front of the face. They may also result from force applied to the face and skull together, or to many blows in different parts of the face from different directions. Seven cases are reported from the literature, and one of his own. Le Fort believes that the position of the superior maxillary bones, with the malar bones, at the base of the skull, is the cause of the frequent fractures. Two lines of weakness, a protection for the skull, extend across these bones of the face. Three fragments may be found, generally immovable, the alveolar arch, the malar bone, and the upper end of the maxilla with the nasal bone occasionally. Le Fort concludes that in fracture of the upper jaw, the character and signs of the fracture will be simple and similar to one another, no matter whence

the violence came. He hopes that this may aid in forming a precise diagnosis of these lesions, so difficult to determine. [M. O.]

4.—Will be abstracted when completed.

5.—Primary tuberculosis of the parotid gland is very rare in man, Lecène having been able to collect but 8 authentic cases with histological and bacteriological examinations reported. Lecène reports the case of a man of 29, with a tumor of the right parotid which had existed 10 years, slowly growing in size. There was no pain, but great inconvenience on moving the head. The skin was normal, over a tumor about the size of a large nut. It was hard internally where it was attached to the parotid, softer and almost fluctuating under the skin. There were no signs of tuberculosis elsewhere. It was diagnosed a mixed tumor of the parotid, and was operated, the tumor being enucleated. Twelve days later he left the hospital. The wound healed quickly, and there has been no recurrence. Preparations reveal typical giant cells, with tubercle bacilli. A review of the meager literature follows. The treatment of tuberculosis of the parotid is wholly surgical. [M. O.]

6.—Will be abstracted when concluded.

RUSSKI ARCHIV PATOLOGII. KLINITSCHESKOI MEDICINII BAKTERIOLOGII.

March, 1901. (Vol. 6, No. 3).

1. Primary Squamous Epithelioma of the Calyces and Metaplasia of the Epithelium of the Mucous Membrane of the Calyces, Pelvis and Ureters. DM. P. KICHENSKY.
2. Iron in the Liver of Healthy Persons. P. BIELFELD.
3. A Case of Affection of the Skin in Pseudoleukemia. S. K. KIRKOROFF.
4. Morphologic Observations on the Pathogenesis of Tumors. I. G. SAVTCHENKO.
5. On the Changes in the Ganglia and Muscle of the Heart, in the Liver and Kidneys Produced by Poisoning with Digitalis. N. KLOPOTOVSKI.
6. Contribution to the Study of Tumors of the Corpora Quadrigemina and Some Points in the Differential Diagnosis from Tumors of the Cerebellum. V. V. NISSEN.

1.—Kichensky reports a rare case of primary squamous carcinoma of the calyces, pelvis and ureters with subsequent invasion of the kidneys, liver, adjoining diaphragm, peritoneum and metastasis into the right knee. The patient was a woman, 32 years old, and was sick only 1½ months. The peculiarity of the growth was that wherever found it possessed the character of the epithelium from the urinary tract and showed a tendency to horny metamorphosis, thus resembling the epidermis. A complete description of the pathological findings as well as a thorough review of the literature on the subject are given. [A. R.]

2.—Bielfeld made a number of analyses of normal liver substance with a view of determining whether the hepatic cells contain iron. He claims that most of the authors who preceded him in the investigation employed faulty methods which were responsible for the discrepancy in their results. The method employed by him was that devised in the laboratory of Alex. Schmidt and is performed as follows: After removing the gallbladder the liver is cut into small pieces, ½ cm. thick, by means of a piece of glass. Both surfaces of each piece are scraped with a horn-spatula, the scrapings mixed with salt solution (7:1000) and strained through a clean piece of linen. The contents of the strainer are washed 2-3 times with the salt solution. The liquid which passes through the linen consists of liver cells suspended in the salt solution. This liquid is then placed in a cylinder of a capacity of 10 liters which is filled up to the brim with salt solution and set aside in a cool place (0-10) for 12 hours. By that time the liver cells have subsided. The salt solution is renewed from 3 to 6 times until the spectroscope fails to show bands of hemoglobin. When the washing is completed the fluid is decanted and the solid portion subjected to centrifugation to remove the last portions of fluid. The liver cells are then dried to a constant weight and divided into two parts; one for determining the amount of sodium chloride, the other for the determination of iron. Both parts are incinerated. The sodium chloride in one is determined by Mohr's method, while the other is washed with hot water, filtered, again

incinerated, together with the filter, the ashes dissolved in hydrochloric acid, the latter evaporated, the residue treated with sulphuric acid and a piece of zinc added to convert the iron into an oxide, and the amount of the latter is determined by titration with standard permanganate solution. The conclusions arrived at by the author after a considerable number of analyses are as follows: (1) The amount of iron contained in the hepatic cells in health are subject to considerable variation. (2) The average amount of iron present in a normal liver is 0.169%. (3) There is more iron in the liver of men than women. (4) The amount of iron in the liver cells is increased in old age. (5) It is less between the ages of 20-25. [A. R.]

3.—Kirkoroff reports the autopsy of a case of pseudoleukemia with cutaneous involvement. The lesions in the skin resembled lymphosarcoma. The condition is quite rare, only a few cases having been reported. [A. R.]

4.—Savchenko takes up the consideration of the morphology of tumors with a view of throwing some light on the subject of parasitology. By the use of special fixing reagents and stains he demonstrated morphological cellular elements which are not to be found in normal cells. Specimens of elasto-fibroma fixed in Flemming's solution and stained by the ordinary aniline dyes showed intracellular bodies varying in size from that of a micrococcus to a red blood corpuscle. They were neither mucoid, colloid or hyaline in character and could easily be mistaken for parasites, but upon further examination by the aid of differential stains they proved to be elastogenous elements which accumulated in the protoplasm of the cell after it ceased to perform its proper function. The suggestion is made that in other tumors the presence of intracellular bodies may be explained by considering the latter as abnormal products of cells possessing perverted function. In certain specimens of sarcoma fixed in Flemming's solution and stained by the Biondi method intracellular formations were observed which resembled closely the parasites of cancer described by different authors. The author is continuing his studies and promises future communications on the subject. [A. R.]

5.—Klopotovskii studied the effects of poisonous doses of digitalis on the heart, liver and kidneys of dogs. An infusion of digitalis or digitalin was used. In acute poisoning the nuclei of the cells of the cardiac ganglia are more or less destroyed, the bodies of the cells are increased in size and lose their structure. In subacute poisoning the cell-body is retracted and the protoplasm becomes homogeneous or finely granular. This change is still more pronounced in chronic poisoning (8-15 days) with the additional formation of vacuoles and oil globules within the protoplasm. In the cardiac muscle fragmentation, effacement of the striation and fatty degeneration take place. The liver shows passive hyperemia, atrophy of the cells, vacuolization and fatty degeneration of the protoplasm. The kidneys show albuminous and fatty degeneration varying with the period of intoxication. [A. R.]

6.—Will be abstracted when completed. [A. R.]

Nodular Erythema, Rheumatic Purpura, and Hydroa.—At a clinic given recently by Dr. DuCastel at the Saint-Louis Hospital in Paris, (*Medicine Moderne*, 1901, No. 19), a patient was presented, with the three skin lesions associated. Two weeks before, she felt ill, had a chill and fever, followed by the appearance of the eruptions. There were patches of nodular erythema upon the legs, the size of a dime, round or oval, elevated, and red, disappearing on pressure. There is generally some pain with it. Then appeared the petechiae of rheumatic purpura upon the arms and legs. With this, too, there is some pain, generally about the joints, with edema. It appears in successive crops, each lasting about a week. Hydroa, or hydroic erythema, is an eruption composed of erythematous spots in the center of which localized edema is found. It appears suddenly and lasts a week or more. DuCastel believes that all three eruptions are due to vascular congestion in the skin, with some tendency to edema. The common cause is either an infection or an intoxication, probably. It is possible that a toxemia, from unknown reasons, will act differently upon the skin of different parts of the body. He recommends quinine and sodium salicylate internally, with soothing moist applications and a dusting powder locally, as treatment. [M. O.]

Original Articles.

THE TOPICAL TREATMENT OF FOCAL AND JACKSONIAN EPILEPSY.*

By J. WILLIAM WHITE, M. D.,
of Philadelphia.

John Rhea Barton Professor of Surgery, University of Pennsylvania.

Before describing a method of treatment which may prove to be appropriate to those forms of epilepsy in which a distinct motor center is involved, and recording the results up to this time in the only two cases in which I have tried it, I desire to state briefly the line of thought which led me to make the experiment.

I may assume without argument that the following propositions would be generally accepted as correct: 1. The essential cause of epilepsy, exclusive of demonstrable sources of brain irritation—as tumors, bony outgrowths, depressed bone, foreign bodies, tuberculosis or gummatous infiltration—is unknown.**

2. What seems to be certain is that, whatever the cause, a greater or less area of the cerebral cortex is in a condition of unstable equilibrium, in which normal physiological action in response to normal stimuli is transformed into excessive and irregular outbursts of motor and sensory phenomena.

3. That it is the universal experience that this condition is aggravated by irritation or excitement of all sorts, and that the only drugs that have a fairly uniform controlling influence are those which, like the bromides, are cerebral sedatives, and diminish temporarily both reflex excitability and normal physiological activity.

4. That in all forms of epilepsy medical and hygienic treatment, though occasionally producing good results in isolated cases, is unsatisfactory; and that this is also true of surgical treatment except in the not very frequent cases where a physical cause that is removable is discovered.

In the excellent article (already quoted from) on the modern treatment of epilepsy, Dr. Clark says: "Without doubt the greatest single drug in the treatment of epilepsy is some bromide salt," and adds that to be effective in chronic cases, such salts must be given in large daily doses (from 300 grains upward) and should not be discarded until "salt starvation" or "semi-salt starvation" had been tried as an adjuvant.

As to surgical treatment, he makes the following very sensible remarks, with which I entirely agree:

*This report is published simultaneously with its appearance in the University of Pennsylvania Medical Bulletin.

**In an article on the modern treatment of epilepsy, Dr. Pierce Clark records as follows, the pathological findings in thirteen selected cases:

A degeneration of the nucleus of the second or so-called sensory layer; further, a willingness for the nucleus to suffer extrusion from the nerve cell; a chromatolysis of the whole cortex, especially in the motor region; phagocytosis of the constituent nervous elements by infiltrating leucocytes, and last of all, in the most progressive cases, a nodular or disseminated sclerosis, new formed under what is usually termed degenerative repair, a proliferation of the neuroglia. The cortical sclerosis was unevenly distributed and was probably the last and permanent set scene of this disease, played in the gray mantle of the epileptic brain."

He adds: "If these lesions should be found to be constant, to what extent would they solve the epilepsy problem? They would prove only that epilepsy is accompanied and followed by a definite organic lesion of a marked and widely degenerative nature. The lesions are probably both a cause and an effect of the disease. We would know that the nervous storm had occurred and left a tract of destruction, but our knowledge of the exciter of the storm and the degree of resistance it had met from the tissues, would be but little or not at all enriched."

"The rules which govern the selection of cases for trephining need to be more restrictive than at present conservative medicine demands. If this were done, a much better prognosis for recovery would obtain for the traumatic cases than the present 4 per cent. From the class of those heretofore supposed to be operable, I would urge that idiopathic epileptics in whom the seizures have a definite form of invasion be withdrawn. True or essential epilepsy frequently takes the Jacksonian form in point of muscular involvement in seizures. Many traumatics probably owe the focalization of their convulsions as little to trauma as the true idiopathics with Jacksonian convulsions. The brain, as a whole, in such cases is epileptogenetic, one zone is only a little more excitable than another. Much disappointment has been experienced by surgeons operating upon these idiopathics disguised as Jacksonian epilepsy."

Taking the above group of facts as a basis, I was influenced to try the method of treatment I am about to describe, by some other facts that had attracted my attention years ago; especially the influence of operation upon epileptics in whom nothing abnormal was found at the time of operation, or in whom the abnormality had no definite relation to the epilepsy. In 1891, in a paper entitled "The Supposed Curative Effect of Operation Per Se," (*Annals of Surgery*), I published a series of tables containing 172 cases of epilepsy, 147 of which had been subjected to operations of extraordinary variety, and with the equally extraordinary result, according to the operators, of "improving" or "curing" a large percentage of the cases. In 56 cases of trephining, nothing abnormal having been found to account for the symptoms, 25 were "cured," 18 "improved." In 30 cases of ligation of blood vessels, 14 were "cured," 15 "improved." In 10 cases of castration, all were "cured." In 9 cases of tracheotomy, 2 were "cured," 6 were "improved." In 24 cases of removal of the superior cervical sympathetic ganglia, 6 were "cured." In 6 cases of incision of the scalp for exploration (nothing abnormal being found), all were "cured."

Twelve cases of epilepsy are reported as "cured" by such operations as stretching of the sciatic nerve, excision of the musculo-cutaneous nerve, cauterization of the larynx (2), circumcision, application of a seton to back of neck (4), tenotomy of external recti, burning of scalp, puncture of heart, etc.

Many of these cases were reported too early to be of much use as evidence of a genuine and permanent disappearance of the disease, or even a lasting amelioration of the symptoms. Hence, I have put the words "cured" and "improved" in quotation marks. But, even admitting this, it is a remarkable showing which is deserving of more thoughtful consideration than it has yet received. That out of 147 cases submitted to diverse operations (which in the great majority of cases revealed nothing to account for the symptoms), 124 should have been apparently so much benefited that they were recorded as "cured" or "improved," is certainly extraordinary, even after due allowance has been made for the invincible and not unnatural tendency of the profession to put on record chiefly its favorable results. But when we find that in 25

of these cases the improved condition was present after the lapse of twelve months, it is evident that something which had at least a beneficial tendency in many cases occurred as a result of operative interference. When I tried to account for this, I was able to conceive of but four possible explanations dependent on the four following conditions, which were common to all, or nearly all, of the cases:

1. Anesthesia, on the theory that by its volatility or diffusibility the anesthetic might reach the nerve centers in sufficient quantity to destroy a possible microbe or neutralize an equally hypothetical toxin.

2. Psychical influence or so-called mental impression.

3. Relief of tension.

4. Reflex action or the "reaction of traumatism."

These influences were operative in the majority of the cases, although not one of them, except the last, applies to the whole list.

1. That *anesthesia* was not the factor producing the improvement was shown by a series of observations made by me upon a number of epileptics in the ward for nervous diseases of a large hospital. All other treatment having been withdrawn and the cases kept under observation for a time, ether was given to the production of full anesthesia at intervals of from forty-eight to seventy-two hours. The results were either entirely negative or the patients grew worse in consequence of the withdrawal of their bromides, and after a trial extending over some weeks and in a considerable number of cases, I satisfied myself that anesthesia alone produced little or no effect in either the severity or the frequency of epileptic convulsions. In the majority of these patients the disease was, of course, of the idiopathic variety, but it must be remembered that in cases of supposed traumatic epilepsy in which nothing abnormal is found on operation the diagnosis has probably been incorrect, and the type of the disease is really idiopathic. The error is facilitated by the frequency with which scars and other relics of former traumatisms are found on the scalps of epileptics, injured during their convulsive attacks.

2. The possible effect of *psychic influence* (through imagination and mental impression) is not so easily dismissed. There is no doubt that it is possible through influences acting upon the emotional or intellectual nature to affect the organic processes of secretion, nutrition, etc., and that it is therefore conceivable that through the same influences pathological change may be arrested and reparative or curative action established.

The normal equilibrium which we witness between the cerebro-spinal and the sympathetic systems, as respects their influence upon the blood vessels, is obviously more or less interfered with, when the brain transmits a more than wonted impulse, allowing the unrestrained action of the sympathetic vaso-motor nerves or paralyzing their influence.

When this equilibrium is already unbalanced and abnormal, it may be that such interference through the emotions may have at least a tendency toward the re-establishment of healthy conditions. This is vague, but cannot on account merely of vagueness be dismissed from consideration. A reference

to the paper I have quoted above (*Annals of Surgery*, August and September, 1891) will show that examples of marked physical effects of purely psychic impressions are numerous, and that, through this agency, cures of disease dependent upon actual pathological conditions, must be admitted to be possible.

3. *Relief of tension* can hardly be considered as a factor in this relation. The added tension in epilepsy follows the convulsion. There is no evidence that it precedes it, or is in any sense a chronic cerebral condition associated with epilepsy.

In cases that were not drained after trephining, the relief of tension can scarcely be a factor in the resulting amelioration. In cases that are drained, as in some recently reported by Kocher, the reflex element (or the element of counter-irritation or of the "reaction of traumatism") is co-existent and complicates the problem. This is further complicated by the fact that nearly all cases receive post-operative bromide treatment.

4. As to reflex action, or the reaction of traumatism, Verneuil, in a paper calling attention to the influence exerted by prior lesions of the liver on the progress of traumatic lesions, long ago emphasized the fact that any traumatism, however slight, sometimes excites in the entire economy a general perturbation and sometimes by a kind of selection of the weak point a sudden and violent aggravation of lesions that were only slight or that slumbered.

It seems to me that this same excitement, usually prejudicial, may occasionally be curative, although it must be admitted that these also are vague terms, and that even if the explanation is correct, it is yet far from final.

In view of all the conditions and possible factors thus described, the problems finally took this shape in my mind:

1. Can the subjects of this distressing and intractable disease receive without undue risk to life or general health the benefit of both operative interference and sedation of the affected brain area?

2. Can operation be based on any but empirical grounds? If on the latter only does the evidence warrant its continuance?

3. Is there any means of securing sedation (i. e., of applying the general therapeutic principle of rest in such a way that natural processes may have an opportunity to effect a cure), without at the same time depressing or greatly interfering with the general health?

I may say at once that as regards idiopathic epilepsies and the pseudo-Jacksonian cases already described, the answer to all these queries should, with the evidence now before us, be in the negative.

There remain for consideration the true focal or Jacksonian cases, whether traumatic or not.

In these the results of operation, while more encouraging, are, in my opinion, not sufficiently so to justify us in ignoring the greatly increased risk and the post-operative paralysis following excision of the epileptogenic center, without which the trephining becomes an incomplete and unsatisfactory operation. Clark says (and my observations lead me to endorse his statement):

"Idiopathics in whom seizures are of the Jacksonian type, should be trephined only when infan-

tile cerebral palsies can be excluded, and when the family and personal degeneracy is at a minimum." He adds, however, "if operation is determined upon in such cases, a very thorough removal of the epileptogenetic area should be made; even then but a fraction of one per cent. recover from their epilepsy," and he might have added that the operation, apart from its crippling effect, is sure to have a considerable mortality.

It was to lessen this risk to life and to try to secure the chance, however slight, of cure or amelioration without paralysis of important muscular groups, or of entire limbs, that I was led to consider, and finally to employ, the method, which may be described as follows:

The affected center is, of course, determined in advance by the most careful study and observation of the case. Its relation to the cranium is indicated by a silver or iodine mark upon the shaven scalp two days before the operation. The scalp is sterilized and re-sterilized three times at intervals of twelve hours, not only before the trephining, but also before each subsequent application of the treatment. A horse-shoe-shaped flap is raised and a half-inch button of bone removed with a small trephine. The dura is left intact. Thirty minims of a sterile two per cent. solution of eucaïne is then injected into the brain substance at the center of the trephine opening, the point of the needle being introduced about three-quarters of an inch. The needle is gradually withdrawn as the last ten minims of the solution are injected. The flap is replaced. The patient is returned to bed, and on the day of operation, and the following day, should receive full doses of bromides. At intervals, the proper length of which can only be determined by experience, the scalp having been sterilized as above, the injection is repeated. The patient should be kept in bed at least four hours after each injection and should take bromides for from one to two days.

In giving these directions, I beg to be understood as merely submitting the method to the profession for further trial and elaboration, or, perhaps, for rejection. I am not myself convinced that it has any real value.

I append from the records of the University Hospital the histories of the two cases in which I have tried it. In the first of these cases the prominence of pain as a symptom led me to disregard the contraindication furnished by the history of infantile paralysis:

CASE 1.—White, male, Aet. 24.

Admitted to the service of Dr. H. C. Wood at the University Hospital, February 15th, 1899.

There was nothing in the family history which had any bearing upon his condition. At the age of six months it was found that he had infantile cerebral paralysis affecting the right arm and right leg. He began to walk when between two and three years of age, but has always limped as a result of defective development. His first epileptiform attacks began at the age of twelve, affecting the right arm and leg, and always occurring at night. They are associated with sharp needle-like pains starting near the shoulder, passing down the right arm, and then felt in the upper part of the right thigh passing down the leg. These are very severe, and are apt to be accompanied by an outcry. At, or about this time, there is usually a short general tonic spasm followed by clonic convulsions. Each attack lasts four or five minutes. He has never fallen down or bitten his tongue or lost consciousness. During the day the attacks never go beyond the pain in the

arm. He complains of a continual needle-like pain in the right arm, which he thinks he lessens by wearing a tight rubber band around the wrist and hand. He also thinks that this helps in aborting the attacks. There was no evidence of any organic disease.

On March 9th, having had four attacks in the interval, and having been carefully observed, he was transferred to Dr. White's ward for operation.

On March 11th, the operation was performed (see description above). The injection was made directly over the centre for the arm. After operation, the pain in the arm had disappeared.

On the 12th, an epileptic convulsion occurred which is noted as peculiar in the following respects: It was not painful; it had no aura; it began in the upper part of the arm as before but did not involve any muscles outside the arm; it lasted but two minutes, and was not accompanied or followed by any mental phenomena or by sleep.

Between March 12th and June 24th, the patient remained under observation in the Hospital, receiving during this time five intra-cerebral injections, the quantity varying from ten to fifteen minims, the eucaïne being increased first to four and then to six per cent. During this time (fourteen weeks) he had eight convulsive attacks, but with one exception they were all milder than those that had preceded the beginning of the treatment, and there was throughout a greatly lessened complaint of pain.

He was readmitted to the Hospital on October 10th, 1899. On that day the following note was made: Has had four attacks since his discharge, but they were not nearly so severe as formerly, and were not accompanied by so much pain. He has now some motion in the hand and arm, which he says he did not have before. He took potassium bromide about 3ii in a week during the summer.

On the 17th, he had his first convulsion, which was fairly severe.

On the 18th, fifteen minims of a two per cent. solution of eucaïne were injected as before. No beneficial effect was observable. In fact, he had a series of very slight convulsions during the next five days.

On November 1st, 10th, and 18th, and on December 8th and 21st, these injections were repeated. During this time he had three convulsions of very slight gravity. He was discharged again on December 21st, having had no attacks or threatenings for two weeks.

On January 15th, 1900, he was readmitted on account of an attack which he had on the 10th.

On the 20th, fifteen minims of a four per cent. solution were injected.

On February 5th, he was discharged, there having been but one convulsion in the interval.

On June 12th, 1900, there having been no attack for thirteen weeks, he received one injection of twenty minims of two per cent. solution.

On October 6th, 1900, the treatment was repeated, he having had but one slight convulsion in the interval.

On December 1st, 1900, the treatment was again repeated. He had had several threatenings in the interval, but upon the administration of an emetic, the premonitory symptoms had disappeared without an attack.

CASE 2.—White. Male. Aet. 37.

Admitted to the service of Dr. C. Wood, May 5th, 1900.

There was nothing in the family or previous personal history having any bearing upon the condition.

In June, 1899, he had a feeling like a shock in the right arm, and it became rigid in a semi-flexed position. This was the first attack of the kind he ever had. For about a year previous to this, he suffered from a constant dull pain in the region of the frontal sinuses. This still persists.

The attacks have continued to the present time, occurring at intervals of one or two a week, to one every two weeks. They usually occur after he has gone to bed. Almost always for several hours prior to an attack the pain in the frontal region is worse, and there is usually in the right arm a strange feeling, which he cannot describe. After he has gone to bed, the attack comes on suddenly with a feeling like an electric shock in the right arm which becomes rigid with the forearm flexed not quite at a right angle. The spasm is clonic, and lasts from a few seconds to a minute, or a minute and a half (the longest). After the attack is over there is no drowsiness, or pain in the arm, and the headache is usually much better.

He has never become unconscious during an attack.

There is no pain in the arm during the attack, but it is numb.

On May 20th, he was transferred to Dr. White's service. He was kept under observation until June 1st, during which time he had three attacks. On that day trephining was done, and thirty minims of a two per cent. eucaine solution were injected into the arm centre. He was kept under observation for two weeks, and having no symptoms whatever, was then permitted to leave the hospital.

He was readmitted on January 22nd, 1901, at which time the following note was made:

Since discharge on June 13th, 1900, patient has returned to the hospital three times in order to receive the hypodermics. The first hypodermic was five weeks after discharge. Previous to that and following it, the intervals averaged between fifteen and eighteen days. (Previous to the operation, seizures were every two or three days, the maximum interval being nine days). Six weeks later the second hypodermic was given. Intervals between seizures were from fifteen to eighteen days. Two months later he returned for a third hypodermic (latter part of September). Since then the attacks have averaged about the same. He has gone twenty-three days without an attack. On December 28th he had five attacks, coming on an hour apart, each successive attack being lighter. On December 29th, he had four attacks, lighter than on 28th.

On December 30th he had three attacks; lighter than on the 29th.

On December 31st, he had one attack, lighter than on the 30th.

He was under no excitement at this time.

Last attack was on January 18th, 1901. This attack was severe, lasting thirty to forty seconds.

Operation by Dr. White, January 23rd, 1901.

Thirty minims of a two per cent. solution of eucaine were injected into the brain, and a collodion dressing was applied. Patient was returned to the ward. Fifteen minutes after the injection patient complained of nausea and a sensation of numbness in the right arm and leg. One hour and a half after the injection he was taken with a convulsive seizure which involved the whole right side, with the exception of the face. The leg and arm were thrown about violently and the patient made frequent outcries. He was in a semi-unconscious state and did not answer questions coherently. This seizure lasted four minutes. Following the attack the patient complained of headache and a sensation of numbness in the right half of the body.

On January 24th, 1901, the final note which follows was made: Until this morning patient still complained of feeling of numbness in the right side. States that the attack he had yesterday was the most severe one he had ever had, and that it differed from his usual attacks in that it was a general seizure. At present he feels perfectly normal, and is discharged.

He has not since been heard from.

It will be apparent to any one who reads these cases critically that they cannot be said to establish even the entire safety of the procedure, as the convulsions in Case 2, which followed one of the injections, were of very marked severity. Neither can it be said that the results obtained were noticeably better than have seemed to follow the very miscellaneous operative procedures which I have mentioned above. It still seems, however, that there are possibilities of benefit by this line of treatment which justify me in placing it conservatively, as I have tried to do, before the profession.

Hospital at Cesarea.—The first meeting of the Board of Trustees of the American Christian Hospital at Cesarea, Asia Minor, was recently held in Albany, N. Y. The officers elected are: Allison Dodd, president; Samuel T. Carter, Jr., vice-president; Charles E. Manierre, secretary, and James M. Speers, treasurer.

The board was incorporated to hold the property and give perpetuity to the work of the Rev. William S. Dodd, M. D. The small dispensary over a stable with which he began in 1886 has now grown to a fine stone hospital building of three stories, capable of accommodating seventy beds.

THEORETICAL AND PRACTICAL CONSIDERATIONS ON THE TREATMENT OF JACKSONIAN EPILEPSY BY OPERATION; WITH THE REPORT OF FIVE CASES.

By JAMES JACKSON PUTNAM, M. D.,

Professor of Neurology, Harvard Medical School.

The necessity of giving advice as to the propriety of cortical excision and of operation in general, in a case of non-traumatic focal epilepsy which came recently under my observation, has led me to review the literature bearing on this interesting disease, and to scrutinize afresh the results of my personal experience.

It is now more than a quarter of a century since Hughling Jackson first divined the localization-mosaic of the Rolandic convolutions, and many years since Horsley, well trained by experimental research, had the courage to attempt with the knife the solution of the question whether one may argue that epileptic seizures which begin with a "signal symptom" are due to localized—possibly removable—forms of disease.

This problem is still, and will perhaps long remain unsolved, but each new decade brings fresh data to renew the interest of the inquiry, as waves of hopefulness or discouragement succeed each other in the professional mind. Among the more recent advocates for the view that focal disease, discoverable only by the microscope, may be the cause of so-called "focal epilepsy," and that the removal of portions of the cortex containing this altered tissue and constituting the "center" corresponding to the initial symptom of the fit, may, if done early enough, cure the disease, is Dr. Joseph Collins (1), who discusses, in the autumn number of *Brain*, 1896, the histological changes in two interesting cases, where thorough excision had been done by Gerster and by Curtis. A private note from Dr. Collins states that one of these patients has remained free from disease up to the present time, that is, for six years since operation. In the first case the pia mater was thickened and adherent to the altered cortex; in the other only degeneration of the large ganglion cells was found. Collins speaks (page 384) of this diseased tissue as having been "entirely removed," but in regard to this point, one may be permitted to feel a grave doubt which cannot be removed by any evidence that the case has thus far furnished. And this to my mind is an important matter, because if similar tissue has been left behind, the anatomical conditions for a renewal of the epileptic attacks still exist, and if the attacks do not recur we may have to seek the explanation in the inhibitory effects of the operation, and then the question arises whether similar effects might not have been produced by less severe measures. Certainly there is an abundance of evidence that fits may cease, or fail to occur, in spite of the presence of persistent sources of irritation.

The object of this paper is to consider some of the questions here involved, which I will state as follows:

1 Dr. Collins expressly repudiates any desire to generalize on the basis of these cases, and it is not here intended to imply that he does so.

1. Is the removal of disease-foci involving the cortex of clinical value?

2. Does the removal of the cortex itself, when apparently unchanged, add an influence of material importance?

3. How are the results of such measures as these best to be explained, and, especially, is the benefit obtained from cortical excision necessarily due to the removal either of a focus of disease or of a special "discharge-focus"?

4. What additional light has been thrown, by recent experimental researches and clinical observations, on the physiology of the cerebral cortex?

The views which I shall maintain are, (1) that operations of many different sorts are of value; (2) that the beneficial action of these operations, although complex in character, is mainly due to the induction of a temporary inhibition of the morbid action of the cortex, which permits of the establishment of a more normal tendency; (3) that the removal of the apparently normal cortex is rarely advisable, and, when beneficial, acts mainly as above indicated; (4) that the cause of the persistence of the "epileptic habit" is not to be sought alone in anatomical peculiarities of the brain, but that it shares the vitality and independent endurance of memories in general. Also, the symptom-groups which present themselves after cortical lesions conform, in general, to certain special types, which recur without being closely dependent on the localization of the cerebral injury. These symptom-groups represent, in fact, efforts at the formation of a new equilibrium on the part of a being endowed with consciousness and memory on the one hand, and with a complex brain-mechanism on the other. The principle on which this readjustment goes on in cases of actual cerebral lesion, is analogous to that which is operative in "hysteria."

The points of special interest in my own cases, are as follows:

CASE 1 is that of a young man of 21 who, four years before, had suffered from a continued fever, considered at the time to be typhoid, which confined him to his bed for 13 weeks. In an early stage of this illness, and while the diagnosis was still doubtful, his father went into his room one morning and found him unconscious. Three weeks later, while the illness was at its height, he complained one day of numbness of the hand, and almost immediately afterward became entirely paralyzed on the left side, even to the left eyelid, and swallowed with difficulty. He suffered during this period from severe pain in the head and was thought to have meningitis, but in the course of three or four weeks he could use the arm and leg pretty well, and, before long, all signs of disease seemed to have entirely vanished. It was six months later before indications of cerebral disorder reappeared, and then in the form of attacks of numbness of the left hand, often confined to the index finger and thumb, sometimes associated with twitching, or with irregular movements of the fingers, one after another, sometimes with a greater or less spreading of these feeling and movements to the arm and face. Only six times in all had he lost consciousness, but the numbness of the hand was sometimes preceded by a sense of fullness in the head. The leg was not much involved, but on recovery of consciousness it would feel heavy and helpless. Two or three times he had a blurring of the vision instead of the "numb" feelings, before the severer attacks, and occasionally the forefinger of the right hand would grow slightly numb instead of the left.

Operation was advised, and was done by Dr. J. C. Warren, at the Massachusetts General Hospital, June 3, 1901. A large opening having been made over the "hand-centre," Dr. Warren proceeded to reflect the dura. This was found to be united to the pia by a number of firm adhesions, be-

sides which the two membranes were separated by a dark, soft, velvety layer of tissue suggesting an organized clot, which covered most of the space exposed by the trephine opening (about $2\frac{1}{2}$ inches in diameter) and extended beyond it. The affected area was in fact so extensive that the removal of the whole of it seemed impossible, and it was more for the sake of obtaining a specimen for a microscopic examination than with a view of a cortical excision for therapeutic purposes that a small bit, about 1 cm. in diameter and 1 or 2 mm. in thickness, was snipped out with scissors from the altered pia and cortex. This was done almost at random, since faradization, even with very strong currents, had failed to excite any response. Nevertheless, immediately after the operation, the hand was found to be wholly paralyzed and the sensibility almost wholly abolished. The sensory defect involved the lower part of the forearm but faded rapidly upward. The face also was paralyzed to a considerable degree and the leg very slightly. Trifling thickness of speech, and aphasia to the extent of forgetfulness of names, were present for a time. It is of course possible that these results were referable not wholly to the excision but also to the slight manipulations of the exposed portion of the brain as well as to edema and small hemorrhages as noted by Hitzig (1) in his experiments. But, in either case, the result affords one illustration the more of the fact that in any given area many movements may be more or less represented, and that from a given impression on the cortex certain parts will be far more affected than others; the hand, for example, more than the arm. This fact is well known but its significance is not always appreciated. Many interesting features of this case must be passed over, but I will pause to refer to the fact that in some instances the attacks, even where the most prominent initial symptom was in the hand, were ushered in by a blurring of vision and sometimes a feeling as if the eyes were moving. As regards the further results of the operation, some improvement showed itself before the end of a week, and it was not long before the motion of the hand was regained for the most part, though there was for several years, and perhaps has remained permanently, a trifling diminution in strength and dexterity. The attacks continued for a long time much the same as before as regards frequency, but became less severe and somewhat different in character, the fingers on the ulnar side of the hand sometimes being the more affected, instead of those on the radial side, for example, besides being persistently somewhat paresthetic. The forefinger was not noticed to twitch except once or twice until six months after the operation, though paresthetic attacks were frequent. After a time his condition began to improve in every respect, and a letter received nearly six years subsequently said that he had given up the use of all medicine, that the ill turns were much less frequent, the general health good, and that on the whole he was "quite another man since the operation." Nevertheless, it should be remembered that the lesion remains, so that the improvement, however it may have been brought about, is to be laid to the score of increased cerebral resistance rather than to removal of irritation. Another letter of the present month, written just ten years since the operation, states that the improvement has maintained itself, though he is not perfectly well.

The special interest attaching to this case lies in the fact that, on the one hand, a large and persistent cortical lesion produced highly localized and specialized seizures, of somewhat varying sorts; and, on the other hand, that a trifling injury, of indeterminate localization, consisting in exposure of the cortex, and the snipping out of a small piece, not more than 2 mm. in thickness, induced an extensive group of symptoms corresponding to one of the several definite types, such as is apt to reproduce itself from brain injuries of various sorts, not, it is true, wholly without regard to the seat of the injury, but without close correspondence to it.

The blurring of vision observed in this case was apparently due, in part at least, to a temporary strabismus. It is, however, of interest to note that

the visual deficit was always referred to one side, as so often in migraine.

CASE II is that of a young girl of eleven, who ever since her fourth year had suffered from fits, ushered in by numbness of the right hand and arm, sometimes to be checked by rubbing the affected parts. At the time of my examination the motions of the right hand were somewhat awkward, and lack of development was evident, so that the case was assumed to be one of infantile cerebral disease. During the attacks consciousness was, as a rule, not wholly lost, but the face and leg were frequently involved to a slight degree. Operation was advised, and was done by Dr. Warren, at the Massachusetts General Hospital, on February 25, 1890. The dura was found strongly adherent to the pia over an area the size of a quarter of a dollar. After separation of these adhesions faradic stimulation, even with the strongest currents, failed to excite movements, except at one point, where we were able to introduce stimulation excited twitchings about the mouth similar to those noticed during the seizures. Since it had not been possible to localize the centre for hand movements nothing further was done at this operation. The patient did very well for a time, but after a few months the attacks returned as badly as before or worse. Another operation was therefore attempted but the dura was found still more adherent to the underlying parts and electrical stimulation again failed to excite the cortex. It is noteworthy that although the surface of the brain was considerably torn in the dissection of the dura no paralytic symptoms followed the operation, except slight difficulty in swallowing. The attacks were again relieved for a time, but again returned later, and this time with mental deterioration, which was progressive and necessitated the removal of the patient to an institution for the feeble-minded.

One is tempted to explain the non-occurrence of the paralysis by assuming that the exposed portion of the brain was already damaged, or, rather, that its coefficient of dynamic efficiency was low, in correspondence with the impaired use of the hand. It may well be that this was the case, but it would perhaps involve a straining of this explanation to make it apply to cases such as those reported by Starr and McCosh, where the resection of a large piece of the cortex for focal epilepsy did not excite paralysis at all, but only a moderate disturbance of coordinated motion. It is to be borne in mind in this connection that similar operations upon dogs may fail to excite paralysis, although this is exceptional. (Tonnini.) The case reported by Sachs and Gerster, where even bilateral excision caused only a trifling impairment of function, is interesting in this connection.

CASE III.—The next patient was a man of thirty-three, with an early history of special interest, partly because he had had pulmonary tuberculosis in a mild form; next, because of an injury which may well have been the starting point of his later illness. When a boy of eight or ten years old, namely, he had run while at play, head foremost and with great violence, against the projecting end of a beam, which came in contact with the left side of his head near the vertex. He was knocked senseless by the blow, but seemed after a time to have recovered without permanent injury. Within about two years of this period the first symptoms of his present illness showed themselves, in the form of recurring attacks of "prickly feelings" in the thumb, forefinger and middle finger of the right hand and the adjoining portion of the palm. Sometimes, also, the right side of the face, in the parts adjacent to the angle of the mouth, would be involved, and the right half of the tongue. Occasionally the attacks would begin with paresthesia on the inner surface of the upper arm, about midway between the elbow and the shoulder, and would spread thence both up and down the arm and to the adjacent portion of the chest (area of distribution of nerve of Wrisberg?) and the attacks beginning in this way were the ones most likely to terminate with face and tongue symptoms, and were therefore the most dreaded. With slight

variations in type these attacks recurred at short intervals, rarely a day passing without one or more of them. Indeed, their frequency had gradually increased but the tongue was less often involved than formerly. Occasionally, though rarely, these paresthesias were attended with clonic spasm, or flexor cramp, of the fingers and even the arm, of moderate severity. The first occurrence of this sort was in 1896 and in the three years following it was repeated five times. Twice only, both of the times being on the same day, he had a loss of consciousness, preceded by a severe jerking of the arm, and by a painful feeling as of a series of blows, delivered successively at higher and higher levels from the neighborhood of the hand to near the shoulder. It felt, he said, as if the arm was being chopped off in segments with an axe or by machinery. On two or three occasions, also a temporary embarrassment or even loss of speech occurred, generally in the early morning. The attacks in the hand repeated each other with great accuracy. The first sign would be a stinging sensation in the end of the thumb; this would be followed by a similar feeling at the end of the forefinger; and then by a sensation as of something darting down the length of the forefinger, then along the middle finger and into the radial portion of the palm of the hand. Finally, the face near the mouth would be involved.

My first examination, in August 1898, revealed a very slight paresis of the right side of the face, a slight but definite impairment of cutaneous sensibility over the palmar surface of the thumb and forefinger, as tested by light contact and pricking, and a slight awkwardness in the use of the fingers, as in buttoning the clothes. The sensibility of the right side of the face was affected similarly but to a less degree. There was no considerable gross weakness of the hand, except for a time after each attack.

Although these parasthetic seizures did not incapacitate the patient for work, yet they harassed him greatly, and he readily consented to the idea of an operation, which was, however, not performed until December 15, 1899, on account of the presence earlier of slight tubercular signs in the lungs. By the time of the operation these signs had disappeared and no bacilli of tubercle could be found.

The operation was performed by Dr. J. C. Warren, at the Massachusetts General Hospital. A large trephine opening was first made over the Rolandic convolution, but nothing abnormal was seen until the dura had been reflected, when the pia toward the anterior part of the space was found to be opaque. The opening being enlarged in that direction a tough adhesion of the size of a knitting-needle was discovered, uniting the pia and the dura together. This was excised, together with a small bit of the cortex, Dr. Warren having first assured himself by a careful exploration with the probe that the surface of the brain for some distance around was free from similar lesions. It may be stated here that a subsequent microscopic examination of the excised piece, by Dr. W. F. Whitney, confirmed the view which the appearance of the parts had suggested, that the changes were due to inflammation, not to new-growth.

The recovery from the operation was satisfactory in all respects, the skin-wound healing by first intention.

An intensification of the numbness in the fingers, and of the impairment of tactile sense, and the extension of these signs to the ulnar distribution, which was manifest immediately after the operation, together with an increase of the facial paresis, indicated that the neighborhood sought had been reached, though it cannot be affirmed that the whole lesion was removed. The opacity and edema of the pia, slight as it was, would indeed suggest a wider extension of the cortical irritation.

On the second day following the operation he had a bad attack of numbness, with cramping of the hand, then two days passed without attacks. During the following two weeks, the numbness recurred more frequently than before the operation, but without much cramping, and with a tendency to lessen. The facial paresis soon became less, and a paresthesia of the tongue and gums on the right side, associated with a hesitation in speech, which were all considerable just after the operation, had almost disappeared by the end of the third week.

In the two years which have elapsed since the operation the attacks of numbness have recurred about as before, and there has been in addition an almost continuous paresthesia of moderate degree.

not exclusively limited to the median nerve distribution. The left foot has also become the seat of occasional sensations of similar sort—referred especially to the joints of the toes,¹ and the same feeling has been present in the right side of the neck.

It is worthy of remark, as recalling the observations of some of the cerebral physiologists who found that the tendency of cortical irritation to produce epileptiform spasm could be intensified by gentle stroking of the limb, that this patient has at times noted a recurrence of the numb seizures when the ends of the fingers were rubbed or knocked. Yet, strangely enough, it was not possible to produce this result at will, the admixture of conscious volition seeming to exert a sort of inhibitory effect. Before the operation it was only the end of the thumb which acted in this way as an epileptogenic zone, but since then the same peculiarity has been shared by the ends of some of the fingers.

Cases of "Jacksonian" Epilepsy of various types have been so often reported as to be thoroughly familiar, and the fact is well recognized that one has no right to infer a limitation of the lesion or disease-process to the cortical area corresponding to the "signal symptom." Sharply localized epileptiform outbreaks occur with tumors of considerable size and even in "idiopathic epilepsy," and this occurrence seems to indicate no more than that a certain cell-area is abnormally unstable, whether on account of disease or from an inherent excitability due to the nature of its functions, as in the case of the areas corresponding to the mobile hand- and speech-organs.

In correspondence with this is the interesting fact, well illustrated by the present case, that the irritation due to a given lesion may induce, multiple or alternative results, represented here by the occurrence, now of the thumb-numbness, now of the upper-arm-numbness, as the "signal symptom." The plausible explanation is that the corresponding cortical areas are particularly irritable, so that a discharge may easily start in them with sufficient force to act as a vortex center.

The resemblance of this case to Case I, especially as regards the paralysis after operation, yet with a lesion of far less extent and severity, is also obvious.

CASE IV is that of a boy whom I had the opportunity of watching for a long time before the operation, which was done by Dr. Keen, of Philadelphia, and have had under observation ever since. He had had from early childhood frequent attacks, of short duration, and not always attended with entire loss of consciousness, in which his head would turn to the right and make a rapid series of nodding movements, while the right shoulder would rise and fall rapidly. The right arm was also more or less involved. Severe or general convulsion did not occur. There was no reason to suspect localized disease of the cortex, but the prominence of the shoulder movements suggested the hope that excision of the corresponding part would be of some avail. Localization was carefully done on the skull, and afterwards, successfully, by faradization of the cortex, and the corresponding portion was then excised by Dr. Keen. A temporary weakness of the arm followed, but the epileptic attacks went on much as before, though somewhat changed in character, and all that can be said (which is perhaps a good deal) for the effects of the operation, is that from that time the signs of the disease have been somewhat more manageable by bromides and other treatment.

CASE V is that of a young man of seventeen, of excellent habits and good previous health. His previous history shows nothing that would explain the present symptoms unless that he had a very severe whooping cough when four or five months old, and that having been fond of athletic sports, he had received a number of severe blows on the head, though not such as apparently to cause permanent injury. For the past two years he had grown very rapidly. During the past year he had become gradually aware of prickling sensations in the left hand and fingers, recurring from time to time and lasting about fifteen seconds. During these times the sensibility of the skin would become heightened, so that a rough object would feel still more rough, etc., while at the same time the hand would lose its strength. There had been no impairment of consciousness until three weeks before examination, when he had had two convulsions in one night. Since then the numbness of the hand had become worse, so as to be actually painful, and the fingers would become cramped in a position of extreme extension. The thumb being drawn in upon the palm of the hand. The pain was usually confined to the last two joints of the index and middle fingers and the end of the thumb.

Without entering on further details, I will say that after a thorough bromide treatment, under which the attacks remained absent for a number of months, again recurring, however, at the end of that period, it was decided to operate, in the hope that some cause of local irritation would be found as in some of the other cases.

The operation was done by Dr. Warren in February of the present year, a large skin and bone flap being turned back and the dura incised and reflected. The cortex presented an absolutely normal appearance and nothing more was done than to palpate for underlying tumor or cyst. As a result of this manipulation, or of the simple exposure, a well-marked paresis of the hand came on, with impairment of sensibility in all modes, including the sense of position and the steronostic sense, and, a slight drooping of the left side of the face. These conditions were exactly like those which were reported as following operation in the preceding cases, but less severe, and not more lasting. Only four months have elapsed since the operation was done, and I report the case only for the sake of completeness and the interest of the diagnosis. In fact, however, the feelings in the hand have been much less frequent, thus far, and no severe attacks have occurred. He is on a thorough bromide treatment which it is planned to continue for a long time. The only way in which it would have been possible to differentiate this case, where no gross lesion was present, from those where localized meningitis was found, would have been by the entire absence, before operation, of any trace of permanent impairment of the functions of hand, which in the other cases was present, though to a very trifling extent.

CASE VI.—I wish finally to report the final history of a very interesting case reported by Dr. A. T. Cabot (*Boston Med. and Surg. Jour.*, 1897, I, p. 433) in conjunction with whom I had the opportunity of studying it. The pathological diagnosis, which could not be made with positiveness before the operation, was a large, subcortical cyst, believed after examination, to be of traumatic origin. The original "signal symptom" was a paresthesia of a certain area on the right thigh, but later the very interesting sign showed itself of a paresis or even paralysis of the leg, and sometimes the arm and face, coming on at times as long as fifteen minutes after the initial symptoms had passed away. Loss of consciousness was comparatively rare.

A thorough and continuous draining of the cyst seemed to lead to its filling up and obliteration, and attacks became slight and rare, so that the patient felt able to marry and to engage in active and responsible occupations which he managed for several years. News has, however, recently reached Dr. Cabot that the attacks returned some six months ago, and still more recently that he had suddenly died.

It is noteworthy that the "signal symptom" in this case was, as a rule, a numbness over a portion of the thigh, instead of over the hand or foot, as is the rule, though the lesion was of such large size as necessarily to involve extensive areas. It is also of importance, as illustrating the occurrence of psychical phenomena even with these localized

¹ In Case I, the hand of the side opposite to that usually affected was involved occasionally, even alone.

lesions, that the patient would sometimes jump up and laugh or show odd behavior for a moment as the sensation was first felt. Such acts recall the familiar cases where a dream is initiated by some slight excitation, such as a knock on the door, yet develops in such a way that the noise seems to form the last stage of the process instead of, as in fact, the first. It may be readily conceived that the psychological portion of the attack might, on some subsequent occasion, initiate the process in its turn.

(To be Continued.)

WHAT I HAVE LEARNED FROM ONE HUNDRED AND SIXTY-ONE OPERATIONS FOR THE RELIEF OF SENILE HYPERTROPHY OF THE PROSTATE GLAND.

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(Continued.)

Prostatectomy.—The operation of prostatectomy is at this time being carefully studied by genito-urinary surgeons throughout the civilized world. I am in accord with Guiteras when he says: "The subject may be considered as still in its infancy." There is much to be learned regarding the safest method to adopt when performing the operation, many important points relating to it are still sub judice, and open to discussion. Some authorities advise that the suprapubic process be selected, others prefer attacking the gland through the perineum, whilst many believe that the safest and best results are obtained by a combined suprapubic cystotomy with a perineal incision. It still remains to be demonstrated whether performing a partial prostatectomy, removing only the obstructing portion of the gland, or a complete resection of the organ, is to be preferred. The latter operation is still on trial. That the dangers attending a complete prostatectomy are many there can be no question. Recovery is always prolonged. Complete removal of the prostate must appeal to anyone as a brilliant, but at the same time a most unsurgical, procedure. To incise the capsule, and then entirely by the sense of touch, violently tear out the entire gland, only leaving the mucous membrane surrounding the urethra, does not appeal to our surgical sense as a rational procedure. After the gland is removed nothing remains but the capsule and the mucous membrane, forming the prostatic urethra, denuded of all the tissue which surrounds it. It is a question as to what becomes of this tube of mucous membrane after the operation which is left free in the capsule. It appears to me most probable that in many instances it undergoes necrosis and is cast off as a slough and discharged with the urine. I have known it to be frequently damaged by the operation; in two instances I have seen the entire prostatic portion of the canal removed with the gland. This is not to be wondered at when we consider how intimately connected the mucous membrane of the prostatic urethra is to the surrounding structure. That a portion of the urethra has been repeatedly resected and on recovery having taken place

the canal remaining functionally satisfactory, is well known. Rollet reports a case of traumatic stricture in which he excised two inches of the urethra; successfully restoring the canal to its normal condition. I have on several occasions performed urethrectomy with the most gratifying results. It is possible, therefore, that by leaving a catheter in situ for a long period of time, after completely removing the prostate gland, that a new urethra forms around the instrument, just as we know it does after the membranous urethra has been excised. That the profession is still at variance as to which is the best operation to perform is shown by the many different methods that are advocated. McGill, Belfield, Fuller, Alexander, Syms, Pyle, Von Dittel, Fryer, Warholm, Nicoll, Guiteras and Tobin recommend a different way of attacking the prostate gland, claiming a more ready access to the organ, others a modification in the technique, asserting that by pursuing the method advocated that the time required for the performance of the operation is thereby minimized, the shock lessened, and the hemorrhage reduced; hence decreasing the mortality. The neophyte having but little experience in prostatic surgery is naturally at a loss to determine which is the best operation to employ.

There is a large number of cases where the prostatic obstruction has been allowed to exist for such a length of time that when they come under the care of the surgeon, the tortuous and narrowed calibre of the prostatic urethra prevents the use of the Bottini incisor, whilst the physical condition of the individual is such as to preclude the resort to so radical a procedure as prostatectomy; these must be treated by a resort to either the establishment of permanent suprapubic drainage, or, in suitable cases, to castration. When it has been determined that prostatectomy is the proper operation the first question that arises is: Shall the gland be removed by a suprapubic incision; through the perineum, or by a combination of both methods? The answer must depend upon the character and size of the growth, its form, and its course. Where there is an interurethral or intercystic pedunculated tumor, a suprapubic cystotomy is the operation to be chosen, when both the lateral and median lobes are equally enlarged and protrude well back into the bladder, the prostate gland is more readily reached by a suprapubic incision, the obstructing portion being removed after the manner suggested by Fuller, a perineal drainage being established as recommended by Belfield.

This operation is likewise indicated if the lateral lobes jut into the bladder, forming multiple tumors about the neck of the viscus, not only elevating the internal urinary outlet, but usually forming two pouches, one above and the other below the projecting gland. An enlargement of the right or left lobe alone or a general enlargement of both lobes is best reached by means of the perineal incision; especially if the tendency of the growth is towards the urethra or rectum, rather than towards the bladder. When the prostatic enlargement is due to an increase of the stromal tissue, and does not impinge upon the bladder, it will be found that if an attempt is made to remove the growth by means of the suprapubic opening that it will be a very difficult and

unsatisfactory operation, usually resulting in the obstructing portion being removed piecemeal, which requires much time for its performance, and is attended with the loss of a large quantity of blood. It is believed for this reason that the gland, in this class of cases, is best reached through the perineum.

My experience coincides with that of Wishard who states: "That cases are not suitable for complete perineal prostatectomy in whom, owing to the prostatic hypertrophy, the posterior urethra has become increased in length to such an extent as to prevent the surgeon from introducing the finger into the perineal wound to reach beyond the growth." The lengthening of the urethra is easily determined by taking the proper measurements by means of a catheter, and making a digital examination of the prostate gland through the rectum.

When attempting to perform a perineal prostatectomy we have our choice of various methods of making the incision; Alexander recommends a median incision, together with a suprapubic opening, so that the prostate gland may be pushed well down into the perineal opening. A lateral incision, beginning at the tip of the coccyx passing to one side of the sphincter ani, and terminating in the perineum has the high endorsement of Von Dittel. A transverse cut extending from one tuberosity to the other is advocated by Warholm; finally a semi-circular flap beginning between the sphincter and tuber ischii, one side crossing the center of the perineum down to a corresponding point on the opposite side from which it began, is suggested by Pyle.

In four operations I have employed the median incision advocated by Alexander and have liked it less each time that it was used. When attempting to remove the lateral lobes the operator is unable to see the field of operation, it being difficult even by touch to determine exactly what structures are being incised. The surgeon is at a great disadvantage from having to work in the dark. The lateral incision of Von Dittel I have never employed; it has many advocates.

In two instances, when removing a prostate gland which had undergone malignant changes, the transverse cut was found to be most satisfactory; the room afforded was ample, the gland could be easily dealt with, and hemorrhage controlled; it has much to commend it. The semi-circular method of Pyle was employed in three cases; it was the most satisfactory of any employed for ordinary cases of perineal prostatectomy. The space employed was ample; the gland could be readily manipulated, and the surgeon can easily observe the entire field of operation after the capsule has been incised and the gland loosened.

Anyone who has frequent occasion to perform perineal prostatectomy will agree that it is often a very difficult procedure; the most important step is that of dividing the capsule of the gland in order to lay it bare, and at the same time loosening the structure sufficiently to permit the gland to be brought into view; the surgeon to do this must necessarily rely entirely upon the sense of touch. Working in the dark, in a deep wound in the per-

ineum, is necessarily unsatisfactory, and is one of the principal objections to this method of procedure. Even after the gland is freed sufficiently to be brought into sight, it is often difficult to separate the lobes from the urethra, without injury to the canal. The rectum has been injured in some cases giving rise to perineo-urethro-rectal fistula, often difficult to cure. I have had this mishap occur to me on two occasions when removing a prostate that had undergone malignant changes, fortunately in both instances the fistulae closed spontaneously. Both patients were invalids for a lengthened period after the operation.

It is generally understood that the power of retaining urine in the bladder depends upon three sets of muscles; two involuntary; the third under the control of the will. The first is the muscular structure surrounding the internal vesical opening of the urethra in the prostate gland and is known as internal prostatic sphincter; this muscular structure has sufficient power to allow from three to four ounces of urine to accumulate in the bladder, when it relaxes and allows the urine to flow into the prostatic urethra, which dilates and assumes a funnel-shape, forming the neck of the bladder.

The onward passage of the urine is then arrested by the second muscle, which is the external prostatic sphincter, it appears to be stronger than the internal sphincter and is capable of retaining the urine until the viscus is well distended: it then relaxes and the retention depends on the contraction of the voluntary fibres of the compressor urethra, which is the third muscle of the series. This explanation of the retention of urine in the bladder seems plausible when the position and action of the various muscular structures concerned are taken into consideration. There must, however, be some other cause of which we yet know nothing, otherwise after a complete prostatectomy, where both the muscular structures connected with the prostatic outlets are extensively resected, dribbling of urine would invariably follow; this, however, is not the case. On several occasions I have known trickling to follow the operation, but it invariably ceased after a few days. In many of my own cases nearly the entire muscular structure composing the internal and external prostatic sphincters were cut away, yet the power of retaining the urine within the bladder was retained.

In two cases when attempting to partially remove the lateral lobes of a hypertrophied prostate, fibrous in character, by means of a perineal incision the entire organ was resected. Both patients died of sepsis, one living for three weeks and the other surviving two weeks after the operation. In neither was any difficulty experienced in retaining the urine.

Out of the eleven cases of suprapubic prostatectomy, in five of which the gland was completely removed, three died. Of the remaining eight, two were lost sight of after leaving the hospital, four were cured, and two were somewhat improved, but had to rely upon a catheter that could be inserted easily, but which did not require to be employed as frequently as before the operations. The two cases which were not cured were greatly benefited. In these patients the prostatic obstruction had existed for a considerable length of time, associated with

long standing chronic cystitis, which had wrought extensive changes in the wall of the organ, with hernial protrusions of the mucous membrane, giving rise to a sacculated condition, so that even if the obstruction had been completely removed the function of the bladder would never have been restored. The condition of these cases seems to warrant the conclusion that if a prostatectomy is to be performed an early operative interference is demanded in cases of prostatic hypertrophy with rapidly increasing symptoms of obstruction.

Out of seven perineal prostatectomies two died of sepsis. Of the five remaining cases two were lost sight of three weeks after they left the hospital. Their condition was most satisfactory when last heard from. Of the remaining cases, two were cured and one improved; in this individual a chronic cystitis had existed for a length of time before operation.

The mortality of perineal prostatectomy is variously estimated from 14.3 per cent. up to 18 per cent. In the Transactions of the American Surgical Association, 1895, there is an article by Dr. J. William White on "The Results of Double Castration in Hypertrophy of the Prostate," in which he places the mortality of perineal prostatectomy at 14.3% and suprapubic at about 7%. If selected cases only are chosen for the operation of perineal prostatectomy and the most recent method resorted to, together with the employment of spinal anesthesia, the mortality will be much less than the stated percentage. The surgeon should always bear in mind that the chances of death are much greater in the perineal operation than they are in the suprapubic. Moreover, after the patient has undergone the nervous shock, pain and prolonged convalescence concomitant on the resection of the prostate, there is a certain proportion of cases that will be unimproved. This is shown by a report of 22 operations by Desnos (*Annals des Mal. des Org. Gen.-Urin.*, 1895), where 15 were cured, 4 not improved, 1 became worse and 2 died.

The high mortality attendant upon excision of the prostate is sometimes due to the fact that a radical operation is undertaken without preliminary preparatory treatment. Much can be gained by continuous catheterism, irrigation of the bladder, the administration of remedies that will have a tendency to render the urine innocuous and produce reconstructive metamorphoses.

Of all the various methods of performing complete prostatectomy, of which I have had the most experience, the safest and most satisfactory is the suprapubic operation by the method suggested by Fuller. It has the advantage of requiring a shorter time for execution than any other. The modification suggested by Guiteras of pushing the prostate up towards the bladder by means of the index finger of the left hand inserted into the rectum while the gland is being enucleated greatly facilitates the removal. My conclusions respecting prostatectomy may be summarized as follows:

1. With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous

of any operation that has been recommended for the relief of prostatic obstruction due to hypertrophy.

2. Suprapubic prostatectomy is the safest method, especially if combined with perineal drainage.

3. The best period to select to perform this operation is early, before the break-down of catheter life and serious complications have supervened.

4. Either an atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, are contra-indications for the operation.

5. A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes.

6. A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor formation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra.

7. Perineal prostatectomy is best suited to those cases where the enlargement of the lateral lobes has a tendency to grow towards the rectum, or obstruct the urethra.

8. When performing a perineal prostatectomy the semi-circular incisions advocated by Pyle, or the transverse cut of Worholm is the most satisfactory.

9. The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

Bottini Operation.—Thirty-three patients, between the ages of forty-nine and eighty-one years, were operated on by me by the "Bottini Method." No death resulted. According to Dr. Fredenberg (Berlin), the most recent statistics show that good results can be looked for in 86.63% of cases. Failure in 7.6%; mortality in 4.5%.

For convenience of description the cases that I have treated may be divided into three groups:

First, comprising individuals who were commencing to suffer from the effects of prostatic obstruction, and who required the daily use of the catheter. These were between the ages of forty-nine and sixty-one. Heretofore this class of patients would have been placed upon what is known as the "Palliative Method of Treatment." Of fourteen who submitted to the operation, before the secondary pathological changes that follow prostatic hypertrophy had taken place, all made prompt recovery; the period of convalescence varied from four to eighteen days. When operating on patients at the beginning of prostatic hypertrophy, the gland, as a general rule being but slightly enlarged, a prostatic incision with a smaller blade should be employed than that which is used in more advanced cases. The Bottini operation performed early may be regarded as a radical method of treatment resulting most favorably. It would seem as though the time had passed when the physician is satisfied to advise his patient to use the catheter daily and patiently wait until the obstruction becomes so great and the complications so grave that some radical surgical procedure is necessary to give relief.

Second. The second group of cases comprises

those where the obstructive symptoms have existed for a lengthened time, where the bladder is beginning to be involved, and is in the process of undergoing pathological changes. Catheterism is daily requisite; the physique of the individual being still in good condition. This group is portrayed by eight operations; the individuals being between fifty-nine and sixty-three years of age; the period of convalescence including necessary after-treatment was from two weeks to four months. Of the number operated upon five were cured; two were improved, and one was benefited, so far as residual urine was concerned, which was owing to the bladder being atonied and paralyzed; the catheter was readily inserted, the prostatic spasm having been entirely relieved by the operation. A slight amount of cystitis continued with a persistence of residual urine, rendering the use of the catheter necessary.

To the third group belonged men more advanced in years, their ages ranging between sixty-five and eighty-one years, in whom prostatic hypertrophy had existed for a lengthened period, who had reached what is known as the "Break-down of Catheter Life," whose general health was below par, with atheromatous degeneration of the blood vessels, and polyuria, together with damaged bladder and kidneys, and who had suffered from repeated attacks of retention of urine. A large amount of residual urine existed in each instance. All were in too poor a condition to withstand a capital operation and before the introduction of Bottini's method would have had to rest satisfied with some palliative procedure.

(To be Concluded.)

THE VALUE OF THE COMBINED MEDICAL AND SURGICAL CLINIC TO THE STUDENT.

By ROBERT G. LeCONTE, M. D.,

of Philadelphia

If the student of a few years ago should look at the changes that have taken place in our medical schools, particularly with reference to the teaching of medicine and surgery, he would be struck with the greater number of hours given to the clinical (i. e., bedside) teaching, either in large classes in the amphitheatre or small sections in the wards, and to the lesser position occupied by the didactic lecture. The value of this improvement cannot help but appeal to him, as he will recall how well-grounded he was at graduation on the theory of medicine, and how woefully ignorant of its actual practice. Such was my own experience. I felt on graduating that I had climbed some of the rungs of the ladder of medicine, but twenty-four hours in a large hospital speedily convinced me that I was still groping on the ground, and that my small store of theoretical knowledge was practically useless. The present system of teaching is a distinct advance in making the medical course more practical, but cannot our methods be still further improved by combining the medical and surgical clinics in such diseases as have a medical and surgical aspect? At present it is the general custom to devote two consecutive hours to clinical study, the first to medical, the second to surgical teaching, but the professor of medi-

cine does not arrange his lecture with a view to the surgical clinic, nor does the surgeon inquire into the subjects that the instructor in medicine is illustrating. Each has his own wards, his own cases, and chooses such material as seems best to him, not knowing or caring what his colleague will teach, and so keeps the two branches of the science as separate as noon is from midnight, forgetting the harmony of a dawn and a twilight.

There are many diseased conditions which should properly, at first, undergo medical treatment, but which later come under the care of the surgeon; and there are also forms of the same disease which should from the beginning be either medical or surgical. How is the student to differentiate these conditions, or know when a disease ceases to be medical and becomes surgical, unless he is given a clear and definite continuous picture, by seeing the medical treatment of the case in question followed by the surgical treatment that would be applicable. As instances of what I mean, let me mention some of the diseases and conditions in which such a combined method of teaching would be of great value to the student: Diseases of the pleura, hydro- and pyothorax. Diseases of the lung, abscess, gangrene, localized tubercular deposits. Diseases of the pericardium. Ulcer and carcinoma of the stomach. Diseases of the intestine, appendicitis, malignant disease, intussusception, typhoid fever and perforation. Abscess, cirrhosis and hydatid disease of the liver. Empyema of the gall-bladder, gallstones. Diseases of the pancreas, of the spleen, of the lymphatics, of arteries (aneurism), of veins, of the spinal cord and the resulting atrophies and deformities. Diseases of the thyroid gland, Graves' disease, and tumors. Cranial neuralgias with tic douloureux. Epilepsy, idiopathic, Jacksonian and traumatic. Hemorrhagic and embolic apoplexy contrasted with extra- and intradural hemorrhage. Abdominal enlargements the result of ascites, tuberculous peritonitis, cysts of the ovary, pancreas, kidney, etc.

Each disease which lends itself to a grouping of this character should be carried from its incipency to its termination, and the student should have a picture which he would not forget, and one which no single text-book could furnish him. I believe in a few isolated cases this system of teaching has been tried in Philadelphia. Agnew and Pepper, White and Bruen, White and Guiteras have given combined clinics on empyema, and Agnew and Wood, and White and Wood on brain tumor, but I know of no school or hospital that has attempted to follow it out at all systematically. It would, therefore, seem expedient to relate the experience of Dr. Frederick A. Packard and myself, who tried this method at the Pennsylvania Hospital last fall.

We were associates on the wards of the hospital during October and November, 1900, and gave eight clinics in the two months. We arranged seven combined lectures, but at the last moment one case refused further treatment and left the institution, so that only six combined clinics were given. These were on gangrene of the lung, cirrhosis of the liver, epilepsy, Graves' disease and goitre, diseases of the lymphatics, and diseases of the pleura. The lectures varied from an hour and three-quarters to possibly two hours and a quarter in length. An attempt was

made to trace these diseases from their incipency to their various terminations. The pathology was freely discussed and illustrated with such specimens as could be secured. The patients themselves were examined before the students and the diagnoses made. They were then removed from the clinic and anesthetized, while the various surgical procedures were discussed and then illustrated on the individual case. At some time later the results of our treatment were shown and discussed, whether the case terminated favorably or fatally.

At the risk of being thought too explicit, let me describe in greater detail our first and second clinic. The first lecture was on gangrene of the lung. The patient's chest and also the hands of the operator were carefully disinfected before entering the amphitheatre. The clinical history of the patient was carefully gone into and the physical signs demonstrated with the hands of the physician covered with sterile rubber gloves. The causes and pathology of gangrenous abscess of the lung were spoken of, and the statistics of medical treatment given, while the patient was removed from the room, again cleaned, and a sterile dressing reapplied. As ether was being administered the surgery of the lung was reviewed, its dangers and complications, and the statistical results of operation. The various methods of operating were detailed and the course to be pursued in this case was fully explained. The operation was then performed and the gangrenous cavity opened. The immediate and the probable after treatment were given. One week later he was again shown to the class and his condition discussed. Later, when the patient died from progressive septic absorption, the post-mortem findings were shown and explained.

Two cases of cirrhosis of the liver were the text for the next lecture. The same antiseptic precautions were observed in the preparation of the patients. The clinical histories of the patients were given, and the causes, varieties, medical treatment and statistics detailed. The physical signs present were also demonstrated. The theory of the operative treatment was then discussed and the statistics of operation given, and also our reasons for believing these cases amenable to surgical treatment. The operative technique was then described and the patients operated upon. One of the patients died in four days. At the next lecture the death was reported, the probable causes stated, and our belief that we were in error in administering ether as an anesthetic. Two months later the second patient died and the post-mortem findings were shown to the class, and the causes of death explained.

Such was the method pursued, and the attendance was as follows: At the opening clinic less than forty students were present; at the second about a hundred, and thereafter 150 or 160 would probably represent the average attendance. Neither Dr. Packard nor myself hold positions in medical schools, so the personal element did not influence the attendance, and we may fairly attribute the increase alone to the system pursued. Several students told me that these two hours saved them days of reading, and that the mental picture retained was worth volumes of type. Two physicians also told me it was their custom to rise at six o'clock on our clinic days in order that they might save the two hours

to hear our lecture. I trust you will understand that my quoting such remarks is not done in a vain glorious spirit, for I know full well that my qualifications as a surgical teacher are extremely limited, but I wish to emphasize the fact that with this system our lectures proved very valuable to the students, although the surgical instruction was possibly of an inferior nature.

The drawbacks to such a system are (1) the material at your disposal will not always lend itself to this method of instruction, and (2) the increase of time given by the instructors, for it is expedient that both teachers be present during the whole of the lecture, the surgeon to know thoroughly the medical status of the case he is about to operate upon, and the physician to see the advantages or disadvantages that result from the operation. To the first objection, of course, there is no answer, for if you have not the material you cannot arrange the lecture. But to the second objection I would say, that an instructor who cannot afford an extra hour for the purpose of saving hours of work to each individual student, is of little value as a teacher, no matter how prominent his name may be in the profession.

The benefits derived from such a system seem threefold, (1) to the student, (2) to the patient who has the advantages of the thoughts of two minds instead of one, and (3) to the instructors, for it cultivates in them qualities of the highest value in the practice of medicine.

A CASE OF ABDOMINAL PREGNANCY.

By AUGUSTUS C. BEHLE,
of Salt Lake City.

It is through the courtesy of Dr. S. H. Pinkerton that I am able to exhibit this specimen to you this evening. I will give you a brief history of the case.

Mrs. N—, aged 28; general health good, was married eight years ago. Seven years ago she thought she was pregnant as she had missed three menstrual periods. At the time of her third menstrual period she had a severe pain in the abdomen. She fainted and was then sick in bed for over a month. Her menstrual period then became re-established and continued fairly regular until March, 1900, when she began to notice an absence of her usual menstrual flow. She thought she might be pregnant and consulted a physician who informed her that he thought she was in the family way. Some of the symptoms of pregnancy were present—her breasts began to enlarge and there was some nausea. In June 1900, she began to flow, the flow being slight. There was no clots or membranes passed. This flow lasted about two days and then ceased. Milk was noticed in the breasts in September, the breasts becoming quite full so that there was oozing from them. Her abdomen continued to enlarge. Fetal movements were noted in July. The patient had a fall in October, which started some pains in the abdomen and it was supposed that labor was approaching, but these pains subsided as also did the fetal movements; the secretion of milk had dried up. In January of this year she began to flow and also in February and March. Peculiar pains throughout her abdomen had been present during her whole pregnancy which made her very miserable at times. She considered those pains as the necessary accompaniment of pregnancy. What she had considered fetal movements having ceased, her menstrual flow being re-established and her milk drying up caused her to decide that something was wrong. She came to this city on April 2, 1901, placing herself in the hands of Dr. S. H. Pinkerton, who sent her to St. Mark's Hospital. On April 3, 1901, she

*Reported before the Salt Lake County Medical Society, April 5, 1901.

was examined by Drs. Pinkerton, Worthington and Landenberger, under ether anesthesia. I was asked to examine the patient on April 4th, and found the following conditions: Patient healthy, very well nourished and somewhat browned by exposure to sunlight. She was of medium stature. The areola around the nipple was well marked although there was no pigmentation. The breasts were somewhat flaccid. No colostrum could be expressed from the nipple. The abdomen was uniformly enlarged. The linea alba was not pigmented. Striae were found all over the abdomen and on the side. A tumor was noted which extended a hand's breadth above the umbilicus. It was elastic, semi-solid and non fluctuating. A hard globular mass was made out in the right iliac fossa which was smooth with the exception of a slight depression at one side. Above the umbilicus and toward the left an irregular mass resembling fetal limbs was palpated. The balance of the tumor seemed somewhat vague and difficult to outline. Careful auscultation over the whole abdomen failed to elicit fetal heart sounds or the placental souffle. Vaginal exploration demonstrated the vaginal walls smooth and soft; two fingers could be passed into the vagina with difficulty because of a resistant perineum. The cervix was soft, round and not shortened. The fundus could not be outlined definitely. Rectal examination called attention to a small pseudo-fluctuating body about the size of an English walnut in the cul-de-sac of Douglas. This was sensitive to pressure and recognized as an ovary. A diagnosis of ectopic gestation was made with a probable death of the fetus. The position of the child towards the abright iliac fossa; the dorsum of the child towards the abdominal wall and to the right; the extremities to the left. As no placental souffle could be heard an immediate operation was advised. It was performed by Dr. Pinkerton on April 6, 1901. A median incision was made in the linea alba which was afterwards extended to about 4 Cm. above the umbilicus. A large sac was found with some adhesions to the great omentum. An incision was made through the sac which passed through part of the placenta. The knee of the fetus was then felt; the head somewhat extended and lying in the right iliac fossa, the dorsum toward the right. The cord was severed and the child was delivered. The fetus showed slight signs of maceration. About a pint of thick amniotic fluid was in the sac. Adhesions were now carefully separated, severed and tied thereby gradually freeing the sac from its attachments and permitting of its removal. Some large blood vessels were encountered, catgut being used to tie them off. Very little blood was lost. The uterus was found pushed to the left side, the right ovary being in Douglas cul-de-sac. A well marked corpus luteum was found in this ovary. The right tube seemed normal with the exception of its end being firmly occluded. The left tube and ovary could not be found. The uterus was about the size that you would expect to find in a multiparous non-pregnant woman. It was not deemed wise to do a hysterectomy. The sac was very firmly attached to the uterus at the position of the left cornua and to the pelvis on that side. The attachments of the round ligament to the uterus could be noticed in front of the sac. I have not been able to find the left tube and ovary by a macroscopical examination and have not had time to cut microscopical sections from the sac, but hope to be able to do so as I think they are incorporated in the sac. The placenta was fairly large and attached to the anterior part of the sac as it lay in the abdomen. The abdominal wound was closed with silk worm gut. Patient withstood the shock of the operation very well; her temperature reaching its highest point 100.4° Fahrenheit at 3 P. M. the day following the operation. The patient at the present time is in a very satisfactory condition. The foetus is a male child, very large, weighing 6½ pounds. The child is plump and well developed, no deformity being noticed. One hand is quite puffed and macerated. There is also some maceration of the leg and back. The child measures 53 Cm in length; around the hips it measures 23 Cm; around the shoulders it measures 43 Cm; around the head (forehead occiput) 35½ Cm. The sole of the foot measures 8 Cm.

(The patient made an uneventful recovery and at the present time, May 29, 1901, has regained her former health).

SPECIALISM AND SOME OF ITS RELATIONS TO THE GENERAL PRACTICE OF MEDICINE.

By HENRY WALLACE, M. D.,

of Brooklyn, N. Y.

Assistant Surgeon to St. Johns Hospital, Brooklyn, and Surgeon to Department of Diseases of the Throat and Nose, Polhemus Clinic.

The subject of specialism and its relations to the general practice of medicine and surgery is becoming more and more a matter for deep and earnest thought.

As the field of medicine broadens, both as a result of experience in practice and the fruition of laboratory research, so to every conscientious worker in the profession must come the thought sooner or later: "How is it possible for me to keep up to date in all departments, and should I become a specialist?"

In years gone by, when the general practitioner was more or less able to keep pace with the advances in these special lines, the subject did not command the attention that it does to-day, and with good reason.

To be an all-round good man in those days was a reputation much easier to hold then than it is now. This is essentially an age of specialists, and rightly so, from the standpoint that no man can be an expert in all departments.

The great mistake at the present time is that there is a marked tendency for a man to enter a specialty too early in his career.

A four years' course in a medical college, a year or two as interne in a hospital, with possibly a few weeks spent at a post-graduate school, and the young man starts on his career as a specialist.

He then obtains a clinic in some dispensary, he attends the meetings of the section of his local society which is devoted to his specialty, and waits for a private practice.

The result of all this honest work is that, although he becomes more and more proficient in his specialty, he becomes narrower-minded as regards medicine in its broader sense.

The specialist of to-day should be the product of a natural development, not of a forced growth.

The true method of development comes through years of general training in the broader fields of medicine and surgery, during which time the individual finds a line of work which interests him the most, and for which he is best fitted from many standpoints.

What is the result of this form of development? A man who has the broadening influences of several years' work in the larger field is given an opportunity to discover a branch for which he is specially fitted and which he cannot obtain in any other way.

If, in his general training, he has had especial opportunities of a surgical nature, and he is fond of it, in all probability he will be most interested in a specialty where his surgical training will be of the utmost value to him.

He will then look at his special cases with a broader range of vision and handle them with a corresponding skill borne of this experience.

The average man enters the profession of medicine with the object first and foremost of earning a living.

The natural history of this man's first few years will necessarily be to do everything that comes to him which he can conscientiously handle.

It may be that it is during these early years, though not always, that he sees where his deepest interests lie in the broad field of the profession.

On the contrary, it may be, and very often is, the case, that in the struggle for existence and recognition not only by the public, but by the profession, that he has not the time to discover his natural bent, and if he does he many not find the opportunities for its development.

Then there is a class of men who have been engaged for years in the practice of their profession, and it is not until after several years' experience that they find they have by opportunity and aptitude fitted themselves for some particular line of professional work.

The medical schools of to-day are certainly making advances in the right direction by giving their students a better insight into the specialties than ever before.

The well trained practitioner should be able to examine and in a general way at least make a diagnosis of many of the special conditions and know his limits in the case.

How often the throat and nose specialist will have cases come to him with the statement that they have catarrh, and were told by their family physician to wash out the nose with a solution of common salt in water or to get an atomizer.

When asked whether the physician had made an examination of the nasal cavities, they frequently answer in the negative, and that they were simply told they had catarrh and that simple attention to cleanliness would relieve them of their trouble.

This is all very true so far as it goes, but how often we find that catarrh is due to some condition requiring surgical interference.

Not only this, but the laryngologist of the highest type views his case not only through his own particular spectacles, but with the eyes of the well-trained physician, who can look upon the case broadly and sets to work to relieve it not only by local treatment, but by remedying defects of hygiene, treating constitutional dyscrasias, and general conditions which might cause or aggravate the local disease.

Many disorders of the nasal and laryngeal mucous membranes are due not nearly so much to local causes as to disorders of the gastro-intestinal tract.

To-day better than ever before the young graduate understands that every cough is not due to pulmonary disease, but may be caused by an elongated uvula.

Some months ago I remember treating a case of apparently intractable cough which had been under the care of a general practitioner for a considerable length of time.

He had been given the usual cough remedies without benefit. This case was perfectly relieved in a very short space of time by suitable treatment directed to a much congested and edematous turbinate body.

I have another case in mind where a patient was told that he had hay-fever and was advised to go to the White Mountains for its relief. He did so, and

on his return, as he was no better, it was suggested that he have his nose examined.

He did so and was very much surprised when told that he was suffering from tertiary nasal syphilis which had gone so far as to have almost destroyed the nasal mucous membrane and already to have caused a large perforation of the septum.

It is in such a case as this that the average young practitioner of to-day is ahead of some of the older graduates.

He has learned to make a local examination and in a general way at least to make a diagnosis and to decide whether the case in question is one requiring the attention of a specialist.

As in the case just referred to, the simplest kind of an examination would have shown that the trouble was of a very different nature from hay-fever, which disease he would surely know could not produce a septal perforation.

Such handling of the case would probably have saved months of suffering and irreparable destruction of tissue.

So much from the standpoint of the laryngologist.

These general statements may be challenged, and justly so, as not applying with equal force to all of the special departments of medicine and surgery.

I am free to admit that there are at least two exceptions to my general proposition that the specialist to be thoroughly equipped for his work must have a general medical or surgical training.

I refer to ophthalmology and otology. In former years much more frequently than at the present time these two went hand in hand. This association was, of course, without logical foundation, and we are now accustomed to see the specialist confine himself to one or the other of these two departments.

In *neurology*, however, the broadest and most thorough knowledge of the anatomy and physiology of the entire body, combined with a thorough training in general medicine, is essential to success.

No branch of medicine requires such a thorough groundwork on which to build as this. The nervous system, with its complex anatomy and physiology, its intimate relation to every function of the economy, not to mention its tremendous literature, especially in foreign tongues, all contribute to make this line of study dependent on the most extensive and thorough training in medicine.

As to gynecology, the statement may be made that a man *cannot* become a successful gynecologist at the present time without a broad experience as a general practitioner.

The trained gynecologist must be able not only to recognize conditions amenable to local and operative treatment, but to accomplish much by his ability to recognize and treat disorders of the various systems of the body bearing a close relationship to the pelvic organs.

The day of the office gynecologist is past. Women do not have to submit to days and weeks and even months of local treatment, for we realize now how much more can be done by immediate surgical treatment and within a comparatively short space of time.

The gynecologist of to-day must be a skillful surgeon. He must keep in touch with all the advances

in the technique of general surgery that he may apply them to his own work.

The field of the gynecologist has changed in the last decade. Up to that time a large proportion of his work was in the line of plastic surgery of the cervix and perineum.

To-day he sees fewer of these cases in proportion to those demanding an abdominal or vaginal incision.

This may be explained very logically by the fact that there are now more men competent to do this work, but also by the fact that the student of to-day is better instructed in obstetrics, and in the operation for the immediate repair of perineal lacerations.

A few years ago the student saw possibly a few cases of immediate perineorrhaphy during his maternity course. Not only has he this experience at the present day, but, thanks to modern methods of instruction, he is enabled to obtain an excellent idea of the technique of this operation by class-room demonstration. (I refer to Dickinson's plastic cast method).

In former days a man could hold an enviable reputation as a gynecologist on the strength of his ability to make a diagnosis, to institute local treatment, and to perform plastic operations.

At the present time, the worker in this line must be a surgeon of skill and experience in the much larger field included in the term "abdominal surgery."

And so we might go through a longer list of the so-called specialties, and we will find that the same general principle holds true.

The subject of the relation of the specialist to the general practitioner from the more personal standpoint is one upon which much could be said.

It almost appears at times that some practitioners have a feeling that if they send a case to a specialist they are liable to lose their hold upon it. Far from this being the case, the patient of average intelligence is very liable sooner or later to go to some specialist at the suggestion of a friend.

Here the physician is certainly much more liable to lose his patient than if he had referred the case himself to the specialist and conferred with him in regard to it.

It is possible in some instances that the practitioner fears that he may lose his patient by recommending some one else by apparently acknowledging that he himself is incompetent.

This is most certainly not the case, for the public is intelligent enough at the present time to realize the fact that no physician, however well informed, can be as competent as one especially trained in any given branch.

Not infrequently the specialist is criticized by the practitioner, who has referred him a case, because he is apparently going beyond his proper limits and not confining himself to the purely local treatment of the case.

In such an instance as this, or where it is not desirable for any reason that the specialist should have the entire handling of the case, and as it were taking it entirely out of the physician's hands, the specialist is competent to, and should, consult with the physician as to a line of general treatment and the particular indications for it in the case in question.

It has been said that a man cannot, and should

not, practice a specialty and at the same time be engaged in a general practice.

There are few men who, although desirous of becoming specialists, are able to wait for a special practice.

They are obliged to attend to a general practice to meet expenses, for it takes a longer time to develop a special practice than a general one.

On the other hand, it is very possible that after some years spent in general practice, though with a growing special one, it may be advisable for him to gradually diminish the extent of, or even discontinue his general work and devote all his time and energies to his specialty.

It is perfectly proper and possible then for a medical man not only to be a pure specialist, but to practice a specialty while attending to a general practice.

That in the latter capacity he deserves the respect and support of his colleagues, although he is not a specialist in the strictest meaning of the word.

Preliminary Program of Papers to be Read at the Meeting of the American Neurological Association, to be held in Boston, June 19, 20 and 21, 1901.—(1) Chorea with Embolism of the Central Artery of the Retina with short Review of the Embolic Theory of Chorea. By Dr. H. M. Thomas, of Baltimore. (2) The Course, Prognosis and Treatment of Hysteria. By Dr. Theodore Diller, of Pittsburgh. (3) A Case of Cerebral Hemiatrophy with Hemiplegia and Aphasia, in an adult. By Dr. W. L. Worcester, of Hathorne, Mass. (4) Report of a Case of Brain Tumor, Operation, Recovery. By Dr. Wm. M. Leszynsky, of New York and Dr. James H. Glass, of Utica, N. Y. (5) A Case of Cerebellar Tumor causing Pulsation, Thrill and Murmur. By Dr. Joseph Sailer, of Philadelphia. (6) A Method for Recording Foot-prints for the Study of the Gait. By Dr. Joseph Sailer, of Philadelphia. (7) A Case of Dislocation Forwards of the Seventh Cervical Vertebra. By Dr. Frank R. Fry, of St. Louis. (8) A Case of Cervical and Bulbar Tabes with Necropsy. By Dr. Wm. G. Spiller and Dr. S. Solis Cohen, of Philadelphia. (9) A Case of Simple Serous Cyst of the Cerebellum, with Autopsy. By Dr. George W. Jacoby of New York. (10) Report of Two Cases of Hereditary Chorea. By Eugene Riggs, of St. Louis. (11) The Early Management of Epilepsy. By Dr. Smith Baker, of Utica, N. Y. (12) Hereditary Cerebellar Ataxia, with Report of a Case. By Dr. Hugh T. Patrick, of Chicago, Ill. (13) Two Cases Illustrating the Early Association of Mental Aberration with Syphilitic Infection. By Dr. H. A. Tomlinson, of St. Peter, Minnesota. (14) The Stadia of Mental Diseases. By Dr. Theodore H. Kellogg, of New York. (15) Tumor of the Superior Worm of the Cerebellum Associated with Corpora Quadrigeminal Symptoms. By Dr. H. C. Gordinier, of Troy, N. Y. (16) Tumors of the Corpus Callosum, with Report and Demonstration of Three Cases. By Dr. James J. Putnam and Dr. Edward R. Williams, of Boston. (17) General Paralysis and Symmetrical Gangrene, with Case. By Dr. Henry R. Stedman, of Boston. (18) Traumatic Convulsions. (Cranial Operation. An Interesting Pathological Condition. Recovery. By Dr. Frank R. Fry, of St. Louis. (19) The Opium Habit. Some Notes on Treatment. By Dr. Smith Ely Jelliffe, of New York. (20) Some Studies with the Ergograph. By Dr. August Hoch, of Waverly. (21) A Case of Myeloma of the Spine with Compression of the Cord. By Dr. John Jenks Thomas, of Boston. (22) Acute Multiple Neuritis. By Dr. Charles W. Burr and Dr. D. J. McCarthy, of Philadelphia. (23) A Case of Pseudo Muscular Hypertrophy with Autopsy. By Dr. Graeme M. Hammond, of New York. (24) Gunshot Wound of the Spine. Operation. Autopsy. By Dr. F. W. Langdon of Cincinnati. (25) Dispensary Treatment of Mental Diseases. By Dr. Walter Channing, of Brookline, Mass. (26) Two Cases of Brain Tumor with Unusual Symptoms. By Dr. Wharton Sinkler, of Philadelphia. (27) Note on Chlorotone in the Treatment of Epilepsy. By Dr. Wharton Sinkler, of Philadelphia. (28) A Medico-Legal Case. By Dr. James Hendrie Lloyd, of Philadelphia.

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A Contribution to the Etiology of Epidemic Cerebro-Spinal Meningitis.—The April number of the *Journal of Hygiene* contains a valuable contribution to the Etiology of Epidemic Cerebro-spinal Meningitis, by Dr. W. J. Buchanan. In this study especial attention is called to the part played by dust in the causation of this disease. The fact that cerebro-spinal fever is prevalent in India shows that the statement of Hirsch, made in 1886, that the southern distribution of cerebro-spinal meningitis is limited by the thirtieth degree of North latitude does not hold good. Indeed, not only is the disease prevalent in India, in Khartoum, in the Ashanti field force, but in the West Indies. Dr. Buchanan has studied carefully the three epidemics which took place in the Central Prison, Bhagalpur, in Bengal, from 1897 to 1900. There were 47 cases recorded in irregular succession, and this writer divides them into three separate outbreaks. No new facts were obtained which throw any light on the incubation period of the disease. The experience of the outbreak at Omdurnam in 1898 and 1899 show that in some cases it may be very short, from 52 to 76 hours. The prognosis is usually bad, the rate of fatality being very high. Relapses were not uncommon, and in some cases there were short intervals of complete cessation of all activity of the disease. Lulls and temporary improvements were not at all rare. For a favorable prognosis, Buchanan states that the following symptoms are important: The tongue becoming clean; the disappearance of Kernig's sign, and most favorable of all, a prolonged and quiet sleep. This writer believes that Kernig's sign is an invaluable aid to diagnosis. Buchanan's conclusions are of especial interest. He mentions the fact that what is called cerebro-spinal fever in India is identical with epidemic cerebro-spinal meningitis, and this identity is established not only by finding the diplococcus intracellularis meningitidis in the Indian cases, but by the clinical and epidemic aspects of the various outbreaks which he has studied. He is convinced that there is very much evidence to connect the disease with dust, either wind-borne or accumulated upon roofs or evolved in the various processes of grain cleaning. In the Bahagpular outbreaks no evidence was obtained that

pointed to direct contagion, and in no instance were those in attendance upon the sick attacked. The disease was not associated with any prevalence of pneumonia or influenza. Strangely enough, the disease could not be traced to any infection outside of the jail. The first cases in all three outbreaks were in persons who had been inmates of the institution from six weeks to a year. In certain wards there were larger numbers of cases than in others, but there was no direct connection between the cases in these wards nor between the different wards, and often cases in the same ward developed at long and irregular intervals. It was found that in only three cases out of the 47 studied were the patients not exposed to forms of labor in which dust was plentiful. The writer states that this fact is difficult of explanation, unless we believe that dust either renders men more susceptible, or, as is more probable, that it is the actual vehicle of the specific germ of the disease.

The Development of Filaria Nocturna.—The two common species of *Culex* found in St. Lucia are *Culex fatigans* and *Culex teniatus*. Low (*British Medical Journal*, June 1, 1901) has studied the development of the filaria nocturna in these mosquitoes. The insects were allowed to bite a patient suffering from filariasis. At the end of from twelve to twenty-four hours after feeding many actively-moving filaria embryos are seen in the thoracic muscles of *Culex teniatus*. But these embryos develop very slowly, and after reaching a stage in which the alimentary canal is differentiated, an evolution requiring between seven and nine days, the embryos begin to degenerate so that they never reach maturity, and, therefore, never pass to the proboscis of their host. At fourteen days all the embryos have disappeared, only small, imperfectly-developed ones remaining. It is very fortunate that the *Culex teniatus* is not an efficient host for filaria nocturna, because the insect is very bloodthirsty and feeds by day as well as by night.

On the other hand, *Culex fatigans* is comparatively rare in St. Lucia and feeds at night only. In this insect the filaria embryos rapidly reach maturity, so that in eleven and one-half days the meta-

morphosis is complete and mature forms may be seen in the head, neck and proboscis of the mosquito. In St. Lucia, therefore, filariasis is propagated by the bites of *Culex fatigans*.

Manson, working in Amoy, determined the cycle of development of *filaria nocturna* to be eight days. Low, who studied the subject in St. Lucia in March, thinks that if his experiments had been made in the hot weather the complete metamorphosis might have taken place within the time noted by Manson.

Strong (*Circulars on Tropical Diseases*, No. 1, Chief Surgeon's Office, Division of the Philippines) has met with a case of filariasis in Iloilo. The embryos began to appear in the patient's blood in small numbers at six o'clock and were most numerous at midnight. The patient had lymphatic swellings in the right groin and irregular fever. It is not at all impossible, now that so many Americans are coming from the Philippines, that filariasis may become domesticated in the Southern portions of the United States. Low shows that the *filaria* will develop in the body of the mosquito when the atmospheric temperature is comparatively low, although development is slower under such conditions. According to the Division of Entomology of the Department of Agriculture (*Bulletin No. 4—N. S.*) *Culex fatigans* is not included in the list of mosquitoes of the United States. There are, however, several varieties of *Anopheles* within our borders which may prove to be efficient hosts of the *filaria* larva.

The New President of the American Medical Association.—Dr. John A. Wyeth, of New York, is eminently fitted for the new honor which has been conferred upon him by the only representative and really national medical association of America. He is himself to be congratulated, and the American Medical Association is to be congratulated still more. Dr. Wyeth, it is needless to say, represents the type of professional men from whom Presidents should be made. He has attained well deserved distinction, not only as a practical surgeon, but also as a teacher and an author. In the latter class, indeed, his text-book on surgery entitles him to stand in the first rank. It is a matter of especially good augury, we think, that the association not only chose a President from New York, but also selected a meeting place in that state. Saratoga is a delightful resort, and as the American Medical Association has to distribute its meetings over the length and breadth of the land, it might as well pick out the best spots. But the best feature, perhaps, about this selection is that it will tend to re-establish the *entente cordiale* between the American Medical Association and some members of the profession in the Empire State who have felt that they had a grievance against that body. This consummation is devoutly

to be wished. Perhaps now that the Association for several years has honored some of our most esteemed surgeons, it will in the not distant future let the lightning of its favor strike some equally esteemed medical man.

The Pennsylvania Epileptic Hospital and Colony Farm.—It is hardly to the credit of the great State of Pennsylvania that the only institution (with the exception of a small Home), which aims to give proper care to epileptics within her boundaries, is forced to rely almost entirely upon private charity. The Pennsylvania Epileptic Hospital, at Oakbourne, near West Chester, is striving successfully to solve the problem presented by the needs of the epileptic. In a circular just issued it announces its plan of treatment. This consists of work, occupation, out-door life, and a blessed freedom from that ennui of existence which is so often forced upon the epileptic sufferer. The men work on the farm during the summer. They cultivate the land, care for the cattle and poultry, make roads, and keep the grounds, hedges, fences and buildings in repair. In the winter they do shoemaking, carpentering, brushmaking, cane-seating, etc. The women do housework, assist in cooking and laundry work, and in the summer do light work in the garden, cultivating flowers and picking vegetables. The circular from which we quote says farther that statistics show that with regular diet, steady employment and an out-door life, the number and violence of the epileptic attacks diminish greatly. Toward the support of this most beneficent (and partly self-supporting) work the State this year appropriated only \$2500.00. It is greatly to be hoped that public bounty, as well as private charity, will flow in large measure to the support of this colony farm. No other institution in the State appeals more strongly to the sympathy of mankind, while none of the greater charities has been more neglected in Pennsylvania than the one which has for its object the rational and humane care of the epileptic.

Smallpox in the United States.—Up to the time of issue of the latest number of the *Public Health Reports*, there were reported to the United States Marine Hospital Service a grand total of 28,413 cases of smallpox for the United States. The period covered was from December 28, 1900, to June 14, 1901. For the corresponding period one year before only 12,092 cases were reported. Thus it appears that smallpox has increased very greatly in its frequency, being more than twice as prevalent as last year. But the mortality tables show a strikingly different result. For last year there were reported 1,642 deaths, while for this year, although the disease is more than twice as prevalent, the number

of deaths has been only 486. In other words, last year there were about 5% of deaths, while this year so far there have been but $1\frac{1}{2}$ % of deaths. For statistical purposes these reports may not be altogether reliable, not so much from lack of accuracy as from want of fulness. We very much doubt whether all the cases that actually occur in remote and rural districts are reported. This must be so especially of mild cases, for many of these may escape detection. This fact only tends, however, to make it probable that the death rate in reality is even lower than it appears on paper. Highly malignant cases and fatal cases are naturally much more likely to be discovered and reported, hence we do not think it likely that the percentage is too low, but rather the reverse. To what the low mortality of modern smallpox is due, we cannot say. It is an interesting subject for debate and investigation, and we wish some competent observer and statistician would undertake to elucidate it. We respectfully refer it also to the anti-vaccinationists.

The Medical Profession of California and the Plague.—Since there have been, during the course of the plague epidemic in San Francisco, so much misunderstanding and confusion in regard to the various aspects of the situation, an authoritative statement has long been desired. We believe the following statement contained in a letter from a well-informed physician of San Francisco, to be fair and to give to the eastern members of the profession a clear idea of the situation, in so far as the medical aspects are concerned. Unfortunately, the purely scientific question was converted, in large part, into a political and commercial one, to the great detriment of the solution of the hygienic problem concerned.

The diagnosis of plague was first made in the spring of 1900 by the City Bacteriologist, Dr. Kellogg, and the Surgeon of the Marine Hospital Service stationed in Angel Island, Dr. Kinyoun. There is some indirect evidence that similar cases had occurred before, but no pathological evidence lies at hand. Other cases occurred, and upon doubt being thrown upon the diagnosis, other local scientists were engaged in the study of the condition. The cases, some or all of them, were studied by the following pathologists and bacteriologists: Dr. Kellogg, the city bacteriologist; Dr. J. J. Kinyoun, Surgeon of the Marine Hospital Service; Dr. Ophuets, Professor of Pathology and Bacteriology in Cooper Medical College; Dr. Ryfkogle, Instructor in Bacteriology in the University of California; and Dr. Pillsbury, Professor of Pathology and Bacteriology in the College of Physicians and Surgeons. These men, all trained in special work of the kind, pronounced the disease in question to be plague.

A portion of the profession disputed the diagnosis despite the authority and the scientific study of the men mentioned. The opposition to the diagnosis was led largely by three medical men, all of whom hold professorial chairs in San Francisco, and wield great influence in shaping public opinion in California. One of these medical men had himself failed to find the plague bacillus, and afterwards was not willing to acknowledge his error; the other two are not bacteriologists, and based their criticism and opposition upon their mere personal opinions. The whole profession, while divided, was, in the majority, inclined to the belief that the disease was plague. The State Medical Society passed a resolution expressing its conviction that the disease was plague. Cultures were sent to many eastern bacteriologists, and in all instances the replies were in the affirmative. And, lastly, the special Plague Commission again definitely determined that the disease was plague.

The methods employed by the local experts for the positive diagnosis were the same as those worked out by Yersin, Haffkine and the various plague commissions sent by European governments to Asia. This touches the most signal fact of the whole situation, to wit.: that methods unreservedly accepted as reliable and conclusive by the whole scientific world, and by every government which has had experience, were rejected by a portion of the profession of San Francisco. The diagnosis of plague in the beginnings of an epidemic, has in modern times been made in no other way than it was made in San Francisco. Had a report identical with that of the local scientists in San Francisco, been handed in to any European government or to that of their colonies, it would have been unreservedly accepted by the government, the medical profession, the commercial interests, and the public at large. In San Francisco alone has the modern scientific diagnosis of plague been rejected by an influential portion of the medical profession and the public.

The City Board of Health accepted the diagnosis from the first, and has continued to stand by the diagnosis. Though actuated by the best of motives, the Board nevertheless erred in some of its public acts. This was so especially in its establishing a quarantine against the section of the city known as Chinatown. This quarantine was declared illegal and directed to be removed by the courts in an opinion by Judge Morrow, who is reported to have declared from the bench that there was no plague in San Francisco. The quarantine was, in the light of our knowledge of plague, an error. Into this error the local Board was led partly by the conviction that on account of the numerous and un-

known underground passages undermining the section known as Chinatown, other measures could not succeed. Upon the failure of the disease to spread after the quarantine was raised, the public lost confidence in the diagnosis, and it then became impossible for the city Board of Health to procure the funds necessary for the adequate management of the situation. The city Board of Health, however, has maintained the diagnosis, and has never expressed a contrary opinion to the public.

The State Board of Health had not gone on record in the matter. It is generally supposed to be opposed to the diagnosis, but there is no official record of the fact. The Board at the outset was supposed to have been inclined to confirm the diagnosis; but by means of new appointments the personnel of the Board was so altered, that the unexpressed negative opinion has become predominant.

Our correspondent insists upon it that the situation in San Francisco has not been altered in the least by the report of the Plague Commission. He says that the portion of the general public and of the medical profession, which previously opposed the diagnosis, now reject the findings of the expert commissioners, and he maintains that the primary cause of this lay in the postponement of the publication of the report of the Commission. This period of delay on the part of the Government authorities was seized upon to discredit the findings of the Commission. On this subject of delay we expressed our opinion at the time. We could conceive no adequate reason for it, and we believed then, as our correspondent maintains now, that it was a mistake. But this feature of the case we do not intend to discuss here and now. Our intention has been chiefly to present a statement of the situation which we think is authoritative and will go a great way to distribute just praise to some of the local physicians who have been misrepresented. In this connection we may say that it appears not a little odd that the *Public Health Reports* of the U. S. Marine Hospital Service have published no report of a case of plague in San Francisco since April 4th. Before that time a few cases were being reported right along, and the Plague Commission had had no difficulty in picking up cases. What has become of the Plague in San Francisco? Its sudden disappearance after the departure of the Commission has a dubious aspect.

A Retrograde Movement.—The Post-Office Department of our Government, like the United States Constitution, was made for the people, and not the people for it. It was not intended primarily as a money-making business. It is to serve the convenience of the public; to promote the interests, and, above all, to serve for the enlightenment of the pop-

ulace. But there is great danger that some of these objects will be defeated if Third Assistant Postmaster General Madden is to have his way in ruling out of the privileges of second-class matter all periodicals that offer premiums to their subscribers. Mr. Madden seems to be worried because a certain concern sold tea-sets, claimed to be worth two dollars apiece, as premiums for a publication which was sold for one dollar a year. That certainly looks like anything but a literary or educational enterprise, and may have been an imposition on the Department; but it does not follow that all the legitimate periodicals in the country that do an honest business by offering premiums (which, in most instances, are books) should be debarred from the privileges of going as second-class matter. Some discrimination should certainly be made; some judgment and common sense should be displayed. We enter a protest here in the name of all legitimate journalism, and in the interest of the public which desires and must have its reading matter on reasonable terms. Let there be no tax on letters.

A Venereal Disease of Horses.—The Sixteenth Annual Report of the Bureau of Animal Industry, Washington, D. C., contains an interesting account of the "Maladie du Coût" in horses, as observed in Nebraska. The infection in this case was traced in part to a stallion of the Clydesdale breed, which had been used for breeding purposes. A number of autopsies are reported in animals of both sexes which had been killed after the disease was discovered in them. In the male the affection is a local one, beginning in the penis, but involving sometimes the sheath, scrotum, and testicles. An edematous swelling extended in one case along the abdomen nearly to the forelimbs. An offensive purulent discharge occurs, and the entire end of the penis may slough away. The local sore is an ulcer, covered with a black scale. A skin eruption, consisting of large white maculae, is observed. The animal emaciates and has to be killed. In the mare the infection may invade the whole genital tract and all the reproductive organs. In one case the white spots were seen on the perineum and mammary glands; the vagina was highly congested; the walls of the uterus were thickened, the inner surface being covered with a thick jelly-like exudate; and the ovaries were swollen to several times their normal size. These organs were the seats of extensive changes. There may be some systemic infection as shown in the mesenteric glands and spleen. This report contains no history of any bacteriological investigations, the accounts of the autopsies being confined to a description of the gross pathological conditions. The disease is evidently transmitted by coitus, and beginning as a local sore gradually extends, and may even invade the general system.

Reviews.

The Theory and Practice of Military Hygiene. By Edward L. Munson, A. M., M. D. Illustrated. William Wood & Co. New York. 1901.

The subject of military hygiene is so peculiar, and involves so many features that do not ordinarily occur in works devoted to sanitation, that we confess we have read the book more for the purpose of instruction than in a critical spirit. It is an imposing volume of 983 pages, and appears to represent not only the experience of its writer, but the consensus of opinion of all who have considered the subject, and the array of authorities cited is amazing. The work opens with a long chapter devoted to the selection of the recruit. From it we learn that the great majority of enlisted men in the United States army are native born, and that most of them belong to the laboring class. The commonest causes for rejection are diseases of the eye and imperfect physique. The most desirable men for soldiers are short, stocky fellows, between 21 and 25 years of age. In the British army, in which the requirements are not quite as severe as in our own, defective development caused the rejection of 182 men in 1000, just twice the number in the United States. In the next chapter on the development of the recruit, Munson strongly urges that some system of rational and thorough gymnastics be introduced into the United States army, as it is in the armies of Continental Europe, particularly those of France and Germany. There are a number of interesting illustrations showing the benefit derived from systematic exercise. In addition to gymnasium exercise, he believes that competitive games and sports are of the greatest value, particularly wrestling and football. A long chapter is devoted to marching. One of the interesting features of this is the description of the *pas de flexion*, a step that has been partly introduced into the French army, and which is derived from the couriers of the Orient. It has been found that soldiers accustomed to it can march further and more rapidly, than they can by means of the ordinary marching step. It is curious, if true, that for so many centuries we have been misusing our forces in walking. Chapters are then devoted to the water supply, rations, and the clothing and equipment of the recruit. Munson is unqualified in his condemnation of the blanket-pack now employed in the United States. He believes that in all respects it is disadvantageous, loading the men at the worst point, and bringing—when the canteen and haversack are in position—so much weight across the front of the chest that expansion is disturbed. Although the blanket-roll was so satisfactory during the Civil War, he is not inclined to revert to its use, but suggests, instead, one of the more scientific packs, such as the Merriam or the Novior. Some very ingenious contrivances are described for reducing the weight and bulk of the various articles that must necessarily be carried. One of the most attractive is the Preston mess-kit. A long chapter is devoted to camp sites and camps, and another to posts, barracks, etc. Then follow chapters upon the more familiar subjects of ventilation, heating, the disposal of excreta, and personal cleanliness. The discussion of the diseases of the soldier is rather conventional, and involves the repetition of a good deal that can easily be found in the ordinary text-books on the practice of medicine. The statistical tables and diagrams are exceedingly interesting, however, and ought to be extremely valuable to anyone discussing the problems of infectious disease. The mosquito theory for malaria appears to be adopted, and he strongly urges the sterilization of stagnant pools in the neighborhood of barracks by the use of mineral oil. With regard to the canteen the author has no two opinions. He is heartily and enthusiastically in favor of it, and quotes statistics that are seemingly irrefutable. What satisfaction the various so-called religious organizations of this country can derive from their persistent and unintelligent antagonism to this very sensible measure, we cannot conceive. There is more reason for antagonizing the ordinary social clubs of the larger cities. He is also strongly in favor of the exercise of legal control over other forms of vice. Venereal diseases are far more prevalent in the British army than in any other. Next come the colonial troops of the Dutch, and then the United States. All the other countries are considerably below these three. Chapters indicating the gradual exten-

sion of the United States are those upon hygiene in hot and cold climates, and aboard the troop ship. The book will necessarily have a limited circulation, although we believe that the surgeons of many of our military organizations could derive great benefit from its careful study. It is to a certain extent, a pioneer in its class; it appears to be thorough, and the style is clear and polished. We sincerely congratulate the author. [J. S.]

A Syllabus of New Remedies and Therapeutic Measures, with Chemistry, Physical Appearance and Therapeutic Application. By J. W. Wainwright, M. D. G. P. Engelhard & Co., Chicago, 1901. Pages, 229. Price, \$1.00.

This little book appears to have been prepared conscientiously, and is certainly exceedingly useful. In a work of this kind the greatest danger exists that despite the utmost caution, use will be made of it by the manufacturing chemists to exploit some of their wares. For, as is well known, the profits on the successful preparations are so enormous, that they justify, in the minds of the chemists, almost any method that will bring them before the medical profession in a favorable light. Dr. Wainwright has endeavored to avoid this pitfall as far as possible, by including "only those products whose chemistry is known, or whose exact formulas are given." As a result, some of the most widely advertised, and therefore widely used preparations, do not appear, and we regard this as a most desirable feature of the book.

In addition to drugs a few other remedial measures are mentioned. A considerable section is devoted to anesthesia, another to animal preparations, a third to cold and heat, a fourth to the hemostatic properties of gelatine, and others to hot air, saline infusions, the Nauheim treatment, the Röntgen rays, and serum therapy. In addition, new uses of familiar remedies are included. Thus, he mentions the hypnotic effect of apomorphine; the use of carbolic acid in tetanus, and the value of picric acid in burns. He is rather opposed to the payment of creosote in tuberculosis, and we think, is unreasonably positive in asserting the opinion. A few defects in the book may be noted. Many names are quoted, some of them familiar, and some quite the reverse. In either case the statement of their views is necessarily brief in view of the considerable number of preparations discussed, and therefore it is not always possible to do justice to their opinions, or to include all the details regarding the indication and administrations for each individual preparation, that may be found in the original article; and yet, in the great majority of cases, the journals in which these articles appeared are not mentioned, and when they are, neither date nor volume is given. This we regard as a most serious blemish. A few lines in fine print appended to each article, in which should be given two, three, or more references to important articles on the subject, especially referring to those in which the literature has been given, would not greatly increase the bulk of the book, and would enhance its value very considerably. We hope that this defect will be supplied in the next edition. In reading the various articles we cannot help being impressed by the very favorable tone of most of the criticisms. This is due to a defect inherent in mankind, which consists of an unwillingness to report failures. If the medical profession could be persuaded to write condemnatory reports regarding these new preparations, if they find them useless, the bad ones could be weeded out much more rapidly than they actually are. Our personal experience with the book has been that it is suggestive and helpful. [J. S.]

The Acute Contagious Diseases of Childhood. By Marcus P. Hatfield, A. M., M. D. 142 Pages. Price \$1.00. G. P. Englehard & Co., Chicago.. 1901.

It is very difficult to understand why this book was ever written. There does not appear to have been any necessity for its existence. As the author himself says, it contains no original work, and is very apparently a "composite," if he likes that word. It is very carelessly thrown together, and the author appears to have used only one or two articles in the preparation of the account of each disease, supplemented by some text-book on the practice of medi-

cine. The author seems to be very uncertain how diseases should be treated, and arranged his headings rather differently in different instances.

Of the diseases discussed the greatest amount of space is devoted to scarlatina.

The illustrations of bacteria which accompany this article are about as useless as any illustrations we have ever seen. The time that he allows for the quarantine is, we think, rather short, that is, 5 weeks from the beginning of the attack. He admits, however, that the contagion may remain in the clothing for a much longer period.

In the discussion of measles it is difficult to understand why Koplik's spots are described in connection with the pathology of the disease—they are certainly symptoms.

He is rather more skeptical regarding the etiology of Czaplewski's bacillus in pertussis, than are most writers on the subject. As he bases his skepticism upon the indisputable fact that this micro-organism does not produce disease in the lower animals, we must respect his opinion. As an example of the curious confusion that exists throughout the book we quote the following sentence in relation to the treatment of smallpox. "Threatening septicemia should be promptly combatted by the free use of quinine and alcohol, and the child should on no account be allowed to escape from quarantine until the last traces of smallpox shall have disappeared and the child has had an antiseptic bath." [J. S.]

The Peritoneum. By Byron Robinson, B. S., M. D., Author of Practical Intestinal Surgery, Landmarks in Gynecology, and Life-sized Chart of the Sympathetic Nervous System. Pp., 509, with 247 illustrations. Chicago Medical Book Co., 1899. Second Edition.

This valuable treatise opens with a chapter entirely historical, which names those anatomists and students of Nature who from the earliest times have contributed to the knowledge of the peritoneum or the physiology of the lymphatic system. A brief statement of the work of each investigator is given. An introductory chapter on the histology and physiology of the peritoneum is clearly written, and, like the remainder of the work, abundantly illustrated by drawings, many of them original. The writer is not prepared to accept the view of Kolossow and Paladino that the peritoneum is lined by epithelium, often ciliated, and that the term endothelium should be confined to the vascular tubes. He views the peritoneum as a lymph sac.

The consideration given to perineal structure is especially full and complete. No less than 240 pages are devoted to the subjects of the endothelia of the free surface, to the subperitoneal tissue, and to the blood vessels, nerves and lymphatics of this great membrane.

Under the heading of physiology are given the experimental and other evidence which leads to the conclusion that the chief locality of peritoneal absorption is in the diaphragmatic serosa, and that a stream appears to tend in that direction. The various theories which would account for this absorption are considered. The author believes in the existence of stomata, and gives many drawings which show them. A brief chapter on technique, giving reagents, methods and the like, is followed by a condensed resumé of the physiology, as well as brief conclusions bearing upon the problems of abdominal surgery. Among these are: That irrigation is not theoretically sound practice, that the vast area of nerve destruction accounts for prolonged reflexes and shock, that the enormous absorptive power of the diaphragm makes it an extremely dangerous locality for infections.

An extensive bibliography covers no less than 103 pages, thus completing a work which abounds in evidences of great labor and research, and which cannot fail to occupy the position of classic in this department of investigation.

[G. E. S.]

Manual of the Diseases of Children. By John Madison Taylor, A. M., M. D., and W. Wells, M. D. Second Edition; Thoroughly Revised and Enlarged. Illustrated. P. Blakiston's Son & Co., Phila. 1901. \$4.50.

The authors have undertaken a very thorough revision of the first edition, and have added considerable matter. The book as now published is quite a satisfactory treatise upon

the subject of children's diseases. Whether we needed any more treatises upon this subject is of course a question, but we fear that very little literature is written solely for the purpose of filling a distinct need. The chapter on feeding occupies 61 pages. It is very carefully written, and is, in some respects, thorough. A good deal of it is conventional, but of course that is necessary in a book of this kind. The paragraphs on the contra-indications for breast-feeding, and feeding by a wet-nurse are decidedly too brief. Both subjects could be treated with more detail to the great advantage of the reader. The section on the chemistry of milk, and particularly that part of it treating of the various tests employed in the analysis of milk, is very unsatisfactory. We doubt if anyone would be able to make an analysis that was at all trustworthy, by means of the directions given here. We are not at all sure that this subject could not be better handled in a special work, but if introduced at all it should at least be sufficiently clear and complete to enable a physician to arrive at some sort of a result. On the other hand, the section on the modification of milk, particularly home modification, and that on the diet of children, are really very excellent, and betray considerable practical knowledge of the subject. And this section is after all the practical one for the physician. Of the other sections one of the best is that upon the nervous system. The article on infantile convulsions is particularly good, and the treatment suggested is sufficiently varied to apply to the majority of cases. The others are probably beyond our therapeutic resources. The section on tetany is also very satisfactory. That on epilepsy, on the other hand, appears to us a little too brief, and we think that a little more attention should have been devoted to the general hygienic care of children suffering from this disease. It is hopeless enough at best, but there are probably more chances of at least diminishing its effects in childhood, than at any other period. We do not wish to be considered as finding fault with this book: the points that we have mentioned appear to us worthy of the attention of the authors when they prepare the third edition. On the whole we can cordially recommend the volume to those whose devotion to general practice prevents their making a special study of the diseases of children from the original sources. [J. S.]

"Annual Report of the Smithsonian Institution" for the year ending June 30th, 1899. Government Printing Office, 1901.

This is a very excellent publication, and is one to which we can refer with pride, because it is published by our own Government for the purpose of facilitating the knowledge of scientific progress. The contents consist of 140 pages, devoted to reports, expenditures, etc., and an appendix of more than 500 pages consisting of a "miscellaneous selection of papers (some of them original) embracing a considerable range of scientific investigation and discussion." Among the most interesting of these are the papers on Radio-Active Substances, by H. C. Bolton; the "People of the Philippines," by Rudolf Virchow, "A List of Native Tribes of the Philippines, and of the Languages Spoken by Them," by Blumentritt and an article on "Von Zeppelin's Dirigible Air Ship." The latter is a reprint. But many of the other papers are of even more scientific importance. We note with regret that no bison were born in the Zoological Park during the year 1899. It seems as though this magnificent animal is doomed to extinction. [J. S.]

The Practice of Charity, Individual and Organized. By Edward Thomas Devine, Ph. D., of Pennsylvania. General Secretary of the Charity Organization Society of the City of New York. 1901. New York, Lenthion and Company.

In this little book the practice of charity is discussed by one whose liberal education enables him to treat the subject intelligently from various standpoints. Wide experience, together with careful discernment, is responsible for the clever selection of material: the generalizations are those of the economist, the sociologist, the philanthropist. If the practice of charity needs defence from the attacks of the harsh scientific theorist, read: Charity rea-

sonably bestowed does not perpetuate the unfit but transforms the unfit into that which may profitably survive." This reply to the man who demands for his every action a reason involving expediency. Then to him who is inclined to do duty for duty's sake, but who allows impulse to master reason: "Although it is not the duty of all to be scientifically trained in science or medicine, it is the duty of all to be charitable, and no one is charitable whose attempts at relief result only in the help that harms." How can a given amount of energy on the part of those charitably inclined be directed most advantageously? By an organized corps of professional relief workers, suggests the writer. "In the interest of the Community it is desirable that organized relief work should be recognized as a distinct profession." After discussing "Organized Charity," "Volunteer Charity," "Professional Service," the book concludes with a chapter containing illustrative Problems that require for their wise solution the greatest thought and skill of clergyman, educator, physician. [S. J. L.]

Correspondence.

A FINAL WORD ON SALINE INFUSION IN PNEUMONIA.

BY DR. D. E. KEEFE,
Springfield, Mass.

To the Editor of the *Philadelphia Medical Journal*:—As Dr. Penrose in his reply to my criticism neglected to consider about one half of my arguments, we must assume that they met with his approval or that he considers them unassailable.

I admit that my ideas upon saline infusion were preconceived before the reading of his interesting paper, just as his ideas upon this subject were preconceived before his experiments and before he read my criticism.

I do object to the routine employment of normal saline infusions for I consider it pernicious and unphysiological. I believe that the crest of the wave has been passed, and even in septic abdominal cases it is not relied on nor used as much as formerly.

I assure Dr. Penrose that all my statements are based, not on theory alone, but also on experience and much thought and study.

Regarding the question of edema, there can be no doubt that in pneumonia, as in all other inflammatory conditions, there is both a local edema surrounding the inflamed area, and a stasis of the circulation in the midst of it. The general edema of the lungs is sometimes secondary to heart failure, not always, as Dr. Penrose says in the first part of his sentence, and sometimes secondary to infectious or toxic processes. We agree that primary edema, if such a thing can be said to exist, is of very rare occurrence.

Clinical experience has sufficiently shown that edema of the lungs may complicate pneumonia in the first, second and third stages; that, Dr. Penrose to the contrary notwithstanding, it is an everpresent danger; and that therefore Dr. Penrose's proposal to increase the volume of the circulatory fluid is both unphysiological and indefensible, particularly as he does not increase its carrying power for oxygen. In editorials in the *Philadelphia Medical Journal* and the *New England Medical Monthly*, attention is drawn to the great danger of throwing additional work on the heart and thereby causing pulmonary edema.

It is unfortunate for Dr. Penrose that he has laid so much stress upon Pässler's experiments; because, within a month of their appearance, they were subjected to a vigorous criticism by Hornung in the same *Journal* (April 16th, 1901.) He called particular attention to the inaccuracy of Pässler's statement in regard to the condition of the right ventricle. Pässler's work therefore, appeared to be open to criticism at least. One of the commonest causes of heart failure in pneumonia is degeneration of the myocardium. That it exists is a sufficiently well recognized fact (Osler, Stengel, Birch-Hirschfeld, etc.) and although on some occasions vasomotor relaxation or disturbance of the medullary innova-

tion may contribute to the production of heart failure neither should be considered as of paramount importance. But even if they were, it would be fully as dangerous to add more burden to the heart weakened by disturbed innervation as it would be if the weakness were intrinsic to the heart itself.

There is much doubt as to whether the infusion dilutes the toxins and affects the septic conditions. It is very difficult to understand how it could do it. But the whole question of toxin and antitoxin formation and the development of immunity is at present, in an exceedingly complicated state.

In my first criticism the sentence regarding this subject which he quotes, was printed without the word "germ." It should be: "in the lungs where the germs and toxins are mostly situated, where most of the damage is wrought, they are inaccessible." It is obvious that the toxins must be produced in the lung, and that they must therefore exist in greater quantities in the pulmonary circulation than elsewhere, whether they affect this tissue more seriously than tissues in other parts of the body or not, and that therefore, any attempt at their destruction, would be most effective if it reached them at this point. As however, the circulation in this portion of the lung is sluggish, indeed practically nil, the diluting effect of the infusion could act least at this point.

Regarding Dr. Penrose's claim that the infusions stimulate respiration and increase the oxygen carrying power of the plasma, I can only state that the stimulation of respiration is of very short duration, indeed almost evanescent, and might be claimed as rather a sign of asphyxiation than true stimulation. It is also obvious that the free oxygen that exists in the plasma is merely in transit between the red cells and the tissues that are to absorb it, and does not represent any increased absorptive capacity in the blood.

As to the value of the accentuation of the second pulmonary sound, as an indication for bleeding, I have to say that if we accept bleeding as one of our regular therapeutic measures in pneumonia, then I acknowledge it is of value, but I am not aware that the profession is yet ready to retrace its steps. According to Osler, and my experience accords with his statements, this sound is always accentuated, and therefore the saline infusion should be contraindicated.

In conclusion I wish to express my opinion that the most serious danger in pneumonia is from distension of the right heart and heart failure, and that this occurs not infrequently may be gathered from the statements of Stengel, Roberts, Osler, Powell, Hornung and many others. I did not oppose Dr. Penrose in his efforts to cause elimination of the toxins, but because, first, he could not accomplish his desire by the means proposed; second, because the dangers of overdistending the heart and diluting the hemoglobin are more serious than that he sought to avert; and third, other means to which I drew attention were quite as effective and much less dangerous.

Finally, in spite of the distinguished company before whom Dr. Penrose's paper was first read, and in spite of the leader in the *British Medical Journal*, inquiry leads us to believe that his methods have not received that degree of approval and imitation that would indicate that they appeal to the profession at large as rational or effective.

A Case of Suppurative Gastritis followed by Recovery.—Ruber (*Germ. Beibl.* 1901, No. 4) reports an interesting case of a young girl of 24 years who was seized without apparent cause with chills, headache, vertigo and gastric pains. There was marked tenderness in the region of the left lobe of the liver. The temperature was below 38° C. On the 21st day she vomited 2400 cc. of sanguinous material containing fetid pus. Soon after this the pains disappeared and the appetite returned. Every morning for two weeks she vomited 100 to 200 cc. of similar material. At the 6th week another attack of vomiting began, which again lasted two weeks, and pus was found in the stools. Cure was complete. [T. L. C.]

American News and Notes.

PHILADELPHIA, PENNSYLVANIA, ETC.

St. Joseph's Hospital Residents.—The following are the successful applicants for internships at St. Joseph's Hospital: Drs. Foulkrod, Riegel, Homer Rhode, Mervin R. Taylor and Lamott.

Scarlet Fever in Darby.—An epidemic of scarlet fever is existing in Darby. About 40 cases have been reported and many more are under suspicion. Several have died of the disease and it may be necessary to close the schools in advance of the regular vacation period.

The 1876 Class of the Department of Medicine of the University of Pennsylvania held its First Annual Banquet at the University Club, Philadelphia, at seven P. M., on Alumni Day, the 11th of June, and effected a permanent organization for the benefit of its Alma Mater. The following officers were elected: President, Charles A. Oliver, A. M., M. D.; vice-president, William H. Klapp, A. M., M. D., secretary, Francis M. Perkins, A. M., M. D.; treasurer, Benjamin F. Baer, M. D., with an Executive Committee of twelve members who will meet at the call of the President.

Pathological Society of Philadelphia.—At the meeting held June 13, Dr. William E. Robertson showed a specimen of **venous thrombosis in cardiac disease**. The right innominate, axillary, brachial, and external jugular veins contained thrombi. The unusual points in the case were that the cardiac lesion was aortic instead of mitral and that the thrombosis was on the right side instead of the left.

Drs. W. E. Robertson and Ellis E. W. Given reported a case of **sarcoma of the small intestine in a child of 5 years**. Operation showed the impossibility of removal. Autopsy revealed a tumor 15 cm. in diameter, involving the jejunum. The growth was adherent to the rectum, sigmoid, and bladder but no metastasis was present.

Dr. David Riesman detailed a case of **multiple abscess of the liver**. The case was remarkable for the absence of symptoms found at autopsy and also revealed by the exploring needle shortly before death. There had been no dysentery, there was no leukocytosis or jaundice, and the liver was not enlarged or tender.

Dr. R. M. Pearce exhibited four specimens of unusual interest. 1) **Cancer of the esophagus with perforation into the trachea**; (2) **Tuberculosis of the larynx with perforation into the esophagus**; (3) **Cancer of esophagus and tuberculosis of the larynx**; (4) **A dilated esophagus**.

To Inspect Institutions.—A party, consisting of Dr. John V. Shoemaker, President of the Department of Charities and Correction; Dr. James N. Tyson and Dr. Simon Flexner, University of Pennsylvania; Dr. Hobart A. Hare and Dr. Orville Horwitz, Jefferson Medical College; Dr. James Anders and Professor William Ashton, Medico-Chirurgical College; Dr. Ellwood R. Kirby and William J. McLaughlin, members of the Department of Charities and Correction; Peter E. Costello, Chairman of Finance Committee, City Councils; Horn R. Kneass, Chairman of Committee on Department of Charities and Correction, and William M. Geary, Superintendent Bureau of Charities, left for Boston, for the purpose of investigating the manner of conducting locations and other matters connected with the charitable institutions owned and operated by the cities of Boston and New York, also the State institutions in those two cities to learn any facts that may inure to the benefit of the citizens of Philadelphia in the reorganization of the Bureau of Charities, namely the removal of the Philadelphia Almshouse and the Insane Asylum from the grounds located at Thirty-fourth and Pine streets.

Vital Statistics of Philadelphia for the week ending June 15, 1901:

Total Mortality	380	Cases.	Deaths.
Inflammation of the appendix 3,			
bladder 1, brain 11, bronchi 8,			
heart 2, kidneys 21, liver 2, lungs			
18, peritoneum 6, stomach and			
bowels 12, spine 1		85	
Marasmus 9, debility 5, inanition 15		29	
Tuberculosis of the lungs		50	
Apoplexy 12, paralysis 9		21	

	Cases.	Deaths.
Heart-disease of 26, fatty degenera-		
tion of 1		27
Uremia 7, Bright's disease 11, dia-		
betes 1		19
Carcinoma of the bladder 1, breast		
1, stomach 5, uterus 1, liver 4,		
neck 2, pelvis 1, rectum 2, tongue 1		18
Convulsions 6, convulsions, puer-		
peral 1		7
Diphtheria	47	8
Brain-abscess of 1, congestion of 3,		
dropsy 1, softening of 6		11
Typhoid fever	94	7
Old age		6
Scarlet fever	86	5
Abscess of throat 1, alcoholism 3,		
asthma 1, anemia 2, burns and		
scalds 3, casualties 8, cerebro-		
spinal meningitis 1, congestion of		
the lungs 3, cholera infantum 10,		
cirrhosis of the liver 2, croup,		
membranous 2, cyanosis 3, diarrhea		
1, disease of the liver 1, dysentery		
1, erysipelas 1, fever, malarial 1,		
fistula 1, gangrene, senile 1, hem-		
orrhage from stomach 1, hemor-		
rhage from uterus 1, hernia 2, lo-		
comotor ataxia 1, measles 1, ob-		
struction of the bowels 2, purpura		
hemorrhagica 1, sarcoma of the kid-		
neys 1, sclerosis, arterial 2, septi-		
cemia 3, smallpox 1, sore mouth 1,		
suicide 4, syphilis 1, teething 1,		
tumor, bladder 1, unknown coroner		
case 1, whooping cough 10, wounds,		
throat 1		82

NEW YORK.

Epidemic of Measles Among Eskimos.—An epidemic of measles exists among the Eskimos at the Pan-American Exposition. A number of deaths have already occurred from this disease.

Sing Sing Prison Condemned.—The famous State prison at Sing-Sing, New York, has been condemned by the Board of Health of that State as unsanitary, and its removal to a higher situation is recommended. The prison is situated near the edge of the Hudson river, and it was found that at high tide the floor of the prison is only four feet above the water level. As a result of this condition the sewage in the drain-pipes is backed up into the prison, and owing to imperfect discharge, it decomposes.

NEW ENGLAND.

The Massachusetts State Medical Society celebrated its 120th anniversary June 12. Dr. Frank W. Draper, president of the society, presided. Among the prominent men and delegates present were: President Eliot, of Harvard. President Capen, of Tufts; Samuel J. Elder, Dr. W. W. Eaton, Dr. David W. Cheever, Dr. J. M. Storer. Delegates—Maine, C. D. Smith, Portland; C. J. Marston, Bath. New Hampshire, P. W. Parsons, Portsmouth; F. A. Stillings, Concord; A. G. Straw, Manchester. Vermont, A. S. M. Chisholm, Bennington; E. G. Roberts, Fair Haven. Rhode Island, G. L. Collins, Providence; C. V. Chapin, Providence. New York, Parker Syms, New York City; I. S. Haynes, New York City. New Jersey, S. A. Hefler, Hoboken; J. A. Exton, Arlington. Pennsylvania, J. J. Koser, Shippensburg; G. G. Harman, Huntingdon.

Smallpox in Maine.—Another suspected case of smallpox has developed in Bangor in the same house from which four suspects have already been taken to the pest-house. One of the men in quarantine at the Queen City Hotel escaped, and has not yet been recaptured.

Rhode Island Medical Society.—The annual meeting of the Rhode Island Medical Society was held June 6 in Providence, R. I. The annual address was made by Dr. G. Alder Blumer, of Boston. This was followed by the annual banquet. The Massachusetts Society was represented by Dr. T. W. Spencer, of Hingham, and Connecticut by Drs. C. A. Allen and D. W. Richardson. The principal officers elected were: President, George F. Keene; vice-presidents, William R. White and Christopher H. Banker.

WESTERN STATES.

Chicago Pathological Society, May 13th, 1901. Dr. L. Hektoen, president. Dr. I. B. Dismond presented a paper on "The Cellular Changes in Tuberculous Meningitis." Plasma, lymphoid and phagocytic cells form the greater portion of the cell-infiltrations in the vascular and extra-vascular areas of the leptomeninges in acute tuberculous meningitis. The plasma and lymphoid cells migrate largely from the lymph spaces of the arterial adventitia and from the finer capillaries. They proliferate largely by indirect division, a certain number, however, are derived from lymphoid cells. There are two kinds of phagocytes (1) those which proliferate from the endothelial lining of the capillaries and lymph spaces, and (2) those from the subendothelial intimal connective tissue.

The most important of the vascular changes—the tuberculous endarteritis—develops in the following manner: Plasma and lymphoid cells accumulate underneath the endothelium of the intima; later the subendothelial intimal connective tissue cells are found mixed with the former. They proliferate next to the elastic coat, are to a certain degree phagocytic and resemble epithelial cells. They also run together and form giant cells, and in this manner characteristic intimal tubercles develop. Changes of the endothelial lining of the arteries occur later, especially when there is caseation or hyaline degeneration of the collection underneath.

Of interest is the great production of plasma cells which is analogous to the cell changes described by Councilman in acute interstitial nephritis, while on the other hand, the production of phagocytic cells is analogous to the cell changes described by Mallory as occurring in typhoid fever.

Dr. Mewellyn F. Barker presented gross and microscopic specimens of the buboes and internal organs removed from Chinese, dead of plague, in San Francisco. The demonstration was accompanied by a brief description of the pathology and pathogenesis of bubonic plague. In the bubonic form of the disease the lesions in the lymph glands and surrounding tissues—edema, hemorrhage and necrosis—are very characteristic. The changes in the spleen are more marked in the septicemic form than in the bubonic form. The specimen of spleen under the microscope showed extensive necrosis of the splenic framework and pulp, with wandering in of polymorphonuclear leukocytes.

Primary plague pneumonia is distinguished from aspiration pneumonia and from embolic pneumonia occurring as complications of plague. The enormous number of bacilli present, the abundance of blood in the exudate, and the small part played by fibrin are interesting features.

The question of portal of entry was discussed in connection with the various clinical types, and an effort was made to explain the fact that local lesions in the skin and mucous membranes and lymphangitis are rarely present, the first outspoken lesions occurring in the nearest packet of lymph glands.

Dr. Leo Loeb demonstrated microscopic sections showing the difference between the atresia of follicles in different stages of maturity; also microscopic sections of two ovaries of a guinea pig in which all follicles presented the picture of hypertrophy of the epithelium and in which the atresia without exception started by the ingrowth of connective tissue and capillaries into the follicular epithelium. Two slides were demonstrated showing follicles in the process of atresia, each one of which contained two ova. In one of these two follicles both eggs showed progressive changes, in the other follicle one ovum was unchanged and well preserved, the other ovum was segmented. In a third atretic follicle, of which a slide was shown, in which three ova were present; two of these were unchanged, the third ovum had undergone certain changes, the exact nature of which could not with certainty be determined. Another specimen showed a structure resembling very much a small corpus luteum, in the center of which, however, two successive sections demonstrated the presence of an ovum. At present it must be left undecided, if in this case the ovum of a ruptured follicle was retained and a corpus luteum had formed around it, or if under certain conditions a follicle which had not ruptured previously might in the stage of atresia give rise through hypertrophy to a structure similar to a small corpus luteum.

Dr. Maximilian Herzog presented a gastrolith composed of persimmon seeds which had caused perforation of the

stomach and death in a three-year-old boy in the practice of Dr. Cargile, of Bentonville, Ark.

Epidemic of Diphtheria.—There is quite an epidemic of diphtheria at Svensen, Ore. Several children have died of the disease, and a number more are seriously ill with it.

The Mortality Statistics of St. Louis.—The *St. Louis Medical Review*, commenting upon the St. Louis mortality statistics, quotes the following: The greatest mortality in any period after the first decade was over 70, with 1149 deaths; the next greatest was from 35 to 40, with 563 deaths. There were only 8 deaths from puerperal fever, which is a favorable showing for the obstetricians; 25 deaths are ascribed to surgical operations. Heat stroke caused the death of 25. There were 130 suicides.

The Plague Resolutions of the California State Medical Society.—Through the kindness of Dr. Emmett Rixford, who proposed the resolutions which were passed by the Medical Society of the State of California at its last meeting, we are enabled to publish a correct copy, which reads as follows:

"Whereas, It has been shown by our local bacteriologists, and by the Commission sent by the United States Government, that the bubonic plague has existed in San Francisco, and probably does at the present time; therefore, be it

"Resolved, That the Medical Society of the State of California express its confidence that the San Francisco Board of Health, the State Board of Health, and the United States Commission will be able to watch the disease, and to take proper measures for its suppression."

This correction renders the position of the State society much more satisfactory, and justly gives our local bacteriologists due credit for their very efficient and thorough work. In this note Doctor Rixford very appropriately says: "I wish the official report of this affair to contain reference to the fact that our local bacteriologists demonstrated the presence of the plague."—*Occidental Medical Times*

SOUTHERN STATES.

Christian Scientists Cannot Practice in Georgia.—Judge Lumpkin, of the Georgia Superior Court, has denied the application for a charter for "The Atlanta Institute of Christian Science," the effect of his decision being that Christian Scientists cannot practice their treatment of diseases in the State of Georgia without having regularly graduated in medicine and passed an examination before the medical Examining Board, the same as other physicians.

Delaware State Hospital for the Insane.—At the meeting of the trustees of the Delaware State Hospital for the Insane, at Farnhurst, June 7, Dr. John J. Black was re-elected President and Dr. Paris T. Carlisle Secretary.

Dr. R. J. Preston, Superintendent of the Southwestern Hospital for the Insane, of Marion, Vt., has been elected president of the American Psychological Society.

Charlotte Williams Hospital.—Work on the Charlotte Williams Hospital will begin this week. It is to cost \$150,000, and will be one of the largest and best equipped institutions of the kind in the South.

The Trained Nurses' Association of Virginia expect to form an organization in the near future.

MISCELLANY.

Cats and Valerian.—It is a matter of popular knowledge that cats evince curious emotional disturbances when presented with the valerian plant, so great is their fondness for this form of inebriety; for it appears to induce in them a species of intoxication, that the plants in the garden undergo premature decay if there are any cats about. Nor is this influence confined to cats, for rat-catchers, it is stated, employ the roots to attract rats for purposes of slaughter. In a novel which was recently reviewed by our contemporary, *The Saturday Review*, we note a curious episode which turns on the incident of a cat having been attracted to a corner of a room where some tincture of valerian had been spilled. Unfortunately for the probability of the author's ingenious fancy, the tubercular preparation of valerians do not possess

the property of attracting cats, and the animal, if offered a sniff of the tincture in a glass, turns from it with silent contempt, when, indeed, its attitude is not suggestive of disgust. The author may be pardoned his ignorance of this peculiarity, which is doubtless shared by many persons who pride themselves on their knowledge of materia medica, but the curious inertness of pharmaceutical preparations of the plant in this direction inspire a diffidence as to their therapeutical efficacy when administered to human beings. The action of valerian in man is not one which admits of ready estimation, and we would commend this doubt to the attention of the editors of the British Pharmacopoeia who may think it worth while inserting a proviso among the tests to the effect that no preparation of valerian which fails to excite the cat is to be regarded as orthodox.—*Med. Press and Circular*.

Obituary.—Dr. L. S. Tesson, at Vancouver, Wash., on June 7, aged 59 years.—Dr. C. B. Brooke, at Baltimore, Md., on June 11.—Dr. Charles Scott Seebold, at Baltimore, Md., on June 12, aged 51 years.—Dr. Arthur J. Dresser, at Tewksbury, Mass., on June 12, aged 28 years.—Dr. Frederick L. Nutt, at Marengo, Ill., on May 23, aged 49 years.—Dr. Conrad Wienges, at Jersey City, on May 23, aged 53 years.

Plague in Turkey.—In Bagdad, on May 6th, a 30-year-old Kurdish woman, the wife of a dealer in old clothes, died of a disease which showed all the symptoms of plague. All persons who had been in contact with the woman were placed under strict medical observation. By the orders of the supreme sanitary council in Constantinople, 2 temporary hospitals have been erected in Bagdad for the accommodation of those accompanying the passing caravans, and in which the travelers have to submit to five days' quarantine. The effects of the travelers are there subjected to a chemical disinfection and then daily exposed to the rays of the sun. Ships which have to leave Bagdad for the South have to undergo five days' quarantine in Gavarah. Cavalry patrols are to keep watch over the country between Bagdad and the hospitals, in order to turn back any fugitives. Official doctors and military physicians are to be sent into the neighboring villages of Bagdad in order to supervise the sanitary condition of the population. The duty of reporting every fresh case of plague will be strictly enforced.

Plague in Egypt.—On May 5 the corpse of a 6-year-old girl, who had apparently died of the plague, was brought to the Government hospital at Alexandria from the part of the city known as Tombgieh. The bacteriological examination confirmed the suspicion that the plague was the cause of death, and the necessary precautions were taken accordingly.

Outgoing vessels have been ordered to enter on the ship's papers corresponding remarks, and must undergo medical inspection and disinfection.

Plague in British East India.—During the week ended April 19, there occurred in the Presidency of Bombay 1646 fresh cases and 1360 deaths of plague—that is to say, 301 cases and 272 deaths less than during the foregoing week. In Karachi, however, a decline of the disease is not to be noted. From this port during the last week there were 236 fresh cases and 210 deaths reported. In the city of Bombay, during the week ended April 20, there were reported 704 fresh cases (67 less than during the previous week), and 563 deaths proved to be due to plague. In addition, of the total, 1514 deaths in the city, 428 were designated as suspected plague.

Changes in the Medical Corps of the Navy, week ended June 15th.

ASSISTANT SURGEON C. M. MAYERS, appointed assistant surgeon from June 1—June 7.
ASSISTANT SURGEON J. F. MURPHY, ordered to Naval Academy, June 17—June 8.
SURGEON A. R. WENTWORTH, detached from the Albany and ordered to the Albatross, June 1.
SURGEON H. N. T. HARRIS, detached from the Albany and ordered to the Monocacy, June 1.
P. A. SURGEON S. G. EVANS, detached from the Monocacy and ordered to the Scorpion, June 1.
ASSISTANT SURGEON J. W. BACKUS, ordered to the Vermont, June 1.
ASSISTANT SURGEON F. A. ASSERSON, ordered to the Naval Hospital, New York, June 17—June 11.
ASSISTANT SURGEON G. M. MAYERS, ordered to the Pennsylvania, Navy Yard, June 15—June 17.

Official list of the changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 14 days ended June 13, 1901.

J. H. WHITE, surgeon, detached from Washington, D. C., for Philadelphia, June 7, 1901.
L. W. WILLIAMS, surgeon, granted leave of absence for 3 days from June 12—June 14, 1901.
Granted 2 days extension of leave of absence—June 8, 1901.
W. J. PETTUS, surgeon, granted leave of absence for 3 days from June 12—June 14, 1901.
J. A. NYDEGGER, passed assistant surgeon, granted leave of absence for 30 days from June 8, 1901—June 8, 1901.
H. A. STRAIN, passed assistant surgeon, granted leave of absence for 30 days from May 18—May 18, 1901.
H. W. WICKES, passed assistant surgeon, granted leave of absence for 4 days from June 7—June 11, 1901.
C. E. DECKER, assistant surgeon, granted leave of absence for 10 days from June 4—June 14, 1901.
W. W. KING, assistant surgeon, granted leave of absence for 4 days—June 11, 1901.
J. E. BREADY, acting assistant surgeon, granted leave of absence for 1 day, June 19—June 11, 1901.
HENRY ECROYD, acting assistant surgeon, granted leave of absence for 10 days from June 5—June 6, 1901.
W. C. MASON, acting assistant surgeon, granted leave of absence for 6 days from June 23—June 10, 1901.
F. R. SMYTH, acting assistant surgeon, leave of absence for 3 days granted Acting Assistant Surgeon Smyth by Bureau telegram of May 31, 1901, received June 1, 1901.
J. G. STANTON, acting assistant surgeon, granted leave of absence for 15 days from June 1—June 16, 1901.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on June 7, 1901, for the physical examination of an applicant for cadetship in the U. S. Revenue Cutter Service. Detail for the Board—Passed Assistant Surgeon H. D. Geddings, Chairman; Assistant Surgeon B. S. Warren, Recorder.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended June 15, 1901.

SMALLPOX.—United States and Insular.

		Cases	Deaths
ALASKA	June 1-15	0	0
CALIFORNIA:	San Francisco, . . .	May 25-June 1	14
DISTRICT OF COLUMBIA	Washington, . . .	May 1-15	0
ILLINOIS	Chicago, . . .	June 1-15	0
INDIANA	M. H. H. Co., . . .	June 1-15	0
	South Bend, . . .	June 1-8	1
KANSAS	Wichita, . . .	June 1-15	1
LOUISIANA	New Orleans, . . .	June 1-15	1
	St. Louis, . . .	May 25-June 1	1
MAINE	Portland, . . .	June 1-8	1
MARYLAND	Baltimore, . . .	June 1-8	1
MASSACHUSETTS:	Boston, . . .	June 1-8	1
	Fall River, . . .	June 1-8	1
	Marlboro, . . .	June 1-8	1
	New Bedford, . . .	June 1-8	1
	St. Louis, . . .	June 1-8	1
MICHIGAN	West Bay City, . . .	June 1-8	1
MINNESOTA	St. Paul, . . .	June 1-8	1
NEW HAMPSHIRE	Manchester, . . .	June 1-8	1
NEW YORK	New York, . . .	June 1-8	1
OHIO	Cincinnati, . . .	June 1-8	1
PENNSYLVANIA	Philadelphia, . . .	June 1-8	1
RHODE ISLAND	Providence, . . .	June 1-8	1
UTAH	Salt Lake City, . . .	June 1-8	1
WASHINGTON	Seattle, . . .	June 1-8	1
WISCONSIN:	Green Bay, . . .	June 2-9	1
PHILIPPINES:	Manila, . . .	Apr. 13-20	9
PORTO RICO	San Juan, . . .	May 1-15	1

SMALLPOX.—Foreign.

AUSTRIA	Vienna, . . .	May 1-15	1
BELGIUM	Brussels, . . .	May 1-15	1
CHINA	Peking, . . .	May 1-15	1
CUBA	Havana, . . .	May 1-15	1
FRANCE	Paris, . . .	May 1-15	1
GERMANY	Berlin, . . .	May 1-15	1
ITALY	Rome, . . .	May 1-15	1
JAPAN	Tokyo, . . .	May 1-15	1
SPAIN	Madrid, . . .	May 1-15	1
SWITZERLAND	Bern, . . .	May 1-15	1
UNITED STATES	Washington, D. C., . . .	May 1-15	1
INDONESIA	Batavia, . . .	May 1-15	1
NETHERLANDS	Amsterdam, . . .	May 1-15	1
RUSSIA	St. Petersburg, . . .	May 1-15	1
SENEGAL	Dakar, . . .	May 1-15	1
SIERRA LEONE	Freetown, . . .	May 1-15	1
SOMALILAND	Mogadishu, . . .	May 1-15	1
TANZANIA	Dar es Salaam, . . .	May 1-15	1
UGANDA	Kampala, . . .	May 1-15	1
ZAMBIA	Lusaka, . . .	May 1-15	1

YELLOW FEVER.

MEXICO: Vera Cruz May 18-25 1

CHOLERA.

INDIA: Bombay May 7-11 3
Calcutta May 4-11 47

PLAGUE.—Foreign and Insular.

AFRICA: Cape Town To Apr. 5 412 181
CHINA: Hongkong Apr. 20-27 65 55
INDIA: Bombay May 7-11 289
Calcutta May 4-11 134
Karachi Apr. 28-May 12, 657 563
Formosa May 19, increasing
From May 3-June
1 2157
PHILIPPINES: Manila Apr. 1-29 27 16

GREAT BRITAIN, ETC.

Plague in Hong Kong.—The colonial office has received a dispatch from Sir Henry Blake, Governor of Hong Kong, announcing that 215 cases of bubonic plague were reported for the week ended June 1, and that the total number of deaths thus far from the disease is 207.

CONTINENTAL EUROPE.

A Festschrift to Professor Bottini.—A Festschrift on surgery will be presented to Professor Bottini with a gold medal and a framed parchment list of all subscribers in honor of the twenty-fifth anniversary of his appointment to the chair of surgery at Pavia.

A New Method of Counting the White Corpuscles has been devised by Kourloff (*Vratch*). It is a dry method, and consists in drawing the blood into a graduated pipette, depositing a thin film on two cover-glasses, whose surface is measured by a network of lines. The white cells are then counted and the area measured by means of the movable stage and Ehrlich's diaphragm. This method allows the operator to work without haste and the results can be verified at any time. The writer asserts that he can count from 1000 to 2000 more white cells than by the Thoma-Zeiss cell, the dilutant in that method changing and destroying some white cells.—*American Monthly Microscopical Journal*.

A Novel Diversion for the Insane.—In one of the city hospitals for the insane in St. Petersburg a stage was erected on which light vaudevilles are produced. The actors, as well as the audience, are the patients themselves, the former proving in every respect equal to the task, while the latter seem to derive real enjoyment from the affair.

Drunkenness in St. Petersburg.—Within the last year 8330 persons were arrested on the streets for drunkenness.

Convicted for Rape.—A former professor of the Warsaw University was sentenced to 2½ years in the workhouse followed by 4 years of police supervision and deprivation of all rights and privileges for having committed rape.

The Detection of Human Blood.—A method for detecting human blood has been suggested by M. S. Cotton in the *Bull. Soc. Chimique de Paris*. It depends upon the fact that blood will liberate oxygen from hydrogen peroxide. Using 1 c.c. of blood with 250 c.c. of hy. per., he obtained for man, 580 to 610 c.c.; for horse and pig, from 320 to 350 cc.; for ox, 165 to 170; for guinea pig, 115 to 125, and for sheep, from 60 to 65 c.c. This large excess in man over all the lower species would seem to be of diagnostic value.

Pyloric Obstruction.—In demonstrating a specimen of a pylorus excised for obstruction, Dr. E. Lambotte (*Presse Medicale Belge*, 1901, No. 18) called attention to the efficacy of sodium bicarbonate in gastric affections, and to the extreme frequency with which they are of pyloric origin. He believes that comparatively few cases of stomach trouble are of nervous origin. The specimen shown was a hypertrophic pylorus, removed by Dr. M. Bernard from a woman of 37, in whom symptoms of gastric disturbance had existed for three years. Gastro-duodenorrhaphy with pylorotomy was performed, and she went home two weeks later, cured.

[M. O.]

Society Reports.

FIFTY-SECOND MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

[Conclusion.]

SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

N. S. Davis, Jr., Chicago, Chairman; Frank Woodbury, Philadelphia, Secretary.

MEETINGS HELD IN SENATE CHAMBER, STATE CAPITOL, ST. PAUL.

(Communications.)

FIRST DAY, JUNE 4th.

"Experimental Work in Intra-organic and Venous Injections and Blood Extracts in the Cure of Acute, Organic Diseases," by W. Byron Coakley, of Chicago. The principal object of this paper was to show the great therapeutic value of sodium chloride, and especially of subcutaneous and parenchymatous injections of normal salt solution, with instruments specially devised for the purpose. He claimed that the injections were innocuous, and that he had not produced hematoma even in solid organs, such as the liver, the kidney, or spleen. An instrument used for the purpose of making the injections at the proper temperature and at a slow rate of speed was exhibited and its construction explained. It consisted of an apparatus on the principle of an aspirator, having a double chamber, the external one being filled with water at a temperature of 120° F. during the time of injection. The flow of the solution was regulated by the slow revolution of a milled wheel by hand, on the principle of the microtome. He also presented two cannulas, each having a lateral opening, the inner one having a closed extremity. These were introduced into the selected vein, of a dog, for instance, in opposite directions and at different places, so that their points could meet and pass each other, the closed point slipping into the open one. Being fastened in this position, it was only necessary to give the inner tube a quarter revolution in order to permit the blood to flow through the tube, or a normal salt (seven-tenths per cent.) solution, injected, as might be desired. Results in the form of increased action of the heart and strength of the pulse, relief from shock and increase of vitality were reported. It appeared to have a special antidotal effect to carbon dioxide and in preventing and overcoming asphyxia. It takes the place of transfusion of blood, especially after loss of blood by hemorrhage. The lecturer reported an experiment in which repeated bleedings were made until a dog's heart action was so weak as to be almost extinguished. After the injection of salt solution directly into the pericardium, the heart beat with greatly increased force; and, after intravenous injection of salt solution, the animal in a few hours was restored to a normal condition. In this discussion the lecturer stated that he had only resorted to parenchymatous injection in the human lung in one case of acute lobar pneumonia. It was done during the stage of hepatization. He had used a very fine needle with which to inject the salt solution into the interior of the consolidated lung. The next day, mucous rales could be heard over this area, and the patient went on to speedy recovery. He believed that the injection shortened the course of the disease, and that this treatment deserved further trial.

Neglected, but Valuable, Therapeutic Measures, was the title of a paper read by Geo. F. Butler, of Alma, Michigan. After reviewing a number of methods and remedies, which were popular before the scientific era in medicine, many of which were deservedly abandoned, *e. g.*, skatological remedies, animal products, etc., he directed attention to some measures which should not be neglected by the profession. Prominent among these is blood-letting in a class of cases in which its powerful physiological properties would be desired. Among these he cited cases of toxemia, in which the depleted blood could be substituted by normal salt solution. Counter irritation is a neglected, but a valuable therapeutic resource, in illustration of which he directed

attention to the remarkable change for the better in the condition of some cases of insanity after accidental fracture of a bone. Bathing, used in typhoid fever with great advantage, is also very valuable in yellow fever. The combination of drugs in a single prescription has fallen into undeserved disrepute as polypharmacy, but he claimed that very often a combination of remedies so modified their action that a new and superior therapeutic agent was obtained, for instance, the combination of iron with the simple bitters in the treatment of chlorosis, especially for overcoming anemia in children. The infusion of quassia combined with aromatic sulphuric acid and tincture of iron, he is accustomed to give with great advantage for this condition. The sexual erethism seen in the condition of auto-toxism, is relieved by (1) removal of toxic agents by purgatives and (2) by heart toxics. A valuable but neglected agent for the latter purpose is copper sulphate and copper arseniate, given in small doses. Massage is also a measure not sufficiently appreciated. He especially recommended a combination of massage, hydropathy and out-door exercises as having great restorative value. Suggestive therapeutics is worthy of more study as a potent agent for good and of great value when used in conjunction with other measures just referred to.

The Therapeutic Indications Presented by the Blood in Disease," was the subject of the next paper, by Dr. O. T. Osborne, of New Haven, Conn. A word of caution was expressed against the ultra-scientific attitude on the part of physicians, who often overlook the individual element or personal factor in the case. We should never forget the man who has the disease and his individual condition and needs. Departures from health do not always conform to clinical types, thus, it is not necessary to have all the characters of Grave's disease present in early thyroid disease; in every case of deficient thyroid secretion, some disturbance of health will doubtless be produced of marked character. For instance, he believes that many cases of neurasthenia have their true explanation in this deficient function of the thyroid and such cases are greatly benefited by the administration of the thyroid extract. In a similar way, other patients may have a disturbance of the adrenal function, without typical symptoms of Addison's disease, but with other clinical manifestations, which improve under the same kind of treatment. In obscure conditions of disease good results generally follow attempts to correct or aid the normal metabolism of the body. Very important in this connection is the condition of the blood. The increase of diminution of red corpuscles and of hemoglobin, of the leukocytes, or lymphocytes, may be accompanied by evidences of disturbance of function. Alterations of the density of the blood-plasma in its relations to osmosis are significant, also of the total quantity and the distribution of blood in the body. Vaso-motor ataxia plays a very important part in many functional disorders, notably in neurotics and neurasthenics, and also in hysteria. In great sudden diminution of red blood cells from hemorrhage, or in malignant infections, the patients die, suddenly, with symptoms of acute anemia, a condition which the author termed "medical shock." To prevent this, he advised the administration of iron in acute infections, especially in typhoid fever, the tincture of the chloride being especially applicable, as it is in erysipelas, and in diphtheria.

"On Chronic Myocarditis," by Dr. John H. Musser, of Philadelphia. In this communication, the lecturer differentiated between the forms of chronic myocarditis, so commonly occurring in infectious diseases, and the primary form to which he especially directed his remarks. The condition is accompanied by sclerosis or endarteritis of the coronary arteries and might be called coronary artery disease. In these cases, especial attention must be paid to the hygienic management. The medicinal treatment depends very much upon the general conditions present and also upon associated lesions which have taken place in the heart and other organs. The habits of life should be carefully studied and regulated according to the case, and business either abandoned entirely or its responsibilities and activity much reduced, according to the ability of the heart to perform its work. Careful study of the digestive capacity and the character of the food must be made. Often there is inability to digest sufficient food. The recuperative power of the individual, as indicated by his abil-

ity to continue his work, without feeling fatigue, and his response to bathing also must be considered. Hot baths, vapor or steam baths are useful where the gouty or rheumatic diathesis is present, but ordinarily, a warm sponge bath at night with moderate friction will be all that is necessary in the line of hydrotherapy, though should the patient be accustomed to the shock of a morning cold bath and it agrees with him, it may be continued. As the rule, no changes are made in the habits of life of the patient unless they are considered to be injurious. The medical treatment depends upon the amount of endarteritis and the condition of the heart walls present in the case, and whether high or low arterial tension exists. If low, then digitalis, sparteine, strychnine and other cardiac stimulants are called for; if high, arterial tension is present, remedies are given which decrease blood pressure, such as nitroglycerin, the strontium salts, and similar agents of this class. Purgatives also reduce blood pressure, and salines are advised: magnesium sulphate is very useful, taken each morning in a glassful of water. The treatment of angina pectoris during the paroxysm is so well known that he would not speak of it, but he approved of the prophylactic treatment between the paroxysms by nitroglycerin and iodide of potassium especially, and the avoidance of digitalis and all its preparations which increase blood pressure. The nitroglycerin should be given in increasing doses, until the physiological effects are produced. He had patients who had gradually increased the dose until they took half a drachm of the centesimal solution, two or three times a day, with the greatest benefit. The great object of the treatment should be to reduce or prevent cardiac hypertrophy. These patients must be placed upon a lowered scale of life, because they cannot live on the ordinary scale of other human beings, with ordinary blood tension without having attacks of angina pectoris. The dyspnea of myocarditis is of two kinds (1) that due to dilatation of the heart, (2) that caused by asystole. The former is almost continuous but is increased by exertion. In the latter case the attack is sudden in its onset and is accompanied by frothy expectoration, pain, and the usual symptoms of edema of the lungs, with arrhythmia and asystole. In such cases small doses of morphin hypodermically, with strychnia, and, if there is high arterial tension, nitroglycerin will give relief. If there is venous stasis with lowered tension, the use of stimulants, with digitalis, is recommended. Attention must be directed not merely to the cardiac condition, but also to the cardio-vascular condition, and, in fact, to that of all the organs in the body, in the management of chronic myocarditis.

Discussion.—Dr. Henry Beates, of Philadelphia, agreed with the lecturer on all but one point. He contended that the condition of increased arterial tension never exists in cases of chronic myocarditis and therefore that nitroglycerin and all cardiac depressants were injurious. The agent that had produced the best results in his own experience with a large number of these cases, was a preparation of digitalis, known as digitalin-Germanic (Merck) which did not cause gastric disturbance as did all other preparations of digitalis. He had found the administration of this remedy sufficient to control the condition and cause great improvement in the general condition, with assistance of hygienic management laid down by the lecturer.

Dr. S. E. Solly referred to the effects of high altitudes upon this disease. As the rule such cases should not be sent to high altitudes, but a large number of them do visit Colorado Springs, and he had been surprised to find how well they kept as long as they were careful to avoid unnecessary exertion and live a quiet life. He believed that, all things considered, the best climate for them would be one of moderate altitude, where the air is less dry than at a high elevation, or is moderately moist.

Dr. Osborne said that the new remedy mentioned by the first speakers had not been sufficiently studied to determine its physiological action; for instance, it was not yet settled whether it is a vaso-motor dilator or constrictor.

Dr. Beates said that it was a constrictor. Dr. Osborne said that some of these cases call for a vaso-constrictor and others a dilator, but almost always morphine. He mentioned adrenaline as a useful vaso-motor constrictor. Nitro-glycerin is of great value in cases needing a dilator. He suggested that cases after 45 years of age, might show vascular phenomena, as a result of atrophy or diminished secretion of the thyroid gland.

Dr. Musser, in reply to a question, stated that he gave

iodide of potassium in a glass of milk or in a preparation of pepsin. Some patients can take only one dose a day. He had never been able to get satisfactory results from hydriodic acid and much preferred the potassium salt.

"The Treatment of Obesity," by Heinrich Sterin, of New York, directed attention to the different forms and complications of this condition. He divided polysarcia into three types on the basis of the specific gravity of the individual. (1) Hyperplasmic obesity, or lipomatous hyperplasma, those with relatively high degree of corporeal specific gravity; (2) Metabolic, or common, obesity; those with normal or slightly diminished specific gravity; and (3) hydroplasmic obesity or lipomatous hydroplasma, those with lessened density of the body. The first form is accompanied by high arterial tension and often is associated with latent, or actual, arterio sclerosis. The second form is encountered the most frequently, and is a symptom of bodily degeneration. Obesity of itself is not a disease, but is a link in a chain of symptoms pathognomonic of certain nutritional disorders, and is due frequently to excess of nourishment with diminished exercise. The objection to the dietaries usually given is that, by their rule the patient is underfed. Muscular exercise is essential to the treatment, including massage and all forms of outdoor sports. All measures favoring oxidation, such as calisthenics, hydrotherapy, and balneotherapy are useful. Anti-fat remedies, as a class, are to be condemned, because they are useless in small doses and poisonous in large ones, causing in addition to deprivation of fat, a melting down of body albumin. Some mineral waters, thyroid extract, and fucus vesiculosus are exceptions, and are valuable adjuvants. With thyroid extract (gr.ii) he combines arsenious acid (gr.1-60) and adonidin (gr.1-12), and thus avoids the distressing symptoms produced by thyroid alone. Special diet lists were given from which each case could have its own selection, but laying special stress upon the necessity for exercise and attention to the secretions and the circulation. In the third form, hydroplasmic obesity, reduction of the amount of liquids in the food is advised, and also remedies directed towards increasing the tonicity of the heart. In this condition, thyroid is generally contra-indicated, but the patient will be benefitted by strychnine and iron. During the treatment, examinations into the blood density should be made at regular intervals to determine the results from remedies and the progress of the case.

"The Treatment of Neurasthenia," by H. N. Moger, of Chicago. The author insisted first upon the necessity of correct diagnosis. Hysteria, hypochondria, and other conditions resembling neurasthenia, may be separated from it by attention to history. The characteristic phenomenon of the latter is the "fatigue symptom," or an excessive amount of fatigue following ordinary exertion. Attention was directed towards the importance of distinguishing primary or so-called essential, neurasthenia from the secondary nervous weakness, which results from organic disease or defective nutrition. The latter form is common in all the acute febrile diseases and whenever nutrition is impaired. The diagnosis of the primary form must always be made by exclusion. In the therapeutic management especial value is derived from rest, diet, cold bathing and strychnine, which is the sheet anchor in the drug treatment. Exposure of the patient to the fresh air for several hours a day, even in the middle of winter, was followed by remarkable benefit and increased appetite and powers of assimilation.

In reply to questions from Drs. Shelly, of Kansas; Solly, of Colorado Springs; Stern, of New York, and Putney, of West Virginia, the lecturer explained that all cases of neurasthenia are not pure cases and that hysteria may be complicated with neurasthenia, so that the diagnosis of neurasthenia does not always exclude hysteria. It is important to recognize the neurasthenia, which is due to obesity or kidney disease, as a secondary affection, and not mistake it for the primary form. He had no special diet for these cases except that he insisted upon the patients taking large quantities of milk and cream. The patient is instructed to keep a detailed report in writing each day of his food and his symptoms, which is filed away for future comparison, if the patient should become discouraged and think he is not making any progress. He is encouraged to talk freely with his physician about his symptoms, but is prohibited from discussing them with visitors or the members of his family.

SECOND DAY, JUNE 5.

"Report on Medicines used by One Hundred St. Louis Physicians," by H. M. Wheepley, of St. Louis, Mo., was read by title by the Secretary. "A Plea for More Uniformity and Strength in our Armamentarium," by C. F. Wahrer, of Fort Madison, was an interesting and earnest plea for loyalty to the Pharmacopoeia and scientific prescription writing. He condemned in caustic language the practice of using ready-made proprietary compounds, the composition of which is only partly revealed. "The Standardization of Crude Drugs and Galenical Preparations," was the subject of a communication by A. B. Lyons, of Detroit, a member of the Committee on Revision. He pointed out the fact that vegetable drugs vary greatly in medicinal activity. Scientific medication therefore requires that their preparations be brought to some uniform standard of strength. The present assay methods are confessedly imperfect and unsatisfactory, with few exceptions. An imperfect method, however, which is approximately correct, is better than none. The Pharmacopoeia of 1890 furnished standards and assay processes for opium, cinchona bark, and nux vomica and their preparations. In the revision of 1900 this list will be greatly extended and the assay processes rendered more precise. Standardization by physiological lists has not been adopted by the Committee, but in his opinion, might with advantage be approved to a limited extent. To the physician, the question is of vital importance. He should know what the standards to be established require, and should insist that they give him preparations identical therapeutically, with those he had been accustomed to, when the latter were skilfully made from an average sample of good drug. Among the important questions now before the Committee are the admission of the newer derivations of opium. In the case of nux vomica, an improvement will be made by the introduction of a method of determining the proportion of strychnine, instead of the total alkaloids which vary in their quantity and in their proportion to each other.

C. S. N. Hallberg said that the principle of standardization could be applied to only a limited extent at present and was not applicable to many drugs, like aconite and ergot, in the present state of our knowledge concerning their active principles. F. J. Wulling said that if the Pharmacopoeia prescribed tests for use by the pharmacist that the better class of druggists would undoubtedly apply them and that the others would do so if they found that physicians were interested in the subject and required them. He considered the subject of paramount importance to therapeutists as well as to scientific pharmacy. Dr. E. M. Wilson deplored the lack of knowledge of pharmacy and of the Pharmacopoeia by physicians generally and their apparent indifference to the quality of the drugs and preparations with which their prescriptions are filled. The same prescription might be filled at six different drug stores and each preparation would be different from the other. Dr. Dickerson, of St. Louis, said that the study of materia medica and pharmacy in our medical schools is too much neglected in favor of clinical and laboratory work. He suggested that, instead of being dropped at the end of the first year, these studies should be made obligatory during the whole four years of the medical course.

The Chairman pointed out the fact that the Pharmacopoeia appears to be especially constructed to be a work of reference for the druggist and is not made as useful to the physician as it might be. In his opinion all the new remedies should be introduced into the Pharmacopoeia, whether they have been fully tested or not, so that the physician might find in it all the most recent information about drugs. It should not be a volume of standards, but of reference. Possibly the newest drugs might be placed in an appendix. The older preparations should be retained, although only employed by a few physicians. As regards teaching materia medica, he felt assured that both pharmacy and pharmacology are given a proper amount of attention in our leading medical schools. Students are made acquainted with crude drugs and are taught to make the preparations; this is further supplemented by laboratory studies into the physiological action of drugs. The recent graduates are much better informed upon these topics than those of earlier years.

The Chairman introduced the Delegates from the American Pharmaceutical Association, of whom Mr. C. J. Wal-

ling, of Detroit, was the Chairman. Dr. A. B. Lyons, of Detroit, and C. N. D. Hallberg were among the delegates in attendance. Upon motion, they were invited to take part in the proceedings as members of the Section.

SECOND DAY, AFTERNOON SESSION.

Dr. S. E. Solly addressed the Section on the subject of the **Question of the Theapeutic Value of Residence in High Altitudes for Pulmonary Tuberculosis and the Indications for this Treatment.** The attention given recently to the subject of home treatment does not detract from the value of altitude treatment. There are many persons who cannot leave their homes and the present methods of home and sanitarium treatment are much better than any which have gone before them. Nothing that could be said in favor of altitude treatment should be construed as opposing the home management of many cases of pulmonary disease. Altitude possesses certain physiological properties owing to its peculiar conditions. Among these are diminished barometric pressure. A physiological effect of this is increase of the number of red blood cells and likewise of hemoglobin, thus overcoming anemia and improving nutrition. The immediate effect of altitude is to increase the rate of the pulse and the blood-tension, but in normal individuals the pulse soon returns to the normal and the change of arterial tension is only temporary. There is increased rapidity of the respiratory wave, especially after exertion. Both pulse and respiration are influenced to a greater degree by active exertion at altitudes than at sea-level. The lungs become more active and inspiration is fuller, increasing the chest capacity of the individual who resides in altitudes, such as in the city of Mexico. (Henriot and Lopez). We do not know whether the improvement is due to diminution of oxygen supply or to increase of respiratory effort, probably the latter, at least in great part. Then the dryness of the air at high levels, produces more rapid evaporation from the lungs and the skin, and reduces expectoration. The influences of the increased amount of sunlight has been studied a great deal, and it is very marked in benefitting certain diseases, in others it is too stimulating. The marked alterations of temperature between night and day time, the lecturer believed to exert a strengthening effect upon the nervous system, the cold nights acting something like the cold bath in typhoid fever. The aseptic condition of the air and its freedom from dust are great advantages in the treatment of tuberculosis.

Altitudes vary in temperature according to remoteness from the equator and to local conditions. They may be divided into the cold, the medium and the hot climate. In the health resorts of Canada and the North of Europe, the winters are severe and long. In the hot climates of Arizona and New Mexico, the winters are mild, but the summers are too hot for residence for most patients, and yet there are some consumptives who live there all the year round with benefit. In the hot climate there is more dust than in the cold climates, because in the latter the surrounding ground is covered with snow. Colorado offers a climate between the two extremes. It has more variability of temperature than the others, and is on this account less well suited to elderly patients and feeble persons who cannot exercise. In deciding whether or not a tuberculous patient should be sent to an altitude, something must be considered besides his physical signs. Cases may be clinically divided into purely tubercular, catarrhal, and pneumonic, which is convenient but not beyond criticism. Many cases present symptoms of all three conditions. But this division had proved very useful to the speaker in classifying these patients, in his practice. The purely tubercular cases, usually have a weak heart and are anemic. They need stimulants and the climate of Colorado usually agrees with them, especially if they are properly cared for at first. The catarrhal cases usually have some disturbance of metabolism, or uric acid excretion, which renders them liable to mucous membrane inflammations. When these patients come to Colorado, they have to be carefully guarded, on account of the variability of the climate. Often, they will do better by remaining at a lower level for a time preparatory to going to Colorado. In the pneumonic cases, there is marked tendency towards inflammatory action of sthenic character. They are advised to remain at home under treatment until the disease is less acute and ceases to progress. The climate of altitudes is too stimulating for such cases until the inflammatory action has subsided. Hemoptysis is not a

bar to removal to Colorado, but if the patient has had a recent hemorrhage he should remain at a lower level until the lung tissues have recovered from it and the condition is stationary. Patients do not have more frequent hemorrhages at altitudes than at other places, with proper care. The mental state of the patient is to be considered. If he suffers from home-sickness, he had better not go among strange scenes, where his mental state will make him unhappy. The social state of the individual must also influence the judgment. The rich who can supply themselves with every comfort, will do better than those of moderate means. The out-door laborer also will do very well, and indeed better than those who are accustomed to work in-doors. Most patients of the latter class are better suited for home treatment, although some of them do very well in Colorado. As regards the stage of the disease, if the conditions are otherwise favorable, and in case of cavity, if it be protected by thick walls, the patient will do well at any stage. But, if in cavity cases, the disease is progressing, the patient should be treated in a hospital, in the open air, if possible, until he is in a better condition, to go to an altitude. He urged that the patients themselves should be studied as well as their symptoms, and approved of State sanatoria, where a proper field for observing the cases is provided, and the cases selected which are most likely to improve after removal to an altitude.

The next paper, **"The Adaptability of Southern California and similar Climates to the Needs of Consumptives,"** was read by Dr. Norman Bridge, of Los Angeles, who later also read another communication entitled, **"The Proper Management of the Tuberculous Lung."** In the former, he extolled the advantages of that portion of Southern California, behind the foot-hills, about 25 or 30 miles from the sea, in the vicinity especially back of Pasadena, at altitudes of from 3500 to 6000 feet. Strawberry Valley, in the San Jacinto mountains, at an elevation of 5000 feet, has been selected as an ideal place for a sanitarium for the treatment of pulmonary disease. The slight fluctuations of the barometer, the comparative dryness of the air, the large amount of sunshine and mildness of the climate the year round, he thought, gave the climate of southern California special advantages for this class of cases. In the second paper, he approved of rest for the affected lung and spoke favorably of intra-pleural injections of nitrogen gas. Where this cannot be performed, he advised fixation with bands of adhesive plaster, nearly encircling the thorax, so as to limit the movement of the ribs.

"Nineteen Years' Experience with Creosote in Tuberculosis" was the title of a paper read by Dr. A. Burroughs, Asheville, N. C. The author gave no statistics, but asserted his conviction from personal observation that creosote in larger doses has a curative action in pulmonary tuberculosis. The ordinary dose of five or ten minims is too small, except to benefit a feeble digestion. It is only in large doses (60 to 100 minims) three times a day, by the mouth (given in cod liver oil, whiskey or cream), supplemented by the inhalation of fifteen to twenty minims daily (in some hydro-carbon oil), that the curative effect upon the lungs is obtained. He commences with a dose of twenty, and rapidly runs it up to eighty, minims of beech-wood creosote, given after a full meal, three times a day. He had not observed any cases of renal disturbance or other bad effects from these large doses, but had seen some remarkable cases of recovery.

A paper on **"Specific Therapeutics in Pulmonary Tuberculosis"** was read by Arnold C. Klebs, of Chicago. The author briefly considered the various methods of treatment now in vogue, and concluded that none deserved the title of specific, but in conjunction with sanitarium methods they were of unquestioned benefit, especially the serum treatment. Attempts at immunization have not left the experimental stage, and, without denying the possibility of final success, he would decry the enthusiastic support they have received from certain observers, as being premature and to a certain extent dangerous. In the therapeutic management, the importance of open air, hygiene, and diet, is universally acknowledged, but the reliance upon some supposed specific drug leads the medical attendant to fail in paying proper attention to these measures. A visit to a sanitarium in which all the details of the daily life are systematically and scientifically regulated would convince any one of the superior importance of such

measures over the ordinary methods of drug treatment of pulmonary tuberculosis.

Discussion.—**DeLancey Rochester, of Buffalo,** thoroughly endorsed the remarks commending climatic treatment. He also approved of the use of creosote in large doses in the treatment of tuberculosis and mentioned five cases which had been cured under his observation. The advice to keep the affected lung at rest he also approved. Harm has been done by pulmonary gymnastics, during the time when the disease is active; later when the lung has cicatrized gymnastics may be used with benefit.

Dr. S. C. Benney, of Denver, said that it had been his observation that, as regards hemorrhage at altitudes, one case out of every four which has had bleeding from the lungs before arrival may expect to have a recurrence. If a patient, however, has had a hemorrhage very recently, he had better go to an altitude by easy stages, for the sudden change may bring back the bleeding. The altitude treatment is not suited to cases of dry bronchitis, fibroid lung, emphysema, kidney disease, or some forms of heart trouble. In conclusion, he approved of the method of strapping one side of the chest where only one lung is affected, as a measure affording much relief to the patient and giving partial rest to the lung. In cases with pleural effusion, complicating tuberculosis, he did not consider it advisable to aspirate the chest, as the rule, on the ground that the lung should be kept as much at rest as possible. Where the straps have been worn for some time, he advised that they should be removed one at a time, at intervals of a day or so. He mentioned a case of pneumo-thorax that had been produced by coughing, after straps had been removed.

Dr. Miner, of Asheville, said that **Dr. Bridges** did not sufficiently differentiate his cases, in speaking of giving rest to the diseased lung. When he says that a diseased lung should not be exercised, the speaker took issue with him. The lung is not all diseased and the part not affected should be used. Part of the benefit of altitude is due to the increased expansion of the lung which it produces. The climate treatment is only an adjunct to the other treatment.

Dr. Moore, of Nebraska, said that a life in fresh air and sunshine are the curative agents that are most important, and that drugs and climate had little effect.

Dr. C. S. N. Hallberg said that with regard to creosote, great stress had been laid upon the necessity of the purity of the agent, and upon the value of the test which the lecturer relied upon. He informed the reader of the paper that creosote is not made in such simple method as that described, nor are the tests which he gave to be relied upon. Creosote is one of the most insoluble remedies, and is soluble only in 150 parts of water. It is fortunate that it is so, when such large doses are given. It is broken up in the intestinal tract into guaiacol and creosote and forms more soluble compounds. The greatest therapeutic benefit is to be obtained from doses no larger than 4 or 5 to 10 Gg., given in capsules or pill, which will pass through the stomach into the intestine, and be there gradually dissolved. A saturated solution (1½ percent.) has been advocated by **Dr. Hare,** for internal administration.

Dr. Klebs approved of the remarks of **Dr. Solly** upon the necessity of discrimination as regards the social and financial condition of patients. It has too often happened that patients are sent as far as El Dorado, to an altitude, and have nothing to live on when they get there. Such patients should be treated in hospitals or sanitarium.

De Lancey Rochester, of Buffalo, read a paper on "The Treatment of Pneumonia." Recognizing the disease as a form of acute infectious disease manifesting itself by septic intoxication, attended with a local disturbance in the lung and kidneys, he directed the treatment towards favoring elimination of toxins and excrementitious principles, counteracting the depressing effect of the poison upon the heart, and sustaining the strength of the patient. The bowels and skin are the avenues of excretion which should be stimulated. An initial dose of calomel (0.50 G) followed by a saline, not only opens the bowels, but relieves a distended right heart: it may be repeated when the indications of this condition present themselves. The hot mustard foot bath, followed by measures to obtain sweating, is also very useful, and may be repeated at four hour intervals during the disease. The diet should be fluid; a large quantity pure water should be administered.

For the heart, he advised strychnine (0.004 G every two hours), alcohol, or aromatic spirits of ammonia, given with liquor ammonii acetatis. Cupping or leeching of the affected chest, and in cases of over distension of the right heart, with increasing cyanoses, etc., venesection was advised. After venesection, or in cases of threatened heart failure, subcutaneous injection of normal salt solution may be resorted to. Oxygen inhalations may be required, where more than one lung is involved. Small doses of hypnotics, chloralania, chloral, or Dover's powder, may be required for sleeplessness. Digitalis in the early stages is irrational and unscientific. No abortive treatment is possible in an acute infectious disease. The serum treatment may prove to be the most scientific means of treating pneumonia.

Dr. W. L. Dickerson, of St. Louis, read a paper on "The Abortion Treatment of Pneumonia; a Plea for the Use of Cardiac Depressants in the Treatment of the Congestion Stage of Pneumonia;" in which he advocated the use of tincture of veratrum viride in small doses, every two hours, in the congestion stage of pneumonia, and reported most favorable results from this treatment in his own experience.

The discussion was a general one, participated in by **Dr. J. F. Spelman, of Anaconda, Montana;** **Moore, of Nebraska;** **Carlton, of Tennessee;** **Mary McCoy, of Duluth;** **Hawkins, of St. Paul,** and the Chairman. The trend of the remarks was in support of the position taken by the reader of the first paper and in opposition to that of the second.

THIRD DAY, THURSDAY. MORNING SESSION.

"The Influence of Certain Common Remedies upon Gastric Functions," was the title of a paper by **Boardman Reed, of Philadelphia.** He concluded that among dwellers in cities, perfectly normal stomachs are rare, especially among persons employed indoors. The indiscriminate administration of bitter tonics and of hydrochloric acid is capable of doing harm, to approximately normal stomachs, if kept up for even a short time. Hydrochloric acid (dilute), if given in cases of hydrochlorhydria, increases the acid secretion; it is injurious if given in hyperchlorhydria. Pepsin is of little value if given alone, if combined with hydrochloric acid, it aids weak digestive powers.

"The Treatment of Gastric Ulcer" was the subject of a communication by **Dr. Gustav Fuetterer, of Chicago.** The observation was made that the prognosis of gastric ulcer is less favorable than is usually believed, it is very slow in repair and may remain unhealed for months. Even after cicatrization has taken place the danger is not over, because it very frequently becomes the site of malignant disease. He advocated absolute rest, and for the first few days feeding with beef juice, from five pounds of beef daily, following this with milk diet for six weeks. The blood should be examined for its percentage of hemoglobin, and when this is below normal the beef-juice must be used until the normal rate is attained. The treatment is based on the dictum that ulcer of the stomach can form only when there is a certain amount of deficiency of the hemoglobin, and that it will heal when this deficiency is made up, by the beef-juice treatment. In cases of stenosis of the pylorus, early gastro-enterostomy is advised.

Dr. James B. Herrick, of Chicago, opened the discussion. He endorsed the statement that importance of gastric ulcer has been underestimated by the profession. Many cases terminate by hemorrhage, peritonitis, and pyloric cicatricial obstruction, or eventually become malignant. He spoke of the work of **Dr. Fuetterer** as deserving the highest praise, and approved of the method of treatment. Rest in bed with milk diet are essentials in the management. Small doses of morphine hypodermically not only relieve the pain, but favor the healing process by restraining the motion of the stomach.

A paper on "The Treatment of Gastric Hyperesthesia," was read by **Charles C. Stockton, of Buffalo.** The condition referred to was not a form of gastralgia and was not a symptom associated with hyperchlorhydria, but was due to exaltation of normal sensibility of the gastric mucous membrane, usually appearing in a neurotic patient. Indigestion does not exist although this condition might be mistaken for a symptom of indigestion. A positive diagnosis can only be made by exclusion and after a resort to gastric chemistry. In these cases, the slight pain or distress may be increased by taking food, and patients are often insufficiently nourished on this account. In some

the presence of free acid in the stomach, in any quantity whatever, gives rise to discomfort, which can only be relieved by alkalis. Any attempt to treat such cases as instances of hyperchlorhydria would lead to an aggravation of the symptoms. It is important, in the management, to increase the gastric tolerance and improve the nutrition by a carefully selected diet. Electricity is of signal service, with the negative pole in the stomach, and a current (5 to 10 ma.) of low voltage, used for five minutes, two or three times a week.

Hydropathic treatment, a cold douche or shower bath to the spine, the Scotch douche, and other hygienic measures, are as important as in the treatment of neurasthenia. Autacids are used symptomatically, and *mistura asafetida* may be given by the rectum. Dr. Tomkins, of West Virginia, said that mistakes are easily made in diagnosis of gastric disorders, and mentioned a case that had been pronounced carcinomatous by a specialist eleven years ago. The former is still living and in good health. He did not approve of gastric surgery, which he pronounced a crime, and physicians who send their patients to be operated upon for pyloric stenosis are *particeps criminis*. He advocated Fowler's solution in small doses, and some prepared foods.

Drs. Fuetterer, of Chicago; Osborne, New Haven; Johnson, Clinton, Iowa; Heinrich Stern, New York; McCoy, Duluth; Westbrook, of Indianapolis; Thomas McCrae, Baltimore; Dora G. Wilson, of Kansas City; Boardman Reed and Stockton continued this interesting discussion, which among other interesting features directed special attention to the great need of more knowledge of the principles of dietetics by the profession and especially of the prevailing lack of knowledge of the art of properly preparing food for both the healthy and the sick.

"The Theory and Practice of Organo-therapy," by S. Solis Cohen, was read by the Secretary.

"Acromegaly Treated with Pituitary Body," was the title of a paper by Sydney Kuh, of Chicago. The author insisted upon a connection existing between lesion of the pituitary body and acromegaly; in nearly all cases of this disease, sarcoma has been found involving the hypophysis. Some influence upon the growth of the body is excited by the pituitary body, where it is diseased, gigantism is produced; where it is atrophied dwarfing results. Exophthalmic goitre and acromegaly are associated so frequently as to make it unlikely that it is a mere coincidence. Powdered pituitary bodies having been employed in these cases of acromegaly, decided improvement was noted, especially in the headache. When the powder was stopped the headaches returned with their former intensity. In two cases decided nutritional improvement was noticed. While the treatment cannot affect the organic changes in the tissues, yet if the subjective symptoms may be relieved the treatment is of benefit, and deserves further trial.

"The Treatment of Graves's Disease with Thymus Extract," was the topic selected by John M. Dodson, of Chicago, for his communication. In several cases the author reported marked improvement in the classical symptoms of exophthalmic goitre following the use of powdered extract of thymus gland.

Discussion.—Dr. Osborne said that the papers had carried out his own idea that there is a connection between Graves's disease and acromegaly. In autopsies of cases of the latter disease the thyroid gland has also been found to be enlarged, in every instance. He had recently had two cases under the pituitary treatment at a dispensary, and had noted, by one, a remarkable improvement; the other case he was not sure of. The discussion was continued by Boardman Reed, the Chairman, the Secretary, D. Shelly, Kansas; Vaughan, of Ann Arbor, Stern, of New York, Kuh and Dodson.

"The Pharmacology of the Supra-renal Gland, and a Method of Assaying its Products," was read by E. M. Houghton, of Detroit, and was followed by one on "The Principle of the Supra-renal Glands," by Dr. Jokichi Takamine, of New York. There admirable communications well supplemented one another. Dr. Takamine detailed the efforts that had been made to discover the active principle of the adrenals previous to his own work upon the subject. Very recently he had succeeded in isolating a pure active principle, which possessed the power of raising the blood-pressure; this substance he had named "adrenaline." He described the method of separating it from the crude material of the glands, and demonstrated

several characteristic tests by which it can be recognized. A specimen of pure white, crystalline substance was presented and a review of its physiological effects given, with suggestions as to its therapeutic uses.

Remarks in commendation of these papers were made by Dr. Vaughan. Dr. Stern inquired if any cumulative effect had been observed from adrenaline?

Dr. Boardman Reed desired more information as to the poisonous effects, in single dose or after long administration.

Dr. Osborne asked with regard to its absorption by the skin and adaptability to hypodermic use. Drs. Vaughan, Dodson and Houghton also discussed the paper. A vote of thanks was tendered Dr. Takamine by the Section.

Officers for the ensuing year:

George F. Butler, of Chicago, Chairman; C. S. N. Hallberg, of Chicago, Secretary.

SECTION ON STOMATOLOGY.

In his annual address the Chairman alluded to the symposium of last year as having shown good results. It had brought advanced conditions to the schools and these advances were well recognized. We have a right to expect as an entrance condition a degree in letters. This is an age of progress. We need larger equipments for teaching. We must do everything as well as it can be done. Each investigator must in his own way solve all problems. We must never wait for the State Society to do it. Many important matters need solution. Some students have the happy faculty of solving whatever presents to them. But the expense is often too great for individual pockets. Hence such need aid in this particular and perhaps compensation for their work.

Dental examiners should not be appointed as a political gift. The best man should be appointed. A standard should be established by the National Association, then one who passes can go into any State to practice. Again, in the case of those who have practiced for years and are not fitted to pass an examination by absence from college, a certificate should be awarded. The department of prophylaxis is bright with possibilities; a fruitful field is here opening. One writer has shown the existence of bacteria on the teeth and a predisposition to the formation of a hard gelatinous film, a culture medium for micro-organisms. He calls it "gelatinous microbial plaque." These bacteria are malign or benign according to their environment. The saliva when abnormal is the exciting cause. Another writer tells of the active lives of bacilli from a superabundance of glycogen as found in the saliva making it alkaline, producing glucose, then lactic acid which unites with the lime of the teeth producing decay of the teeth. Other exciting causes are the improper nutrition in many cases. Another has proposed for the cleaning of the teeth a flat piece of orangewood for spaces between teeth used with pumice by which the teeth are thoroughly cleaned and polished. This also stimulates the vital functions. The use of fine salt once a week also will stimulate the gum tissue. Another subject of importance is the Dental Service of the United States Army. The plan proposed is not all we would like. We fortunately have Dr. Marshall as the President of the Examining Board. He is eminently fitted for the position. We should demand a high standard from Contract Dental Surgeons and this is well shown by the results of the fact that but two passed of fourteen applicants. He urges none to come up but those who are well prepared.

Science has made vast strides in Biology. We learn that protoplasm is not a single chemical substance, but highly complex and that continual chemical transformations occur. Protoplasm is supplied by the egg, hence the nitrogenous part is supplied wholly by the mother. While the nuclei are divided and from both parents are formed groups of chromosomes which are respectively paternal and maternal in their origin. Redivision takes place and so throughout the growth of the animal. Again an egg may be fertilized by chemical stimulus without the participation of the male element. Thus eggs of the sea urchin allowed to develop in sea water with a slight excess of potassic chloride develop an embryo slightly altered from nature. No skeleton is formed and larvae result, living, vigorous, but widely differing from the normal. Or lithium chloride in the water causes a more remarkable change, developing as new organisms. These processes cannot

redevelop and perish. These facts are interesting as thus creating new organic forms. Insects, frogs, etc. thus show that sex is determined by conditions of nutrition. We may yet succeed in fertilizing the egg by chemical means and produce males and females from analogous methods.

The second paper was by Dr. Wm. Carr, New York City, on the methods of appointment on boards of examiners. Diplomas should not give the right to practice. The low standard of schools is due to the lack of State supervision. License to practice should only be given after a careful examination by a Board of Examiners appointed by the State. Charters are granted recklessly by the Legislature, hence the teachers are not selected for merit. New York fortunately is not thus hampered, as the State Universities are the governing body. It has been seen that good colleges will endorse diplomas of bad schools outside the State. Even fraudulent papers were endorsed. Hence we should do away with diplomas. While there are Boards in nearly every State, yet as some refused to list all schools, litigation followed, causing great difficulty in the work of the Board. We can raise the standard in proportion to the demands of the profession. It is highly important that Boards are properly constituted of honest, competent men with eyes single to duty and then admission to the profession would be confined to the best, to the exclusion of the incompetent. Examiners must not be identified with teaching bodies, yet conversant with the arts of instruction and examination, able to frame questions which shall elicit from the candidates what knowledge they possess, and their ability to apply it. An appointment to this post should be regarded as an honor, never depending upon politics nor influence of any kind.

The third paper, Revenue for Conducting the Work of Boards of Examiners, whether by taxation of the people—by fees from the candidates—by taxation of the profession, was considered by G. I. Parmelee, Hartford, Conn. The effort is not to compel men to live up to a code but to protect people from improper practitioners. After carefully considering the subject, all points to the conclusion that revenue should be from the candidate, as in all other matters of similar character.

V. E. Turner, Raleigh, N. C., also considered the subject and concluded that the fees of candidates alone should be the source of revenue.

The next paper, The Dental College Standard, is it What it Should Be? If Not, What Improvements Should be Made? How May the Requirements be Made? Dr. C. Chittenden, Madison, Wis., said the standard is not the same in all States. Some demand a high education for entrance before graduation, eventually this will be adopted. By the colleges uniting with the Boards, it can be adopted at once. Make it impossible that matriculants can be given standing in any college on credentials, until these are passed upon by the State Superintendent and then by a joint conference of committees of the Colleges and Board. And if needed a probationary clause requiring all shortcomings to be made up without abandoning the study of dentistry. Once adopted, let all schools agree.

The next paper, by J. A. Libby, Pittsburg, Pa., on preliminary work. A college is chartered by the State for the purpose of educating students in specific branches as well qualified teachers, who are thoroughly earnest and loyal and who will see that only the competent are allowed to enter and who count the qualities of the student more than the profits of the school. This alone should be the rule, but unfortunately all are not so constituted. Funds are needed to pay expenses of the school. There should be a reform in the system of educating students. When this is realized laws will be adopted and the time hastened when the dentist will mean the worker in the mechanical part, and the name Stomatologist will take the place and he will rank as an M. D.

Alice Stevens, Chicago, read a paper, Infectious Diseases resulting from want of care in the use of instruments, especially syphilis of the mouth. Hence the need of proper and careful disinfection of all instruments used in the mouths, particularly of children. She explained how to recognize these affections as presented in the tooth cavity and the method of relieving them.

Dr. James G. Kiernan, Chicago, read a paper, Periods of Stress and their Dental Marks. He explained how the teeth showed these periods by their irregularities and markings, especially in the case of children who are borne by a mother during great trouble, etc.

Dr. Eugene S. Talbot, Chicago, presented Preliminary Work, introducing the symposium of degeneracy of the pulp, followed by Vida A. Latham, Rogers Park, Ill. Literature of the Pulp. Surgical Treatment of Cleft Palate, G. V. I. Brown, Milwaukee, and the section closed its work on Thursday with a discussion of Military Dental Practice, by John S. Marshall, Chicago. This section held as interesting and useful a session as perhaps any of the sections. We mention with much pleasure the continuation of its valuable Secretary, Dr. Talbot, in office, as this is the only way the work of a section can be maintained to its full standard.

SECTION ON HYGIENE AND SANITARY SCIENCE.

Dr. W. H. Heath, Buffalo, N. Y., presented a paper, State Supervision of Marriage, its possibility, scope, justification, possibilities. After demonstrating the necessity of the marriage license, and that the State is the proper power to issue this, proceeds to develop a modified special license which is more strict in its requirements than at present. He suggests that special certificates be issued showing the qualifications of the persons about to marry; as to health, issued by the physician; as to education regarding especially marital duties. This license not to be compulsory at the outset but issued to such able to meet the requirements. He proposes methods for educating the masses; as series of lectures in hygiene physiology, etc., of a popular character. He suggests inducements of various nature to contracting parties to fulfil requirements as for instance governments and municipal positions for themselves and offspring, etc.

In the discussion the general idea prevailed that this like many other schemes is visionary and perhaps premature.

Dr. W. T. English, Pittsburg, Pa., on Pulmonary Tuberculosis presented the idea that fear is concomitant with the pulmonary system up to the time of puberty. The very first respiration is due to a nervous impulse akin to fear. As adult life is reached this attitude toward the pulmonary system is changed to one of fearlessness and disregard. The author then comments on the fearlessness in tuberculous individuals and their friends. He contrasts the fearless and hopeful attitude of these with the apprehension of victims of carcinoma, etc. He suggests that the absence of this fear is detrimental to the effecting of cures and that it is the duty of the conscientious physician to instil into the mind a normal amount of fear for the good of the patient.

SECTION ON LARYNGOLOGY AND OTOTOLOGY.

JUNE, 1901.

This section convened in the Elk's Hall, June 4, 2.30 P. M., with Dr. John M. Mackenzie, chairman, in the chair, and a good number of members in attendance.

The Chairman's address was given by Dr. John M. Mackenzie, Baltimore, who digressed somewhat from the custom of former years in giving an address on "The Study of Laryngology in the University and in the Higher Medical Education," instead of reviewing progress in the specialties for the year past.

Dr. Mackenzie dwelt upon the importance of Laryngology and upon the neglect in teaching this branch in the Medical Schools of America as well as abroad, stating that the knowledge of this branch was a requisite for the degree in but one school in this country.

In speaking of Laryngology he included its sister specialties, Rhinology and Otolaryngology. He held that this branch should have a well equipped department and a full professorship in all first-class schools. He predicted that the laryngoscope was "going the way of the stethoscope and becoming the common property of the general practitioner of medicine, and that it would become an absolute necessity in internal medicine, and that a more general knowledge of Laryngology might have a salutary effect relegating to the rear that element whose only claim for special knowledge resides in the possession of the necessary apparatus which go to make up the armamentarium of the worker in this field."

The essayist carefully reviewed the development of the study of Laryngology and outlined the present excellent course in this branch in Johns Hopkins Medical School. He urged that the subject be looked upon by the student from the high vantage ground of general Pathology and laws of health and not from the level of a narrow special-

ist, and that there be more fraternity and co-operation among the different departments of medicine, and not until Laryngology becomes the inspiration of a higher effort and a loftier ideal would it reach the full fruition of its hopes.

The next paper read was on "The Treatment of Laryngitis," by Dr. O. T. Freer, of Chicago.

Dr. Freer holds that the metallic astringents are better than the vegetable ones, since they form a protective coat which limits the egress of secretion, hence the drying effect of these astringents.

This paper was discussed by Dr. Ingals, of Chicago, and several others.

The next paper was a very interesting report of four cases of Edematous Laryngitis by Dr. Jos. S. Gibb, of Philadelphia.

This paper was followed by some remarks on "The Total Extirpation of the Thyroid Gland," by Dr. G. F. Cott, of Buffalo.

The morning session, on June 5th, was opened by a paper on "Types of Membranous Pharyngitis," by Dr. W. E. Casselbury, of Chicago, which was discussed by Drs. Mayer, (New York), Shurley and Amberg, (Detroit), and Hollinger, (Chicago).

This was followed by a paper on "The Relation of the Middle Turbinate Body to the Chronic Nasal Diseases," by Dr. C. S. Baker, of Bay City, Mich., which was discussed by Drs. Barnhill, Casselbury, Ingals and Mayer.

Dr. J. H. Farrell, of Chicago, then read a paper on "Asthma as a Result of Nasal Condition," which was discussed by Drs. Jack, Casselbury, Amberg and Barnhill. Dr. Jack holding that there was no relation between Asthma and Nasal Conditions.

Dr. C. M. Cobb, of Boston and Lynn, then read a report from Dr. George Richards, of Fall River, of a case in which the styloid process was found embedded in the tonsil, after which he read a paper of his own on "The Effect which the so-called Catarrhal Diseases of the Nose and Throat have upon the General Health," in which he brought out the interesting point that rheumatic pains in distant parts of the body often disappear after thorough drainage of the diseased accessory nasal sinuses has been established.

This paper was discussed Drs. Casselbury, Woolen, Kline, Kuyt, Roy, Freer and Farrell, Dr. Casselbury stating that four cases of Anomalous Styloid in the tonsile had been reported to this section in the last few years, thus showing it was not an uncommon phenomenon.

At the afternoon session, June 5, the Nominating Committee reported the names of the candidates for Section Offices for the following year.

Dr. G. H. Makuen, of Philadelphia, was nominated for Chairman, and Dr. C. S. Barnhill, of Indianapolis, for Secretary. The nominations being closed, these two gentlemen were elected to fill the positions named.

The names of five members were then placed in nomination from whom two were to be selected to represent the Section in the new House of Delegates of the Association. Dr. Emil Mayer, of New York City, and Dr. George C. Stout, of Philadelphia, were chosen in this capacity.

Dr. E. Fletcher Ingals, of Chicago, then presented a most scholarly paper on "Empyema of the Frontal Sinus," which was freely discussed. This was followed by a paper on "The Anomalies of the Frontal Sinus and their bearing on the Chronic Sinusitis," by Redmond W. Payne, of San Francisco, Cal.

"New Growths in the Upper Respiratory Tract" were freely discussed after the reading of the following papers on this subject:

1. Carcinoma of the Nasopharynx, by Chevallier Jackson, of Pittsburg.
2. Sarcoma of the Nasal Passages with report of a Case, by Dunbar Roy, of Atlanta, Ga.
3. Epithelioma of the Upper Respiratory Tract, by S. A. Oren, of Illinois.

The afternoon session was closed with a paper on "Changes in the Facial Bones," due to Adenoids, by A. T. Mitchell, of Vicksburg.

Thursday morning session was devoted to a "Symposium on Mastoiditis," Dr. Stout being in the chair.

The first paper was that of Dr. E. P. Dench, of New York City, on "The Diagnosis and Treatment of Mastoiditis."

The second paper was by Dr. Hiram Woods, Jr., of Bal-

timore, on "Mastoiditis after Subsidence and without Recurrence of Tympanic Disease."

These interesting papers brought forth a general discussion, which was participated in by twenty members of the Section, the subject being thoroughly discussed in a most entertaining and instructive manner.

At the afternoon session on this day, Dr. G. Hudson Makuen, of Philadelphia, reported a case of an "Unusual and Interesting Tertiary Manifestation," after which the Section adjourned, after a most interesting program.

American Climatological Association.—The following delegates have been appointed to represent the American Climatological Association at the British Congress on Tuberculosis. Dr. Edward O. Otis, Boston; Dr. Judson Daland, Philadelphia; Dr. Henry L. Elsner, of Syracuse, N. Y.; Dr. Charles F. McGahan, Aiken, S. C.; Dr. Thomas D. Coleman, Augusta, Georgia; Dr. Carroll E. Edson, Denver. Dr. Guy Hinsdale, Philadelphia, has received a notice of his appointment as honorary member of Congress.

JOURNAL DES PRATICIENS.

April 13, 1901. (15me. Année, No. 15.)

1. Recurrent Intercostal Roseola. De BEURMANN and LOUIS DELHERM.
2. Enteroptosis. FRANTZ GLENARD.

1.—**Recurrent roseola** shows a tendency to appear along the posterior intercostal spaces, never appearing on the anterior surface of the thorax or abdomen. This has been seen in syphilis. As the eruption is fleeting, all syphilitics were examined twice weekly. Only eight typical cases were found among 1089 patients. Other varieties of roseola occurred, both circinate and ovoid. This eruption appeared in distinct lines along the intercostal spaces, each spot discrete, the whole resembling the branches of a tree, of which the spine was the trunk. The upper branches were shorter than those lower down. The eruption was visible from one to two weeks, being very distinct only a few days. The eight histories follow. As it lasted so short a time, it was probably not due to circulatory disturbance. It may have been due to syphilitic action upon the marrow, certain of Head's zones being affected. It recurs, is seen from the fourth to the sixth month of syphilis, is never serious, and yields to mercurial treatment. [M. O.]

2.—From a study of 40 autopsies, Glénard found that when the suspensory ligaments of the stomach and intestines are relaxed, with the descent of these viscera, stenosis will occur. But as the cecum has no suspensory ligaments, it alone will retain its normal shape. The result of the stenosis of the intestines will naturally be a diminution of the tension of the abdominal wall. Then the descent of the kidney or liver may follow. The subjective symptoms of enteroptosis are sudden pain in the right lumbar region, weakness, constipation, emptiness, dyspepsia, neurasthenia, emaciation, pallor, etc. The objective symptoms are tenderness in the right lumbar region, diminution in the abdominal tension, movable kidney, the colon felt as a cord, the cecum being normal in size, prolapse of the liver, epigastric pulsation, and perhaps plenoptosis and metroptosis. Saline laxatives are given, and sodium bicarbonate; suppression of all acids, wine, cereals, and fats; a milk diet ordered, then green vegetables, cold bathing, warm alkaline waters. First the intestinal, then the gastric or hepatic, finally the neurasthenic symptoms appear. An abdominal binder must be applied. The movable kidney is not due to corsets, but the constipation and enteroptosis are. This primary enteroptosis occurs commonly in women, with confinement or traumatism. Secondary enteroptosis is seen in men, due to gastric atony, probably hepatic in origin. For the liver plays an important role in all cases of secondary enteroptosis. Only after years of treatment do these patients recover their general health. Glénard employs his "belt-test" in the diagnosis of enteroptosis. The physician stands behind the patient, encircling the abdomen with the palms of both hands, supporting and lifting up the patient. If this affords relief, the diagnosis of enteroptosis is confirmed. [M. O.]

The Latest Literature.

BRITISH MEDICAL JOURNAL.

JUNE 18, 1904.

1. An Address on Theories of Inheritance, with Special Reference to Inheritance of Acquired Conditions in Man. J. GEORGE ADAMI.
2. The Pathogenesis of Tabes and Allied Conditions in the Cord. CHALMERS WATSON.
3. Case of Malignant Disease of the Lung, with Pseudo-Tuberculosis. H. BATTY SHAW.
4. Sequel to a Case of Pulmonary Hypertrophic Osteoarthropathy; Necropsy. E. FARQUHAR BUZZARD.
5. The Pulse-Rate in Pulmonary Tuberculosis. THOMPSON CAMPBELL.
6. The Position in which the Regurgitant Aortic Murmur is most clearly Audible at the base of the Heart. H. W. SYERS.
7. The Development of *Filaria Nocturna* in Different Species of Mosquitos. GEORGE C. LOW.
8. Notes on the Value of Experiments in the Question of Food Preservatives. A. S. GRUNBAUM.

1.—In his discussion of the theories of inheritance, Adami believes that the existence of hypothetical "ids" is absolutely disproved. It is to the germ plasm, the active matter in the germinal cells, and to the properties of the germ plasm, that we must turn in order to gain our basis for any sound theory of inheritance. This germ plasm it is which conveys living matter from generation to generation. Whatever life be, the fundamental phenomenon or possession of living matter is the performance of work coupled with growth. Growth is essentially a chemical process and any adequate theory bearing on the phenomena of growth must primarily be along chemical lines. The matter which is essential to, and directly concerned in, activity of any one species or individual is a single substance, which, following Nägeli, we can refer to as "idioplasm;" and our conception of the individual or of the separate cell units forming that individual must be that in each we have to deal with two constituents: the idioplasm, or essential and directive living matter and the cytoplasm, which is in the strictest sense non-living, or, certainly unable to exhibit the whole series of vital properties apart from the idioplasm, and which consists of various formed elements developed and influenced by the controlling idioplasm, intimately connected therewith, it is true, but at the same time not an essential part of the same. That the constitution of the idioplasm is not absolutely but only relatively constant has also to be assumed. Then we must admit that the idioplasm of the highest forms, judging from its powers of controlling and directing the development of highly complicated organs, is something very much more complex than the idioplasm of the unicellular organisms; that in the course of evolution this has undergone successive accretions of properties, and this accretion of properties is the manifestation and accompaniment of increasing complexity of constitution of that idioplasm. We can imagine a chemical substance so constituted as to be capable of modification in its molecular constitution—and so in sundry of its properties—without undergoing complete change, without other properties being lost. The mode of the atomic arrangement in the idioplasmic molecule may therefore in part explain the variation in the properties of that idioplasm seen throughout the animal and vegetable kingdoms. In the ovum there is one common idioplasm of simple type, to which when distributed in the various cells derived from that ovum, different side chains become attached, according to the relationships assumed by those cells, so that the cells of different orders are controlled and formed around protoplasmic or idioplasmic molecules composed of these central rings plus varying series of side chains. Indeed Adami is prepared to go further, and to state that the idioplasm possessing its full

complement of side chains must be regarded as *ipso facto* incapable of initiating cell multiplication. Fusion of the idioplasm of 2 individuals must be either a mere admixture or a true chemical combination. We may regard, then, the idioplasms from the 2 parent forms as undergoing a true chemical combination, the resultant idioplasm of the new generation being in truth a new idioplasm not possessing the identical properties of that of either parent, but being intermediate, tending in its characters and constitution towards the constitution of either one or the other, according, it may be, to the number or chemical activity of the molecules of one or other parent entering into combination. If the germ cells of both parents possess certain loosely attached or unstable side chains of more recent acquirement, which are of like nature, there is no sufficient reason why the protoplasm of the offspring should not also possess them. We can thus realize how it is that abnormal features present in both parents may be equally or more prominent in the offspring. Two orders of forces determine the structure of every cell in the body: (1) The previous influences acting upon its idioplasm and causing it to be of a particular constitution, and (2) the position in which the cell finds itself and the forces acting momentarily and immediately upon its idioplasm. Or, briefly, these 2 series of forces are inheritance and environment, and inheritance and environment determine the constitution of the idioplasm and the structure of the cells. Inheritance essentially depends upon the chemical constitution of the idioplasm or the life-bearing or biophoric protoplasm of the germ cells, not upon the number of the separate ids or biophores or ancestral plasms or pangenes contained in the idioplasm; and variation whether slight and individual or extensive, and leading to the production of species, is ultimately the expression of modification in the constitution of that idioplasm brought about by environment. This conception of the idioplasm with attached side chains, which are more firmly or more loosely attached, affords a perfectly adequate explanation of atavism and reversionary degeneration. We cannot conceive the direct transmission of identical lesions of this order from parent to offspring. Acquired disease and the effects caused by disease cannot in general be transmitted in such a way that the offspring presents lesions identical with those produced in the parent though it has to be recognized that there is the possibility of modification in that offspring due to the parental disease. We must recognize that constitutional disease, by leading to disturbance in the activity of important organs, tells not only directly upon these organs, but secondarily upon other organs—that it leads, for example, to altered condition of the blood, and so to altered nutrition of all the cells of the body. Among other cells, the germ cells may be directly affected, their idioplasm modified, and the offspring directly influenced. We can see evidences of direct transmission of acquired constitutional states. The toxins circulating in the blood of the individual undergoing immunization must also affect the germ cells; they must acquire immunity—and the individuals developed from them must have the same properties. As a matter of fact, this transmission of acquired immunity has been noted in rabbits which have been rendered immune to the *Bacillus pyocyaneus*. In those cases in which immunity is not developed, such as in chronic conditions like tuberculosis, we can comprehend how the toxins weaken the germ cells along the same lines as they weaken the general tissues of the body, and as the resistance of the body in general to a special micro-organism and its products becomes less and less, so also the idioplasm of the germ cells becomes less and less resistant, and so from parental disease the offspring gains a peculiar susceptibility to one special disease. If gout and the gouty diathesis are, as many hold them to be, of the nature of true autointoxications we are at liberty to regard the gouty diathesis as an example of truly somatogenic acquirement of an inherited and inheritable constitutional state. [J. M. S.]

2.—Watson believes that *tabes* is not a "nervous" disease in the sense usually apprehended, and that the lesions in and around the vessels are of primary importance, the lesions of the neurons being determined by local interference with the blood supply. There is good ground for the belief that the condition is dependent on a chronic auto-intoxication, the vascular lesions being to some extent general, but tending to be more advanced locally, and that the more advanced local changes determine a failure of nutrition in the adjacent nerve elements. The author had an opportunity of observing a horse affected with ataxia, paraplegia and a bilateral affection of the knee-joints of a nature not described in veterinary literature. The combination of clinical features led him to diagnose a lesion of the cord, most marked in the posterior columns, with associated neurotrophic joint lesions, of a nature akin to *tabes* in the human subject. The lesions found at the post-mortem examination were of a grosser and more widespread nature than had been anticipated, but the diagnosis was found to be substantially correct. The author describes the pathological appearances of a small piece of the cord from a case of *tabes* of 2 years' duration in a patient who died from malignant disease. Here also the evidence was confirmatory of the primary importance of vascular disease. The degree of vascular change was profound, and the degeneration of the nerve structures, as indicated by the amount of softening, was more acute than obtains in cases of uncomplicated *tabes*. He believes that in such a case we find additional proof of the general view of vascular disease as the primary factor in the **pathogenesis of *tabes*** as advanced in this paper. Given an added *toxemia* such as is present in malignant disease, the result will be an added severity in the local lesions throughout the cord, and these will be correspondingly greater in that part of the cord which is more susceptible to various toxic influences. In cases that run an acute course a careful investigation of the history will reveal the previous occurrence of conditions similarly capable of so influencing the tissues as to render them more susceptible to the influence of the toxins at work. Evidence can be adduced from the histological study of cases of advanced *tabes* in support of the view that the primary fault is to be found in malnutrition rather than in primary degeneration of the nervous elements. In specimens from a case of well marked *tabes* there were advanced degeneration of the posterior columns and slight involvement of the lateral tracts, diffuse degeneration of the cornu-commissural fibres, and decided marginal degeneration of the nerve fibers of the anterior part of the cord. The involvement of the cord was a very extensive one, and in the opinion of the author the changes in the various columns differ only in degree. The vessels in the affected areas were greatly thickened and the capillaries showed extensive thickening, with diminution of the lumen, sometimes to obliteration. The space in some cases were mere dilations of lymphatic spaces, determined by traction of the surrounding cirrhotic tissue, and in others they represented spaces from which nerve fibres had disappeared. The nature and extent of these changes indicated vascular diseases as the primary disorder. More especially is this the case when it is remembered that disease of the vessels induced by the long-continued action of some irritant will cause defective nutrition of the related cord, and that defective nutrition accounts simply and adequately for degeneration of the nerve fibers. We find in the grey matter a varying degree of overgrowth of neuroglia. This is precisely the condition that occurs in the cells of the grey matter in the cortex in general paralysis, which is associated with, and indeed, dependent upon vascular changes in the smaller vessels supplying the affected areas. The author referred to the case of a man who was suffering from *tabes* and in whom previous illnesses afforded good grounds for thinking that his general powers of resistance to all toxic agents might be materially lowered. This was especially true of the digestive tract. The life of the patient and his dietetic habits were specially favor-

able to progressive diminution of the natural powers of resistance in the gastrointestinal mucous membrane. The initial symptoms which extended over a year, were directly referable to the digestive tract. The continued fetor of the patient's stools and melenia in the intervals between the paroxysms, indicated to the writer the primary importance of the intestinal lesions. During the gastric crises the patient presented a slightly pathological leukocytosis characterized by polymorphonuclears 88%, lymphocytes, 11%; eosinophiles, 1%. Watson thinks it possible that the crises are of a nature akin to relapses in some recognized infective conditions, the difference being merely one of degree. Anomalous cases are most readily explained by the vascular theory of the origin of the disease.

This theory will also readily explain the relationship between the onset of the disease and traumatism, exposure to cold and the like; the causal relationship between *tabes* and heart lesions; the cases of tabetic ecchymosis; and the great variety of clinical features seen in advanced cases. The broadest conclusion that we can deduce concerning the relation between *tabes* and syphilis is that syphilis alters the physiological condition in such a way as to favor the attack and operation of the actual cause of *tabes* and allied conditions. In this respect the influence of syphilis is similar to that of measles or scarlet fever in leading to the development of tuberculosis, and similar also to the action of the influenza bacillus in relation to other pathogenic organisms. The proper line of investigation concerning the pathogenesis of *tabes* is directed to the discovery of the nature and source of the toxic substance at work. The alimentary tract furnishes the chief area of investigation, and, in all probability, it will be proved to be the original source of the *toxemia*. [J. M. S.]

3.—Shaw reports the case of a man, aged 27 years, who suffered from pain in the left side of the chest, shortness of breath, and weakness, for 4 months. The disease began suddenly in an attack of what was considered to be influenza; ultimately "pneumonia and pleurisy" developed. On admission to hospital, the patient was distressed in breathing, and had a short spasmodic cough, which caused considerable pain in the left chest and which was accompanied by a copious, frothy expectoration. There was considerable flattening at the left apex, and, on the same side, the vocal fremitus was weak and the percussion note in the lower part of the axilla was dull, though a skodaic note was obtained at the apex. The breath sounds on the left side were very weak, more especially at the base. The temperature was 103.4°, pulse 100, and respiration 36. Fifteen days after admission the patient's condition suddenly became much worse; he coughed up about half a pint of very offensive, purulent material, had great dyspnea and cyanosis, and died a few hours later. The pathological diagnosis made at autopsy was **sarcoma of the root of the left lung**, producing stenosis of the bronchus and the vessels, and associated with pneumonia, probably due to the septic organisms present. The lung condition closely resembled that met with in tuberculosis, with the exception that the process was more marked at the base than at the apex. [J. M. S.]

4.—Buzzard referred to the case of a patient who was suffering from a typical form of pulmonary hypertrophic osteo-arthritis which was published in the *British Medical Journal*, 1913. The patient had a history of cardiac failure. At the necropsy the skull was found considerably thicker than normal, and the bones were very hard and dense. There was edema of the brain; the pituitary body was soft and a little purulent material appeared to escape from it. There was a marked curvature at the level of the third and fourth dorsal vertebrae. An abscess cavity situated at the root of the right lung opened into the spinal canal from the front, but the whole of the disease lay outside the dura mater which was covered with thick granulations. The cord presented a somewhat softened appearance at the level of the disease. No changes could be found in the internal aspect of the left wrist joint, but examination of the ends of the ulna and the radius showed

them to be thicker than normal, the increase in thickness affecting the dense bone more than the cancellous. Ascending and descending degenerations could be seen in sections of the spinal cord above and below the lesion in the upper dorsal region. The median, ulnar, anterior crural digital and sciatic nerves presented no degenerated fibres. There were no appreciable alterations in the bones or joints of one finger. The lungs showed marked thickening of the pleura and a very fibrotic condition of the pulmonary tissue, but no tubercles or definite caseation. Sections of the pituitary body showed chronic inflammatory change but no tubercles. [J. M. S.]

5.—The question that an examining physician to a sanatorium for tuberculous patients is called upon to decide is: Can recovery or an approach to it be reasonably expected after treatment of the patient for 6 months? After a careful consideration of the extent of the disease, as evidenced by the physical signs, and the acuteness of the process indicated by the course of the temperature, due regard should be paid to the pulse. Having noted the rate when patients presented themselves for examination prior to admission, and compared it with the record obtained during a week's confinement to bed Campbell finds that on an average there is a decrease of 20 beats per minute in the latter case, the difference being naturally smallest when there has been the least departure from the normal rate in the first instance. Thus to form a true impression of the vital powers in the case of a phthisical subject presenting himself in the consulting room, 20 beats can, on an average, be subtracted from the pulse-rate observed during the examination. If, on making this allowance, the pulse-rate exceeds 100, the case is not likely to exhibit an approach to recovery in the time mentioned above, and is therefore not suitable for admission. In the case of patients under more direct observation, if, after a period of complete rest in bed, the pulse continues to run at or exceed 100 outlook is not promising. In cases of tuberculosis complicated by mitral stenosis, a pulse-rate exceeding 100 is not of much grave import so far as the tuberculous process is concerned. In attaching a significance to the pulse-record in cases of pulmonary tuberculosis, allowance must be made for the possibility of over-exertion, excitability under examination and the presence of mitral stenosis; but, with these reservations, some assistance will be obtained in making a pronouncement regarding the probable duration of life. [J. M. S.]

6.—Syers holds that in at least 95% of the cases in which aortic reflux occurs the diastolic murmur is heard much more loudly at the second left interspace close to the sternum than in the second right interspace. This undoubtedly accounts for the fact that aortic reflux murmurs are constantly overlooked. The mistake has arisen partly in the growing tendency to employ the binaural instrument. [J. M. S.]

7.—Will be treated editorially.

8.—Grünbaum criticises the conclusions of Rosenheim and Tunncliffe concerning the influence of boric acid and borax upon the general metabolism of children. Only 3 experiments were made. Obviously very little weight can be attached to negative results of 3 experiments even if they are all concordant, especially since positive results of injury are on record. The period of administration was only 12 days. This is rather a short time from which to draw general conclusions. The age of the children varied from 2½ to 5 years—that is, well over the age in which milk usually forms the only article of diet, and the age at which the alimentary canal is most sensitive. But the mere fact that the metabolism remained practically unaltered is not *per se* evidence that the boric acid compounds caused no injury. Boric acid, as well as borax, has a distinctly inhibiting effect on the rennet ferment if added in proper solution. Although it is correct that no erythematous rashes have been recorded through taking borax with food the authors have omitted to mention the far more

important fact that other more serious toxic effects, which could hardly have been due to anything else, have been recorded as the result of taking milk drugged by the dealer with borax. The quantities of borax given were certainly much less than that required to inhibit bacterial growth in milk and less than required to preserve milk for 24 hours in summer. It is impossible to judge from an experiment of 2 or 3 weeks' duration whether taking a drug over a lengthened period, especially in infancy, may not affect the length of a man's life. There is no reason to suppose that any ordinary organic or inorganic substance which will injuriously affect a cell like a bacterium, does not also injure the cells of the alimentary canal. The specific antitoxins and similar bodies are of course exceptional. The repair of these injured cells throws a strain on the organism which it would not have had without the addition of the preservative to the food. The fact that the commonly employed antiseptic preservatives are rapidly eliminated by the kidneys, either unchanged or only slightly changed, is, to the author's mind, the most conclusive evidence of their poisonous character. It throws an uncalled for burden on the normal kidney, and when the kidney is no longer normal, may be positively dangerous. [J. M. S.]

LANCET.

June 1st, 1901.

1. A Clinical Lecture on Acroparesthesia, Erythromelalgia, Sclerodactylia, and other Angio-neurotic Disturbances, etc. THOMAS D. SAVILL.
2. Arterial Hypertonus and Arterio-Sclerosis; their Relation and Significance. WILLIAM RUSSELL.
3. The Bacteriology of Sporadic Cerebro-spinal Meningitis. WILLIAM HUNTER and ALEXANDER W. NUTHALL.
4. On the Operative Treatment of Corneal Astigmatism. A. BREUER.
5. A Further Note on the Technique of the Quantitative Estimation of the Bactericidal Power of the Blood, etc. A. E. WRIGHT.

1.—Savill delivered a lecture at the West End Hospital for Diseases of the Nervous System, on acroparesthesia, erythromelalgia, sclerodactylia, and other angioneurotic disturbances. The author defines acroparesthesia, as a symptom, characterized by tingling and numbness, and occasionally by redness and swelling of the hands and feet. This condition is frequently associated with such conditions as general paralysis, tabes dorsalis, or gastric disturbances, but may occur without these morbid states. The main features of the disease, erythromelalgia, are painful redness, and swelling of the extremities. The term sclerodactylia is defined as meaning a localized form of scleroderma affecting the fingers and toes, and occasionally the ankles, legs, wrists, and fore-arms. He contends that these conditions are undoubtedly related to Raynaud's disease. He believes that acroparesthesia and erythromelalgia are probably closely allied with Raynaud's disease, and during the past two years the author has met with some thirty-five patients presenting more or less definite symptoms pertaining to this class of diseases. After giving a report of a number of cases, Savill suggests the following clinical classification of vaso-motor disorders of the extremities: (1) *Vaso-dilator disturbances*, (a) the early chronic stage being characterized by attacks of redness, tingling, and burning (*congestive acroparesthesia*); (b) the late chronic stage is characterized by permanent swelling (*erythromelalgia*); (c) Should these conditions be acute, the symptoms go on to gangrene (*congestive or asphyxial type of Raynaud's disease*). (2) *Vaso-constrictor disturbances*, (a) the early chronic stage being characterized by pallor, numbness, and tingling of the extremities (*ischemic acroparesthesia*); (b) the late chronic stage is characterized by thickening of the skin and subcutaneous tissues (*sclerodactylia*); (c) If these conditions should be

come acuae dry gangrene probably results (syncopal type of Raynaud's diseases.) [F. J. K.]

2.—Russell read a paper before the Medico-chirurgical Society of Edinburgh on May 1, 1901, on "The Relations and Significance of Arterial Hypertonus and Arteriosclerosis." The author gives an account of the literature of this subject and his personal observations. He contends that recurring or continued hypertonus is finally followed by hypertrophy of the muscular media of the arteries.

3.—Hunter and Nuthall discuss the bacteriology of cerebro spinal meningitis. They give a report of ten cases and conclude that a diplococcus was found in the cerebro-spinal fluid of all the cases. Morphologically and biologically this diplococcus was identical with Weichselbaum's diplococcus intracellularis meningitidis. In some of the cases bacillus influenzae and the bacillus of tuberculosis were associated, while in others the diplococcus was found in pure culture. The clinical and pathological manifestations, found in the cases they analyzed, were identical with those of the so-called posterior basal meningitis. They suggest that posterior basal meningitis is probably a sporadic form of cerebro spinal meningitis due to the diplococcus intracellularis meningitidis. [F. J. K.]

4.—Breuer has obtained good results from cauterization in corneal astigmatism. He selected only such cases for operation in which there was a reasonable chance that the patient could be left without glasses afterwards. The operation was therefore confined to cases of mixed astigmatism and compound hypermetropic astigmatism, the best results having been obtained in the latter cases. An over-effect should always be produced, and according to the author the part which is lost seems to be less in adults than in children. The more superficial and peripheral the cauterization, the better chance is there for the result to disappear in time. But if cauterization extends through one half the thickness of the cornea, a permanent result will ensue. He advises the operation in cases of compound hypermetropic astigmatism of high degree. He employed the ordinary loop of fine platinum wire connected with the electric main, (alternating current) by a transformer and rheostat. The author employs red heat and produces a small punctate burn in the limbus of the cornea or in the cornea itself, penetrating about one half the thickness of the cornea. The cauterization is performed under local anesthesia. [M. R. D.]

5.—Will be treated editorially. [F. J. K.]

MEDICAL RECORD.

June 15, 1901.

1. A Note on the spread of Yellow Fever in Houses. Extrinsic incubation. H. R. CARTER.
2. On the Origin of Cancer: What Remains to be Demonstrated. SAMUEL W. BANDLER.
3. The Redundancy of the Preinsula in the Brains of Distinguished Educated Men. EDWARD A. SPITZKA.

1.—H. R. Carter discusses the extrinsic incubation of yellow fever. He mentions instances in which patients visiting infected houses long after the disease is supposed to have disappeared, have suffered from attacks of yellow fever. Carter concludes that the intervals between the infecting cases, and the first and secondary cases are habitually, considerably greater than the period of incubation of yellow fever. Yellow fever is then not contracted in any of these houses by those residing continually in them until a considerable time (in days) after the development of the infecting cases, although these same inmates had contracted the disease in the same houses. Later cases of yellow fever which occurred aboard ship after detention at marine and quarantine stations have not been followed by others among the crew. Cases of yellow fever which occur

in houses disinfected soon after were not followed by other cases among the inmates. Cases of yellow fever which occurred in houses vacated soon after, have not been followed by other cases from inmates leaving, although cases occurred among those who remained in the houses or neighborhood. Cases of yellow fever which occur in clean houses, are not often followed by other cases among the inmates exposed to no other infection until after such time as shows that the disease was not contracted for a number of days after the development of the first case, although the same inmates had developed yellow fever from these same houses later. It is evident that a knowledge of the interval in a sufficient number of instances, is sufficient to determine approximately the usual period of intrinsic incubation. He concludes that from 10 to 17 days after the development of the infecting case seems to be about the usual limits for contracting the disease by the first of the secondary cases when there are many of such cases in a house. This determination of the period of intrinsic incubation is an approximate one only. [T. L. C.]

2.—Samuel W. Bandler, apropos of the Gaylord's work on the origin of cancer, touches upon some of the investigations which have been made in this field. Leopold's results are expressed in the following chain: 1. In the fresh ovarian carcinoma of a certain patient were found blastomycetæ. 2. From this fresh carcinomatous tissue a pure culture of blastomycetæ was obtained. 3. This pure culture, injected into the testicle of a rat, produced a large number of peritoneal nodules (but not carcinoma) causing the death of the rat, and in the fresh as well as in the hardened tissue were a large numbers of blastomycetæ. 4. From these nodules a pure culture of blastomycetæ was obtained. If we are successful, on inoculation of this last pure culture into rats, in producing in them again neoplasms which are of such a character that they produce death of the animal, then the ring is complete and no doubt can be well entertained that blastomycetæ are able to produce malignant neoplasms. The causal relation of blastomycetæ to the growths produced in animals by Leopold must be granted. The decision concerning the character of these neoplasms and their actual relation to carcinoma and sarcoma is to be the controversial point. [T. L. C.]

3.—Edward Spitzka discusses the redundancy of the preinsula in the brains of distinguished educated men. The insulae of the human brains are of fundamental importance in the interpretation of mental stages. The writer was afforded exceptional opportunity in the study of the brains of the Sequins (father and son), with particular reference to a region whose development is related to that of the regions to which the faculty of speech is referred. In the brains of Dr. Edouard Sequin and his son, Dr. Edward C. Sequin, the left preinsula is exposed. The appearances of the brains are quite indicative of high intellectual capacity nor are the opercular regions in the least defective, though they fail to come into typical apposition on the left side. The explanation of this anomaly is corroborative of Waldschmidt's report upon the brains of the two Professors, namely, that the left preinsula is better developed than its fellow on the right side. So great is this development in the two brains under examination, that the left preinsulas are virtually thrust aside the opercular parts and made itself visible. Spitzka's conclusions are that in the highly intellectual (for example the two Sequins) owing to the excessive growth and development of the left preinsula causing a displacement of the opercula thrusting them apart, as it were, even though the latter be very well developed. In the defective, exposure of the preinsula is due to deficient development of the opercula and because these fail to approach each other. In such cases the insula itself is without a single exception in the series studied by this writer, of inferior development, indicated not only by the soundings of the Sylvian cleft, but also by the flatness of configuration, and lesser area of the insula cortex. [T. L. C.]

NEW YORK MEDICAL JOURNAL.

June 15, 1901. (Vol. LXXIII, No. 24).

1. An X-Ray Study of the Causes of Disability following Fractures Involving the Elbow Joint. SAMUEL LLOYD.
2. A Modified Urethral Dilator-handle. FERD. C. VALENTINE.
3. Hyperacidity (Superacidity, Hyperchloxydria, Superaciditas Chlorhydrica). A Clinical Study. H. ILLOWAY.
4. Penetrating Wounds of the Abdomen. RUSSELL S. FOWLER.
5. Paramyoclonus Multiplex. L. J. MORTON.
6. A Case of Cerebellar Apoplexy, with Autopsy. LEONARD WEBER.

2.—The advantages put forth by Valentine in his article on **modified urethral dilator-handle** are the following: (1) While being guided by the amount of resistance for each increase of dilatation, the dial is continually under the operator's eye, positively guarding against any excess of dilatation and making any change of position unnecessary; (2) Having no dial or shield at its sides, this modified dilator is more easily introduced and more easily held in position during its employment; (3) The dial, being beyond the patient's range of vision, offers him no inducement unnecessarily and even dangerously to increase its calibre; (4) The improved mechanism of this dilator-handle simplifies the construction of the instrument without increasing its cost. [T. M. T.]

5.—Morton describes **paramyoclonus multiplex** as a spasm of several muscles of the face, neck, arms and lower limbs, as well as of the muscles of the trunk. The muscles of the hands and feet are not involved. The spasms are clonic and are usually symmetrical and at times more violent than at others; the contractions vary in violence and frequency, the latter from five to fifty minutes. The external muscles are most frequently involved. This kind of tremor, with the shifting and varying forms of contraction, does not always render a diagnosis easy. [T. M. T.]

MEDICAL NEWS.

June 15, 1901. (LXXVIII, No. 24).

1. Decortication of the Lung for Chronic Empyema. GEORGE RYERSON FOWLER.
2. A Study of Some Complications and Sequelae of Typhoid Fever. H. A. HARE and H. R. M. LANDIS.
3. "The Porro-Cesarian Operation," with Report of Two Successful Cases. JAMES H. GLASS.
4. The Treatment of Scarlatinal Nephritis. CHARLES GILMORE KERLEY.

1.—In his article on **Decortication of the Lung for Chronic Empyema**, Fowler gives the following conclusions: (1) Decortication of the lung is an operation adapted to all cases of old empyema in which extensive and pre-operatively discoverable tuberculous lesions of the lungs are not present, and in which the patient's condition will permit of a major operation; (2) It may be advantageously substituted for Estlander's operation in the majority of instances in which the latter has been considered, up to the present time, as being indicated, since it is more a rational procedure in that it combines the advantages of restoration of function of the lung, so far as this is possible, with closure of the empyemic cavity; (3) It should replace Schede's operation in all cases; (4) The method of extirpation of the diseased portion of the pleural membrane, including the visceral, cortical, and diaphragmatic portions, is the operation of choice; (5) Failing this, visceral pleurotomy should be selected; (6) Pleurotomy, with simple detachment of the visceral layer of the diseased pleural membrane, gives sufficiently good results to warrant the surgeon in resorting to this procedure in cases in which the condition of the patient will not permit the application of the other and more desirable methods; (7) Whatever operative method is adopted, as complete access to the cavity of the chest as possible should be obtained, and rapid closure of the opening in the chest-wall secured, since the complete re-expansion of the lung must depend largely upon the normal respiratory movements; (8) Pulmonary or respiratory exercises should not be neglected in the after-treatment, since these aid greatly in the restoration of the function of the lung. [T. M. T.]

2.—Hare and Landis, in their paper on **Some Complications and Sequelae of Typhoid Fever**, take up the various interesting facts as follows: (1) Typhoid Fever in Pregnancy; (2) Typhoid Fever in Children; (3) Symptoms in Children; (4) Temperature in Children; (5) Eruption in Children; (6) Circulatory and Nervous Symptoms; (7) Mildness of Onset; (8) Abrupt and Severe Onset; (9) Chills; (10) Abortive Type; (11) Alimentary Symptoms at Onset; (12) Respiratory Symptoms at Onset; (13) Nervous Symptoms at Onset; (14) Renal Lesions at Onset. [T.M.T.]

3.—Glass gives the following indications for the **Porro operation** as formulated by Howard A. Kelly: (1) Where there is good reason to anticipate sepsis, where, for example, the patient is exhausted from protracted labor, and where manual or instrumental efforts at delivery have been made repeatedly or without due antiseptic precautions; (2) Where there is cancer of the cervix uteri; (3) Where the uterus contains myomatous tumors which block the pelvis or which cannot be safely removed by myomectomy; (4) Where there is an extensive atresia of the vagina; (5) Where there are bilateral ovarian tumors and no sound part of an ovary can be found and left; (6) When hemorrhage from the placental site is uncontrollable. [T.M.T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 15th, 1901.

1. Internal Medicine in the Nineteenth Century. N. S. DAVIS.
See Philadelphia Medical Journal, Page 1120. June 15, 1901.
2. Some Observations on Chronic Seminal Vesiculitis. ARTHUR L. CHUTE.
3. Iodophilia. THEODORE DUNHAM.

2.—Chute and O'Neill found 60 cases of **seminal vesiculitis** among 540 out-patients presenting various sorts of genito-urinary disease in a clinic that has a wide reputation among gonorrheal patients, but in which syphilis is not treated. The symptoms of seminal vesiculitis may be divided, perhaps rather artificially, into the direct and the reflex. Among the direct symptoms are feelings of vague discomfort in the rectum and perineum, which at times become actual pain and discomfort on defecation; persistence of discharge or shreds, in patients in whom stricture and other gross urethral lesions can be ruled out; the persistence of small comma-shaped shreds from the prostatic urethra; the recurrence, without any indiscretion on the part of the patient, of a urethral discharge which had nearly or quite stopped; frequency of micturition sometimes associated with more or less tenesmus; nocturnal emissions slightly streaked with blood, and the persistence of mucoid discharge from the glands of the urethra. The reflex symptoms comprise all the symptoms more commonly ascribed to sexual neurasthenia. The most characteristic symptoms of seminal vesiculitis are the occurrence of irregularities in the function of erection. In the early stages of the disease it is common to have a great increase in sexual desire, which in later stages gives way to sexual apathy and impotence. Absolute diagnosis can only be made by rectal examination. The examination should be made with an empty rectum and a moderately full bladder; the patient should stand with his feet apart, bending well forward over a chair, and his legs should be straight at the knee. The examiner should make suprapubic pressure with his hand or closed fist so as to crowd the pelvic viscera down so that the vesicles are more accessible. When the vesicles and ducts are diseased, they are enlarged and hard to the touch, and the patient complains of tenderness when they are palpated. In other cases one feels nothing, and the examination will show only unilateral or bilateral tenderness. Various irregularities in the contour and consistency of the prostate may be made out. After massage the material that drips from the meatus during the stripping process is milky and, on immediate examination of its contained detritus, if all the spermatozoa are non-motile it is a pathognomonic sign of vesiculitis. Non-motile spermatozoa in the detritus washed out by the urine is not decisive. The urine voided after massage is usually more or less turbid, with a slightly opalescent tint, and in it there are often little caseous-looking masses which are heavy and fall to the bottom of the glass. These are made up of epithelial and pus cells, and frequently contain large, partly-rolled plates

of mucus. The treatment that yields the best results includes massage of the prostate as well as of the vesicles and ducts. Massage should be performed by the terminal phalanx of the right forefinger, which should gently stroke the diseased tissues in a downward direction. At first the patients are massaged at intervals of from 5 days to a week. Later, the intervals are longer and the massage more thoroughly done. If the patient has emptied his bladder and cannot pass urine after massage it is wiser to fill his bladder with mild corrosive sublimate permanganate or nitrate of silver solution, and then allow him to pass it. In a few instances a mild cystitis has followed massage when the refuse has not been washed out at once. When the disease has been of long duration dilating seems to have a beneficial effect. Hot rectal irrigations through a double current tube, tonics and hygiene are useful accessories to the treatment. To allow sexual intercourse occasionally when the treatment is pretty well advanced seems probably not harmful, but to advise it as a therapeutic measure is a great mistake. [J. M. S.]

3.—Dunham uses a solution composed of 3 parts potassium iodide and 1 part of iodine in 100 parts of water, which is thickened to a syrupy consistency by the addition of lumps of gum arabic. The blood smear, prepared in the usual way, is mounted in a drop of this syrup. The lymphocytes and the eosinophiles are not affected by the stain. In normal blood, the polymorphonuclear neutrophiles are either unaffected or their protoplasm is tinged a faint pinkish or brownish color. Under some pathological conditions the protoplasm of a certain proportion of the polymorphonuclear neutrophiles takes on a reddish-brown color; in some it is a diffuse stain, in some a granular net-work, while in others the color is confined to a large or small refractive granules, varying in tint from a light pink to a dark red. When one or more such leukocytes can be found in a search of a few minutes we have the condition which, for the sake of brevity, the author calls "idiophilia." The condition is apparently always present in progressive suppurations and in progressive pneumonias. In acute suppuration the intensity of the reaction is said to be closely related to the intensity of the process. In cases of so-called tuberculous abscess the reaction is absent. Abscesses caused by the germs of acute suppuration, but which are well walled off and have assumed an indolent course, rarely give the reaction. In 2 cases of pneumonia the reaction appeared before physical or other signs were especially suggestive of that disease. [J. M. S.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

June 15, 1901.

1. The Natural Method of Teaching the Subject of Medicine. WILLIAM OSLER.
2. Relation of the Medical Profession in the Twentieth Century to the Tuberculosis Problem. S. A. KNOPF.
3. Gumma of the Spermatic Cord, with Report of a Case. R. R. CAMPBELL.
4. Surgical Shock. WILLIAM H. GERMAN.
5. Non-Constrictive Dressing for Fractures. J. F. PRITCHARD.
6. Acute Glaucoma Developing in a Cataractous Eye, after Cataract Extraction in other Eye. Iridectomy and Cure. H. N. RAFFERTY.
7. Sitophobia of Enteric Origin. MAX EINHORN.
8. The Relation Existing Between Diseases of the Conjunctiva, Nose and Throat. HEMAN H. BROWN.
9. Round Ligament Ventrosuspension of the Uterus. D. TOD GILLIAM.
10. Magnetic Foreign Bodies in the Eye. E. VILLIERS APPLEBY.
11. Variability of the Tubercle Bacillus. CAR RAMUS.
12. Medical Colleges and Professional Standards. INEZ C. PHILBRICK.
13. Philippine Customs and Habits. J. C. MINOR.
14. Medical Departments in Public Libraries. C. D. SPIVAK.

1.—In an address delivered before the Society of Internal Medicine at Chicago, Osler discusses the natural method of teaching the subject of medicine. He groups the studies

in a medical school into three classes. The first pertains to the mechanism of the normal body; the second, to a study of the abnormal; and the third, to a study of prevention and rectification of deviations from the normal. The department of medicine at the Johns Hopkins Hospital consists of a professor, who has charge of the medical department of the Hospital, an associate professor, instructors, and assistants. The medical staff is composed of eight resident physicians. The four senior residents are actively associated with the teaching. Preliminary instruction in physical diagnosis is given in the second year by Dr. Thayer, the associate professor in medicine. The third year students are taught chiefly by observation. They are given courses in physical diagnosis, clinical microscopy, practical work in history-taking, and attend the general medical clinic. Much attention is directed to the observation class. This class attends the out-patient department at 12 o'clock, three days of the week. The third year student is required to devote two hours twice per week to the study of physical diagnosis and clinical microscopy. Special attention is directed to the teaching of history-taking. The third class participates actively in the general medical clinic. The student of the fourth year serves as a clinical clerk in the medical wards for two months. This instruction is given from 9 to 11 every morning. Dr. Osler's criticism as to the ward work, is that the term is too short, suggesting that at least three or six months should be devoted to this particular study. Dr. Osler meets the clinical clerks for an hour or two once a week in order to discuss the events of the week. The senior students attend the general clinic. Recitations are also held in the fourth year. [F. J. K.]

2.—Will be treated editorially. [F. J. K.]

3.—Campbell discusses gumma of the spermatic cord, reviews the literature, and gives a report of a case. In 1890 the patient had a chancre which was followed by many of the secondary lesions of syphilis. When the patient first presented himself, in 1897, he was suffering from ulcerating gummata of the legs. After a course of treatment the lesions disappeared, and in August, 1899, he complained of a swelling about the size of an almond which was located just outside of the right external abdominal ring. The swelling disappeared after treatment with potassium iodide and mercury. [F. J. K.]

4.—William H. German discusses the question of surgical shock referring first to its indefinite pathology. The author inclines to the theory that shock is due to the irritation of peripheral ends of the sensory and sympathetic nerves and a general functional paralysis of the nerve centers causing a disturbance of respiratory and circulatory action. The two forms of shock and the shock with excitement are described and illustrated by cases. The author shows that the same injury will in one subject produce torpid shock and in another produce prostration with excitement. The author thinks it difficult to account for death occurring several days after injury or operation from shock which has not manifested itself until this time. He thinks that in most instances some other cause for death can be found. A case is reported of death from fat embolus. [J. H. G.]

5.—J. F. Pritchard urges upon the profession the use of non-constricting dressings in fractures and condemns strongly the use of plaster-of-paris as a preliminary dressing. [J. H. G.]

6.—H. N. Rafferty reports a case of acute glaucoma developing in a cataractous eye, after cataract extraction in the other eye. Iridectomy and cure. A 53-year-old male developed acute glaucoma in the right eye 53 days after cataract extraction in the left eye. The latter was performed without any pressure on the eye ball and without capsulotomy, the lens escaping intact, which was explained by the author as probably due to the over-ripe and atrophied condition of the lens and to an absence of adhesions of the posterior capsule to the lenticular fossa. After the

paracentesis of the anterior chamber, a broad peripheral iridectomy was performed, resulting in the disappearance of the pain. [M. R. D.]

7.—Einhorn read a paper before the New York Academy of Medicine on May 16, 1901, on "**Stitophobia of Enteric Origin.**" The author defines sitophobia as meaning "fear of food." He uses the term sitophobia only for those conditions which result from bad consequences in mentally sound people, and excludes the cases which occur in the insane. He uses the term "sitophobia" as meaning "fear of food," when due to some intestinal disorder. He gives a report of three cases and remarks that sitophobia of moderate degree is of common occurrence. The author discusses the treatment of this condition, mentioning that it is important that the patient should be made to eat sufficient quantities of food. The bromides in nervous conditions, and codein in painful affections are the most valuable medicaments. [F. J. K.]

8.—Heman H. Brown discusses the anatomical relations of the **conjunctiva** with the nose and calls attention to the fact that in treating conjunctivitis one is not treating an isolated structure. He calls attention to the importance of recognizing the association of diseases of the **conjunctiva** and the **Schneiderian** membrane. [M. R. D.]

9.—Gilliam claims that all **suspensions of the uterus** of whatever kind are makeshifts and that anchorage of the uterus by means of the round ligaments is the nearest approach to the ideal. As a choice between evils the round ligament suspension is superior to all others, both from a physiological and from a utilitarian standpoint. He has devised a method of operation as follows: A median abdominal section is made from 3 to 4 inches long and at the usual site between the umbilicus and pubis. The adhesions are broken up and the fundus brought forward. The patient is then placed in the Trendelenburg position, and the round ligament on one side seized and brought to the opening. A silk thread is carried under the ligament by means of an aneurysm needle at a distance of about 1½ inches from the uterus. The other round ligament is secured in the same way and the ends of the thread brought out of the abdomen and held in the bite of another snap-forceps. The fascia, muscle and peritoneum at the margin of the incision are then caught with a volsellum an inch or so from the lower angle of the incision, and traction is made. This pins the layer together and prevents retraction of the muscle. Specially devised perforating forceps are thrust through into the peritoneal cavity and seize the thread which holds the round ligament. The clamp forceps are removed from the latter and the perforating forceps withdrawn. This brings the thread and ligament through the perforated wound in the abdominal wall. The ligament is held taut and fastened into the wound. The opposite side is treated in the same manner and the median abdominal incision closed. [W. A. N. D.]

11.—Ramas writes upon the **variability of the tubercle bacillus**, and concludes that this bacillus is not always easy to demonstrate. The staining reagents cannot be depended upon absolutely. The bacilli from different patients, and occasionally at different times from the same patient, may react to stains in different ways. Physical and chemical changes in the bacilli probably influence the tinctorial variations. When distinct physical signs of tuberculosis exists, even in the absence of demonstrable tubercle bacilli, the diagnosis should be made so as to give the patient the benefit of the doubt, and treatment instituted promptly. [F. J. K.]

12.—Philbrick writes upon **Medical Colleges and Professional Standards**. The author states that the United States Commissioner of Education reported that in 1894 there were 23,778 medical students. The percentage increase of medical students between the years 1875 and 1899 was 177. According to the United States Commissioner of Education, in 1899 there were 151 medical colleges, and according to the Secretary of the American Medical Association there

were 173. The author contends that the medical colleges exists in excess of public demand, and that this great increase of colleges tends to lower the standard of instruction. He concludes the article with a protest that the profession should discourage the entrance of unfit medical men into the profession. [F. J. K.]

13.—Minor gives an account of **Philippine Customs and Habits**. Sanitation among the Philippines is much neglected, this being especially true in regard to the disposal of sewage and waste. The author emphasizes that during the next decade great changes will undoubtedly occur in the Philippino medical world, as well as in the management of their civil government. [F. J. K.]

14.—Spibak believes that the **work of establishing medical departments in public libraries** which has already been begun, will continue. The author contends that every public library should be supplied with books which pertain to medical questions. [F. J. K.]

DEUTSCHE ZEITSCHRIFT FUER NERVENHEIL- KUNDE.

[Conclusion.]

13. A Third Contribution to the Knowledge of Hereditary Progressive Spinal Muscular Atrophies of Childhood. **HOFFMAN.**
14. The Etiology and Pathological Anatomy of Tabes Dorsalis. **DINKLER.**
15. Another Contribution to the Knowledge of Tetany Originating from the Stomach. **FLEINER.**
16. Brain Tumor and Sclerosis of the Posterior Columns. **HOFFMAN.**
17. The Condition of the Tendon Reflexes in Complete Transverse Lesions of the Spinal Cord. **BRAUER.**
18. Acute Poliomyelitis of Adults, and the Relation of Poliomyelitis to Polyneuritis. **STRUMPELL** and **BARTHELMES.**
19. Isolated Disease of the Lower Lumbar and First Sacral Roots. **GIERLICH.**
20. The Skin Diseases of Hysteria and Atypical Zosters. **BETTMAN.**
21. Athetosis as a Complication of Tabes Dorsalis. **ARN-SPERGER.**
22. Angioneurosis and Neurangiosis. **HANSER.**
23. Brief Communication. **GUTTMANN.**

13.—The patient already described in Vol. X of this Zeitschrift, gradually showed progressive involvement of the muscles until death occurred from exhaustion. The intelligence remained normal and the bladder and intestines were not involved. The autopsy showed that the ganglion cells of the anterior cornua of the cord had almost entirely disappeared; the anterior roots were very much smaller and paler than normal; the blood vessels and neuroglia tissues were normal, and there were no changes in the white substances of the cord. The degeneration was also found in the peripheral nerves; the posterior roots were entirely normal. The muscles showed marked degenerative changes. The muscle spindles were present in all the muscles in excessive numbers. The intra-muscular nerve fibres were degenerated. The autopsy therefore confirmed Hoffmann's belief that the disease was one of **progressive spinal muscular atrophy**. He also reports 2 cases, one occurring in a boy of 15 months, and the other in a girl of 2 years. They both presented atrophy of the muscles, and in the boy fibrillary twitchings had been observed. The muscles gave the typical reaction of degeneration, and the reflexes were lost. The muscles of the girl failed to show any fibrillary twitchings. The electric reactions are

14.—Dinkler in the past 4 years has observed 37 cases of **tabes dorsalis**. Thirty-one of these admitted venereal infection. Three of the others had undoubted syphilitic manifestations. The remaining 3, 2 women and one man, the latter having also signs of general paresis, failed to present any syphilitic lesions. Seventy per cent. of these patients belonged to the laboring class. In 30% there was a history of more or less excessive alcoholic indulgence, and in 20% the patients had used tobacco to excess. The other alleged causes only occurred in 1 or 2 cases each.

Dinkler calls attention to the fact that excessive indulgence in alcohol and tobacco occurs much more frequently in neurasthenics than in cases of *tabes dorsalis*. In 3 cases it was possible to obtain an autopsy and to make careful microscopic examination of the cord. The examination showed moderate alteration in the dura, pia and arachnoid. There was some increase and thickening in the fibrous tissue, loss of the endothelial cells, and in the pia some round cell infiltrations occurring in groups. In a 2d case there was atrophy of the dura, thickening of the arachnoid, and round cell infiltration of the pia, particularly around the blood vessels. The 3d case showed essentially similar conditions. The author also reports a case of **syphilitic meningitis** in which there was round cell infiltration of all 3 membranes, and an **ascending degeneration in the posterior columns**, not so very different from that discovered in locomotor ataxia. In order to determine whether these changes occurred in other forms of nervous disease Dinkler examined cases of syringomyelia, muscular dystrophy, Friedrich's disease, amyotrophic lateral sclerosis, multiple sclerosis, etc., and in none of them was there any distinct round cell infiltration or vascular alterations, with the exception of one case of multiple sclerosis and one of sarcoma of the pia. He therefore regards these changes as specific. [J. S.]

15.—Fleiner discusses **gastric tetany**. It usually occurs in patients whose nutrition has been greatly impaired, and who have an extreme gastrectasis as a result of stenosis of the pylorus or duodenum. The disease it probably less common than formerly, because gastro-enterostomy is performed earlier. When the complication does arise it usually occurs suddenly. He has already reported 4 cases, and now adds a 5th to these, which in many respects, is exceptionally interesting. The patient, a man of 51, of enormous strength, had had gall-stones and adhesions between the gall bladder and the intestines. The gall stones had also perforated into the stomach and duodenum, and as a result scars had been formed that led to severe pyloric stenosis. In spite of careful diet, rest in bed and frequent lavage the patient gradually grew worse, lost in weight, and the daily quantity of urine decreased. It was decided to perform gastro-enterostomy, but just before this was done the patient developed symptoms of complete pyloric stenosis, profuse vomiting, and upon washing the stomach, food was found that had remained in the stomach 6 or 7 weeks. The following day during lavage feces were obtained, and the patient suddenly had a severe tonic spasm of the arms and legs, which subsequently involved the body and face, and lasted several minutes. At the same time there was intense pain and paresthetic sensations which lasted for 12 days. The reflexes were lost. Trousseau's symptom was easily elicited. Examination of the stomach contents for amines was negative. The patient after this attack was so weak that it was impossible to perform an operation. He remained in a state of collapse for 12 days with a marked tendency to tonic contractions of the extremities. The blood gave symptoms of anhydremia, and death finally occurred as a result of hypostatic pneumonia, without fever. In addition to these tetanic cramps patients sometimes have simple tonic cramps without Trousseau's symptom. The attack always occurs as a result of profuse vomiting or lavage in which large quantities are obtained from the stomach. The symptoms are not very dissimilar from those of the tetanus that results from removal of the thyroid gland. An associated symptom was diminution of the reflexes and of pupillary activity. Fleiner regards the etiology of the condition as the development of tonic cramps as a result of muscular exertion and possibly as a result of the poverty of the tissues in water. [J. S.]

16.—Hoffmann reports the case of a man 52 years of age, without luetic infection, whose sickness commenced with uncertainty of gait, then left-sided hemiplegia, dilirium, hemianesthesia, disappearance of the tendon reflexes, and marked ataxia of the right leg. There was no papillitis. Death occurred 4 months after the appearance of the first symptoms. At the autopsy a **glio-sarcoma of the right hemisphere** was found that included a great portion of the centrum ovale, had compressed the right lateral ventricle and anterior portion of the internal capsule. Above this tumor the nerve fibres had degenerated, and there was a descending secondary degeneration in the pyramidal tract from the internal capsule. In the spinal cord, this degeneration gradually disappeared. In addition there was **degeneration in the posterior columns**, most pronounced in

the lumbar cord where the whole of the posterior column and Lissauer's zone were degenerated. The posterior roots showed moderate degeneration in this region. In the dorsal and cervical portions of the cord the degeneration was found near the posterior part of Goll's column. The nucleus fascculus was normal, and no ascending degeneration could be found above it. It appears from this case that a diagnosis of brain tumor and *tabes dorsalis* may be justified. The question arises whether or not the two conditions are entirely independent. As the March stain gave very slight traces of degeneration in the posterior columns, it seems reasonable to suppose that the degeneration there is older than that in the pyramidal column, where the black fibres were very numerous. This does not necessarily prove that all the degeneration in the posterior column is older, and even if it were, it might easily occur sooner as a result of the tumor, than the degeneration in the pyramidal column. Moreover, there is no history of syphilis. The disease commenced about 4 months before death. There was no disturbance of sensation on the non-paralyzed side and the patient had the Argyll-Robinson pupil. Hoffmann concludes that the case is not one of true *tabes dorsalis*. He discusses the various conditions that might give rise to degeneration in the posterior cord, among which he mentions anemias and cachexias, intracranial increase of pressure, venous congestion or thrombosis. He concludes that although we do not know the mechanism by which this is brought about, brain tumor can cause changes in the spinal cord that cannot be distinguished from posterior sclerosis. He suggests that perhaps the organic changes in one part of the central organs may produce disturbance of nutrition in all others. [J. S.]

17.—Brauer reports the case of a girl 19 years of age, who had had numerous tuberculous lesions in the body, and who finally developed kyphosis resulting in complete paraplegia with paralysis of the sphincters and loss of sensation. On the right side she had until death increase in the patellar reflex and ankle clonus. On the left side the patellar reflex was obtained with much difficulty. The left foot had been amputated. At the autopsy a tuberculous myelitis of the upper portion of the dorsal part of the spinal cord was found, causing, as was proved by microscopic examination, complete obliteration. **Complete separation of the cord** had occurred in the most affected part, the distance between the ends being not less than 4 mm. The dura was thickened and there were the typical forms of ascending and descending degeneration. The author discusses the reason why the **patellar reflex was preserved**, suggesting that perhaps there might be irritation on the right side as the result of the amputation on the left, or that the tuberculous process does cause enough irritation to stimulate the cells in the lumbar enlargement, and whether the irritation conducted along the peripheral nerves from the lesions in the ankles could be sufficient. He is unable to decide which of these hypotheses (if any) is correct. He also reports the case of a boy, 8 years of age, who fell from a tree and immediately had complete paraplegia with loss of sensation. There were evidences of fracture of the spinal column. The reflexes were absent on both sides; there was complete paralysis of the sphincters, and decubitus appeared. Two months later suspension was commenced. The muscles then showed considerable irritation, contracting when the skin was struck, and in the course of a few weeks the tendon reflexes reappeared and there was ankle clonus. An operation was performed, but no changes were found in the spinal cord or in the dura. The latter was not opened. It seems reasonable to suppose that in this case there was a complete transverse lesion of the cord on account of the absence of a tendency to recovery. Numerous experiments showed that under certain circumstances the patellar reflexes reappear some time after complete division of the cord. The author presents a number of experiments that he performed upon rabbits in which this result was obtained. He suggests that perhaps the loss of the reflex is due to the accumulation of cerebrospinal fluid in the lumbar region, and that as this is gradually absorbed they reappear. [J. S.]

18.—Strümpell and Barthelmes report the case of a man, 31 years of age, without significant previous or family history, who on awakening one morning had severe pain in the lumbar region and in the thighs. The next day these were much more severe. Two days later he had profuse perspiration and the pains ceased. The legs were then very weak and finally became completely paralyzed. When

admitted to the hospital some months afterward, it was found that the cranial nerves were normal; the spine was not tender; both legs were emaciated; there was flexion at the hips, but practically none at the knees and ankles. The quadriceps appeared to be atrophied; the sartorii were still normal; the tendon reflexes were lost in the legs; the plantar reflex was active. Sensation was not disturbed. Electrically all the muscles of the abdomen and the 2 sartorii were normal, the other muscles of the limbs, the adductors on the right, and the glutei muscles did not react to any current. The patient improved somewhat under treatment, but no essential changes occurred. The authors believe that this is a case of **acute poliomyelitis** on account of the absence of sensory symptoms, the acute onset, the pains in the back, and the character of the subsequent paralysis. They believe that the lesion involved the 4th and 5th lumbar, and the 1st sacral segments on the right side, and the 2nd, and 3rd lumbar and the 2nd sacral segments on the left side. The fact that the sartorius was not affected shows that the general belief is correct that this muscles is supplied from the lumbar segments. The cremaster reflex was also preserved, which accords with the localization given. They give a classification of the atrophic forms of paralysis, which is summarized as follows. First, acute local neuritis; second, acute local poliomyelitis; third, hematogenous toxic degeneration of the motor nerves; fourth, acute, sub-acute and chronic toxic degenerations of the peripheral motor neurons; fifth, progressive atrophy of the motor neurons, including neuritic and spinal atrophy; sixth, progressive muscular atrophy; and seventh, amyotrophic lateral sclerosis. [J. S.]

19.—Gierlich reports the case of a man, 38 years of age, who suddenly developed intense pain extending from the right hip down to the foot. Subsequently there was paralysis and atrophy of the various muscles of the right leg. Then, 8 weeks later, there were similar pains in the left hip and leg. When examined there was loss of sensation on the anterior surface of both thighs, both legs, and the external surface of both thighs and legs, and the back of both feet. There were reactions of degeneration in the muscles supplied by the cranial and obturator nerves. There were no tender points over the nerves and therefore, **degeneration of the sacral roots** seemed to be present. As the sphincters were not involved there is no reason to assume involvement of the spinal cord. The roots affected were probably those proceeding from the 2nd to the 5th lumbar segments. The nature of the lesion of course cannot be known, but it was probably tumor. Possibly the condition was syphilitic. He also reports the case of a man, 20 years of age, who received a severe injury to the lumbar vertebra, followed by intense pain in the small of the back, extending down the right leg to the back of the foot. This was followed by loss of sensation in the right leg, loss of movement in the right foot, and some wasting of the muscles. When examined 5 months later there was loss of sensation in the anterior portion of the right foot, and hypesthesia of the right thigh. It appears likely that the lesion involved the **roots extending from the 4th and 5th lumbar segments** on the right side. Gierlich discusses his case in the light of recent studies in the localization of spinal disease, criticises Wichmann's work, because no distinction is made between segmental and root lesions, and expresses his admiration of the work done by Head. He draws the following conclusion regarding spinal localization, from this case. The ilia-psoas and sartorius muscles are innervated from below the 1st lumbar, the gluteal muscles and the flexors of the knee and foot have no innervation from the 2d to the 5th lumbar segments. The dorsal flexors of the foot receive their innervation from the 5th lumbar segments, although the extensor communis dig. brevis, receives its innervation from the deeper segments. The fact that touch sense is less extensively lost than temperature and pain sense indicates that these fibres pass from a given area to the spinal cord through more than 3 dorsal roots, although it is probable that the middle root is in most direct association with the area involved. [J. S.]

20.—Bettermann reports a number of **types of skin disease occurring in hysterical patients**. He mentions particularly dermatographismus, erythemia, hemorrhages, urticaria, forms of edema, solitary and multiple ulcers, gangrene and eczema-like eruptions. He reports a number of cases illustrating various types of these conditions. Among them a girl, 19 years of age, who during her first pregnancy had severe eruptions all over her body. This was

soon localized to the right arm and breast. This was associated with an eruption limited to the same region, in the form of large, round red plaques slightly elevated, sharply limited, with some blisters and papules around their edges. There was moderate dermatographia. After delivery this eruption rapidly disappeared. The hand was not involved. The patient had numerous hysterical stigmata, and Bettermann believes that the eruption was purely hysterical in character. He also calls attention to the frequency with which hysterical patients will mutilate themselves for various reasons, and reports 2 cases, in one of which ulcers were produced by caustic potash, and the other by hypodermic injections of a mineral acid. He reports another case in which a woman during her second pregnancy had a severe eruption, papillary in character, involving the outside of the right arm, shoulder and lower portion of the face and head on the right side. She had hysterical stigmata. It is possible that there may be hysterical affections of the roots. [J. S.]

21.—Arnsperger reports a case of **locomotor ataxia** which presented typical **athetoid movements** of the fingers of both hands. These disappeared during sleep but reappeared on awaking and were increased by excitement or severe labor. There was also intermittent Argyl-Robinson pupil. He reports another case: a man, 51 years of age, who in addition to the typical symptoms of tabes dorsalis had athetoid movements of the hands and feet, and nystagmus. It was possible that the athetoid movements were due to the frequent involvement of the optic thalamus. [J. S.]

22.—Hanser in a long article upon **angioneurosis and neurangiosis** discusses the anatomy and physiology, the symptoms, prognosis, and treatment of these conditions. He concludes that the blood supply of the peripheral nerves is of such character that under pathologic conditions the functions of the nerves may be impaired. Thus, severe disturbance of circulation such as thrombosis may lead to severe degeneration. Slight disturbances may have no effect on the nervous system. Transitory disturbances may however, cause transitory disturbances in the peripheral nervous system, and give rise to the so-called angioneuroses especially in individuals with neurotic tendencies. The venous system is quite as important as the arterial system; the nerves chiefly affected are the sensory, possibly also the secretory but practically none of the trophic nerves. It is possible that intermittent claudicaria is one of the manifestations of this condition. The treatment consists in the anti-rheumatic and anti-neuralgic remedies, hypodermic, electricity and very rarely narcotics. [J. S.]

23.—A child of 7 had an attack of typhoid fever, and on the 9th day of the disease became somewhat stuporous. When the physician approached the bed she closed her eyes, blushed violently and could not be persuaded to speak. This condition continued until the 58th day, when speech suddenly reappeared. She again became mute and on the 63rd day, when for the first time she was without fever, she commenced to respond to questions by gestures. On the 67th day she was hypnotized and suggestion was made that she could speak as soon as the faradic apparatus began to sound. From this time she spoke freely. The symptoms were not those of amnesia nor motor aphasia, and therefore a diagnosis of **mutism** was made. There were no other hysterical stigmata. [J. S.]

A Case of Pneumococcic Endocarditis.—At a recent meeting of the Medical Society of the Paris Hospitals. *Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris*, 1901, No. 8), Launois and Paris reported a case of pneumococcic endocarditis in a man of 46, who had pneumonia and arthritis of the wrist. On the seventeenth day of his illness he grew decidedly worse, and a loud diastolic murmur appeared at the aortic area. The pulse became typical, distinctly Corrigan in character. With this there was some fever. A systolic murmur was audible over all the larger vessels. He died 10 days later, with meningitic symptoms. At the autopsy, beside the pulmonary, pleural, arthritic, and meningitic localization of the pneumococcus, the heart showed no hypertrophy, and little dilatation, but large vegetations upon the aortic valves. Microscopically they consisted of fibrin and pneumococci. The endocarditis occurred suddenly, the sphygmograms, made 23 hours apart, showing a striking difference. The pathologic lesion occurred just as it does experimentally. Pneumococci, when they invade the heart, generally attack the aortic valve. [M. O.]

Special Articles.

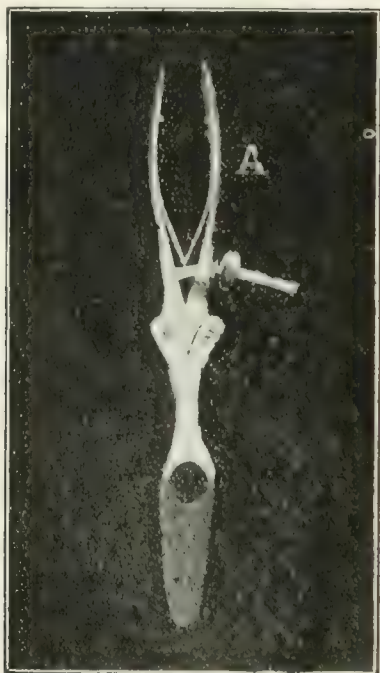
A NEW HEMORRHOIDAL CLAMP.

By G. MILTON LINTHICUM, A. B., M. D.,

of Baltimore, Md.

Professor of Rectal Diseases and Physiology at Maryland Medical College

Mr. Henry Smith, in speaking of the clamp and cautery operation, which he originated, says of the clamp, "that it is very essential for its right action that the blades be so constructed as to have their parallelism complete when they meet, otherwise the enclosed membrane may slip." This is the ideal which he desired to obtain in his clamp, yet fails to accomplish. For in clamps constructed like scissors, when the portion of tumor external to the blades is cut off, the tissues often slip through except that portion which is near the heel of the instrument, where the pressure is greatest, and thereby permits serious bleeding. Gantt's clamp, by having the handles join the blades at a right angle, accomplishes the parallelism, but the arrangement of joint at the ends of handles makes it imperative to use the thumb screw to obtain sufficient pressure to clamp and hold the tissues, thus requiring the use of both hands, in this way prolonging the time of the operation, and necessitating an assistant. I also find the handles to be in the way of excising the excess of tissue and of cauterizing the stump. The scissor joint is, of course, the form of leverage in which the greatest degree of pressure may be obtained, so if it is possible to get parallelism with this form of joint we get, in my judgment,



ment, an instrument which fulfills all the conditions demanded of it.

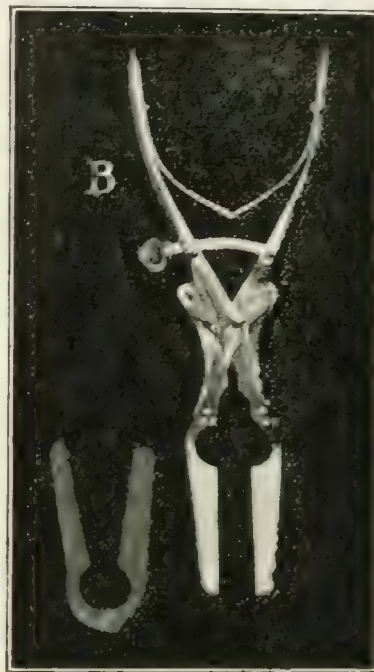
I have accomplished in my clamp parallelism with crossed joint by using a mechanical arrangement somewhat similar to Goodell's Dilators.

This arrangement is clearly shown in the accom-

panying cuts, so I will not attempt to give a description.

In this clamp the greatest pressure may be obtained, which is the same at all points of the blades by virtue of the parallel blades.

The parallel position is maintained in all the movements, at the widest separation as well as at



the closure. I feel that the conditions are all met in my clamp, viz.: great pressure, to prevent hemorrhage, and firm hold, to prevent slipping. The instrument is so constructed that it may be dis-jointed and thoroughly cleansed and sterilized A. One cut shows a front view with clamp open: besides it are the blades of another clamp open, showing a relative position of the two instruments, demonstrating how, if a fibrous mass is caught in heel of blades no pressure would be felt at the ends of the blades

B. The back view shows clamps closed, with its mechanism.

I am indebted to the Willins Surgical I. Co. for embodying my ideas in a neat, strong and compact instrument.

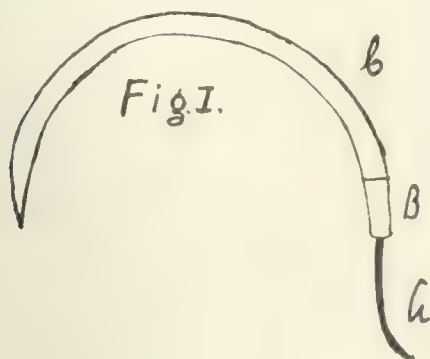
A Case of Acute Hemorrhagic Polymyositis.—K. N. Georgievski (*Bolnitchnaia Gazeta Botkina*, Vol. XII, No. 16) reports the case of a man 32 years old, who developed an acute fever associated with marked inflammatory hemorrhagic and extremely painful infiltrations of the skin and muscles. The lesions were transient and migratory in character, involving nearly the entire body. Tachycardia was present only during the first few days of the affection. On the 14th day of the disease the patient developed a double catarrhal pneumonia, the sputum having been found to contain pneumococci. The blood obtained from a superficial vein showed on culture the presence of a staphylococcus. The serum was also found capable of neutralizing the ferments obtained from a dead culture of staphylococcus, showing that the patient suffered primarily from a general staphylococcus infection which was responsible for the polymyositis. The patient recovered. [A. R.]

A NEEDLE FOR SILVER WIRE.

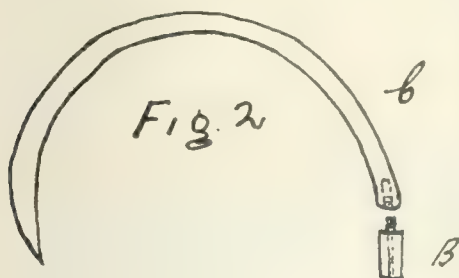
By L. J. Y. GEMELLA, M. D., B. L.,

of New Orleans.

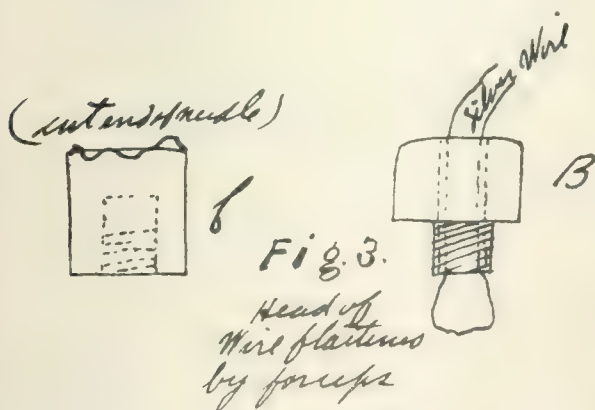
Fig. 1 represents the needle threaded with the silver wire. The wire is passed through the cap



B (fig. 2) pinched with an artery forceps, as shown in fig. 3. The cap is then screwed on the needle (C). The needle can be made in any model. The



figures represent a model of the Hagedorn needle, McDermott & Co., of New Orleans, makers. The advantages offered by this needle are cheapness, no



traumatism of tissue in passing, and it can be threaded at home, put in a test tube and carried in an obstetric bag to be used as an emergency needle for perineal work.

ARCHIVES DE MEDECINE DES ENFANTS.

May, 1901. (Volume IV, No. 5).

1. The Pathogeny of Rickets. LOUIS SPILLMAN.
2. The Figured Elements of Colostrum and Milk. RA-
CHEL R. LOURIE.

3. Rheumatic Endocarditis with Patent Ductus Botalli. JEAN HALLE and P. ARMAND-DELILLE.
4. Two Cases of Infantile Hysteria. JULES COMBY.

1.—Spillman has studied rickets in a great number of animals. It follows the same course in animals that it runs in man. It begins with indigestion, emaciation, distended abdomen, delayed dentition, etc. Then follow the bony deformities, rosary, open fontanelle, etc. These were found histologically in ducks, chickens, etc. While rickets is rare among animals, the lesions found there and those formed in infants are identical. Bad hygiene appears to be the main cause. Out of 10 animals in which Spillman attempted to produce rickets by defective feeding and bad hygienic surroundings, digestive symptoms, emaciation, etc., appeared in every case, yet not one showed any bony changes. Experiments thus confirmed clinical experience, that defective alimentation and prolonged indigestion can cause arrest of development and cachexia without rickets. Therefore the nutritive theory is not correct; nor is the chemical theory, for the deficit of lime salts is the result, not the cause of rickets. There remain the toxic and microbic theories. Spillman made more experiments with the colon bacillus. While symptoms followed, there was never any bony change. Inoculation to show a specific microbe or intoxication were without result. Yet it is possible that our methods are hardly yet perfect enough to find the specific microbe of rickets, if it exists. After reviewing the lesions found in man, Spillman concludes that rickets must be a specific intoxication from the digestive tract, causing widespread ostitis. [M. O.]

2.—Donné first discovered the figured elements of colostrum. They are nucleated colostrum corpuscles, and appear during pregnancy, lasting to the fifth or sixth day after confinement. Then the protoplasm disappears, and the crescent-shaped nucleus is freed. Leukocytes are also present, few until labor occurs, and they disappear a few days afterward. When milk is examined, the crescent-shaped bodies are seen next to fat droplets. These colostrum bodies absorb red corpuscles and stains. Lourie supposes them to be polynuclear leukocytes, transformed. They resist boiling and are not seen in cow's milk. They probably contain the soluble ferments. [M. O.]

3.—Hallé and Delille report a case of rheumatic endocarditis in a boy of 3. His mother noticed that his heart-beat was always rapid and strong. Articular rheumatism had existed a week before he was admitted to the hospital. Marfan made the diagnosis of a recent endocarditis with a congenital lesion. The apex was in the fifth interspace, 2 cm. outside the edge of the sternum, the dullness reaching the right border of the sternum. At the apex was a loud systolic murmur, transmitted to the axilla. Twelve days later, the child had an attack of pulmonary congestion, with dyspnea and cyanosis, and died. The autopsy revealed a patulous ductus Botalli and a mitral vegetative endocarditis. The congenital lesion had existed without symptoms until the organic trouble occurred. When organic heart disease is found in an infant, a congenital condition must be suspected as the predisposing cause. [M. O.]

4.—Comby reports two cases of hysteria in children. The first was a girl of 10, whose father was a drunkard, whose mother was very nervous and had hepatic colic. One child was an idiot. This one had always been emotional, and had an attack of angioneurotic edema. For over a month she had been in bed, unable to walk, with hysterical convulsions. Examination revealed nothing abnormal. In bed she could make any movement asked. But when stood up, she trembled and fell, like a paraplegic. This became worse when she tried to walk. But she could move well upon her knees. Comby considers it a typical case of hysteria, pure astasia-abasia. Three days treatment with baths, isolation and electricity cured the condition. The other patient was a girl of twelve, whose father was both nervous and alcoholic. After typhoid fever at 6 years, she had complete left hemiplegia, which suddenly cleared up after having lasted two months. Two years later this recurred and lasted three months. At 10 years, right brachial monoplegia appeared, disappearing suddenly six months later. Now she again has right monoplegia, her fourth paralytic attack. With isolation, and by the use of the... [M. O.]

Original Articles.

FURTHER NOTES OF A CASE OF PERNICIOUS ANEMIA REPORTED AT THE MEETING OF THE ASSOCIATION OF AMERICAN PHYSICIANS IN 1900; WITH REMARKS ON THE DIAGNOSIS OF THE DISEASE.

By FREDERICK P. HENRY, M. D.,

of Philadelphia.

Professor of the Principles and Practice of Medicine, Woman's Medical College of Pennsylvania; Physician to the Philadelphia Hospital, etc.

At a meeting of the association in 1900, I reported five cases of pernicious anemia, each of which possessed features of unusual clinical interest, and made some remarks upon the diagnosis of the disease and the characteristic alterations of the blood which it presents. Exception was taken to one of my cases (case IV.)* on the ground that nucleated red cells, and especially megaloblasts, had never been found in the blood of the patient. In reply to my question as to how my critic would classify such a case as I reported, he said that he "should regard it as a case of secondary anemia of unknown origin".** He also stated that he had "had a number of such cases ending in recovery,"*** but saw no reason to regard them as cases of pernicious anemia. I will not stop to discuss the question whether, with our present knowledge, pernicious anemia may not be defined as a "secondary anemia of unknown origin," but will again refer to the implication that such cases as my case IV, are by no means rare.

I will now briefly relate the main clinical features of the case whose progress I am reporting. In vol. XV. of the Transactions, its caption is as follows: Case IV. Under observation six years, during which there have been several slight and two severe relapses, chronic gastro-intestinal catarrh, with marked exacerbations preceding and during the relapses; complete restoration to health. In the extreme reduction of the red cells (to 1,237,500 per cubic mm., i. e., to about 25 per cent. of the normal), the increased percentage (30) of hemaglobin, the hypoleucocytosis, and poikilocytosis, as well as in the symptoms both positive and negative, the case was a typical one of pernicious anemia. At the time of my report last year the patient considered himself in the best of health, and his general appearance was "indicative of vigor and activity." The recent history of the case is as follows:

I was asked to see the patient in consultation with Dr. L. D. Judd on March 29th, 1901, and found him in a state of profound anemia. I found that he had been progressively failing in strength, in other words, becoming more and more anemic, during the autumn of 1900, and that in December he had had another attack of erysipelas. A week before I saw him he had returned from a visit to Atlantic City, where he had been under the care of Dr. Philip Marvel, who, on February 27th, had examined his blood with the following result: Number of red cells per cubic mm., 1,240,000; Hemoglobin, 32%; white cells, 3,000 per cubic mm.; marked poikilocytosis. A differential count was not made, nor is anything said in the report concerning nucleated red cells. These figures are almost precisely identical with those of a count I made on February 3rd, 1894.

On one of my visits in March of the present year I made several cover-glass preparations and sent them to Dr. L. N. Boston, who reported the presence both of normoblasts and megaloblasts. Under the use of arsenic and iron the patient is steadily improving, although his urine contains a considerable quantity of albumen. This albuminuria was a feature also of the last relapse, but disappeared *pari passu* with improvement in health and strength.

I presume that no member of the association has now any doubt that this is a typical case of pernicious anemia, although, in my opinion, there never should have been the slightest question concerning the diagnosis. The demonstration of megaloblasts in the blood was not at all necessary to confirm it. There is a tendency at the present time to regard the presence of these cells in the blood as the sole criterion of pernicious anemia. According to this view, a case may present symptoms and signs and blood changes such as are not found united in any disease, except pernicious anemia, and yet, if megaloblasts are not detected in the blood, the diagnosis of pernicious anemia is unwarranted. Such a doctrine appears to me as pernicious as the disease to which it is applied, and for the following reasons: First, because, as already stated, the symptoms and signs, both positive and negative, and the blood changes of pernicious anemia, apart from the presence of nucleated cells, distinguish it sharply from all other diseases. Secondly, because nucleated cells, whether large or small, are not pathognomonic of pernicious anemia. A symptom or sign to be pathognomonic must fulfil one of the requirements of a specific germ: i. e., it must occur in association with but one disease. Now this is not the case with the cells called megaloblasts, which are found in leukemia, in bothrioccephalus-anemia, and occasionally, though very rarely, in cases of carcinoma ventriculi and syphilis.* If the presence of megaloblasts in the blood were pathognomonic of pernicious anemia, the diagnosis of that disease could be made more accurately in the laboratory than at the bedside. Now this is by no means the case, for it is impossible for the histologist to distinguish a specimen of blood from a case of bothrioccephalus-anemia from one derived from a case of that mysterious disease so well styled by Birch Hirschfeld as cryptogenetic anemia.

The diagnosis of pernicious anemia is most firmly based upon the tout ensemble of signs and symptoms, both positive and negative. The presence of megaloblasts is confirmatory of, but not indispensable to, the diagnosis. They possess a prognostic rather than a diagnostic value, for they often appear in the blood in large numbers shortly before death, and often are absent for months during periods of remission.**

With reference to the statement*** that cases of anemia with a hemic unit of 25 and a hemoglobin percentage of 30 are not rare (they cannot be rare if any individual has seen "a number" of them), and that they often end in recovery, I can only say that in a continuous service in large hospitals dating from 1874, during which time I have been on the alert for cases of pernicious anemia and conditions resembling it, I have had no such experience.

*Read at the meeting of the Association of American Physicians, April 30th, 1894.

**Transactions of the Association of American Physicians, vol. XV., p. 352.

***Loc. cit., p. 126.

***Loc. cit., p. 126.

*Quoted in L. N. Boston, *Am. J. Med. Sci.*, N. S., vol. XXII, p. 101, 1901. I have seen 25 cases of carcinoma of the stomach, but only 2 cases in which megaloblasts were present in the blood. See also L. N. Boston, *Am. J. Med. Sci.*, N. S., vol. XXII, p. 101, 1901.

**See L. N. Boston, *Am. J. Med. Sci.*, N. S., vol. XXII, p. 101, 1901.

***See L. N. Boston, *Am. J. Med. Sci.*, N. S., vol. XXII, p. 101, 1901.

ACASE OF SEVERE ANEMIA WITH CHANGES IN THE SPINAL CORD.

By WM. E. HUGHES, M. D., and WM. G. SPILLER, M. D.,

Clinical Report by Dr. Hughes.

Daniel C., white, aet. 63 years, a native of Ireland, was admitted to the Philadelphia Hospital, Dec. 30th, 1899, his chief complaint being shortness of breath and swelling of feet and legs. There was nothing in his family history of any moment. His parents both died of old age. Three brothers died of wounds received while in the army. He had the usual diseases of childhood. Then he was well until five years ago, when he had a slight sunstroke, the especial symptoms connected with which he did not remember when questioned. The attack was not deemed of any moment at the time of its occurrence, and he recovered from it perfectly, remaining well until his present illness commenced. In July, 1899, he noticed that on running, or even walking fast, he would become suddenly short of breath and would have to stop, or even sit down, till he had recovered himself. This became steadily worse until any effort distinctly inconvenienced him. Three weeks before admission his feet and legs began to swell toward evening. At first the swelling would disappear by morning, but by the time of his admission it had become persistent, though worse toward night. During most of his illness he complained of feeling cold and chilly. Throughout this time, too, his bowels were rather loose, though not persistently so. There had been no hemorrhages. On admission his skin was dry and glazed and of a peculiar, uniform waxy pallor. There was some puffiness of his eyelids and edema of his face. The feet and legs were edematous

condition. The urine had a specific gravity of 1016, was acid in reaction and contained neither sugar nor albumin. He had not lost much flesh. The digestion had been good. Jan. 4th, 1900, a blood examination gave 780,000 red corpuscles and a hemoglobin value of 20%. The next day another examination gave 671,518 red corpuscles, 3,000 white corpuscles, hemoglobin 18%. A majority of the red cells were larger than normal, but there were great variations in size and outline. Normoblasts and megaloblasts were present in numbers. Jan. 7th, reds 760,000, whites 2,400, hemoglobin 20%. Gastric disturbances had developed and he had come to vomit nearly everything ingested. He gradually grew worse, his dyspnea amounted to orthopnea, and he died of exhaustion Jan. 16th. The temperature ran about normal, the highest being 99.8.

Autopsy. The pericardial sac contains 30 c.c. of straw colored fluid, in which float numerous threads of fibrin. On the anterior surface of the right ventricle is a large white patch of fibrous thickening. All the cavities of the heart contain dark fluid blood and a few currant jelly clots. The valves of the right heart are normal. The mitral orifice is of normal size; on parts of the free margin of both leaflets is a slight thickening. The aortic valve is normal. The heart muscle is dark reddish brown in color. In the papillary muscles of the left heart is a distinct yellow mottling showing through the endocardium. The wall of the left ventricle is 14 m.m. thick, the right 9. The coronary arteries are slightly thickened but their lumen is little encroached upon.

The pleural cavities contain 110 and 250 c.c. of clear straw colored fluid respectively. The lungs are voluminous, their anterior edges nearly covering the pericardium and almost meeting. On their free edges dilated vesicles are plainly seen. The lung substance is light pink with considerable pigmentation, and exudes from its cut surface large quanti-

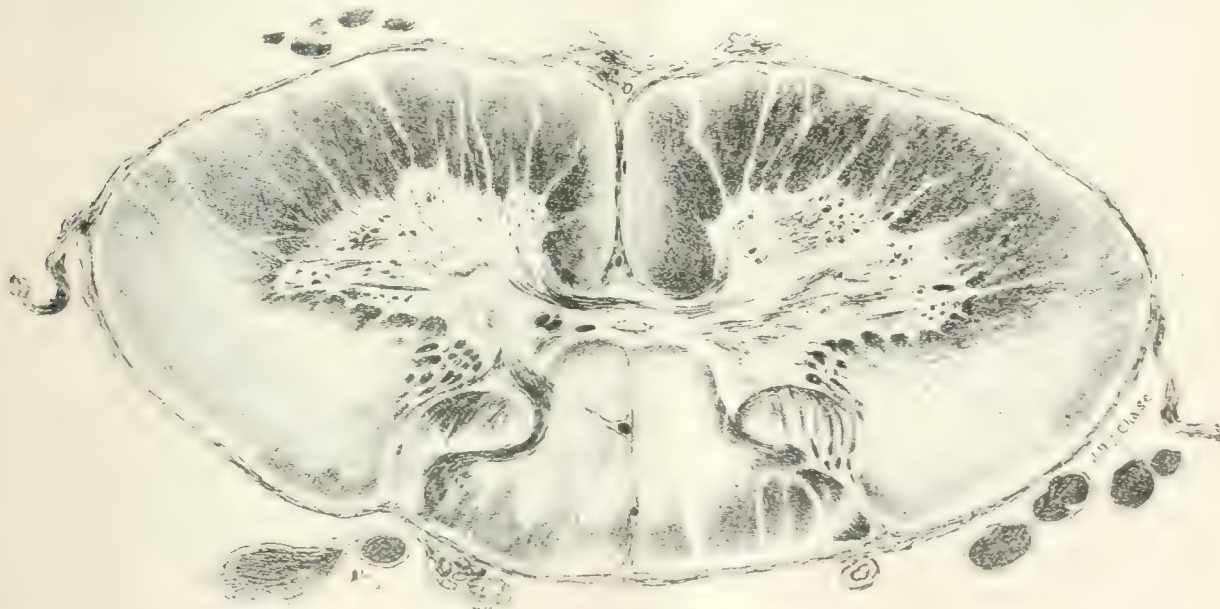


Fig. 1. Dense fibrous adhesions between the lungs and the pericardium.

Pulse was slow and full, but had very low tension. The heart was slightly enlarged, the apex beat could scarcely be felt and there was a systolic apex murmur, transmitted into the axilla. The right lung expanded poorly, there was some dullness at the base posteriorly with distant weak breath sounds and some crackling rales. The left lung was negative. The sight in the right eye was nearly gone, the result of an accident, while in the left it was normal and this pupil reacted well to light and distance. He could scarcely walk on account of physical weakness but his station seemed to be fair. The reflexes were present but were sluggish, which was thought to be due to his physical weakness. There were no electrical reactions taken. Sensation seemed to be preserved but this could not be absolutely determined on account of his low mental

ties of frothy mucus. At the apex of the right lung are numerous depressed scars, some of them extending deep into the substance. The bronchial mucous membrane is covered with considerable mucous exudate. The bronchial lymph glands are considerably enlarged and deeply pigmented.

Spleen is of moderate size. Its capsule is thin and light colored. Its parenchyma is soft, pulpy and easily scraped. The adrenals are normal in size and show no pathological condition. The kidneys are of moderate size. The capsule is slightly adherent in places and leaves a slightly uneven surface. The cut surface is pale, the pyramids of a grayish white color. The cortex measures 7 m.m. The pancreas shows no pathological change. The liver is of normal size and of light reddish brown color. In the region of the gall bladder are numerous adhesions between gall bladder,

liver and intestines. The wall of the gall bladder is not thickened and it contains no stones. The cut surface of the liver is light reddish brown in color, mottled with yellow, points corresponding apparently with the centers of the lobules.

The mucous membrane of the colon is thickened but otherwise normal. That of the small intestine and stomach is healthy. The appendix is only a short stump, the lumen of which is closed by scar tissue. The mesenteric lymph glands are dark brown in color and of a moderate size. The cerebro-spinal fluid is increased in amount.

PATHOLOGICAL REPORT BY DR. SPILLER,

From the Wm. Pepper Clinical Laboratory (Phoebe A. Hearst Foundation).

The sclerosis in the spinal cord is most pronounced in the upper thoracic and cervical regions and is more intense in the left lateral column than in the right lateral column in these regions. It is diffuse in these portions of the cord, i. e., it is not confined to any distinct system of fibers. In the posterior columns the degeneration is most noticeable in the ventral portion. The anterior columns are more nearly normal than the other portions of the white matter of the cord, but the neuroglia is proliferated somewhat here also. The anterior and posterior roots appear to be normal. The crossed pyramidal tracts are degenerated as far as the sacral region, and the left is more degenerated than the right, because the diffuse degeneration high in the cord is more extensive in the left lateral column. The degeneration below the midthoracic region is systemic in the lateral columns, i. e., it is confined to the crossed pyramidal tracts. In the lumbar re-

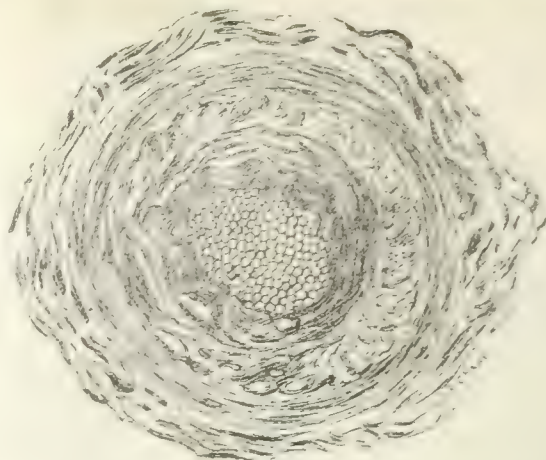


Fig. 1. The vessel external to the cord near the posterior end of one side. The walls of this vessel are much thickened.

gion the Marchi method reveals no recent degeneration. No swollen axons are found. The nerve cell bodies of the cervical and lumbar regions stained by thionin are not distinctly abnormal, but some of them are intensely pigmented. The blood vessels, both the intramedullary and the extramedullary, have much thickened walls, and the small intramedullary vessels are thickened not only where the sclerosis is dense, but also where the tissue of the cord is normal. The walls of many of the vessels have a hyaline appearance, and the thickening im-



Fig. 2. Degeneration of the right anterior pyramid.

gion the posterior columns are very slightly sclerotic. In the medulla oblongata the right anterior pyramid is much degenerated, but the left anterior pyramid appears to be normal. The degeneration is traced above the motor decussation as high as the mid-portion of the pons on the right side, but whether it extended much higher or not I cannot say, as the cerebrum was not in my possession. The right pyramidal tract above the decussation is, therefore, degenerated, while the left is intact; but the left crossed pyramidal tract in the cord is more degenerated than the right, where the alteration is distinctly systemic, i. e., in the lower portions of the cord. A section from the cervical region stained by

plicates all the coats of the vessels. No round cell infiltration or hemorrhage is found in the spinal cord, or spinal pia. The only sign of a hemorrhage I have been able to detect is an accumulation of blood pigment about a small vessel in the motor tract in the left side of the pons.

The literature on diffuse degeneration of the spinal cord in cases of severe anemia has become extensive. Cases in this city have been reported by Burr and Lloyd, and we have recently had in the paper by Putnam and Taylor a careful presentation of this subject.* Credit must be given to Putnam

*At their session of the 15th of January, 1900, the American Medical Association met in the Hotel Hamilton, New York City, and the following resolutions were adopted: Resolved, That the American Medical Association, in the

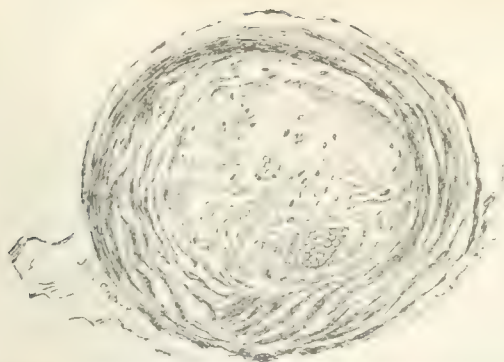


Fig. 1. A structure near the posterior root of the spinal cord which appears to be a thickened blood-vessel containing a blood clot.

and Dana for first showing that alteration of the spinal cord, similar to that occurring in pernicious anemia, may result from malnutrition, even when intense anemia is not present. Paresthesia, ataxia, etc., may in these cases persist many years with little alteration of the spinal cord, and, on the other hand, the intensity of the alteration in the cord may be much greater than the clinical signs would lead us to expect, and in some cases pathological conditions of the cord have existed without clinical signs. The few symptoms, feebleness of gait and diminished knee jerks, indicative of implication of the nervous system in Dr. Hughes' case, is not unlike what has been observed in some other cases, and sensation could not be determined on account of the patient's mental condition, but the intensity of the alteration in the spinal cord suggests that paresthesia may have existed. In case 2, for example, of Taylor's part of the recent paper by Putnam and himself, the patient is said to have had some numbness of the arm occasionally, and of the lower limbs, and tremor of the upper limbs, but no other nervous symptoms are mentioned, and yet the alteration of the spinal cord was intense. This case is not alone in the literature. As in many reported instances, the alteration in Dr. Hughes' case was more marked in the cervical and upper thoracic regions than in the lower thoracic and lumbar portions of the cord, and the degeneration was diffuse in the former portions, i. e., it was not confined to definite tracts, and systemic degeneration was present only as a result of diffuse lesions. Descending degeneration in the crossed pyramidal tracts has occurred as a result of injury of the fibers of these tracts at different levels of the cord, but the degeneration in the lateral columns in the cervical region extended beyond the area of the motor tracts, and in the posterior columns did not invade the root entrance zones. The anterior and posterior roots were not degenerated. So far the findings are not unlike those of Putnam and Taylor and some other investigators, but the condition of the blood vessels makes the case unlike any of the five studied microscopically by Taylor. In only two of his cases was there any alteration of the spinal vessels, and in those it was slight. In one case many of the vessels within the cord had moderately thickened walls and were in a condition of hyaline degeneration. The pia and its contained vessels were normal. In another case a slight hyaline thickening of the walls of the smaller vessels was observed in the degenerated areas, but there was

no general arteriosclerosis. Taylor considers the vascular changes he found of very little importance. The alteration of the blood vessels in diffuse degeneration of the spinal cord has varied in the different cases studied. Minnich found diseased blood vessels in the cord, and Nonne, in a recent paper, says he found the vessels unaltered when the cord tissue was unaltered or only slightly degenerated; but in the advanced cases the vascular changes were pronounced, and the relation of foci of degeneration to altered vessels was striking. In advanced cases Nonne never failed to find vascular alteration. He believes that some hypothetical poison causes the anemia and degeneration of the spinal cord, and is conveyed by the blood vessels of the cord, and that after a long contact of this poison with the vessel walls alteration of the vessels is produced, and this alteration of the vessels contributes to the formation of a vicious circle. He has even observed thrombosis, followed by softening, and Dana also, in a case of diffuse degeneration of the cord, has reported softening of the cord, presumably from thrombosis of the artery of the anterior fissure. Jacob and Moxter found in all their cases of anemia multiple foci of degeneration in the cord about the vessels and septa. They found alteration of the vessels in normal as well as sclerotic portions of the cord, and observed thickening of the adventitia and of the glia surrounding the vessels. The vessels in some of the foci were unaltered. They, therefore, conclude that the changes in the walls of the vessels were not the cause of the degeneration of the white matter of the cord, but they believe that the process almost constantly begins in the formation of perivascular and periseptal foci of sclerosis. The vessels of the cord, in the cases examined by Russell, Batten and Collier, in the affected areas were engorged and their walls thickened, but there was no actual thrombosis. In the unaffected areas the vessels were neither engorged nor thickened. In one of their cases the middle coat of the vessels appeared to have undergone a hyaline change. Hemorrhages within the white and gray matter are a common finding in pernicious anemia, according to Jacob and Moxter, and some investigators have regarded the hemorrhages within the spinal cord as a partial cause of the degeneration of the white matter, while others have looked upon them as unimportant. They were entirely absent in the cord in Dr. Hughes' case, and only in one place in the pons was any indication of a former hemorrhage found. What is the meaning of the conflicting statements regarding the condition of the blood vessels in diffuse degeneration as made by different investigators? In Dr. Hughes' case the vascular alteration was exceedingly pronounced; in a case of diffuse sclerosis reported by Dr. J. Hendrie Lloyd, microscopical sections from which I have studied in order to determine the condition of the vessels, the latter were not diseased, and in an unpublished case of Dr. Dermum, I have failed to find much alteration of the vessels outside of the sclerotic areas. It must be, therefore, that vascular changes may aid in the development of sclerotic tissue, but degeneration of the nervous tissue may begin before any thickening of the walls of the vessels is detected, and it seems not improbable that some toxic substance in the cir-

ataxia of the arms and legs; knee jerks were absent, and that the pupils were Argyll-Robertson in type.

A note was made by the resident physician in the nervous wards on May 8, 1899, which seems partly contradictory to the above statement, unless it indicates that the knee jerks were brought out by reinforcement. The note was as follows: "Knee jerks present and reinforcing; tremor of the left hand on motion; station fairly good, little sway; ataxia of arms; gait slow but not characteristic" (this probably meaning not characteristic of tabes dorsalis). It was also noted that the pupils were myotic, did not respond to light, but responded in accommodation and convergence. The patient complained at this time of headache and pains in his joints.

On September 20, 1899, the following ward notes were made; the patient complains only seldom, and then of only slight pains in the joints. His tongue is protruded straight with slight tremor. Extraocular movements are good, but he has Argyll-Robertson pupils. He can read small print. Station is fairly good, but there is slight swaying which is more marked with the eyes closed; arm movements are slightly ataxic.

The tendon and muscle phenomena were as follows, being practically the same for both sides. Knee jerks absent; quadriceps jerk absent; tendo-Achillis jerk slight; gastrocnemius jerk present; patellar clonus absent; ankle clonus absent; biceps jerk present; triceps jerk present. Plantar reflexes were present, and cremasteric jerks absent. Tactile, pain and temperature sense seemed slightly impaired in the lower extremities, the sensory response being prompt elsewhere. About the same date (September 20, 1899), an ophthalmoscopic examination was made, of which the following is a record. **Right eye:** The pupil is dilated one-third and evenly; incipient optic nerve degeneration is present; the deeper layer of the nerve head is very gray, especially at the temporal half; retinal veins are somewhat small; a few senile degenerative areas are seen in the retina and mark off old retinal extravasations; a fresh and deeply seated hemorrhage of the papillo-macula region is present and extends well out into the macula region itself. There are small isolated areas of fatty degeneration and hemorrhage, especially down and out from the disc. The vessels show a low grade of endarteritis. **Left eye:** The pupil is 1.5 mm. in diameter, immobile to light, but prompt in accommodation and convergence.

October 22, 1899, six days before his death, it was noted that the knee jerks and tendo-Achillis jerks were absent; that the Babinski reflex was present on both sides, and that the response to touch and pricks was felt in the feet and legs, although no accurate determination could be made. The man died October 28, 1899.

NECROPSY NOTES.

The body of an aged male, emaciated, showing considerable greenish discoloration of the abdomen, marked suggestion over the posterior aspect of the body with small petechial hemorrhages. Rigor mortis is not marked. Subcutaneous fat is scanty; the muscles are pale.

The left pleura shows adhesions at the apex and base, and is dissected loose with difficulty; the right pleura is likewise universally adherent, and dissected loose with difficulty, the pulmonary tissue being torn in trying to loosen the pleura.

The left lung is intensely pigmented. The surface of the lower lobe shows numerous lobules varying in size from a few mm. to 5 cm. The apex contains a large number of small greyish nodules, the largest of which are not over 25 cm. in diameter. Many are calcareous, and in a few places small masses of lung tissue are found which do not float in water.

The pericardium contains two drachms of straw colored fluid, and is apparently normal.

The right auricle is distended with postmortem clots; the right ventricle contains several chicken-fat clots, which extend into the pulmonary arteries. The left auricle is also distended and contains postmortem clots. The valves of the right side are normal. The auricular-ventricular opening admits three fingers, the mitral two fingers. The aortic leaflets show considerable thickening at the free margins, and on ventricular margins the aortic cusps are slightly thickened. The coronary arteries are slightly rigid, but not markedly atheromatous. The left ventricular wall is thicker than the right, the left being 4 cm. and the right 2.8 cm. in thickness. The myocardium is slightly pale, but is dense and firm.

The splenic trabeculae seem a little more prominent than usual, and the organ somewhat denser, otherwise it is normal. The left suprarenal is apparently normal. The left kidney shows some diminution of the cortex, and contains cysts. The capsule is extremely adherent. The surface is granular and there is some fat in the pelvis. The right kidney shows the same changes as the left. The ureters are normal. The bladder is slightly ribbed and there is faint enlargement of the middle lobe of the prostate, not very marked. The glandular structure of the pancreas is normal. The liver is cirrhotic. The biliary ducts are normal.

The lumbar nerves were dissected out continuous with the cord. The brain and the cord were left in continuity, except a small segment.

Patient died 4.45 P. M., October 28, 1899. Autopsy 3.45 P. M., October 29, 1899. Path. diagnosis; chronic tuberculosis and interstitial nephritis.

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THE TEACHING OF CHEMICAL PATHOLOGY.

By ALONZO ENGLEBERT TAYLOR,

of San Francisco.

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In a recent article in this journal upon the Teaching of Pathology, Adami wrote: "Pathological chemistry gives so much promise of throwing, in the very near future, so much light upon pathology in general, that the time has come for greater activity in the teaching of this branch in immediate connection with the pathological department." The University of California has established such a course in chemical pathology, the details of which may be of general interest, particularly since in the series of articles in the journal devoted to the teaching of the various branches of medical science, there was no especial consideration of this subject.

The laboratory in which this course is being given was installed and equipped during the past year. It contains desk space for fifty students, the space allotted to each student being nearly twenty square feet. Each student has an individual desk and locker, each desk containing a sink ten by twelve inches, and is fitted with four shelves for the reagent bottles. Fitted to each desk are three water spigots, one large valve being for the ordinary supply, and two small cocks for the supply of water-baths, etc. The gas supply for each desk consists of two taps. Each desk has a vacuum pipe exhausted by a large vacuum pump. There are six hoods in the room. One is devoted to the generators of hydrogen and carbon dioxide. A second is occupied by the blast, the compressed air for which is furnished from a tank filled by an automatic air-pump. Two of the hoods contain each a copper water-bath five feet long, two feet wide and eight inches deep; these baths are heated either by live steam or by gas, and contain together 50 openings, one for each student. One hood is devoted to the Kjeldahl digestion apparatus. The remaining hood contains the hydrogen disulphide generator. There are further two large counters for distillations, etc. Each student is sup-

plied with sixty reagent bottles, a test-tube stand with twenty test-tubes, test-tube holder and cleaner, one portable water bath, two gas burners, two tripods, two stands with rings, one burette holder with two burettes, one wash bottle, two Erlenmeyer flasks, one distillation flask, one vacuum filtration flask, twelve beakers, three funnels, two porcelain dishes, one separating funnel, two weighing bottles, one pylonometer, one distillation apparatus, one saphlet extractor, one dessicator, one fractional distillation flask, one crucible, crucible tongs, one mortar and pestle, two pipettes, two measuring cylinders, one thermometer, one acrometer, and the watch glasses, pinch-cocks, files, glass rods, glass tubing, rubber tubing and filter paper required in the work. Each student has upon his desk the reagents needed in work of this character, some sixty in number. Upon side shelves are stock bottles of accessory reagents and solutions for titrations. In an adjoining room are ten saxtorius balances, dessicators, spectroscopes and polariscopes. Three afternoon sessions per week are given throughout the academic year.

The instruction is determined by the principle that the student should learn to consider disturbed function as coequal with and correlated to altered structure. Morbid anatomy and morbid physiology are considered and taught together. Such a course will contain a great deal of what is in continental writings called general or experimental pathology. The courses in chemical and morphological pathology are given to the same class, so that the two points of view are constantly correlated in the mind of the student. Chemistry, so far as its technical aspects are concerned, bears to the one course the same relation which microscopy bears to the other, that of handmaid. It is not pathological histology; it is histological or morphological pathology; it is not pathological chemistry, it is chemical pathology—the pathology is the point of view. That considerations of chemistry, physics, physiology and zoology enter into the study and teaching of pathology is, of course, a truism; but for the student of pathology and for the teacher in his duties as a teacher of pathology, it is chemistry, physics, physiology and zoology to the end and for the sake of pathology.

There are in the instruction three directions which are followed: 1. The consideration of the relations of the disturbed function to the lesions. That in many instances we are not able to define such relations is all the more reason for attempting to fix them in all cases. 2. The determination of the relations between the particular functional disturbance and the general metabolism, perhaps the most valuable aspect of the subject. 3. The training in the diagnostic procedures employed in the study of the chemism of disease, and instruction as to their real worth.

The course consists of laboratory work supplemented by such lectures as are necessary for the elucidation of the subjects in hand. So far as possible the laboratory work is individual and practical for each student. The insufficiency of material in certain diseases, however, will sometimes preclude individual exercises, and under these circumstances demonstrations (not descriptions) replace them. The course includes work upon the saliva,

the gastric secretions and contents, the fæces, the urine, the blood, exudates and transudates, the bones, various organs, tumors, ptomains, toxins, antitoxins, and ferments. It is planned to have the entire class do a certain amount of work in all the general lines, following which, individual subjects for original work will be assigned to each student, which subjects are to be worked out in detail. As illustrations may be cited as subjects: the fats of the stools of persons with pancreatic or hepatic disease; the stools of diarrheas; the urinary protein in the different forms of albuminuria; the freezing point and electrolytic resistance of nephritic urine; the amyloid substance; the fat and protein in the kidney in nephritis; the mineral constituents of atheromatous blood-vessels; the protein, fat and glycogen in pus; the composition of the fluids in ascites and edema; the organic and inorganic constituents of the bones in rachitis and in other bone diseases; abnormal urinary pigments; the protein and carbohydrates in the fluid of parovarian cysts; the dried residue of the blood and plasma, and the protein of the plasma in anemias; the purin bodies in the urine in such conditions as leukemia; the glycogen in diabetic tissues or in tumors; chyluria; the solvent action of the serum of immunized animals; the Calmette antivevne demonstration, etc., etc. These original tasks constitute a most valuable part of the work, since here the frame of mind and the scientific method are cultivated.

For the successful completion of such a course there are two prerequisites: the student must be adequately trained in physiological chemistry; and material must be abundant. A certain amount of material may obviously be prepared directly for the course. It will never be possible to take each student over the whole field, just as it is not possible to give each student work in all the lines of physiology or to demonstrate all the lesions of morbid anatomy. Nor is that necessary. If each student *works* through and *thinks* through a few of the conditions of disease, the mental training and the grasp upon the subject thus attained will be of high value, above and beyond the training in diagnosis. And for the later development of the student's medical mind, the chief object of the course is to teach the student to view disease as much from the functional as from the anatomical point of view, to correlate in the mind morbid physiology with morbid anatomy, and to carry this association into practice and into original work.

Pulmonary Sclerosis, Probably Syphilitic.—Raymond Bernard reports a very interesting case of pulmonary sclerosis found in a young man admitted to the hospital with interstitial keratitis. It was impossible to obtain any syphilitic family history. Examination, however, revealed marked thoracic deformity with scoliosis, adherent pleura, and retraction of the left lung. Exploratory puncture was negative. Over the entire left side there were no respiratory movements, but intense pseudo-cavernous breathing was heard. The sclerosis had advanced so far that the heart was drawn upward and further to the left side. Subjective symptoms were present, and when the patient was dressed, the condition was not even suspected. He had never had an acute pulmonary disease, nor was there any suggestion of tuberculosis. Yet the presence of a double intestinal keratitis decided Bernard in making the diagnosis of pulmonary sclerosis, probably due to hereditary syphilis. (*Gazette des Hôpitaux*, 1901, No. 18.) [M. O.]

THEORETICAL AND PRACTICAL CONSIDERATIONS ON THE TREATMENT OF JACKSONIAN EPILEPSY BY OPERATION: WITH THE REPORT OF FIVE CASES.

By JAMES JACKSON PUTNAM, M. D.,

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[Conclusion.]

To return now to the consideration of the questions specified at the beginning of the paper, it may be stated as a fact which would probably be generally admitted, that operations for the relief of focal epilepsy, whether these aim at the removal of local sources of irritation or of diseased areas involving the cortex, or of the removal of the apparently normal cortex, are often unquestionably of great benefit; although they have not accomplished nearly all that was hoped of them. Not to speak of special cases and groups of cases, some of the best of which have been contributed by American physicians, this statement is substantiated by several recent and careful compilations of German surgeons, as Braun,¹ Graf,² and Matthiolus.³

When it comes to the important question of the comparative merit of cortical excision, as against operations of less magnitude, such as simple exposure of the cortex or loosening of dural adhesions and the like, which sometimes have an extraordinarily favorable effect, the case is not so clear, especially when it is remembered that the excision is likely to cause lasting incoordination of slight degree, and that the resulting cicatrices may be by no means indifferent for the health of the surrounding parts (1) of the brain.

Still, the figures cited by Matthiolus, taken for what they are worth, indicate rather better results from operations in which the brain has been included in the operation than where only lesions of the brain coverings have been treated.

"Cures," i. e., for example, a cessation of fits for five years have been very few in number, and although such a case as that of Collins and Gerster's, is encouraging, where six years have elapsed during which, after cortical excision but under continual bromide-treatment, no fits have occurred, is very impressive, it is to be remembered that in the first case of the series reported by McCosh an equally good result followed simple trephining, separation of the adherent dura from the roughened bone, and the removal of bone-fragments, although there can be little doubt that the broken adhesions instantly reformed, so that the local conditions of nutrition probably remained in the end unimproved.

The conclusions which seem to me most reasonable on the other points are the following:

Epilepsy of the "Jacksonian" type is usually set up, in the first instance, by gross sources of irritation, either peripheral or central, but for the most part

external to the brain tissue itself. Yet there is probably one form which has the same pathology with so-called idiopathic epilepsy of more common types.¹ The anatomical changes found under these circumstances are to be regarded as usually either secondary to the convulsions or else as indications of an abnormally developed brain. Perhaps uremic and other toxic convulsions of focalized type should be classified with this group, inasmuch as the poison is distributed through the brain as a whole, and the localized effect is not to be sought in the localized cause.

It is doubtless true,—as Sachs² and Collins³ have pointed out,—that in some cases of Jacksonian epilepsy degenerative changes may be found in excised pieces of the cortex, which were not recognizable to the naked eye. On the other hand, however, the evidence that these changes are of a kind likely to excite epileptic seizures seems to me insufficient, and it is especially improbable that lesions of such a character would be limited to a small area of the cortex to such a degree as to be entirely removable by operation.

Not only is the existence of such changes in the form of circumscribed focal lesions improbable, but if they existed we have no clinical criteria by which to delimit them before death. To take, for example, the most common type of Jacksonian epilepsy, that which begins with sharply defined hand-symptoms, there are large numbers of cases to show that the lesion, when gross, may be of great, or indefinite size, and may vary greatly in position with relation to the so-called hand-area of the cortex. If then a large tumor or cyst or a patch of diffuse meningitis may cause sharply localized symptoms, why should not the same be true, a fortiori, where the lesion is a diffuse degeneration of ganglion cells?

Again, it is by no means certain that in the fit of the Jacksonian type, the morbid cycle of which the convulsion is the most obvious feature, always begins with a "discharge" at the point corresponding to the signal symptom. If we bear in mind the analogous case of a purposive movement, as when, for example, we put out the hand to grasp some object or clinch the fist in obedience to some emotional impulse, we must admit that these movements are preceded by a series of cerebral events of the details of which we are largely unconscious. In a similar way, a Jacksonian attack may represent the terminal stage of a complex cerebral action as well as the initial stage, and the persistence of the "habit" may be due to a persistence of a memory, more or less independent of the brain.¹ This reasoning would apply, of course, more especially to the Jacksonian types of idiopathic epilepsy, but there is room for question whether it does not apply, in some measure at least, to the cases of localized lesion as well, especially where a good many attacks have already occurred. Thus in Case 1 of this series, the hand fits, although they were sharply localized, even to the thumb and fourth finger, as a rule, and sensory in character, were often preceded by blurring of vision and strange feelings in the head. Everyone

¹ Deutsche Z. Schr. f. Chir. 1898.

² Arch. f. Chir. 1898.

³ Deutsche Z. Schr. f. Chir. 1899. Such compilations have, to be sure, only a limited value, since the grounds for a valid classification and comparison of the different cases are very imperfect. The study of individual cases is really of greater value.

¹ See McCosh. Amcr. Jr. of Med. Sc., 1898, Vol. 115, p. 549; and other writers.

¹ See the report of a case with apparently negative findings, by Jackson, Brain, Vol. 1, 1900.

² Brain, Summer and Autumn, 1896.

³ Brain, Summer and Autumn, 1896.

has been inclined to admit that the longer the time during which the seizures due to localized irritation occur, the more widely the brain, as a whole, becomes involved, and although it has been amply proved that even after twenty years and more a suitable surgical operation may, in favorable cases, arrest the epileptic tendency, yet it is also pretty certain that the co-operative action of ever widening areas of the brain, or even of the brain as a whole, may show itself amost from the very outset, and this especially in children.¹ When this result has been reached, the case of the patient with traumatic or focal epilepsy probably differs but little, if at all, from that of a patient with idiopathic epilepsy. In other words, the epileptic tendency in his case has become one of the regular modes of activity of the whole brain, and the destruction of a single part, the hand center, for example, if it checks the seizures, must do so through some influence such as we are apt to classify as "inhibitory." If the gathering tension which precedes the epileptic outbreak had been in the habit of expressing itself through some motion or sensation of the hand, the tendency to this same mode of expression is likely to remain even after mutilation of the cortex, though susceptible of being checked at its source by inhibition or otherwise. If the fits go on, however, the motion or sensation which occurs after the destruction of a given center is likely to be more coarse in character and less sharply limited in extent than it was before that part of the delicate mechanism of the cortex had suffered damage.¹

In advocating the importance of the "inhibitory" and formation-of-new-habit theory of surgical operations in Jacksonian epilepsy, as against that which refers the benefits obtained to the removal of disease-foci, I do so not as maintaining that the former explanation is perfectly satisfactory or intelligible, but only that at the present moment it is the best one available. It has also the advantage that its provisional adoption encourages us to study and classify the cases of benefit from operations of other sorts, instead of passing them by with a shrug, and may thus lead to more profitable modes of treatment of analogous sorts.

As a step in this direction, the fact deserves mention that Eulenburg¹ in his interesting discussion of some of these points in 1895, in connection with the report of a case where the epileptic attacks held off for three years after a cortical excision and then returned, has a good word to say for the striking observations of Wetterstrand on the treatment of epilepsy through hypnotic suggestion. This mode of treatment is theoretically justifiable, since it is as reasonable to believe that epilepsy may be influenced favorably by one sort of mental attitude as that it may be influenced unfavorably by another, and the latter has always been accepted as a true sequence.

The natural history of all the neuroses and psychoses is, indeed, marked by a tendency to the occurrence, under favorable conditions, of periods of cessation of symptoms. Tic douloureux and mi-

graine are cases in point, but there are many others. There is such a thing as temporary "set" or "cyclic" action in the nervous functions analogous to the vortex-tendency, which sets up the ever-forming and dissolving eddies on a swift stream. These temporary inertia—or habit—vortices may work for good or evil, and it is on the possibility that the formation of one tending to good may be encouraged that a large part of the hopefulness of therapeutic endeavor is based.

It is possible, of course, that the manifold operations which have been done for epilepsy and have been attended with a considerable measure of success, sometimes do good in one way, sometimes in another. But the mind instinctively and justly seeks to cling to a single explanation as long as possible, and it would be fair to urge that if the excision of the apparently healthy (even though really slightly diseased) cortex effected its results on a wholly different and more rational principle from other operations, these results would be distinctly better, which, in fact, they do not seem to be.

It is common to see the inference drawn that because the cessation of certain clinical symptoms follows a given therapeutic measure, therefore the cause of the symptoms has been discovered. This is the diagnostic argument "ex juvantibus," and it reappears in a thousand forms. In fact, this reasoning is misleading and fallacious. The morbid cycle of disease, especially if this takes the form of a neurosis, whether epilepsy, asthma, Graves's disease, or any other, may often be broken in upon and dispelled by influences and impressions which had nothing to do with its formation, and this is another justification for the doubt whether a cessation of fits following an operation for excision of a supposed disease-focus in the cortex proves, or even strongly indicates, that we thereby remove the original cause of the disease. I would remark in passing that the presence of the localized meningitis discovered in three of the above cases, as in several others which are on record, not to speak of that which had developed (possibly as the result of meningeal hemorrhage) during the typhoid fever, in Case 1, seems to me of distinct clinical interest. It is not commonly accepted that this lesion is apt to follow such injuries to the head, as these patients describe, or to occur from such illnesses as those from which they had suffered.

Reasoning from the conditions above stated, I believe that the arrest of epilepsy through surgical operation is an affair primarily of inhibition, and next of the establishment of a new habit, made possible by this temporary arrest of the morbid outbreaks. I do not believe that it is necessary to look for a focal lesion to account for focal symptoms, any more than it is necessary to look for a focal lesion to account for the numbness of the hand or the hemianopsia which usher in an attack of migraine.

If this reasoning is correct, the therapeutic problem is how best to secure this inhibitory action. Cortical excision may be the most effective means to this end, but it sometimes leaves the patient with an embarrassing and persistent awkwardness of movement, and should therefore not be undertaken if other means will serve, which are not open to the same objection. Clinical observation and labora-

¹ Cf. Chipault, *Travaux de Neurologie Chirurgicale*, April-July, 1900; abstract in *Jr. of Nervous and Mental Dis.*, April, 1900.

¹ Cf. Eulenburg, *Berl. Kl. W. Schr.*, 1895.

tory experiment seem to indicate that even a simple exposure of the cortex may damage its nutrition enough to cause temporary paralysis of sensation and motion, in many cases, yet without inducing permanent impairment of function of serious amount, and any one who will take pains to look over a large number of important cases will see that not only the moderate degree of success observed by Dr. Warren and myself, but occasionally a much greater degree is obtainable in this way. The cause of the temporary disturbance of motion and sensation which follows simple exposure of the cortex is attributed by Hitzig to the occurrence of punctate hemorrhages deep in the cortex, and to edema and anemia of the brain, partly resulting from its being pressed into the trephine opening by the uncompensated action of the cerebral circulation, the counter pressure of the cerebral spinal fluid in the sub-dural space having been removed. This counter-pressure may, he thinks, be re-established if the excised bone is replaced in its old position, as by the Wagner bone-flap method of opening the skull for operations of this sort, which is now so common. Even with this precaution, however, it is probably a long time before the circulation and nutritive conditions in the exposed cortex become normal, if, indeed, this ever happens.

An advantage of this operation of simple exposure of the cortex is that it can be repeated if necessary, and that it does not shut out the possibility of doing excision of the cortex later. But whatever operation is done it should, in my opinion, be considered that the arrest of the symptoms is mainly useful as affording a better opportunity for bromide medication, and this opportunity should be taken advantage of energetically. It is not necessary to consider here the details of the bromide treatment, but, in fact, I believe that the best method is that originally proposed by Charcot and recommended by Tourette in a recent paper, according to which the dose is increased for three weeks, then dropped to the starting point, and then increased again, and so on. The bromide treatment should also be reinforced by every hygienic influence that can be devised.

As regards the question of the physiology of the cerebral cortex, the tendency of the more recent researches has been on the whole confirmatory of the generalizations of Goltz, and we must now cease to regard the cortex of the brain as a mosaic of specialized centers, and consider it rather as a net-work, standing as the expression of closely inter-dependent functions. Furthermore, real light has now been shed upon the vexed question of the relationship between consciousness and the brain, and upon the part which each plays in producing the phenomena of life and disease. In confirmation of these statements, I will refer to the investigations and interpretations of J. Richard Ewald,¹ of Loeb,² of Hitzig,³ and of the psychologist, Bergson.⁴ Ewald managed to arrange the conditions of his experiment in such a way that the surface of the brain of dogs could be excited here and there long after the shock of the first trephining operation had passed away

and while the animals were running about in perfect health and indifference. Under these circumstances he found it possible to excite localized movements of various sorts by electrical stimulation at points quite removed from any corresponding "center," and he points out that, in fact, arrangements *must* exist for uniting closely the functions of such a part as the hand with those of the eye and ear as well as the touch. He shows that the strong tendency towards recovery from the effects of local destruction of the cortex ordinarily implies the preservation of the semi-circular canals in the labyrinth, and that where these have been removed the recovery is incomplete or does not occur. These facts are best explained, he believes, under the view that the semi-circular canals have the function of maintaining a general muscular tonus, and that this provides a sort of compensation for the loss of the tactile (or mainly tactile) functions of the Rolandic convolutions, like that obtained through the action of vision in tabes.

The cortex of the brain is a great net-work, an immense telephone switch-board, by means of which the individual seeks, as best he can, to place himself in active relations with his environment. The sense of his desires and needs in the way of recognition and expression is a possession of his whole brain, and a possession which he will struggle hard to maintain, and which cannot be excised through mutilation of any small portion of the cortex. If you damage his switchboard at one point, you may make it more difficult for him to accomplish certain results, but unless the damage be too great, accomplish it he will, if only in a roundabout fashion, by a process of readjustment which will begin to assert itself as surely and as promptly as that which makes the epidermis begin to grow again upon the abraded skin. It is reasonable to suppose that the hand-center is also a center, in a feeble degree, for the arm, the face, the shoulder and the leg, and it is fair to suspect, although the fact has not, I believe, been proved, that if a sufficiently delicate test were employed, it would be found that even feeble electrical excitations of this area, like movements of the hand itself in health, would be attended by feeble contractions of the muscles which fix the root of the limb. And, conversely, after excision of the apparent hand-center, the readjustment which asserts itself forces the mechanism which had previously been correlated principally for coarser movements of the arm to substitute itself for that which had been destroyed. It is certainly true, to use the term employed by Loeb, that the problem of the cerebral activity is one that is rather dynamical than anatomical. It is like the case of a quantity of water which had stood in a complicated system of tubes, gradually finding a new level when one of the tubes is taken away. The dynamic excitability, if the expression is permissible, of the parts next related to that which had been previously in use, needs only to be raised to the necessary point, for the old processes and functions to go on as before, at least after a fashion. The case is more or less like that of aphasia. It is true, namely, as Hughlings Jackson long ago pointed out, that, underlying the bizarre variations of the speech disturbance in different forms of aphasia, there is always a tendency

¹ Verh. des Congr. f. Int. Med., 1897, Vol. I, p. 247.

² Physiology of the Brain, Ch. 120, 1900.

³ Arch. fuer Psych., 42, 1900.

⁴ Matière et Mémoire.

towards a readjustment of the language-function, of such a kind that this function is found at the end not to have been mutilated in parts so much as weakened as a whole. In the struggle for the re-establishment of a new equilibrium the *verb*, which expresses action and has a wider hold on the individual's life of relation to his environment will always be recovered first. The proper names, which stand alone, will be recovered last.

In other words, if the individual can no longer present just the same front to the world as before, he will, nevertheless, present, so far as possible, the same *sort* of front.

It is interesting and important to note that this principle which underlies the readjustment of the cerebral functions, after injury or disease, on a plan modelled on the conditions of health, is essentially the same with that which underlies the readjustments in the case of the hysterical patient, only here the process is seen in an exaggerated, often grotesque form. Take, for example, the case of the anesthasias of cerebral origin. The modern French view has recently been expressed with admirable clearness by Verger (1) that in all cases where complete hemianesthesia is present this is to be regarded as a sign of hysteria, though perhaps grafted on to the symptoms of an organic lesion of the brain. On the other hand, the anesthesia to which a structural lesion of the brain gives rise in its own right, i. e., when uncomplicated by hysteria, does not, he thinks, occupy one whole half of the body, but only the extremities, where it gradually increases in intensity toward the distal end. I desire now to point out that, although these peculiarities of distribution are doubtless of clinical importance, yet the two conditions which we call, respectively, hysterical and organic, resemble each other in the respect that neither of the forms of readjustment of the sensory functions seen in them proceeds on anatomical lines, but both are examples of the re-establishment of an equilibrium for functional ends, for the benefit of the individual as a whole. It is, again, an affair of dynamics, and not of anatomy.

Just as in aphasia a patient is apt to lose his isolated names first and to retain his verbs the longest, so, when his sensori-motor cortex is injured he retains the more fundamental use of his limb and loses the luxury-functions of the hand and sometimes the sensory functions which are associated with the motor functions of this type. I maintain that this is precisely the ground on which the hysterical patient is supposed to lose and to retain, as the case may be, the sensory functions of his skin and special senses. There is a difference between the two sets of cases, but the underlying principle of readjustment is the same.

It is a merit of this mode of regarding the brain functions in disease that it brings out the dynamic, self-adjustible, so-to-speak "fluid," properties of that organ, and contradicts the tendency to represent it as an inflexible mechanism. It contradicts also the erroneous theory of the "storage of memories" in the cortex (1) subject to being destroyed piecemeal by disease. It is just because memories exist (in a certain sense) independently

of brain-action, that they cannot be thus destroyed, and that the marvelous readjustment of the functions of the damaged brain on the old lines of health, is able to occur.

It is also of interest to note that Hitzig believes, on the basis of a long series of experiments, that he has demonstrated the existence of a visual center in the frontal lobe, of analogous significance to that in the angular gyrus. Thus, provision is made for movements of the eye and for vision in two widely different portions of the brain. Neither of these centers seem to be, according to Hitzig, primary centers of vision, both stand in a similar relation to some more fundamental visual area.

WHAT I HAVE LEARNED FROM ONE HUNDRED AND SIXTY-ONE OPERATIONS FOR THE RELIEF OF SENILE HYPERTROPHY OF THE PROSTATE GLAND.

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[Conclusion.]

Twelve cases were operated upon, four being complicated with pyelitis; in all there was chronic cystitis associated with either atonied or contracted bladder. Four had previously submitted to castration without benefit. The period of convalescence ranged from three to five months, including, of course, the care and necessary after-treatment. After the operation the individuals were respectively confined to bed for a period of from one to four weeks. In complicated cases of the character here described urethral fever is a very common occurrence. Five of these patients had been subject to chronic urinary fever for many weeks prior to coming under my observation. Three cases were markedly benefited and practically might be considered cured; though a small quantity of residual urine and a slight amount of cystitis still exist. In seven cases the bladder did not regain its tone, and the continued use of the catheter became necessary. The insertion of the instrument was rendered easy and painless; prostatic spasm, one of the most painful symptoms, being relieved. In four cases there was marked improvement in the general condition, indicated by increased strength and gain in weight. Of the remaining cases no improvement in the physical condition resulted. In the unimproved cases the trouble had existed for such a length of time and the damage to the bladder and kidneys was so great, that only an amelioration of the urgent symptoms could be hoped for. In this group the age was so great and physical condition was such that a complete prostatectomy could not have been performed with safety.

These cases seem to demonstrate that in prostatic hypertrophy the earlier the operation is performed the greater are the chances of permanent cure, danger to life being lessened, and but a short time for convalescence being required, and also that the operation may be undertaken in advanced cases

where secondary pathological changes have taken place with less risk to life and with better chances of relief than any other radical method in vogue at the present time. When castration had been performed the Bottini operation was followed by relief to the obstructive symptoms. Pyelitis is not a contra-indication to the performance of the operation, as in four of the individuals who submitted to this process this condition pertained and no injurious result followed. When the bladder is hopelessly damaged and polyuria exists, the operation will be followed by benefit, but cure is not to be looked for. Of the number of cases of this kind operated upon, in sixteen the enlargement was of the fibroid variety; four were glandular, and thirteen were of a mixed type. I have found that both success and failure will follow operations where any of the varieties mentioned exist. Hence, I believe that the character of the growth has little or no influence on the results obtained. If there is any difference it is in favor of the fibrous form. Good, as well as poor, results have been obtained by many surgeons, when operating upon either the hard or soft variety of prostatic hypertrophy; which seems to prove that the character of the growth has but little influence on either the failure or success of surgical procedure. The results obtained in cases where incomplete or complete retention of urine existed were about equal; if a difference subsisted it was in favor of the former condition. The beneficial results to be obtained from the operation seem to depend upon the amount of damage that the bladder has sustained, and whether or not the kidneys are involved, and also the physical condition of the individual at the time. The longest period that any of the patients had employed a catheter was fourteen years; the shortest two and a half months. In four of the cases catheterism had never been employed; in six individuals there was frequent urination, the residual fluid varying from two to eight ounces. In fourteen, catheterism was necessary from three to five times daily. Five of the patients had suffered from attacks of retention of urine from time to time. In nine cases the individuals were unable to evacuate the contents of the bladder without the use of a catheter. In six patients in whom benefit was derived from the operation the obstructive symptoms were so far ameliorated that a catheter could be readily inserted, without pain; physical spasm was relieved, and, as has been pointed out by Willymeyer, obstinate constipation, which is associated with this condition, disappeared. There was invariably an improvement in the physical condition as was shown by increase in weight and strength. Five of the cases here referred to were operated upon twice, and one underwent the procedure three times.

Regarding the length of time which should be allowed to elapse before repeating the operation, no fixed rule can be given. It depends on the character of the obstruction; the condition of the patient; the results following the first operation and whether or not there is a tendency to the recurrence of the obstructive symptoms after a lapse of a few months. I have repeated the process as early as three weeks and as late as six months after the first procedure, using my experience and judgment

as guides. Dribbling followed the operation in four instances; this state continued for about five days, then disappeared, giving no further trouble. The only other complications observed were prostatitis and urinary fever. The former occurred in five instances, giving rise to pain, frequent desire to micturate, with retention of urine, which usually subsided with proper treatment in the course of a week or thereabout. In the latter, especially in those who had suffered from urethral fever associated with a co-existing pyelitis and polyuria, preceding the operation, chill followed by a fever of a septic type was often an alarming symptom. From ten days to two weeks after the operation the urine was frequently tinged with blood, and contained threads of tissue and other debris. In no instance did hemorrhage occur. In three cases a stricture of small calibre was found in connection with the prostatic obstruction; in these internal urethrotomy was performed before inserting the prostatic incisor. In four cases preliminary suprapubic lithotomy was performed. In one instance the Bottini operation was accomplished as soon as the calculi had been removed, so that I had an opportunity of observing the result of the incisions immediately after the galvano-cautery had been employed. On examination it was found that a deep groove had been burned in the median line of the middle lobe, which entirely removed the obstruction and brought the internal urethral orifice down to a level with the base of the bladder. The incisions in both lateral lobes were well marked. In making the left lateral cut the knife had apparently slipped into the groove made in the middle lobe, and had incised the left lobe at its lower portion, in the vicinity of the base of the bladder. In one case I had the opportunity of performing a suprapubic cystotomy on a patient who had submitted to a Bottini operation seven months previously. I found that there was a deep furrow in the median line of the middle lobe; that the vesical outlet was at the normal level, and that all obstructions were apparently removed. The lateral lobes were hard and contracted, with evidence of dense cicatricial tissue. When a suprapubic lithotomy is necessary, arising from prostatic hypertrophy, I believe the wisest plan is to be content with removing the stone, and defer the operation until the patient has entirely convalesced. I have seen death follow the performance of the double operation. When a suprapubic fistula exists, it is well to postpone the Bottini operation until the sinus is closed. When the opening exists it is impossible to distend the bladder, rendering danger of injuring the walls very great; moreover, the sloughs and debris which always follow cauterization of the prostate are but poorly expelled. Recently certain surgeons have advocated the opening of the bladder suprapubically in order that the character of the obstructing prostate may be correctly determined and the beak of the instrument placed in the exact position desired. This procedure does not seem to me to be necessary. Everyone should be able to diagnose the character of the enlargement and the cause of the obstruction in prostatic hypertrophy by means of rectal manipulation; the increased length of the urethra, together with an examination of the vesical aspect of the gland, can be readily deter-

mined by the employment of the stone searcher and the cystoscope. The preliminary suprapubic cystotomy in these cases is believed to be unnecessary and needlessly adds to the danger attending the operation. Fear has been expressed by various writers that the use of the galvano-cautery might be followed later by a constriction of the vesical outlet, with resulting stricture. Three years have elapsed since my first operation was performed, and in no instance has any difficulty of this kind arisen. I believe the apprehension felt regarding this suggested complication to be groundless. Care should always be taken to properly prepare the patient to endure the operation. In several cases the patient was kept under preparatory treatment for three months before he was considered to be in a fit condition to undergo the operation. In some of the cases the prostatic urethra was so greatly contracted that even a small sized catheter could with difficulty be inserted. It was found that by leaving the catheter "à demeure" for a period of two weeks, passing small bougies about every third day, that the prostatic incisor could be successfully passed. In several instances, when the constriction was so well marked that the insertion of an instrument was impossible, it was observed that by placing the hips of the patient on an ordinary bedpan, thereby arching the body, that the curve of the urethra would be so much changed that the instrument could be readily passed.

When it is desired to employ general anesthesia an attempt should be made to insert the instrument a day or two previous to the operation, so as to be assured that it can be made to enter the bladder otherwise the individual might be etherized unnecessarily. A careful examination for the presence of calculus should always be made before the operation is undertaken. Employment of the cystoscope as a routine method of making an examination is not necessary. Its use is frequently attended with pain and discomfort and its employment is not free from danger if the kidneys be extensively diseased. Its use should be reserved for exceptional cases, where the existing local condition is difficult to determine. The employment of the Wossidlo cystoscopic prostatic incisor has been found to be valueless. Its use is not recommended.

Whenever the condition of the patient permits the use of general anesthesia is advisable, either being employed for the purpose. Many of the operations were performed by means of local anesthesia, a 4% solution of cocain being used. In nervous and excitable patients, who dread an operation and complain whenever an effort is made to insert an instrument into the urethra, spinal anesthesia is the method of choice. A means of anesthetizing the bladder has recently been suggested by Dr. du Chas-telet (*Ann. d. Mal. Org. Genito-Uri.*, No. 7, 1899) which is worthy of trial. It consists in injecting into the rectum forty-five minutes before the operation, a solution containing ten drops of laudanum and twenty-four grains of antipyrin, which has been dissolved in three ounces of water. It is claimed by the operator that by the use of this mixture in the manner described he was enabled to spend half an hour in crushing a calculus without discomfort to the patient.

My first two operations were successfully performed when the bladder was empty. Dr. Freudenberg recounts in detail the result of operating upon a patient when the viscus was empty, in which he was so unfortunate as to immesh a fold of the mucous membrane between the heated platinum blade and the prostate gland, thereby burning a hole through the walls of the bladder; this was followed by extravasation of urine and the death of the patient. He advises that a warm solution of boric acid be employed, wherewith to distend the bladder. In six cases following the two to which I have referred I followed the suggestion with favorable results.

In the *Medical Record* for November, 1898, there is an article by Bransford Lewis, in which he recommends that the bladder be inflated with air as a safe and satisfactory means of preventing injury to the walls of the organ. In all the subsequent operations to these to which I have just referred I have followed the recommendation of Lewis and have employed air wherewith to distend the viscus and have had every reason to be satisfied with the results. One of the most important adjuncts in the steps of the operation is to have on hand a battery that will promptly bring the knife to a white heat. For this purpose there is nothing more satisfactory, than the street current connected with a "transformer" which has an Ampere meter also introduced into the circuit. The best battery that can be used is the one advocated by Willymeyer, which, in addition to a rheostat, is connected with an Ampere meter. Fifty Amperes are required to heat the blade and maintain it at a white heat. In five instances the blade of the instrument become slightly bent during the operation, rendering it impossible to return it completely within the sheath; so that the removal of the instrument was attended with a slight amount of injury to the urethra, but in no case did any detrimental result follow the accident. The bending is caused by using the blade for the purpose of making the second and third cut before the whole of the adherent charred prostatic tissue has been burnt off. When the subsequent cuts are attempted, the portion of the glandular structure adherent to the knife serves to cause sufficient resistance to the blade, when it is softened by being brought to a white heat, to occasion its bending. This annoying incident can be obviated by removing the instrument after the first incision has been made and burning off the adherent tissue, leaving the blade clear and clean, and then re-inserting it in order to make the second cut. This should be repeated after each incision. That the burnt tissue, which is adherent to the knife, interferes with the incision is evidenced by the fact that the last cut is harder to make and takes longer to accomplish than any of those that precede. On removing the instrument it will frequently be found that a full minute is required to burn off the unconsumed portion of tissue which adheres to its blade. That the cut may be properly made and that the tendency to primary hemorrhage may be lessened it is necessary that the knife should be at a white heat. If it is found that fifteen seconds are required to heat the blade before the instrument is inserted, at least ten additional seconds

should be allowed to elapse after the instrument is in place before an attempt is made to make the incision. A certain percentage of failures is due to the fact that the cuts are made too rapidly. In my earlier operations about one minute and a half was taken for each incision. I am convinced that I have obtained better results when I have allowed from 3 to 4 minutes for making each cut. They should be made very slowly, as if the knife were passing through a substance offering great resistance; when it is finished and the blade is being restored to the sheath, it is well to have the current made somewhat stronger, the blade should be returned very slowly so as to insure the consumption of the portion of tissue that may be adherent to the knife. It is essential that the instrument be held firmly and steadily whilst it is being used. This may be insured by the operator placing his left foot on a chair in front of him and resting the elbow of the left arm upon his knee; as the left hand holds the instrument during the operation the danger of shaking or jarring is reduced to a minimum.

The number and length of the incisions will depend on the size, as well as the character, of the enlarged gland. In cases of commencing prostatic hypertrophy, where the organ is comparatively small, a median and two lateral incisions are all that are required. In cases of long standing, where the gland has attained considerable dimensions, three cuts on the prostatic floor should be made; the median being from three and a half to four centimeters, whilst two and a half centimeters are allowed for each lobe, unless one should be markedly enlarged when the cut should be proportionately increased in length. In every case that came under my control, with two exceptions, the incisions were made on the lower portion of the gland. In the two cases referred to there was general glandular enlargement, marked projection backward, with two pouches, one above and one below. In these cases one upper and three lower cuts were made. The upper incision is seldom necessary, and should be avoided if possible. In many of the cases where hemorrhage has been reported as one of the immediate complications following the operation it was probably caused by the incision being made in the upper portion of the gland. The reason for this becomes evident when the fact is recalled that the prostatic urethra is one-third nearer the upper than the lower portion of the gland; in some instances the prostatic tissue is absent for a short distance on the roof of the urethra, its place being occupied by a fibrous and elastic tissue. It follows, therefore, that an incision made on the roof of the prostatic urethra is more liable to injure the prostatic plexus of veins, which lies between the outer and inner capsule of the gland, than when the incision is made on the lower surface. When a marked projection of the middle lobe backwards exists, four cuts should be made in the lower portion of the gland. Two V-shaped incisions should be made through the middle lobe, which permits it to fall back out of the way, finally becoming shrivelled and atrophied; the lateral cuts are then made in the usual manner. After the instrument is in place, before proceeding to make the incision, the index finger of the left hand should be inserted into the

rectum, so as to determine whether the beak of the instrument is in the proper position, and, at the same time, to be sure that a fold of the bladder has not been entangled. The expedient which has been suggested of inserting the finger into the rectum and pushing the prostate gland up against the blade of the knife during the operation is not free from danger, as a recto-vesical fistula might result. It was not found necessary to leave a catheter in the bladder after the completion of the operation, except in those patients who had suffered from chronic cystitis associated with contracted bladder, or where they had long been affected with retention of urine. In two of the cases after the completion of the operation symptoms of uremia, with a marked tendency to suppression of urine, was developed. From these patients about four ounces of blood were abstracted from the vein of the arm, and immediately after this was followed by a venous transfusion of normal salt solution. Two and a half pints were transfused, which was repeated in the course of eight hours, as the dangerous symptoms had not undergone amelioration. Both patients recovered. A one-twentieth of a grain of digitalin combined with the same amount of strychnia was administered every third hour, the action on the heart being carefully watched.

Out of the number of patients operated upon, in three there was a slight tendency to the recurrence of the obstructive symptoms at the end of six months, making a second operation necessary. Two had occasional attacks of congestion of the prostate gland associated with temporary retention of urine following prolonged dissipation and exposure. From the results obtained by the experience that I have here recorded I feel that I am warranted in forming the conclusions here set forth:

1. Success following the Bottini operation depends on having perfect instruments; a good battery; the necessary skill, and the employment of a proper technique.
 2. In suitable cases the Bottini is the safest and best radical operation thus far advised for the relief of prostatic hypertrophy.
 3. It is often very efficacious in advanced cases of obstruction as a palliative measure, rendering catheterism easy and painless, relieving spasm; lessening the tendency to constipation, and improving the general health.
 4. It is of especial service in the beginning of obstructive symptoms due to hypertrophy of the prostate gland, and may be regarded as a means of preventing catheter life.
 5. It is indicated in all forms of hypertrophy except where there is a valvular formation, or where there is an enormous overgrowth of the three lobes associated with tumor formation giving rise to a pouch, both above and below the prostate gland.
 6. Where the bladder is hopelessly damaged, together with a general atheromatous condition of the blood vessels, associated with polyuria, results are negative.
 7. Pyelitis is not a contra-indication to a resort to the operation.
 8. The character of the prostatic growth has no bearing on the results of the operation.
- The ligation of the internal iliac arteries for the

relief of hypertrophy of the prostate gland, first recommended by Bier, has been tried by several surgeons with very unfavorable results. The benefit derived from the operation is slight, and the mortality higher than that following prostatectomy. Thus far, the results derived from agoneurectomy have been negative. I have frequently witnessed the operation of perineal prostatectomy when performed by others, and have on various occasions resorted to it, but I have found that nothing was gained beyond the temporary improvement that might naturally be expected to follow rest and drainage. These methods have, therefore, not been employed in the cases referred to in this paper.

WIENER KLINISCHE WOCHENSCHRIFT.

April 11, 1901. (XIV Jahrgang, No. 15.)

1. The Poisonous Effect of Alcohol in Certain Nervous Diseases. WAGNER von JAUREGG.
2. Alcohol and Insanity. JOSEF A. HIRSCHL.
3. Carbonic Acid Gas Applied Locally for Disturbances of Menstruation. Gustav Loimann.

1.—Alcohol does not affect all people alike. Yet it acts as a poison upon the nervous system, whether by an effect upon the nerve centers, or upon their blood supply. Individual disposition will influence the occurrence of delirium tremens which is seen only after long continued alcoholism. Wagner von Jauregg believes that in chronic alcoholism a poison is produced in the body under the effect of the alcohol, causing tremor, vomiting, delirium, etc., a poison which is undoubtedly due to the alcohol, yet it is not the alcohol itself, as more alcohol will cause the disappearance of the symptoms. Its real effect is seen after the alcohol has all been excreted. This he calls an **alcohologenous poison**. It resembles the poisons of bacterial origin seen in the infectious diseases. Leucocytosis occurs, with an increase in the polynuclear and a decrease in the mononuclear leucocytes, with the sudden appearance of eosinophilic cells after the delirium is over. Then the polynuclear leucocytes decrease and the mononuclear leucocytes increase relatively, while the eosinophiles may reach an abnormal amount. These changes in the blood are much like those seen in croupous pneumonia. Albuminuria also is seen. This poison has its maximum effect when no alcohol is taken. He advises continuing enough alcohol to prevent delirium, decreasing the amount gradually. **Polyneuritis** and the **polyneuritic psychoses** are also explained as the effect of this alcohologenous poison, just as they can be caused by the infectious diseases. As alcohol also causes indigestion, it acts as a double cause for the polyneuritic psychoses. But it is possible that from the deleterious influence of the alcohol upon the liver, secondary poisons are elaborated in the liver which, entering the circulation, cause these psychic manifestations. [M. O.]

2.—Of the total number of insane patients brought to the Vienna General Hospital, 30% of the men gave a history of chronic alcoholism. In a third of all insane men admitted, then, alcohol was an etiological factor. Among the women only 4.4% were alcoholic. The diseases most dependent upon alcohol were **epilepsy**, **paralytic dementia**, and **senile insanity**. In all cases alcohol was absolutely withdrawn, except, rarely, in delirium tremens with cardiac complications. 4.3% of the alcoholic cases died from delirium tremens. 28% of these alcoholics had to be confined in insane asylums for the rest of their lives. Hirschl, in closing, shows that the cost of supporting the alcoholic insane is far greater than is the income derived by the government from the liquor tax, to say nothing of the injury done to health, morals, and society by the excessive use of alcohol. [M. O.]

3.—In the second half of the eighteenth century, **carbonic acid gas** was first used locally in baths and douches. Loimann has seen excellent results from its use in the disturbances which accompany menstruation, dysmenorrhea, oligomenorrhea, and amenorrhea. Most of the towns which boast of carbonic acid waters have arrangements for giving carbonic acid gas baths. As the gas penetrates the clothing, it is unnecessary to undress. Vaginal douches

may also be given. Loimann has devised a practical contrivance for carbonic acid gas douches. The mucous membrane of the uterus becomes reddened, with a great increase in the secretion. Menstruation generally appears earlier and more copiously than usual, after repeated douches of carbonic acid gas. Especially are those women, who show no abnormality of the genitalia, successfully treated. Even if the mucous membrane of the uterus be altered, carbonic acid gas douches may cause the appearance of menstruation. It must not, however, be attempted during pregnancy, or abortion will occur. [M. O.]

JOURNAL DE MEDICINE DE BORDEAUX.

March 31, 1901. (31me. Année, No. 13.)

1. The Dispensary for Children in Bordeaux. EUGENE QUINTRIE.

1.—The first infant dispensary in Paris was opened in 1892, by Professor Budin. Since then nine more have been established in Paris, and two in the provinces. Dr. Saint-Philippe started this one in Bordeaux in 1899. The dispensary is open once a week for directing infant feeding. The children with contagious diseases are at once separated from the others. As the mothers are generally very young, and unmarried, it was a great effort to interest them in their own infants. That the children benefited from the physicians' advice finally made the dispensary a success. All babies were weighed at the first visit, and monthly afterward. A complete history of the mother's past is obtained, especially of venereal troubles. Histories of the father are as a rule very vague or impossible. Signs of tuberculosis and syphilis are always sought; malformations in the infant and the condition of the mother's breasts are fully noted. A printed list is given every mother, which explains the toilet of the child and its feeding. During the past two years almost 1000 infants have been treated. Two thirds of these infants were raised on the breast alone; one fifth on the breast and bottle; and over a tenth were bottle-fed, upon sterilized milk in small quantities. Babies were weaned from 12 to 14 months. At ten months, cow's milk, boiled, was begun, a cup full daily, and nothing given all night. From 14 months, they had milk at 8 A. M. and at 4 and 8 P. M., with soup, egg, bread, and boiled water at noon. In 1899, the death rate was only 4.4%; in 1900, only 2.2%. These results speak for themselves. It is to be hoped that more such dispensaries will be established throughout France. [M. O.]

The Role of the Leukocytes in the Absorption of Certain Medicines Introduced under the Skin and into the Peritoneal Cavity. Marie Louis René Montel. (*Gaz. Heb. de Med. et d. Chir.*, April 21, 1901. 48 me. Année. No. 32. *Bordeaux Thesis*, 1900-1901. No. 2.)

Montel has studied the method of absorption of calomel, iodoform oil and sodium salicylate. Calomel injected under the skin or into the peritoneum is for the most part taken up by the leukocytes either in the form of reduced mercury and sublimate or in the form of small crystals of calomel. Under the influence of the cellular activity of the leukocytes, calomel becomes changed into sublimate and reduced mercury. The nodules that result from the subcutaneous injection of calomel are due to a defensive process of the organism. Under the skin, as well as in the peritoneal cavity, calomel is absorbed during a stage of hyperleukocytosis due to a positive chemotaxis of the leukocytes which is preceded by a stage of hypoleukocytosis and negative chemotaxis. The stage of hypoleukocytosis varies in length depending upon the size of the injected dose. Hyperleukocytosis is the evolution towards cure, and it is the polymorphonuclear and the large mononuclear leukocytes that seize the mercurial salt. Iodoform oil is absorbed and transported by the leukocytes. This absorption seems to be due particularly to the large mononuclear elements. It is accompanied by marked hyperleukocytosis. In an animal who has received an hypodermic injection of sodium salicylate the white bloodcorpuscles treated by perchloride of iron are found to be studded with black points that indicate the formation of salicylate compounds of iron. For these different substances the absorption, almost exclusively cellular, is due to the leukocytes which, circulating in the blood current, are carried to the point at which their action is needed. [J. M. S.]

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The Importance of the Hemolymph Glands.—

In 1884 H. Gibbes described the presence in the human subject of certain minute lymph glands found in the connective tissue between the renal artery and vein. They differ from lymph glands in the fact that they contain blood sinuses instead of lymph spaces. In 1890 W. F. Robertson described similar structures in the sheep and bullock, also mentioning their presence in man. He developed the histology of these organs which he named "hemolymph glands," and he called attention to the difficulty of distinguishing between lymph glands and hemolymph glands with the naked eye. Vincent and Harrison (1897) studied the hemolymph glands in animals. They pointed out that a lymph gland has only to contain blood in part, or all, of its tissues to be considered a variety of hemolymph gland, and made the important observation that there is a great resemblance between certain accessory spleens and hemolymph glands. W. B. Drummond made a careful study of these structures last year. He expressed the opinion that there is not sufficient evidence that they play an important part in the formation of red blood corpuscles. He believes that they take part in the destruction of these cells and in the liberation of the pigment, as well as being centers for the formation of leukocytes. A. S. Warthin has recently contributed a most valuable paper on this subject based upon the study of eighty autopsies on the human subject (*Journal of the Boston Society of Medical Sciences*, April 23, 1901). He has determined that these glands are found in greatest prevalence in the connective tissue of the retroperitoneal, prevertebral region, and that they are uncommon in the mediastinal tissues, or along the thoracic vertebra. They are found in considerable number in the cervical region, below and behind the lobes of the thyroid. These glands vary greatly in size and number. Warthin states that the ratios 1-20 to 1-50 express their relation with the lymph glands. The vascularity of the hemolymph glands is very remarkable at times, and they are found usually near large blood vessels. Microscopically, this author describes two types of hemolymph glands, to which he has given the names *splenolymph* gland and *marrowlymph* gland, as indicating their

structure and probable functions; but between these two types transition forms exist as well as between these glands and the spleen on the one hand, and ordinary lymph glands on the other. Warthin concludes that under normal conditions the hemolymph glands are chiefly concerned with hemolysis and leukocyte formation and play but little part in the formation of red blood cells. When, however, the blood shows marked changes a condition of these glands is present that indicates clearly their blood-forming function. The careful study of the retroperitoneal tissues reveals the fact that the lymphadenoid structures are constantly undergoing progressive and retrogressive changes. Warthin points out the intimate relationship existing between adipose tissue and lymphadenoid tissues, which is here shown strikingly; and the probable metaplasia of the former into the latter, as in the case of splenic anemia, confirms the observations of Bayer and Tizzoni. The intimate relationship existing also between the spleen, lymph glands, and bone marrow is indicated by the power of the hemolymph glands to assume the structure and function of these organs in certain pathological conditions. The fact that transition forms of cells between small lymphocytes and erythrocytes, as well as between hyaline mononuclear leukocytes, and nucleated red cells are found in these structures, seems to confirm the views of Löwit and Howell. The further study of the hemolymph glands promises rich results in contributing to our knowledge of blood formation, blood destruction, and the physiology and pathology of the blood-forming organs.

The Cases of Plague at Hull, England.—This outbreak was one of special instructiveness, particularly because of the masterful way in which it was managed. The steamship *Friary* left Alexandria on December 22, 1900, and touched at Algiers on December 30 (*Public Health Reports*). On December 31 she left Algiers and sailed direct for Hull, England, where she arrived on January 10, 1901. She had clean bills of health from both Alexandria and Algiers, the captain only having gone ashore at the latter port, although the ship took on coal there. On the voyage from Al-

giers to Hull one of the crew died two days before reaching port. Death was believed to be due to natural causes, and the body was interred in one of the Hull cemeteries. Then it was found that several of the crew were ill. The sick men presented rapid pulse, a temperature of about 101° F., headache and articular pains. It was first thought that the disease was influenza with lung complications. Two of these patients died, about forty-eight hours after they were taken ill, and, at autopsy, it was found that the cause of death in both cases was pneumonic plague. The diagnosis was confirmed, subsequently, by bacteriological examination. The ship was then moved to quarantine, about twelve miles from the city, and the patients were placed in isolation in a hospital four and one-half miles from the city. In this hospital eight out of the nine patients affected with the disease died. The mortality, however, was confined to the members of the crew who had lived in the fore-castle of the ship. Several rats were found dead in the hold of the ship during the discharge of the cargo, and members of the crew stated that they found dead rats on the vessel after leaving Alexandria. A cat that had lived in the fore-castle was taken sick and thrown overboard during the voyage. A dog that lived with the crew was also taken sick. This animal was killed, but bacteriological examination did not reveal plague bacilli. It is evidently entirely due to the energies of the port physician of Hull, Dr. Mason, that this epidemic of plague did not spread to the port and become generalized. The form of disease from which the infected members of the crew suffered was the form most difficult to diagnose and the most ready of propagation on account of the fact that the bacilli are thrown off in large numbers with the sputum. The fact, however, that this epidemic was confined to the ship on which it was imported is strong evidence that contagious diseases, the micro-organismal cause of which is known, can be satisfactorily treated and their spread prevented by modern methods. Furthermore, there is no reason why the inhabitants of a port into which a contagious disease, such as plague, may be brought, should become panic-stricken and adopt measures that tend rather to lessen than to advance efficient prophylaxis. The recent case of pneumonic plague that developed at Ann Arbor (Report of Proceedings of Association of American Physicians, *Philadelphia Medical Journal*, May 25, 1901) in a laboratory worker who was studying the bacillus pestis is further evidence that once plague is diagnosed its spread can be prevented by modern methods. The student in question, together with all those who had been associated with him, was isolated, and by the use of Yersin's serum, was cured, and no other

case of plague developed in the University of Michigan. The individuals who were exposed to plague at Hull, upward of sixty in number, were inoculated with Haffkine's prophylactic, but none of those actually ill appear to have been treated with Yersin's curative serum. The evidence points strongly to Yersin's serum as the only hope, once the disease has developed, and it seems possible that this serum might have resulted in saving the lives of some of those who perished in the Hull epidemic.

The Clergy and the Doctors.—The absolute inability of some religious writers to appreciate the real force and trend of the modern science of pathology, is curiously shown in their methods of criticising so-called Christian Science. They naturally fear this new cult for its effects on existing religious systems rather than for its menace to the public health and the public intelligence. In a recent contribution to the *Churchman*, a prominent Anglican divine discusses the relation of the early church to the treatment of disease. He thinks he finds evidence that the clergy in those remote times exercised the functions of the physician, but he adduces no adequate proof whatever in support of this claim, for it is not the function of the physician to cure by miracles and wonder-working. Lecky (*History of European Morals*, Vol. 1) has shown that the early church relied upon thaumaturgy, just as Christian Science is doing, whereas legitimate medicine does nothing of the sort. The *Churchman*, commenting on this paper, makes the astonishing statement that "many a clergyman is already a consulting physician." It seems to think that the two offices—that of the priest and that of the physician—should be combined in one and the same person. All this is evidently suggested by the progress of Christian Science, but the point of the whole matter is curiously missed.

These writers should at least understand that the whole therapeutic power of any religious system lies simply in the domain of mental impression or suggestive therapeutics; that this power is not, and never has been, confined to any one religion or sect, but has been exerted by all of them in every period of history and in every region of the globe in which they have prevailed; that this suggestive therapeutics is potent for good in only a limited domain of medical practice; and, finally, that suggestive therapeutics can just as well, if not better and more rationally, be used by extra-theological methods. The Hindoos and the Chinese, as well as the ancient Greeks and Romans, have not been unfamiliar with the therapeutic value of religious emotion. This is shown by Regnier in his work on hypnotism in the ancient religions (*Hypnotisme et Croyances Anciennes*,

Paris, 1891), and by Nevius in his book on demon possessions in China (*Demon Possession and Allied Themes*, 1896).

To see in all this any evidence that the enormous fabric of modern medical science will be, or even can be, entrusted to the hands of the clergy (as seems to be the idea of a writer in the *Literary Digest*) is an evidence of a critical insight that would have done credit to a mediaeval monk.

Six Notable American Medical Achievements.—

In an interesting address recently delivered to the graduates of the Medical and Dental Departments of the Columbian University in Washington, Dr. G. E. de Schweinitz picked out for special distinction the work of six American doctors in medicine and surgery. These contributors to science, who have each done some epochal work, are Beaumont, for his work in gastric digestion; Gerhard, for his observations that led to the differentiation of typhoid and typhus fevers; Gross, for his pioneer work on pathological anatomy; Oliver Wendell Holmes, for his recognition of the contagiousness of puerperal fever; H. C. Wood, for his work in therapeutics; and S. Weir Mitchell, for his rest cure. This list might, as Dr. deSchweinitz justly says, be somewhat enlarged, and we should certainly not omit from it the names of Ephraim McDowell, who performed the first ovariectomy, and of that greatest benefactor of all, Morton, to whom the world owes the first practical demonstration of ether anesthesia. As Americans, we cannot too jealously guard the fame of Morton, for there has been at times some tendency to detract from the honor which is his. Dr. de Schweinitz's address was an eloquent plea for the originality of some of the best work that has marked the progress of medicine in America, and was especially appropriate to the occasion. American medical students and graduates cannot be taught too earnestly to respect the work of their own countrymen, and not to look abroad too exclusively for knowledge and initiative.

Aerophagia.—Aerophagia is the name given by Bouveret to a spasmodic swallowing of air, followed by frequent noisy eructations of gas, seen in hysteria (*Revue de Medecine*, 1891, p. 146). Pitres also found the condition in hysteria (*Progres Medical*, January, 1895). Lyonnet and Vincens, students of Bouveret's, have seen aerophagia with nervous dyspepsia, and call it false flatulence, due to the deglutition of air. (*Lyon Medical*, February 10, 1901.) At a meeting of the Medical Society of the Paris Hospitals (*Bulletins et Memoires de la Societe Medicale des Hopitaux de Paris*, 1901, Nos. 8 and 9) Mathieu described the condition as a continual belching, with

much noise, some time after meals, accompanied by epigastric pain. He reports a number of cases in nervous dyspeptics, with enteroptosis and other gastric diseases. The patients soon realize that relief follows the swallowing of air, as that opens the cardiac orifice enough to allow the gas, the cause of the distention and pain, to escape. When once established, it soon becomes frequent. Vomiting occasionally results. Mathieu believes that a simple caution, in most cases, will cause its cure. With hysteria a more severe treatment will be necessary. The dyspepsia and enteroptosis should be treated in the usual manner. Siredey reported similar cases. Linossier separates distinctly the aerophagia of hysteria from that of dyspepsia. The former resembles rumination; for, when rumination occurs in man, it is begun by aerophagia, with eructation following. He considers aerophagia simply gaseous rumination. Le Noir stated that aerophagia was very common among horses. Soupault believes that aerophagia may be voluntary or involuntary. The former is seen among nervous dyspeptics, an interesting case of which is reported; the latter is seen in hysteria. Moderate aerophagia is also found with flatulent dyspepsia. Not only is will power a determining force in producing this loud belching, but tapping upon different regions of the abdomen also causes it. Rendu believes that aerophagia is always physiological, in no way pathological. Mathieu closed the discussion by showing his results, quick recovery, as soon as the patients understood that they could control the eructations. Both Mathieu and Soupault, who have studied the subject most thoroughly, insist that the treatment ordinarily given, carminatives, antiseptics, and absorbing powders, have absolutely no effect upon the condition.

The Accidents Accompanying the Eruption of the Permanent Teeth.—

The condition of the teeth has, in the past, been considered the sole concern of the dentists. But it may be stated with considerable degree of truth that the physician is quite as much interested in the phenomena of dentition as is the dentist. Hunter's articles, which have appeared lately, have called attention to the relation between oral sepsis and the general health, and now Audy (*Paris Thesis*, No. 252, *Gaz. Heb. de Med. et de Chirur.*, May 19, 1901), calls attention to the fact that the oral lesions that accompany the eruption of the permanent teeth, other than the third molars, are frequently of an infectious nature. He points out that in order to cure such lesions the same rules should be followed that apply to the treatment of infected wounds; free incision and local antisepsis. The most rigorous possible buc-

cal asepsis is the only method for the prevention of these infectious complications. Buccal asepsis necessarily includes brushing the teeth of children after they have reached the age of three or four years. We should be inclined, however, to advocate the institution of this sanitary arrangement at an earlier time in life than the third year. The production of painful and congestive lesions of the gums escapes all foresight. Nervous affections of reflex origin, which Audy has seen only imperfectly produced, evidently cannot be influenced by preventive treatment. It is undoubtedly the physician's duty to insist to all his patients, especially those in whom such matters are frequently neglected, upon the importance of the hygiene of the mouth.

The Pancreas of the Embryo and the New-born.

—It is strange that after all that has been written and done in infant feeding, our knowledge of the digestive physiology of infants is still very limited. The meagre information on the subject is represented mostly by a few theories based on *a priori* reasoning, deductions from the effects of various foods, or dogmatic statements made by a few authorities. It is assumed, and correctly so, that the natural food of infants is milk, *ergo*, the digestive organs of the infant must be such as to be adapted to the digestion of that particular food and no other; in other words, the ferments necessary for the digestion of starches must be absent. As a result of such reasoning, we have the stereotyped belief that the child, during the first few months of infantile life, possesses no amylolytic ferment. This belief, by the way, has been exploded by recent investigations which seem to prove that this is not the case. Dr. E. Garte took up the subject in an experimental way and brought to light some facts concerning the digestive functions of infants, which deserve special mention. The results of his work were embodied in a dissertation delivered before the Military Academy of St. Petersburg (summarized in the *Bohitchnaia Gazeta Botkina*, Vol. XII., No. 1). The author removed the pancreas from the dead bodies of new-born infants and placed it in physiologic salt solution for 24 hours in the incubator, adding thymol to exclude the action of bacteria. This antiseptic proved quite effectual, as shown by bacteriological examination of the infusion, which remained sterile. He then tested the action of this infusion of the pancreas on albumen, starch and fats. All these substances were digested, showing that the corresponding ferments are present in the pancreas of the new-born. Moreover, he found that these ferments make their appearance on the third month of intra-uterine life, and that the pancreatic juice is actually secreted on the fourth month, although the amylase in the new-born is four times less than

in the adult. The practical conclusion reached by the author is that the infant from its birth is able to digest small quantities of starch. In working with pathological material, he found that chronic diseases, irrespective of the location, have a more depressing influence on the pancreas than the acute. The following observations are of considerable interest from a biological standpoint: 1. A trypsin-like ferment was found in the liver, kidneys, spleen and lungs of the new-born. This ferment was already present in the above-named organs, especially the liver, on the sixth month of intrauterine life, proving that pancreatic juice is secreted and absorbed by the organs at this early period. 2. A diastatic ferment was found in all the organs and even in the skin of the abdomen. 3. There is no relation between the amount of glycogen and the diastatic ferment..

The Recreations of Scientists.—With men in our profession all seasons are times of work: therefore, all seasons for them are likely to be times also for play. How else can your poor overworked doctor (who is so apt to condole with himself) even things up? He must snatch his moments of sport even from the grasping hours of toil and duty. Who shall blame him for this? If he hurries from the sick room to a game of cards, he is not to be charged with cynicism and indifference. The season, such as that just passed, for the meetings of the numerous medical associations is the great recreation time for the doctors. There is no use in denying the fact; many a good man goes to the yearly meeting of his association with his mind bent on pleasure as well as on science. And we are not going to berate him for this in these columns. If we were a self-constituted reformer of the medical profession (which we are not), we might find occasion here for some labored editorial rhetoric. But a fellow feeling makes us wondrous kind, and we confess that the humorous side of this whole picture appeals strongly to us. That doctors should travel many hundreds of miles to attend a grave assemblage of their colleagues, and then should rush off from the meeting at a moment's notice to attend a horse-race or to take a ride on a river, strikes us as being peculiarly man-like. We recently saw a big base-ball match deplete an afternoon session of an association of specialists, many of whom are well known to fame. One unfortunate member confessed aloud that he would like to go with the sport-loving delegation, but could not, because he had to stay and read a paper. He was in the position of the small boy who would like to play truant but dares not. The man who would propose on such an occasion that the society adjourn in favor of the ball match would be frowned down. He would be judged guilty of levity and would be voted a Philistine. But the

man who deliberately gets up, takes his hat, and leads off a coterie of his weaker brethren to the neighboring ball field, is envied rather than scorned. And when one thinks that the bold man has come hundreds of miles and spent much money, one must at heart have a little sympathy with his desire to get some fun out of it all. And then, after all, the papers can be read just as well when they are published in the journals.

Reviews.

A System of Practical Therapeutics, Edited by Hobart Amory Hare, M. D., Prof. of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital. Published by Messrs. Lea Brothers & Co., Philadelphia and New York. 1901.

The first volume of this valuable work was reviewed in a former number of this journal. Volume Second is devoted to fevers, diseases of the respiratory and circulatory system, diseases of the digestive system and kidneys, nervous diseases and diseases of the skin.

Dr. Hare, the editor, has written the chapter on typhoid fever. His comments upon the Brand treatment will be especially interesting to those who have been inclined to give this treatment their unqualified approval. Dr. Hare is apparently not one of the unqualified advocates of the Brand treatment. He takes care, however, to state in italics that he would have made himself misunderstood if any reader should consider that he was opposed to cold bathing in fever. The aim of his article is apparently to marshal all facts both for and against the treatment, and thus to draw scientific inductions. Dr. James N. Anders writes an article on malarial fevers and describes the treatment of that disease and its various conditions in great detail. Dr. William M. Welch, of Philadelphia, a well-recognized expert on smallpox, has written a most instructive chapter on that disease. The article on varicella by Dr. J. P. Crozer Griffith, on yellow fever by Dr. D. T. Laine, on influenza by Dr. Frederick A. Packard, and on diphtheria by Dr. Floyd M. Crandall, are a few of the chapters. The mere mention of the names of the authors is sufficient to guarantee the value and accuracy of their work. The chapter on diseases of the liver is written by Dr. John H. Musser, whose name is especially identified with this department of internal pathology. It is hardly fair in noticing such a valuable encyclopaedic work as this to merely mention the chapters and authors, but space here forbids a detailed review. In the treatment of nervous diseases the editor has made very judicious selections of writers. Thus, Dr. Sinkler writes on the treatment of headaches and neuralgia, Dr. Dercum on the drug habit, Dr. Patrick on disorders of sleep, Dr. Allen Starr on locomotor ataxia, Dr. Charles K. Mills on apoplexy and brain tumors, and Dr. Joseph Collins on spasmodic affections of the nervous system. The medical treatment and hospital treatment of insanity are described respectively by Dr. Bannister and Dr. Brush.

Volume Third is devoted to surgical technique, surgery of the genito-urinary apparatus, respiratory and digestive systems, fractures and dislocations, and anesthesia. It is thus seen that this volume is practically a treatise on surgical treatment. In this respect the work is a departure from mere works on therapeutics, and this departure is a decided gain to all practitioners and students who may resort to it for instruction. Among the well-known authorities whose work appears in this volume are Dr. William T. Belfield, Dr. Edward P. Davis, Dr. George R. Fowler, Dr. Charles M. Frazier, Dr. Andrew J. McCosh, Dr. Edward Martin, Dr. E. E. Montgomery, Dr. Henry R. Wharton and others. Dr. Leonard has written an unusually full chapter on anesthesia based upon a large clinical experience.

The article is accompanied by illustrations showing the different methods for artificial respiration.

Dr. Frazer describes in great detail surgical technique. Dr. Wharton has a chapter on the treatment of fractures and dislocations, which is of course a complete surgical paper on those subjects. Diseases of the rectum and anus are treated by Dr. Mathews; and the practical points in

minor surgery and bandaging are considered by Dr. Spencer. An interesting paper the one on cerebral concussions and shock, by Dr. Joseph Ransohoff; and empyema, which is a subject of so much joint interest to both physician and surgeon, is treated of very accurately by Dr. A. J. McCosh. Dr. Fowler has written a paper on appendicitis which is also nothing more nor less than a complete surgical paper on this subject. He does not ignore medical treatment, however. Dr. Martin has an unusually able paper on obstruction of the intestines, and Dr. Belfield has thoroughly discussed the infections of the genito-urinary tract in a very important paper. Dr. E. E. Montgomery, from his broad clinical experience, has contributed a most valuable paper on the genito-urinary diseases of women.

Dr. Davis writes on the therapeutics of pregnancy, parturition and the puerperal state with all the care and detail which always characterize his work. Dr. Wood has written a paper on the remedial agents in diseases of the eye as treated by the general practitioner. This volume concludes with special chapters on the diseases of the ear, by Dr. S. McC. Smith, the nasal chambers by Dr. E. F. Ingal's and the larynx by Dr. D. Braden Kyle. These chapters for thoroughness and scientific merit are in full accord with the general character of this important work. [J. H. L.]

Year Book of the United States Department of Agriculture, 1900. Published by the Government Printing Office.

This book, published by the United States Government, contains a great quantity of most valuable reading matter. Its contents are, of course, of primary importance to the agriculturist, but there are some interesting things in it that appeal directly and indirectly to medical readers.

We have noted especially the articles on the date-palm and its culture; on the food of nesting birds; on commercial pear culture; on practical forestry in the southern Appalachians; on the value of potatoes as food; on heat waves, and on some poisonous plants of northern cattle ranges. The several articles on birds are especially interesting and important. These are thoroughly scientific papers intended to show the useful work done by birds in our orchards, forests and fields in protecting trees and plants and thus directly protecting the farmer's and everybody's interests. These articles should be distributed broadcast. If they were more thoroughly known there might be some cessation of the cruel and useless destruction of bird life in this country. [J. H. L.]

Municipal Sanitation in the United States. By Charles V. Chapin, Superintendent of Health of the City of Providence. The Providence Press, Snow and Farnham, Providence, R. I. 1901.

This volume is the result of Dr. Chapin's long labors in the field of Sanitary Science. It is work which gradually grew from the material accumulating in his hands, and the information which it contains is of a decidedly practical character and will prove of great assistance to those interested in the subject of hygiene and sanitation, and especially to those whose duties pertain to Public Health. The volume is a comprehensive one, and while it does not pretend to cover the entire field of sanitary science, the information conveyed comprises a single volume of considerable size, some 950 pages. To give the reader an idea of the scope of Dr. Chapin's work, we might mention some of the general headings; such as, Sanitary Organization, Registration of Vital Statistics, Nuisances, Communicable Diseases, Dairy Products and Refuse Disposal. In the chapter upon Sanitary Organization will be found a valuable history of the development of such legislative regulation in the United States. In the second chapter on the Registration of Vital Statistics and the Disposal of the Dead, the author emphasizes the value of properly compiled statistics and furnishes the regulations demanded by the various States for the returns of births and deaths, together with the legal penalties involved in falsifying these returns. The chapter on the Disposal of the Dead deals especially with the regulations governing burial in the various States. The author discusses Nuisances and Specific Nuisances in two comprehensive chapters, and again furnishes his readers with the different State methods of the abatement of nuisances and the legislation governing the subject in general. The chapter upon Water, Ice and Sewage, dealing especially with the disposal of sewage and the pollution of streams, might be taken to heart by the citizens of many of our municipalities who will be put to

shame upon learning from these pages what advances sanitary science has made and all of which many have yet to put in practice.

The Adulteration of Foods, both Dairy Products and Food other than Dairy Products, comprises two interesting chapters which supplies valuable information not only as to the legislation governing food adulteration, but they are teeming with suggestions as to the proper methods of inspecting food-stuffs and especially measures for controlling the Dairy supply. We are not disappointed in the able and comprehensive manner in which the subject of Communicable Diseases are treated. The legislation, administrative work and the subject of Hospital Quarantine have received full consideration. The wide reading of this book would prove a valuable argument in the interests of preventive medicine. Many illustrations are given of excellent hospitals which have been built in various parts of the country for very small sums. The results achieved in controlling epidemics by following out the definite and well-known principles which this book expounds show the necessity for thoroughly grounding all those who have to do with the public health with just this information. The quarantine officer who reads this volume thoughtfully will be acquainted, not only with the regulations adopted in his own and other States, but with a thoroughly practical knowledge which will give him a vantage-point in dealing with the intricacies of the subject. The question of the disposal of refuse is taken up at length, and the various methods adopted by different municipalities are detailed. Grouped under Miscellaneous Work, we find the Communicable Diseases of Animals, the problem of School Hygiene, and Medical Inspection of Schools, as well as the Inspection of Buildings, including the laws governing the erection of sanitary buildings. In the appendix a large number of forms of permits and various blank forms pertaining to the various divisions of the board subject are given. We cannot conclude our review of this book without expressing our conviction that the work is one of great practical value, and that the immense amount of labor which the author has expended upon it has resulted in the production of an indispensable treatise which covers with judgment and commendable fullness the various departments of sanitary science. [T. L. C.]

Correspondence.

SUBSCRIPTION FOR MONUMENT TO THE LATE PROFESSOR OLLIER IN LYONS.

By DR. W. W. KEEN.

To the Editor of the Philadelphia Medical Journal:

Sometime since you kindly published an appeal of a Committee soliciting subscriptions for a monument to the late Prof. Ollier in Lyons. As Treasurer of the Committee, I beg that you will publish this letter in your journal in order to inform the profession that I have received the sum of \$649 from 193 subscribers. I have forwarded the same, less \$4.60 for postage, printing, etc., to Dr. G. Mondan, 27 rue Jarente, Lyons, France.

THE BRITISH CONGRESS ON TUBERCULOSIS.

By WILLIAM OSLER, of Baltimore.

To the Editor of the Philadelphia Medical Journal.

Dear Sir:—I should like, through your Journal, to call the attention of members of the profession to the important Congress on Tuberculosis, which will be held in London from July 23rd to 26th. It is much to be desired that a large contingent from the United States should participate in the work. Many prominent physicians have signified their intention of joining the Congress. Members of the profession wishing to do so should send their names, enclosing five dollars, to Dr. St. Clair Thomson, 20 Hanover Square, London, W., England.

Large Odontopathic Cysts of the Upper Jaw.—It is very rare to find a cyst as large as an orange at the root of a tooth in the upper jaw. Dr. J. Chaminade states in the (*Annales de la Polyclinique de Bordeaux*, 1901, No. 5). He reports two such cases in adults, originating from the roots of the smaller molar teeth of the upper jaw. In both cases these roots were removed, the cyst incised, curetted, and cauterized with tincture of iodine. There has been no recurrence in either case. The diagnosis from abscess is not difficult. The patient will rarely permit total extirpation of the cyst. [M. O.]

American News and Notes.

Dr. Henry C. Haden, Clinical Assistant in the out-patient department for diseases of the eye, at Jefferson Medical College Hospital, Philadelphia, at the recent tenth semi-annual meeting of the South Texas Medical Association read a paper before the section on Ophthalmology, entitled, *Exophoria; Its Significance and Treatment*.

Site for the Almshouse and Philadelphia Hospital.—It is stated that after viewing the places along the Delaware river front and hearing the views of leading physicians who accompanied the members on the trip of inspection, the Department of Charities and Correction agreed to recommend to the Mayor and City Councils that Petty's Island be purchased as a site for an almshouse and a hospital for the insane. It was suggested that a maternity hospital, a home for foundlings and a hospital for contagious diseases, also could be erected on the property. The opinion was expressed that possession could be acquired for \$500,000 or less, and that the total cost of construction would be about \$3,000,000.

St. Joseph's Hospital Residents.—The following are the successful applicants for internships at St. Joseph's Hospital: Drs. Foulkrod, Rigel, Homer Rhode, Mervin R. Taylor and Lamott.

Unclaimed Bodies.—The distribution of unclaimed corpses to the various medical colleges for dissecting purposes has produced friction between the State Anatomical Board and the pathological section of the Medical Board of the Philadelphia Hospital, which claims that mutilated bodies have been given to the colleges.

The Medical Class of 1881 of the University of Pennsylvania.—The Medical Class of 1881 of the University of Pennsylvania celebrated its twentieth anniversary with a dinner at the Hotel Bellevue on Wednesday evening, June 12, 1901. At the conclusion of the banquet a permanent organization was established with the following officers: President, Dr. G. E. de Schweinitz; vice-president, Dr. W. Easterly Ashton, secretary and treasurer, Dr. Daniel W. Nead.

Vital Statistics of Philadelphia for the week ending June 22, 1901:

Total mortality	410	Deaths.
	Cases.	
Inflammation of the appendix 3,		
bladder 1, brain 17, bronchi 7,		
heart 2, kidneys 19, liver 1, lungs		
22, pericardium 1, peritoneum 11,		
pleura 2, stomach and bowels 10		96
Marasmus 16, inanition 17, debil-		
ity 5		38
Tuberculosis of the lungs		54
Apoplexy 15, paralysis 6		21
Heart-disease of 28, fatty degener-		
ation of 1, neuralgia of 3		32
Uremia 10, Bright's Disease 8, dia-		
betes 1		19
Carcinoma of the face 1, breast		
2, stomach 2, uterus 2, kidney 1,		
liver 2, rectum 1		11
Convulsions 17, convulsions, puer-		
peral 1		18
Diphtheria	73	11
Brain-disease of 1, hemorrhage from		
1, softening of 2		4
Typhoid fever	61	7
Old age		9
Scarlet fever	79	5
Abscess of back 1, larynx 1, lungs		
1, asthma 2, anemia 2, burns and		
scalds 3, casualties 8, congestion		
of the lungs 1, child birth 2, chol-		
era infantum 11, cirrhosis of the		
liver 5, consumption of the bow-		
els 1, croup, membranous 1, di-		
arrhea 2, hip disease 1, drowned 3,		
dropsy 1, dysentery 1, erysipelas		
2, fever, gastric 1, malarial 1,		
puerperal 2, hemorrhage from		
uterus 1, leukemia 1, measles 1,		

obstruction of the bowels 1, edema of the lungs 1, pyemia 1, sclerosis, arterial 3, shock, surgical 2, septicemia 4, suffocation 1, suicide 4, syphilis 1, teething 2, tumor, bladder 1, unknown coroner case 2, whooping cough 5.....

Cases. Deaths.

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NEW YORK.

Money for Long Island College Hospital.—George Foster Peabody and his brothers have agreed to contribute \$50,000 for the building and furnishing of an operating-room, as a memorial to the late Dr. A. J. C. Skene, for the Long Island College Hospital, which is to be practically rebuilt.

Manhattan Dermatological Society.—A regular monthly meeting was held on Friday evening, June 7th, 1901, at the residence of Dr. B. F. Ochs, No. 120 W. 120th street, with Dr. Wm. S. Gottheil in the chair. Dr. R. Abrahams presented a child of seven months with a **nevus of the left side of the nose near the inner canthus**. Electrolysis was advised for treatment. Dr. Geyser recommended the use of the positive galvanic current with a gold or platinum needle; the needle is to be inserted to the depth of 3 or 4 lines and the strength of the current to be $1\frac{1}{2}$ to 2 milliamperes. Dr. Bleiman advises radical surgical measures. Dr. E. L. Cocks prefers the negative galvanic needle. Dr. J. Sobel remarked that electrolysis would benefit the superficial vessels, but that there was a boggy skin below which would be rather difficult to affect. Dr. Gottheil considered the case a very troublesome one on account of the deep seated venous dilatation. Dr. J. Sobel presented two cases of **congenital ichthyosis** in a boy of 11 years and a girl of 3. Both were born with a soft, pliable skin and developed the ichthyosis three months after. Dr. B. F. Ochs presented a patient, a young woman of 25, in whom **psoriasis guttata** recurred every summer for ten years and disappeared spontaneously in the fall of the year. Dr. Gottheil reported a case of **psoriasis** in which the attacks improved and disappeared with rest in bed and a fluid diet. Drs. Oberndorfer, Cocks and Abrahams concurred in the diagnosis. Dr. A. Bleiman considered the case atypical.

Dr. J. Sobel presented a patient with a **seborrhoeal eczema** of the chest, back and abdomen, of three weeks duration. The eruption was red, scaly, with circinate patches at various parts. Dr. A. Bleiman remarked that while it was not a classical picture he would agree. Dr. R. Abrahams considered it herpes tonsurans maculosus et squamosus. He said that seborrhoeal eczema does not occur in rings. Dr. Gottheil would diagnose generalized ringworm and erythema multiforme. Dr. E. S. Cocks agreed with the diagnosis. Dr. B. F. Ochs inclined toward a diagnosis of herpes tonsurans, but admitted that there was seborrhoea with it. Dr. Oberndorfer remarked that the ring form does not speak against seborrhoeal eczema. He has seen many cases of annular seborrhoeal eczema, many cases with perfect rings. Dr. Gottheil presented a classical case of **acne necrotica** in a man of 45. Since childhood he has had lesions along the hair margins, temporal region and nasolabial fold. Patient has been treated by exposure to the arc light. All were agreed as to the diagnosis. Drs. Oberndorfer and Sobel spoke of the value of white precipitate ointment and of the danger of recurrences. Dr. R. Abrahams recommended iodide of potassium internally. Dr. Kruch through sulphide of calcium might benefit these cases. Dr. R. Abrahams presented a case of **lichen planus** in the declining stages. The lesions were situated on the dorsal surfaces of the hands and the extensor surfaces of wrist. Drs. Bleiman, Ochs and Oberndorfer remarked that at present diagnosis is difficult. Dr. J. Sobel said that at present the lesions were not indicative of any special condition. The extensor surface would seem to speak against lichen planus. Dr. Kinch would call it eczema. Dr. Gottheil states that in the retrogressive stage an eczema papule resembles that of lichen. Dr. Gottheil presented a case for diagnosis. The left hand presented a complete circle of papules progressing from the center. On the other hand there was staining and some old scar tissue. On the face there was a small papular elevation with sebaceous crusts. Dr. Kinch said it looks like a syphilide. Dr. R. Abrahams considers the face lupus erythematosus and the forearm herpes tonsurans. Dr. Oberndorfer would call it syphilis. Dr. A. Bleiman said that it looks like a tubercular process. Dr. Ochs considers it syphilis and Dr. Cocks lupus or syphilis. Dr. Sobel prefers to watch the case. Syphilis is

to be considered, but he inclines toward erythema multiforme. Dr. Gottheil said that the history and staining speak for erythema multiforme. Dr. B. F. Ochs presented a case of resolving syphilis of the papular, ulcerative type.

Medical Society of the State of New York.—Dr. Henry L. Elsner, President of the Medical Society of the State of New York, announces the appointment of his Business Committee for the ensuing year, consisting of Dr. Nathan Jacobson, Chairman, 430 S. Salina street, Syracuse; Dr. George Ryerson Fowler, 301 DeKalb avenue, Brooklyn; and Dr. William C. Krauss, 371 Delaware avenue, Buffalo. All letters and inquiries pertaining to papers and scientific communications for the semi-annual meeting to be held in New York City, October 15th and 16th, 1901, and the annual meeting, to be held in Albany, January, 1902, should be addressed to the chairman.

American Orthopedic Association.—At the meeting of the American Orthopedic Association held at Niagara Falls, May 11, 12 and 13, 1901, the following officers were elected: President, H. Augustus Wilson, M. D., Philadelphia; first vice-president, William J. Taylor, M. D., Philadelphia; second vice-president, G. G. Davis, M. D., Philadelphia; secretary, John Ridlon, M. D., Chicago; treasurer, E. G. Brackett, M. D., Boston. Philadelphia will be the place of the next meeting, to be held in May, 1902.

Influenza Spreading Among Horses.—Reports from veterinarians in New York are to the effect that influenza is spreading alarmingly among the horses in that city. At the New York Veterinary Hospital it was estimated that 12,000 or 15,000 had influenza, 5,000 of these being actually under treatment by doctors or their owners, while the remainder were not seriously enough affected to be disabled.

NEW ENGLAND.

Ten Thousand Dollars for New England Institutions.—The will of Essek A. Jillson, of Providence, divides \$10,000 among the Rhode Island Hospital, the Rhode Island Historical Society and the Home for Aged Women in Providence.

Maine Medical Association.—At the meeting of the Maine Medical Association held June 13, 1901, the following officers were elected: President, Dr. Frederick H. Gerrish, Portland; vice presidents, Dr. C. E. Philoon, of Auburn and Dr. J. M. Willis, of Guilford.

WESTERN STATES.

The Smallpox Status in Cleveland, Ohio.—It appears that Mayor Johnson, of Cleveland, Ohio, although he stated to the State Board of Health that he had personal objections to vaccination, nevertheless, is credited with the following statement to the Board of Health. "I have no thought of setting up my opinion against yours, and I desire that you decide just what measures shall be taken, and I assure you that all the money needed for carrying them out shall be forthcoming." It is now claimed that as Mr. Johnson has been Mayor of Cleveland for two and one-half months, while smallpox has been prevalent for three years, its prevalence is largely due to the lack of business ability and methods of the municipal authorities, and not to any attempt of the Mayor to put his personal opinions into practical effect.

West Chicago Medical Society.—The West Chicago Medical Society was organized a few days ago by a large number of west side physicians and the following officers were elected. Dr. E. D. St. Cyr, president; Dr. O. G. Wernicke, vice-president; Dr. G. M. Silverberg, treasurer; Dr. Gustavus Blech, secretary. Executive Council: Dr. A. M. Shabad, Dr. F. W. Henkel, Dr. J. M. Abello and Dr. S. Brownstein. The society will apply for affiliation with the American Medical Association.

College of Physicians and Surgeons Struck by Lightning.—During a heavy thunder storm on June 25, a bolt of lightning struck the College of Physicians and Surgeons, destroying the college building, which was one of the finest of its kind in the West. The rain was pouring heavily at the time, but, fortunately, there are so many hospitals and medical institutions in the neighborhood that it was necessary to remove the people only a short distance, most of them being taken to the County Hospital, one square distant. The College of Physicians and Surgeons is the Medical Department of the University of Il-

Illinois, situated at Champaign, Ill. The loss on building and equipment is practically total, and will approximate \$200,000.

Doctor George E. Ranney, of Lansing, Michigan, has been awarded a medal of honor by President McKinley for distinguished gallantry in the civil war. "On this occasion," according to the war department record of the action at Resaca, Georgia, May 14, 1864, "Assistant Surgeon Ranney, at great personal risk, went to the aid of a wounded soldier lying under heavy fire between the Union and Confederate lines, and with the aid of an orderly, carried him to a place of safety." On another battlefield the doctor was promoted to a brigade surgeon for bravery.

Dr. Joseph Eisen, of California, Attacked by Cancer.—Dr. Joseph Eisen, who has been doing considerable experimental work in endeavoring to discover the alleged microorganism of cancer, has been attacked by that disease himself. Dr. Eisen is of the opinion that he contracted the disease while performing his experiments. He has been operated upon and is recovering.

A Surgeon May Perform an Additional Operation Without Consent of the Patient.—According to a recent decision by Judge Kavanagh, of Chicago, a surgeon may perform an additional operation without the consent of the patient if he discovers a condition which renders such action necessary to preserve life after a first operation. The decision was rendered in the case of Mrs. Agnes Muehern against the Post Graduate Medical School and Hospital. Mrs. Muehern was operated upon by one of the professors of the college, and while she was under the influence of an anesthetic a condition as indicated was discovered and a second operation was performed. When the woman regained her health she brought suit against the college.

Meeting of the Chicago Pathological Society, June 10th, 1901. Dr. L. Hectoen, President.—Dr. Alice Hamilton presented a paper dealing with cell division in the central nervous system of the white rat before and after birth: the number and distribution of the mitoses, the period up to which they persist, and their character. Mitoses were found along the ventricular surfaces in the early stages of development, gradually ceasing here, and increasing in the outer layers, until at birth, almost all are in the outer layers. At birth mitoses are numerous and persist up to the end of the fourth day; beyond this period no examination was made. The dividing cells are of two kinds; 1st small, devoid of visible cell body, resembling cells of the neuroglia; 2nd, large, with abundant cytoplasm, round, pear-shaped or spindle-shaped. These are in the gray matter of the cord and brain and correspond in measurements with the multipolar and pyramidal cells.

Conclusion: In the later stages of development the offspring of the germinal cells become partially differentiated but without losing their powers to divide. The large dividing cells are, then, immature nerve cells; the small are cells of the neuroglia. In the case of the white rat, these cells retain their power of division until after the fourth day of extra-uterine life.

Wm. B. Wherry: A case of so-called malignant (staphylococcus) carbuncle of the upper lip followed by pyemia. A barber, twenty-three years old, entered Prof. Bevan's service in the Presbyterian Hospital on the 7th of February, 1901, and died on the 8th at 11.15 P. M.

About a week before his admission he extracted a "dead hair" from his upper lip. This was followed by redness of the lip and swelling, which rapidly extended to the side of the face and shoulder. He rapidly grew worse and died with all the characteristic symptoms of septic-pyemia.

The post mortem examination was held twelve hours after death by Prof. Hectoen. The anatomical diagnosis is as follows: Acute, diffuse, purulent and necrotic staphylococcus inflammation of the upper lip and adjacent parts of face; multiple abscesses and hemorrhagic pneumonic areas in lungs; double fibrino-purulent pleuritis; abscess in spleen; acute splenic swelling; cloudy swelling of kidneys and liver; persistent thymus.

Bacteriologically, a pure growth of the staphylococcus pyogenes aureus was isolated from the lip, heart's blood, pleural exudate, liver and spleen.

Histologically, the lip shows dense cellular infiltrations with foci of necrosis containing groups of cocci which stain by Gram's method. The lung contains many pneumonic and hemorrhagic areas and mycotic emboli. The other organs show the characteristic changes of a severe infectious process.

The dangers of this affection depend chiefly upon its location and the virulence of the infective agent; the prognosis is extremely grave on account of the liability to thrombosis and embolism.

The treatment of the early stage which has so far given the best results is excision of the necrotic area and packing with iodoform gauze. After thrombosis and embolism have occurred, treatment at the present time seems to be hopeless.

Wm. B. Wherry: The distribution of segmentation and fragmentation in the myocardium. Twenty hearts were carefully preserved and eighteen pieces were taken from each heart. In searching for changes, the divisions into simple segmentation, and degenerative fragmentation and segmentation, made by J. B. MacCallum, were kept in mind. Degenerative fragmentation and segmentation occurred twice in the left auricle. Segmentation was distributed in the following order of frequency: Left papillary muscles, wall of left ventricle, right papillary muscles, posterior surface of apex, etc.

The changes in the walls practically correspond to the changes in the papillary muscles.

"Diffuse" segmentation of both left papillary muscles accompanied by diastasis and displacement of the segments seems to indicate more or less general segmentation and fragmentation throughout the ventricles.

Dr. E. Friend: Cyst-adenoma of ovary. Patient thirty-two years old; married five years; never been pregnant; menstruation regular and painless; family history negative. About eight years ago severe pain developed in the region of the left ovary, but upon examination this was pronounced healthy. About one year ago a swelling appeared, extending from the symphysis pubis to the umbilicus, but this gave no pain until a month ago. She then entered the hospital and at operation there was removed from the right ovary a small, multilocular cyst. The patient made an uninterrupted recovery and was discharged from the hospital yesterday.

Adenomas develop as a result of disturbance in the formation of Pflüger's tubes in the growing ovary. Cyst-adenomas are simply adenomas which have undergone cystic degeneration; they consist of long, round, tortuous cavities separated from each other by connective tissue. These cavities may become obliterated entirely or partly by papilliform growths.

The present officers were re-elected for the coming year.

SOUTHERN STATES.

Dr. T. H. Hancock Elected.—Dr. T. H. Hancock, who for some time has been secretary of the association of Southern Railway Surgeons, has been elected president of that body.

Dr. Deering J. Roberts elected.—Dr. Roberts, a military surgeon during the Civil War and editor of the *Southern Practitioner*, Nashville, was recently elected president of the Tennessee State Medical Association.

A Mineral Survey of the State of Texas.—Ten thousand dollars was recently appropriated for a mineral survey of the State of Texas, to be conducted under the supervision of the regents of the University of Texas.

Richmond News.—Dr. E. Hill has been elected Demonstrator of Chemistry in the University College of Richmond, Va.

Old Dominion Hospital.—Ground has been broken for the magnificent new Old Dominion Hospital, at Richmond, Va. It will be ready for occupation in about 18 months.

MISCELLANY.

Army Medical School.—The following officers of the army have been detailed as members of the faculty of the Army Medical School, in addition to the present members: Col. William H. Forwood, assistant surgeon-general, vice-Col. Charles H. Alden, retired; Col. Calvin De Witt, assistant surgeon-general, as professor of military medicine; Major John Van R. Hoff, surgeon, as lecturer on the duties of medical officers in war and peace; Major William C. Borden, surgeon, as professor of military surgery, vice Col. Forwood, designated as President of the faculty; and Major Frederick P. Reynolds, surgeon, as instructor in hospital-corps drill and first aid to the wounded, vice Capt. C. D. DeShazo, who has been relieved.

Dallas Medical College.—Dallas Medical College, the Medical Department Trinity University, held its first exercises on June 18th, graduating eight in medicine and two in pharmacy. Acting-President Riley, of Trinity University, conferred the degrees.

OBITUARY.

Dr. W. C. Smith, at Linglestown, Pa., on June 16, aged 73 years.—Dr. M. Barton, at Alexandria, Va., on June 19.—Dr. R. L. Boggs, at Fairfield, Ill., on June 19, aged 91 years.—Dr. Erastus J. Buck, at Platteville, Wis., on June 20, aged 73 years.—Dr. Franklin H. Kerfoot, at Atlanta, Ga., on June 22.—Dr. Victor Popper, at San Francisco, Cal., on June 22.—Dr. John H. Groff, at Pennsgrove, N. J., on June 19.—Dr. Richard Lingle, at Orleans, Ind., on June 10, aged 63 years.—Dr. Edward Watson, at Grand Rapids, Mich., on June 17.—Dr. J. Henry McCarthy, at Birmingham, Ala., on June 12, aged 50 years.—Dr. William L. Worcester, at Danvers, Mass., on June 10, aged 56 years.—Dr. A. J. Baker, at Grafton, W. Va., on June 24, aged 40 years.—Dr. William Geiger, at Forest Grove, Ore., on June 16, aged 83 years.

Dr. W. Irving, at St. Mary's, Toronto, Canada, on June 19.—Dr. J. G. Jessup, at Berkeley, Cal., on June 19.

The Campaign Against Mosquitos.—It is stated that the sanitary department of Havana, in its campaign against mosquitos, proposes to plant eucalyptus trees in all the marshy and malarial districts in and around Havana, and a sum of £200 has been appropriated for that purpose and for the purchase of seeds. We are pleased to see a sanitary department that is really alive to the necessity for active measures against mosquitos, but we cannot help feeling somewhat doubtful of the wisdom of the particular measure which is to be adopted in Havana. In a paper by Professor Celli, which appeared in the *Journal of the Sanitary Institute* for January, that distinguished authority says that the eucalyptus, so far from being a protection against, is, like other trees, rather a shelter for mosquitos, and in the neighborhood of dwelling-houses adds to the danger of malaria infection. A different plan of campaign has been adopted in a New Jersey village called South Orange. The village Improvement Society proposes to attempt to get rid of the plague of mosquitos during the coming season, and has appointed a committee to instruct the inhabitants. The abandonment of rain barrels, the screening of water tanks in houses, and the placing of a thin layer of crude oil in cesspools and in pools of stagnant water which it is not possible to drain, will be advocated; and in order to enlighten the minds of the native population as to the importance of people safe-guarding themselves against mosquitos, Professor L. O. Howard, of the Department of Agriculture, Washington, who has made a special study of that branch of entomology, has been asked to deliver a free lecture on the subject.—*British Medical Journal*.

Sanitarium for Consumptives at Teneriffe.—A sanatorium for the open-air treatment of tuberculosis has recently been opened at Teneriffe. It is situated at an elevation of 1,200 feet above the sea level, and is surrounded by beautiful scenery. This is the first institution of the kind to be established on the island.

Rat Extermination.—The *Fort Wayne Medical Journal* states that one of the large manufacturing firms in Chicago is waging war upon rats by means of virus made under the direction of the Pasteur Vaccine Company. The virus is mixed with food and placed in the haunts of rats. It produces a fatal disease, which spreads rapidly and retains its virulence for some time. The virus is harmless to other species of animal life and has been tested officially in France and in this country, and in the United States Marine Hospital in San Francisco, where the results of the test were endorsed by the Chief of the Marine Hospital service at Washington. As rats are great carriers of contagion of all kinds, and are unusually destructive and annoying to the residents of our large cities, it is to be hoped that this new virus for the extermination of rats may come into use in all rat-infected districts.

Changes in the Medical Corps of the Navy, for Week ending June 22d, 1901.

ASSISTANT SURGEON H. M. TOLFREE, appointed assistant surgeon from June 14, 1901—June 17.
SURGEON C. F. STOKES, ordered to the Solace, upon arrival in the United States—June 18.
ASSISTANT SURGEON R. B. WILLIAMS, ordered to the Kearsarge, June 21—June 18.

ASSISTANT SURGEON F. M. FURLONG, detached from duty at Guam and ordered to the Solace for transportation home.—June 20.

ASSISTANT SURGEON R. K. McCLANAHAN, detached from the Culgoa and ordered to the Vicksburg.—June 20.

ASSISTANT SURGEON D. B. KERR, detached from the Vicksburg, and ordered to the Culgoa; to wait orders en route.—June 20.

Official List of the changes of the Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine Hospital Service for the 7 Days ended June 20, 1901.

C. T. PECKHAM, surgeon, granted extension of leave of absence on account of sickness, for thirty days, from June 20—June 19, 1901.

R. M. WOODWARD, surgeon, granted extension of leave of absence for 3 weeks from June 6—June 19, 1901.

C. H. GARDNER, passed assistant surgeon, granted leave of absence for 7 days from June 21—June 17, 1901.

G. M. CORPUT, assistant surgeon, relieved from duty at the port of St. Louis, Mo.—June 18, 1901.

Leave of absence for one month granted by Bureau telegram of May 16 amended so that said leave shall be for 21 days only—June 18, 1901.

DUNLOW MOORE, assistant surgeon, to proceed to Port Townsend, Wash., and assume temporary charge of service during absence of Passed Assistant Surgeon C. H. Gardner—June 17, 1901.

B. J. BROWN, JR., acting assistant surgeon, granted leave of absence for 14 days from June 20—June 17, 1901.

B. W. GOLDSBOROUGH, acting assistant surgeon, granted leave of absence for 2 days—June 20, 1901.

W. F. SCHLAAR, hospital steward, relieved from duty in the Hygienic Laboratory, and directed to proceed to Key West, Fla., and report to the medical officer in command for duty and assignment to quarters—June 19, 1901.

E. B. SCOTT, hospital steward, granted leave of absence for 12 days from June 24—June 19, 1901.

Health Reports: The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended June 22, 1901.

SMALLPOX—UNITED STATES AND INSULAR.

			Deaths.	Cases.
CALIFORNIA:	San Francisco....	June 2-9.	1	1
FLORIDA:	Key West.	June 5.	1	1
ILLINOIS:	Chicago.....	June 8-15.	4	4
INDIANA:	Evansville.....	June 8-15.	1	1
	Michigan City.	June 10-17.	2	2
	South Bend.	June 8-15.	1	1
IOWA:	Clinton.	June 8-15.	1	1
KANSAS:	Wichita.....	June 8-15.	3	3
KENTUCKY:	Lexington.....	June 8-15.	1	1
LOUISIANA:	New Orleans.....	June 8-15.	11	11
MASSACHUSETTS:	Fall River.	June 8-15.	1	1
	New Bedford	June 8-15.	3	3
	Worcester.	June 8-15.	8	2
MICHIGAN:	Detroit.	June 8-15.	33	1
	Sault Ste Marie.	June 16, prevalent.		
MINNESOTA:	Minneapolis.	June 8-16.	17	
	Wmoma.	June 8-15.	1	
MISSOURI:	St. Louis.	June 2-9.	37	1
NEBRASKA:	Omaha.	June 8-15.	12	
NEW HAMPSHIRE:	Manchester.	June 8-15.	6	
NEW JERSEY:	Jersey City.	June 8-16.	2	
	Newark.	June 8-15.	3	
	Plainfield.	June 8-15.	1	
NEW YORK:	New York.	June 8-15.	102	11
	Yonkers.	June 7-14.	5	
OHIO:	Cincinnati.	June 7-14.	5	
	Cleveland.	June 1-15.	45	
	Dayton.	June 8-15.	1	
	Tolledo.	June 8-15.	1	
OREGON:	Portland.	May 1-June 5.	23	
PENNSYLVANIA:	Philadelphia.	June 8-15.	3	1
	Pittsburg.	June 8-15.	2	
RHODE ISLAND:	Providence.	June 8-15.	3	
TENNESSEE:	Memphis.	June 1-13.	26	2
	Nashville.	June 8-15.	1	
UTAH:	Salt Lake City.	June 8-15.	9	
VERMONT:	Rutland.	June 8-15.	1	
WASHINGTON:	Hot Springs.	June 10.	1	
WEST VIRGINIA:	Wheeling.	June 8-15.	1	
WISCONSIN:	Greenbay.	June 8-15.	6	
	Milwaukee.	June 8-15.	3	1
PHILIPPINES:	Manila.	Apr. 20-May 11. 18		

SMALLPOX—FOREIGN.

AUSTRIA:	Prague.	May 25-June 1. 4	..
BELGIUM:	Antwerp.	May 25-June 1. 2	..
CEYLON:	Colombo.	May 4-11.	5
CHINA:	Hongkong.	Apr. 26-May 11. 5	2

COLOMBIA:	Panama.	June 3-10.	6
FRANCE:	Paris.	May 25-June 1.	10
GERMANY:		May 24-June 2.	1
GREAT BRITAIN:	Glasgow.	June 1-7.	35
	Liverpool.	May 25-June 1.	2
	London.	May 25-June 1.	1
INDIA:	Bombay.	May 14-21.	8
	Calcutta.	May 11-18.	31
	Karachi.	May 12-19.	4
	Madras.	May 4-17.	22
ITALY:	Messina.	May 25-June 1.	1
	Naples.	May 26-June 2.	169
RUSSIA:	Moscow.	May 23-25.	23
	St. Petersburg.	May 18-25.	15
	Warsaw.	May 11-18.	4
SPAIN:	Corunna.	May 25-June 1.	1
STRAITS SETTLEMENTS:	Singapore.	Apr. 1-30.	3
SWITZERLAND:	Geneva.	May 18-25.	5
SYRIA:	Beirut.	May 18-25.	a few cases.

YELLOW FEVER.

CUBA:	Havana.	June 1-8.	1
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CHOLERA.

INDIA:	Bombay.	May 14-21.	3
	Calcutta.	May 11-18.	77
	Madras.	May 4-17.	6

PLAGUE—INSULAR.

PHILIPPINES:	Cavite.	May 2.	1
	Cebu.	May 2.	1
	Manila.	Apr. 29-May 11.	94
	Santa Rosa.	May 2.	1

PLAGUE—FOREIGN.

AFRICA:	Cape Town.	May 4-18.	463
CHINA:	Hongkong.	Apr. 27-May 11.	11221
			209
INDIA:	Bombay.	May 14-21.	224
	Calcutta.	May 11-18.	79
	Karachi.	May 12-19.	149
			144

YELLOW FEVER IN HAVANA.

In his report of the vital statistics of Havana for the month of May, 1901, Major W. C. Gorgas, surgeon U. S. Army and Chief Sanitary Officer, states the following: "Our last case of yellow fever occurred May 7th. Since the first of March we have only had one death from yellow fever, which occurred March 13th. In no other year have the conditions, as to yellow fever, even approximated this. I cannot but hope that this exceptionally good condition is in great part due to the large amount of labor and money we are expending in the destruction of mosquitoes, and the circumstances of the case point in the same direction. The first time, April 21st and 22nd, we had two cases; and again, on May 6th and 7th, four cases. Each time the infected houses and three or four contiguous houses on every side of the infected house, were carefully gone over. Every room in each of these houses was closed and sealed, and insect powder burned in them at the rate of 1 pound to 1000 cubic feet. All standing water was drained away, where possible, and oiled where it could not be drained. The results look as if the focus of infection, at that particular point, had been eradicated. In the case of the patient taken sick March 8th after our disinfection, we went 42 days until the next case. Then an outbreak occurred April 21st and 22nd. We again disinfected, and have gone 24 days without a case. I am more particularly impressed by these figures, as we commenced our systematic destruction about the middle of February. Formerly we paid no particular attention to the mosquito, merely disinfecting for yellow fever as we do for other infectious diseases. The only part of the process that killed the mosquito was the formaline used in one or two infected rooms."

GREAT BRITAIN.

A New Kind of Sulphur Bath.—Harrogate, in Yorkshire, England, has a novelty in the way of a sulphur bath. Briefly described, by the application of electricity in a sulphur bath a man is converted into a "sulphur-coated" being. In other words, the electricity, acting upon the sulphur latent in the water, deposits the latter upon the skin of the patient in much the same way as electrolysis covers metallic goods with a plating of gold or silver. This process, according to the local practitioner, whose experiments have led to its discovery, is much superior to the ordinary sulphur bath in certain skin affections. The benefit, he says, is both greater and more rapid, for he finds that the deposit of sulphur actually placed upon the skin by electric influence is much more effective and curative than that nascent in the water. It is, in fact, driven into the skin, and thus keeps up the curative action until the next bath. The physician's experience with some of his patients is cited to support his theory, and the report of a chemist is added to show that an electric current passed through water will liberate sulphur at the positive pole by indirect electrolysis

of the sulphides and of the dissolved sulphuretted hydrogen, and so lead to the deposit of sulphur upon the skin. Is not this method of treatment worthy of investigation by physicians who make a specialty of skin diseases? At any rate, the accuracy of the above-named facts could be determined.—*Interstate Medical Journal.*

The Victoria Cross.—*The London Gazette* of June 5th contained the following, dated War Office June 4th:—The King has been graciously pleased to signify his intention to confer the decoration of the Victoria Cross for conspicuous bravery in South Africa on Captain N. R. Huse, New South Wales Medical Staff Corps, who, during the action at Vredfort on July 24th, 1900, went under a heavy cross fire and picked up a wounded man and carried him to a place of shelter.

Special Excursion to London and Paris.—An excursion to London and Paris in connection with the Tuberculosis Congress, July 23-26, and the British Medical Association, at Cheltenham, which meets July 26 to August 2, 1901 has been mentioned with special rates. The trip has been carefully designed in the interests of medical men who desire to attend the two great medical meetings this summer in Great Britain.

CONTINENTAL EUROPE.

A Woman Appointed Lecturer in Anatomy.—A young Italian woman, Dr. Rina Monti, who has published several scientific papers and who gained a university gold medal, has been accepted by the University of Pavia as a lecturer in anatomy.

Dr. Fedor Krause, Professor of Surgery at Halle, has been appointed Extraordinary Professor of Surgery at the University of Berlin.

Dr. Alexander Westphal, of Berlin, has been appointed Extraordinary Professor of Psychiatry at the University of Greifswald.

At the University of Munich the following Extraordinary Professors have just been appointed: **Dr. Siegfried Mollier**, in Anatomy; **Dr. Max Cremer**, in Physiology; and **Dr. Rudolf Haug**, in Otology.

Dr. Otto von Franke has been appointed Extraordinary Professor of Obstetrics and Gynecology at the University of Würzburg.

Dr. E. Graser, Professor of Surgery at Erlangen, has been appointed Professor of Surgery at the University of Rostock.

A Case of Duodenal Ulcer Associated with Primary Cancer of the Tail of the Pancreas.—B. P. Rutshinski and F. Ia. Tshistovitch (*Bolnitchnaia Gazeta Botkina*, Vol. XII, Nos. 13-14) report the case of a man, 53 years old, who presented on admission to the hospital symptoms pointing to duodenal ulcer. The man had vomited twice masses resembling coffee-ground, but there were no other evidences of cancer. Moreover, in the course of the first 43 days the patient gained 26 pounds, and was free from pain. The favorable course of the disease was interrupted abruptly by a peritonitis which terminated fatally within 3 days. The autopsy disclosed a perforated duodenal ulcer and a primary cylindrical carcinoma of the tail of the pancreas. The tumor was cystic and encapsulated, a condition which, the authors believe, explains the fact that the growth did not spread. The urine and feces examined during life showed nothing abnormal; the vomit contained free hydrochloric acid in considerable proportion. [A. R.]

Herpes Zoster.—Herpes zoster may be of central origin, either primary and infectious, or symptomatic of a medullary lesion; or it may be of peripheral origin, situated in the territory of the injured nerves. It is in the latter division that the traumatic cases of herpes zoster belong. Professor Gaucher made these remarks at a recent meeting of the Medical Society of the Paris Hospitals (*Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris*, 1901, No. 7), where he reported three cases. One was a man of 46, who, after being struck upon the cheek, developed marked herpes zoster, with headache. The second case occurred in a child of three, who injured the left side of his face. The third was a man in whom, after an injury to his left side, typical shingles appeared. All three cases speedily recovered [M. O.]

Society Reports.

A Correction.—Dr. Osborne's paper on "Medical Shock," read before the American Medical Association, was printed "Mental Shock" by an error of the reporter.

AMERICAN MEDICAL ASSOCIATION.

Section on Physiology and Dietetics.

FIRST DAY, JUNE 4, 1901.

The meeting was called to order by Dr. Winfield S. Hall of Chicago. A short executive session was held in which was considered the feasibility of fusing the Section on Pathology and Bacteriology and that on Physiology and Dietetics. Subsequent conferences resulted in this fusion to take effect in 1902. A joint exhibit will also be given.

Dr. Charles M. Hazen of the Medical College of Virginia, and Dr. R. Harvey Cook of Oxford, Ohio, were appointed to fill vacancies on the Executive Committee. The Section then adjourned to the following day.

SECOND DAY, JUNE 5, 1901.

The meeting opened at 2 P. M. with Dr. Charles M. Hazen of the Medical College of Virginia in the Chair.

Dr. Winfield S. Hall of Chicago read a paper on **The Evaluation of Anthropometric Data**. It was stated that the collection of anthropological data is almost universal in the practice of medical men. In the case of special lines of work this data is of fundamental importance. Anthropological data have potential, but no practical value as such; only through some process of evaluation can the potential value be made practical and form a basis for general conclusions. That method of evaluation which involves the use of the anthropometric average is both time wasting and inaccurate while one hour method based upon Quetelet's median value is accurate and is quickly and easily obtained. The median value is the value represented by the middle measurement of a series of measurements, i. e., that measurement which has as many values above it as below it. The median value is within the median group.

Dr. John Madden of Milwaukee supposed the purpose of the measurement to be the securing of a definite mean in measure, weight and general condition of a normal healthy child of a certain age. By this a boy could be measured as with a rule and square. Something of this sort should be on the books of the school, that from the child's entrance to his going out, his condition could be ascertained and any trouble traced to its cause. Dr. H. S. Drayton of New York thought this modern method as stated by Dr. Hall demonstrated very definitely the crudity of the old methods of anthropologists and ethnologists and proved their statistical value to be nil. Dr. Hall said in closing that the whole object of the method was the application of it by men collecting large masses of data for statistical tables. Though considerable data had been obtained, there had not yet been enough real accurate and scientific grouping done.

Dr. John Madden of Milwaukee read a paper on **The Education of the Degenerate**. A Physicobiologic Study. The paper as read was a synopsis of a chapter of a monograph and dealt with "What is the Remedy?" The entire paper was a plea for physical exercises to receive the same attention as mental training, and in certain cases it is a means of education where all other fail. Nerve cells develop by increasing dendritic branches and this takes place by physical as well as mental activity. Education of one group educates remote cells. Defectives were divided into three classes: (1) Those intellectually weak, but with self control; (2) Those who are bright but have not self control; and (3) those weak, and lack self control. Great benefit has resulted from physical training especially in those under number two. Physical education should be used in schools as normal children need it and defectives

can thus be reached when all else may fail. To curtail the production of defectives by mutilation or laws seems impossible. Attention should therefore be directed to environment, the well spring of vicious humanity. Alcoholism was stated to be the most frequent hereditary taint. Other taints frequently skip a generation, but it is not so with alcohol. The fight against degeneracy is a fight against alcohol. When faulty development is such as to warrant, the child should not be taught with normal children, but in a suitable institution. The paper dealt with those affected in a minor degree. The school should be "a brain condition house," and detestable studies should not be forced on the child. The plea is made not "to make a poor lawyer out of what could have been a good farmer." There should be small schools, and the individuality of the pupils should be known. Education is not merely the imprinting of ideas on brain cells; it is a biologic process with cell development and increase of dendritic fibres. Man is born with millions of cells which never become educated. Some are born with deficient cell development, and these are to be brought to as nearly normal condition as possible by physical and mental training. Dr. Winfield S. Hall of Chicago in discussion emphasized the necessity of physical development in the development of the mental, and referred to the influence of heredity on degenerates; especially was this marked in alcoholism. Dr. H. S. Drayton of New York City thought the term "degeneracy" covered a broad margin. Biological experiment had shown that but few of these degenerates were incapable of improvement. He related an instance of one, without sense or sensibility complete in which marked improvement had been obtained by the persistent endeavor of an assistant in the Institution for the Blind near Boston. Dr. Joseph Putney of West Virginia from his observations believed alcoholism a ruling factor in the cause of degeneracy. Dr. Madden in closing said he thought we were nearer to the appreciation of the actuality of an education when we stated that it consists in developing the nerve cell, giving to it an axis cylinder and some dendrites; the more dendrites, the better the education, that is, from a biologic standpoint. The word, degeneracy, he thought was much over-worked. A degenerate, he said, is something indefinable; generally a person of bad nutrition and one who does not recognize, and does not act in harmony with his environment.

Dr. H. S. Drayton of New York City read a paper on **The Nervous Relation in Diseases of the Nutritive System**. In this paper reference was made to social habits, methods of business, irregularities, excess of diet and nerve excitability as etiological factors in the causation of our national dyscrasia—dyspepsia. A brief consideration of the trend of opinion with a large class of pathologists concerning the treatment of gastric disorders was given. In the zeal to provide aids and substitutes for digestion the proper value and capacity of natural function seems to be overlooked. We limit the power and quality of the nervous apparatus having relation to gastric function and need to be reminded that nature has endowed it with a very broad field of adaptation to food stuffs. The author believes that the usefulness of the various ferments, etc., in gastric disorders is a limited one. The bio-chemistry of the human body is quite another thing from the best type. The nervous relation of alimentation, the vital sources of gastric metamorphosis is not sufficiently considered. That nature has reserves should also be remembered. That the nervous apparatus of the stomach must play a large part in the diabetic expression seems clearly made out by the exhibition of iodine. The neglect of the nerve function has been responsible for treating dyspeptic cases unnecessarily or contributing to greater disturbances of the alimentary organism by the administration of excitants and stimulants when that which was most required was rest. Nature in the recesses of sub-conscious activity can better manage the procedure of tissue building and repair than can be accomplished with tonics, emulsions and extractives.

Dr. Winfield S. Hall of Chicago believed the recommen-

dations of Dr. Drayton to be in line with a general movement in the medical profession—a less degree of medical interference, and the greater chance accorded Nature. Dr. Drayton referred in closing to the fact that among the old men of this country we would find the majority belonging to that class indifferent to the quality and quantity of their food, and certainly indifferent to the scientific relation of the food.

A paper on *Isolation of the Active Principles of the Suprarenal Gland. A Review of the Work by Dr. T. B. Aldrich of Detroit* was read by Dr. Houghton of the same city.

THIRD DAY, JUNE 6, 1901.

Food products from Diseased Animals was the title of a paper by Dr. D. E. Salmon of Washington, D. C.

In this paper it was stated that the question, what effect may the food products from diseased animals have in disturbing the digestion and in causing more serious disease in the human consumer, is one easily asked and dismissed by many with the same facility. Too little consideration is given to the millions of cattle and sheep and the greater number of swine and birds consumed each year. The Federal meat inspection service has been by many misunderstood and misrepresented. It is a sanitary inspection rather than a commercial inspection. The great difficulty in meat inspection is where to draw the line between meat that shall be classed as fit for food and that which shall be condemned. There is great need for the inspector being selected for his knowledge of pathology rather than his efficiency in politics. The desirability that the shipment of animals advanced in pregnancy for slaughter should be discouraged was urged. It was stated that the inspectors of the Bureau of Animal Industry are instructed to condemn all animals which are within two weeks of the time of parturition. Mention was made of certain animal parasites capable of infesting man and causing slight illness or serious disease. Reference was also made to inflammations of all organs and various infectious diseases accompanied by fever, emaciation and organic changes which affect the quality and wholesomeness of the flesh. Unquestionably the products of many badly diseased animals get upon the market and are eaten. What proportion of the cases of diarrhea, cholera morbus, etc., are due to such food? What is the extent of the danger from taking large quantities of tubercle bacilli in either rare meat or in uncooked milk, were dietetic questions which it appeared to the author might well receive more attention. More efforts should be put forth to secure a pure food supply. Those who are working in this direction need the encouragement and aid of the general practitioner of medicine and of the whole profession.

Dr. Winfield S. Hall of Chicago thought the paper opened an exceedingly wide field for research. He asked to what extent the experiments had been carried in the Washington laboratories and how far, in the opinion of the author, could tuberculous milk be taken with impunity. Dr. Paulson of Chicago testified to the good work done in the Washington laboratories, and deplored the successful effort in the small slaughter houses to avoid the beef inspection.

Dr. R. Harvey Cook of Oxford asked, why, other than from an esthetic idea, an animal before parturition is not so good for food. Dr. Salmon in closing regretted that there were many questions in connection with the subject he was unable to answer, and especially with regard to the effect of exhaustion and fright on the flesh of the animal. The Federal law that animals in transportation should be unloaded every 28 hours for feed, water and rest was openly violated. He had seen cases in which the animals in hot weather had been kept in stock cars for 96 hours. Consumption of meat shipped in this way he believed must have a considerable effect upon the health of the individual. He believed firmly in the danger of milk from a tuberculous cow. Experiments have shown that a considerable proportion of tuberculous cows give in-

fectious milk even with apparently healthy udders. In regard to the effect of the physiological changes in the last stages of gestation, he believed that the waste products from a fetus which are thrown into the circulation of the mother have a certain effect upon the flesh of the animal. The effect must be as marked as that upon the composition of the milk. There were as yet, however, but little data showing the effect of the meat upon the consumer.

A paper on "*Living on Bread*" Alexander Haig, M. A. and M. D. Oxon, F. R. C. P., London, England, was read by Dr. Harvey Cook.

The author stated that there are several forms of the Uric Acid Free Diet such as that which consists of milk, cheese, potatoes and fruit, and contains no bread, that which contains these things with more or less bread and bread stuffs, and, lastly, the form in which bread and bread stuffs form the chief sources of nourishment and a small quantity of fruit and vegetable are taken merely as sauces for the bread. In comparison were given the approximate quantities required in each of these diets for a man of 140 lbs. weight who is supposed to be young and leading an active life, therefore requiring a rather full diet, one that will yield 3.3 grs. of urea per lb. of body weight per day. It had long appeared to the author that bread which is preeminently the food of man is deserving of study and attention. Unfortunate results are obtained by taking uric acid containing foods on one hand, and trying with the other to wash out its excess on the other by copious libations of fluid far in excess of thirst. The great advantage of the bread diet in certain conditions of dyspepsia and especially in conditions of high blood pressure, is that it is a dry diet; that the fluid taken can be reduced to 1½ pints or even 1 pint in 24 hours till nature asks for more by making the patient thirsty; and, then alone can we be sure that we are not giving too much. The great point in the taking of bread stuffs and that which prevents them from causing dyspepsia is their thorough complete mixing with the saliva in the mouth. One other advantage of bread stuffs is their relatively slow digestion and metabolism, in virtue of which they give a steady supply of force and urea over a number of hours, this accounting at least in part for the great powers of endurance shown by the animals that live on them. Those who get their albumens from milk are in the position of a motor supplied with a quick burning oil which gives out great force for the first two hours but is sooner at the end of its resources; while those who get albumens from bread-stuffs cannot produce so much force in the first two hours, but will be able to go on longer. Bread stuffs form a very convenient diet and can be carried in the form of grain, meal, rice, macaroni or biscuits. Among the flesh-eaters disease and death are rampant, the natural term of human life is but rarely attained. Let anyone examine how many meat-eaters and tea drinkers between the ages of 17 and 23 have normal blood; how many from the age of forty-five have normal blood or normal circulation and do not suffer either from dyspepsia, depression and insomnia (not to mention Bright's disease and diabetes), or from arthritis, lumbago, sciatica, bronchitis. Dr. Winfield S. Hall in discussion believed a study of the literature of the influence of the metabolism of nitrogenous food showed the custom of taking too much of this food. He had read the greater part of Dr. Haig's writings and was in general, in accord with his statements. One or two apparently antagonistic points brought out in the paper he believed Dr. Haig could explain were he present. Dr. Paulson of Chicago thought the medical profession gave far too little attention to dietetics. He related an experiment he had made to determine the necessary amount of bread per day consumed in a bread diet. In a class of ten graduates on 16 ozs. of bread a day, as water dry as could be produced, a gain in weight was made by every one, some as much as three pounds in two weeks. Another experiment with a diet consisting of starch 16 ozs., nitrogenous food 2½ ozs. and of fat 1½

ozs. proved that the figures set down by Pettenkofer was entirely too great in this country and that normally we use a larger amount of carbonaceous food that is generally thought. The tendency is to overstock the system with nutrients which produce uric acid diathesis. Though not agreeing with all that Dr. Haig says, he considered the medical profession greatly indebted to him. Regarding the powers of endurance of persons living on a uric acid free diet, he stated that a number of the most successful long distance runners live upon an entirely non-flesh diet.

Dr. Joseph Putney of West Virginia called attention to the two classes of uric acid cases—those of dietetic origin, and those of tissue destruction origin. Nothing he thought was better recognized to-day than the fact of the breaking down of the leukocytes attended with the development of uric acid. This indicates the distinction between those cases of disorders of nitrogenous metabolism traceable to the short cut which the nitrogenous elements of food in excess take, and the long course which the nitrogenous metabolism of tissues involves. A vote was taken to send Dr. Haig an expression of the thanks of the Section for his paper.

Dr. R. O. Beard of Minneapolis read a paper upon **The Teaching of Practical Dietetics in Medical Schools**. In this paper was urged the advisability and necessity of including in the medical curriculum a course of instruction in practical dietetics. Reference was made to the establishment and successful working of the dietetic laboratory in the Harvard Medical School.

Dr. Winfield S. Hall of Chicago stated that he had seen the laboratory referred to by Dr. Beard and could testify to its thorough and beautiful equipment. Its establishment he believed marked an epoch in therapeutics. The fourth year in the medical school in his opinion was the place for it, and he felt that hospital internes should be held responsible for qualification in such instruction. Dr. Paulson of Chicago deplored the fact that the text-books contributed such scant instruction on dietetics, a subject upon which so much depended. Dr. Stewart of Michigan thought the paper of Dr. Beard very timely, and that the profession should have recognized long ago their duty in being able to tell their patients, how, when, and what to eat. "To be careful about your diet" is not intelligent instruction to a sick person. He stated that there was another school in which practical dietetics were taught, the American Medical Missionary College of Chicago at Battle Creek. In this school the teaching extends throughout the entire course. Dr. Beard in closing the discussion stated that acknowledgement of the success of dietetic work in Boston was due to Mrs. Ellen H. Richards of the Massachusetts Institute of Technology. It was largely under her suggestion that the course of dietetics at the Harvard University had been developed. He gave several interesting instances regarding the results of such work occurring in his own practice.

A paper on **The Pontobular Heat Center**, by Edward T. Reichert, M. D., of Philadelphia, was read by the Secretary. Professor Reichert said that although our knowledge of the thermogenic mechanism is still in a formative state, we nevertheless have sufficient experimental data to warrant the conclusion that in the higher animals the heat formed arises in part as a product incident to the activities of all forms of vital processes, and in part as a specific product of specific heat producing structures. The results of Rubner's researches leave no doubt as to the skeletal muscles possessing besides their motorial properties a specific thermogenic function, and as a consequence, that these structures besides producing heat as an incident to repair, growth and motor activity, also give rise to it as a specific product. They further show that the quantity of heat which arises by virtue of this special functions bears a reciprocal relationship to the amount formed as an incident to the activities of the body-structures generally, increasing or decreasing in adjustment to the variations in thermogenesis caused by rest and activity, etc., and

to the alterations in thermolysis which are dependent upon ever-changing internal and external conditions, so that as the output of heat incidentally produced increases or decreases, the quantity resulting from the specific thermal function of the skeletal muscles varies cooperatively in supplying the number of heat units required by the organism at any given time. Moreover, there can be no doubt that this specific thermal function is directly controlled by specific thermogenic centers which are located in the cerebro-spinal axis, although very little is known of their exact positions, functional relations and characteristics. A number of conclusions are drawn from the researches of many investigators.

Dr. Beard referring to Dr. Reichert's conclusions suggested as a possible source of error arising from the stimulation incident to section of afferent as well as efferent fibres related to the thermotaxic centres. The fillet from the ascending lateral tract of Gowers, which is believed to carry impressions of temperature to these centres, passing upward through the bulb and pons, might easily be involved in Dr. Reichert's pontine and bulbar sections, while lying in the lateral fillet, beyond the pons, it might escape in section of the crura. Adjourned.

AMERICAN NEUROLOGICAL SOCIETY.

Morning Session.

WEDNESDAY, JUNE 19th, 1901.

(From Our Special Correspondent).

The first paper presented after the address of the president, Dr. George L. Walton, of Boston, described an interesting case of myeloma of the spinal column by Dr. Thomas, of Boston. In the course of this Dr. Thomas discussed the value of albumosuria as a symptom of bone disease, and was inclined to attach considerable value to it. Although disassociation of sensation existed, a diagnosis of extramedullary growth was made and an operation was performed, with the result of relieving the paraplegia. The after-treatment has consisted of the administration of bone marrow and Coley's serum, and the patient is still doing well. In the discussion Putnam mentioned a case of sarcoma of the vertebrae benefited by operation, and another in which pain in the back had been the chief symptom, and which had also been improved by operation. Thomas in closing called attention to the microscopical preparations on exhibition. Spiller and Cohen reported a case of cervical and bulbar tubes. The symptoms commenced in 1872 with incontinence of urine, and distinct eye symptoms were noted in 1877. Later there was difficulty in deglutition, atrophy of the tongue, disassociation of sensation, Argyll-Robertson pupils and severe pains in the abdomen. The knee jerks persisted, and ataxia did not develop. At the necropsy the upper posterior roots and the column of Burdach in the cervical region were degenerated. The column of Burdach in the cervical region. There was also degeneration of some of the cranial nerves and of the oculo motor nuclei. The changes were atypical. Among the interesting special features were the springing mydriasis and the very slow course. Very few cases of this condition have been recorded. In the discussion Mills stated that he had seen the case in 1889 and had then suspected syringomyelia. He had seen five or ten cases of high tabes characterized by paresis of the eye and facial muscles, and disassociation of sensation on the trunk, and sometimes by symptoms of lumbar involvement. He suggested the term cervicobulbar tabes. Thomas, of Baltimore, inquired regarding the frequency of disturbances of speech in these cases. Jacoby stated that his clinical experience does not indicate that these cases are very rare, and mentioned two cases. Collins observes about 5 cases in 100 of this type. In Dr. Spiller's case the syphilitic virus had affected both the motor and sensory nerve fibers, a very rare feature, resembling bulbar palsy. Sailer mentioned a case of this nature with typical eye symptoms, fulgurant pains and ataxia in the arms, loss of sexual power and difficult micturition. The patient suffered from frequent severe laryngeal crises. He inquired if these were more frequent in high tabes. In concluding Spiller stated that cervical tabes was probably not rare clinically. He did not know whether early involvement of the eighth nerve was a valuable sign, and doubted whether laryngeal

crises were more common in this variety. Dr. Collins, of New York, reported a very remarkable case. Some time after an attack of sore throat the patient observed atrophy of the interossei of the right hand, followed by weakness, the process then gradually extended to the other limbs. There was difficulty of micturition, loss of sexual power, intense formication, and spasms in the lower extremities. There was no spasticity and only quantitative alterations of the electrical reactions. There were no objective sensory disturbances. The course lasted $7\frac{1}{2}$ years. At the necropsy the muscles showed extensive degeneration, the nerves chronic interstitial neuritis, and the cord degeneration in the posterior columns. The cells of the anterior cornua and of the spinal ganglia were normal. Dr. Knapp, of Boston, exhibited a case with muscular atrophy in the arm and shoulders, analgesia in the shoulders and Argyll-Robertson pupils, also two brothers suffering from pseudohypertrophic muscular atrophy. Mills mentioned a case occurring in a man of 75 characterized by weakness and pain in the back, and later in both legs. There was dissociation of sensation upon the dorsal surfaces of both feet. The reflexes were exaggerated, and at the necropsy only degeneration of the peripheral nerves was found. Dercum suggested that there might be some relation between neurotabes and primary neuroitis atrophy. Jacoby suggested that Collins' case was really one of multiple neuritis, and therefore doubts if reactions of degeneration necessarily occur in chronic neuritis. Dana remarked that tabes may be superimposed upon progressive muscular atrophy, but the pathological changes in Collins' case do not accord with this view. Spiller regarded the case as one of combined systemic disease. Diller called attention to the fact that a powerful grasp may persist in progressive muscular dystrophy. Thomas, of Baltimore, mentioned a case of bilateral facial palsy that he regarded as really one of progressive muscular dystrophy. Dercum stated that he had reported a case of progressive muscular dystrophy commencing in the face. Knapp, of Boston, mentioned the case of a woman who had fallen upon the floor at birth, and had always had complete paralysis of the face. She was otherwise normal. Collins, in closing, said that he regarded the case as one of degeneration of both motor neuros commencing at the peripheral ends.

AFTERNOON SESSION.

Dercum and Spiller reported the case of a man who had had a right-sided hemianesthesia and right homonymous hemianopsia for seven years as a result of an attack of apoplexy. At the necropsy a cyst was found in the carrefour sensitif on the left side, not involving the thalamus nor the motor fibers of the internal capsule. Mills discussed the localization of sensory and motor functions in the cortex. He referred to his own book and to Schaeffer's physiology, and mentioned several points in favor of separating the two areas, laying especial stress upon astereognosis and several cases that have been reported. He does not believe that the Rolandic region is concerned in sensation. Dercum agreed that the areas were separate. Walton did not believe that definite conclusions should be drawn from single cases. The stereognostic sense is sometimes lost in pure Rolandic lesions. Knapp congratulated Dr. Mills upon his change of opinion. He does not believe that the evidence is sufficient to enable us to localize the center for stereognosis. Langdon mentioned a case of Jacksonian epilepsy upon which operation was performed. The arm center was involved, and after breaking up adhesions about it, astereognosis occurred and persisted for 10 days, during which time there was some weakness. Sinkler had a case of dural tumor extending into the Rolandic region without astereognosis. Burr insisted upon the obscurity of the whole subject, but he believes that the motor region does not receive sensory impressions. Stereognosis is a conception and not a sensation, and therefore must have a center. Dercum has observed astereognosis in three cases with parietal lesions. Diller has observed a case with astereognosis. Lloyd urged that the subject is at present insoluble. He believes in separate areas for motion and sensation, and in a center for the stereognostic sense. Collins believes that the motor and sensory areas are identical, but that they may involve the parietal lobe. He does not think that a center for the stereognostic sense has been proven. Patrick thought that more facts were needed. He reported a case in which there was a

superficial lesion of the Rolandic region with sensory disturbances. Dercum mentioned that astereognosis can occur in other conditions than parietal lesions. Sailer reported a case of locomotor ataxia with astereognosis in one arm. He thought that sufficient attention was not always given to the associated sensory disturbances. Hammond believed that there was probably a definite center posterior to the Rolandic region, but that lesions elsewhere could produce astereognosis. Dana held to the essential identity of the sensory and motor areas. Mills, in concluding, stated that the opinion regarding the separation of the two areas is gaining ground. Burr and McCarthy reported a case of acute multiple neuritis (alcoholic) with incontinence of urine and fever during life. At the necropsy the characteristic changes were found, and degeneration of the vesical plexus, of the pneumogastric and phrenic nerves. There was also degeneration of the anterior and posterior spinal roots, perivascular sclerosis in the cord and chromatolysis of the cells and changes in the Gasserian ganglia. Collins inquired if there had been anemia. Burr replied that the changes were not similar to those found in anemic cords. Patrick inquired if vesical symptoms were common in multiple neuritis. Fisher and Knapp replied that they were not.

THURSDAY, JUNE 24TH, MORNING SESSION.

Dr. Henry J. Stedman of Boston gave an elaborate report of a case of general paralysis in the course of which gangrene had occurred in the fingers of the right hand and in the toes. The first symptoms had been loss of the radial pulse. After operation the mental condition of the patient had improved. The arteries in the amputated parts were approximately normal. Dr. Hammond exhibited photographs of a case of general paralysis in which extensive sloughing of the sacrum, heels, trochanters and gluteal region had occurred. There were tabetic symptoms, but he regards the gangrene as the result of alterations in the cord, possibly of myelitic nature. Dr. Jacoby regarded the case of Dr. Stedman as exhibiting two manifestations of the action of the syphilitic virus, the general paresis, and the peripheral gangrene. Dr. Riggs mentioned a case of general paresis and symmetrical gangrene, but the patient had also Bright's disease. Spiller mentioned a case of general paresis in which gangrene of the hand had occurred. There were changes in the ulnar artery, and degeneration of the nerve trunks, possibly secondary. The central nervous system was normal. Dana stated that some of the manifestations of symmetrical gangrene resembled those of hemorrhagic rheumatism and were amenable to the same forms of treatment. Knapp saw a case of symmetrical gangrene in a child of 8 who had also otorrhea so that there was possibility of infection. Knapp stated that Raynaud's disease was not a morbid entity. Arterial changes played a large part in its production. In closing Stedman stated that he considered syphilis a large factor. Dr. Knapp exhibited a patient with muscular dystrophy involving the muscles of the face. He called attention to the fact that many of these patients were able to work when the disease was far advanced. Dr. Putnam and Dr. Williams reported three carefully studied cases of tumor of the corpus callosum, presenting various symptoms, some of which were due to the involvement of neighboring structures. They then gave a very thorough analysis of the literature of the subject. Dr. Sinkler reported four cases of brain tumor. The first, a neurotic individual, had had trouble for 8 or 9 years with the left arm, several years later there was a history of a severe injury to the head. There were later attacks of melancholia, spasticity on the left side, and optic neuritis. Astereognosis did not exist. A spindle cell sarcoma of the dura was removed from the right Rolandic region. The second had optic neuritis, hemianopsia and other symptoms, the result of a secondary carcinoma of the occipital lobe. The third case had complex symptoms as a result of two growths, one in the motor region and another at the base. The fourth, a man of 60, had lost sexual power for three years. He developed symptoms of dementia, increased re-

flexes, eroticism, etc. A large tumor was found in the right frontal region involving the corpus callosum and the left frontal lobe, and a small growth in the left occipital lobe. Dr. Leszynsky and Dr. Glass reported a case that had presented weakness and spasticity on the left side, slowly increasing for several years. A dural endothelioma pressing upon the arm and leg center of the right hemisphere was removed and the patient recovered with a slight residual hemiparesis. Dr. Hammond exhibited a case of a brain with a tumor that compressed the right half of the pons and the fifth nerve. Dr. Knapp exhibited a specimen of a large tumor of the brain. In the discussion of these cases Dr. Sachs called attention to the adaptability of the brain to pressure, not only the motor and sensory, but also the mental functions adapting themselves to the changed conditions. He mentioned a case with mental symptoms varying from dementia to normal, whilst the optic neuritis gradually progressed to blindness. Also a case of trigeminal pain due to pressure from a tumor in the parietal lobe, relieved by trephining. Knapp mentioned two cases with tumor of the corpus callosum and a third case, probably of this nature, now under observation. Lloyd mentioned a case of tumor of the corpus callosum invading the paracentral lobule that gave rise to lock spasm, the patient being unable to relax his grasp; this he regards as a symptom of cortical irritation. It is possible that slowly increasing tumor does not cause epileptic attacks. Diller suggested that operation upon cerebral tumors be done in two stages, and reported a case successfully treated in this manner. The trephining relieved the headache. Spiller had seen three operations upon dural tumors in which there was considerable hemorrhage, and also a case of probable cerebellar tumor in which the symptoms were relieved by trephining, although no tumor was found. Browning stated that trephining often gives only temporary relief, and the same result may be obtained by the administration of gelsemium. Mills believed that the chief symptoms of callosal tumors were due to the involvement of neighboring parts. He urged that all cerebral operations should be done rapidly. Jacoby agreed that speed was important. He had observed that operations upon dural tumors gave rise to considerable hemorrhage. Langdon mentioned four cases of cerebellar tumor improved by operation. He believes operation desirable if there is any chance at all, especially if there is optic neuritis. Sailer suggested that prophylactic gelatine injections might be of advantage in cerebral operations in which hemorrhage was expected. Sinkler urged speed in cerebral operations. Putnam also urged speed. Lumbar puncture was often valuable as a preliminary measure. He approved of the use of gelatine. Dr. Ayres exhibited a specimen of osteoplaque of the dura.

AFTERNOON SESSION.

Dr. Sailer reported a case of cerebellar tumor occurring in a child of three. Sometime after a severe fall the patient developed strabismus, impaired vision, staggering gait, lost reflexes and a pulsating tumor upon the occipital bone with thrill and murmur. A meningocele was suspected, but operation disproved its existence. The patient died and a tumor of the cerebellum was found. There was no sclerosis in the spinal cord. Gordonier reported a case of cerebellar tumor with staggering gait, nystagmus, headache, exaggerated reflexes. At the necropsy a tumor of the superior vermiform process was found involving the corpora quadregemina. The histological findings were very carefully reported. Knapp considered operation justifiable in cerebellar tumors. The knee jerks are usually exaggerated, their loss may be due to cord lesions. In a case of tumor of the frontal lobe, cerebellar symptoms had been present. Dercum stated that the knee jerks are variable in cerebellar tumors. Their loss is perhaps due to irritative, their return to destructive lesions. Browning mentioned a case with intermittent toxic contractions of the muscles of the neck. Fisher inquired regarding the situation of pain in cerebellar disease. Langdon mentioned a case in which

the headache had been frontal. In closing Sailer stated that cases had been reported in which the loss of knee jerks was unilateral. He quoted the views of Beesor. His own case had not complained of headache. Dr. Pierce Bailey read a paper on traumatic hysteria with the report of a number of cases and the effect of ligation upon their condition. He stated that he regarded hysteria as a form of delusional insanity. Dr. Langdon mentioned the case of a man who some years after an injury had developed astasia abasia. He had hemianesthesia transferable by hypnotism. Diller mentioned a case that presented symptom $4\frac{1}{2}$ years after settlement. These were cured by suggestion. He also mentioned other cases. Knapp urged that hearsay evidence was useless. He mentioned a case injured by foot-pads, that had shifting anesthesia and varying visual fields. Later he developed typical disseminated sclerosis. He regards the physical condition of the patient as more important than heredity. Herrick inquired to what extent Dr. Bailey employs the educational method. Riggs mentioned a case of traumatic hysteria with dementia. Bailey in closing said that it is very difficult to obtain subsequent histories in these cases and that we must depend upon the ability of the patient to work or not. Dr. Lloyd reported as a hypothetical case, the instance of a man employed to etch glass who developed the form of wrist drop characteristic of lead poisoning. There were none of the other symptoms. He had previously worked in lead, and the question arose whether hydrofluoric acid could have produced the condition. Courtney suggested that lead was liberated in the etching of glass. Knapp inquired if lead had been found in the urine. Lead does not always produce typical wrist drop, it may cause paralysis of the shoulder, foot drop and even of the whole arm. Lloyd, in closing, did not believe that enough lead was liberated in etching glass to cause poisoning. The supinators are rarely involved in lead paralysis. Hydrofluoric acid is purely corrosive. Dr. Dercum read a paper on the classification of insanity to which the unusual honor of an extension of the time limit was accorded. His classification is purely clinical and can perhaps be called a grouping; in brief it consists of five groups. 1st delirium, confusion and stupor; 2d, mania and melancholia, to which circular insanity may be added; 3d, paranoia; 4th, neuresthenic insanity; 5th, dementia. Lloyd admits that the present classification of insanity is unsatisfactory. He is not sure that mania and melancholia are closely associated, although both may occur in the same case. Many psychoses are degenerative in type, and he does not believe that the true psychoses should be so sharply separated from the degenerative insanities as Kraft Ebing suggests. Knapp believes that we should agree in methods of examination, and that the localization of the process is more important than its nature. Dementia is a terminal process as the results of an active process that interferes with the function of the neurons. He has observed systemic delusions unattended by delirium, produced by alcohol. Mills is not prepared to admit the close relationship of mania and melancholia. He regards Dercum's classification as useful. Fisher believes that no clinical classification can be satisfactory. Mania and melancholia differ clinically. Dercum in closing argued that a clinical classification was the simplest and clearest. Dementia is a clinical entity and must be classified. He does not believe that a poison can ever produce paranoia although alcohol may predispose to it.

Torticollis Treated by Suture of the Sterno-mastoid Tendon.—Dr. B. Sengenese reports two cases of torticollis in children, which were cured by open division of the mastoid tendon, after which a collar was applied. This was removed daily while movements of the head were practiced. In both cases permanent recovery resulted. Sengenese objects to subcutaneous tenotomy, thinking an incision large enough to see the tendon is necessary. This is sewed up at once and the collar applied. Movements of the head

The Latest Literature.

BRITISH MEDICAL JOURNAL.

June 8th, 1901.

1. An Address on Some of the Anatomical Associations of the Kidneys, from a Surgical Point of View. ED-
MUND OWEN.
2. Remarks on Skiagraphy and Fractures; Especially in
their Medico-Legal Relation. C. H. GOLDING-BIRD.
3. A Case of Oblique Fracture of Tibia and Fibula with
Skiagraphs Showing Repair. BENJAMIN DUKE.
4. Deformity of Chinese Lady's Foot. J. DUNCAN
THOMSON.
5. A Case of Cervical Rib. T. E. GORDON.
6. The Effect of the Röntgen Rays in a Case of Chronic
Carcinoma of the Breast. ANDREW CLARK.
7. Note on the Pathology of Toxic Amblyopias. J.
HERBERT PARSONS.
8. Paralysis of the Cervical Sympathetic. PURVIS
STEWART.

1.—Edmund Owen discusses the anatomical associations of the kidney from a surgical standpoint, dealing first of all with the nerve associations of the kidney. Under this head is mentioned the association of pain in the testicle in cases of renal disease, which is accounted for by the fact that the testicle is developed in close association with and proximity to the kidney. The question of vomiting is mentioned, and its possible origin in a disturbance of the pneumogastric due to kidney infection. The vascular associations of the kidney are next described and the relation between the kidney and the peritoneum. In speaking of the associations of the kidney with the colon the author cites several instances in which a malignant disease of the colon has been improperly diagnosed as disease of the kidney. Because of the relationship between the stomach and the left kidney diseases of these organs have not infrequently been mistaken for one another. In speaking of rupture of the kidney the author thinks that nephrectomy should not be done unless absolutely necessary since the more conservative methods of treatment preserve the kidney. [J. H. G.]

2.—Treated editorially.

3.—Benjamin Duke reports a case of oblique fracture of the tibia and fibula, in which at the time of the accident and during the subsequent treatment of the case up to the 80th day only a fracture of the fibula was suspected. A skiagraph at this time, however, showed that there had also been an oblique fracture of the tibia, and that separation of the fragments was quite marked. The patient recovered with most excellent function of the part, being able to dance, play tennis, and walk great distances. The case illustrates the fact that X-ray pictures are no indication as to the subsequent outcome of cases of fracture.

[J. H. G.]

5.—T. E. Gordon reports a case of cervical rib in which there occurred obliteration of the arteries of the right arm with a resulting gangrene of a portion of several fingers, and in which excision of the rib was productive of great improvement. The author discusses at great length the question of obliteration of the blood vessels in its relation to pressure, and quotes extensively from the literature of the subject. The conclusions reached are as follows:

1. The cervical rib was in some way the cause of the arterial obliteration.

2. The circulation through the subclavian was not obstructed.

3. The occurrence of embolism may be excluded.

4. The manner of the obliteration suggests thrombosis, which in turn implies a preceding disease of the endothelium.

5. The cause of this arterial disease is very probably, in part, the carrying of heavy weights.

6. If the rib acted directly on the artery, it must have done so in some way upon which present pathology throws no light.

7. The rib may have acted indirectly on the artery through the nerves.

8. The nerves are more likely to have suffered than the artery, and nervous symptoms are much more common than circulatory.

9. A nerve lesion is capable of causing gangrene.

10. A nerve lesion may cause structural changes in the blood vessels.

11. The absence of clear signs of a peripheral neuritis is a striking argument against the theory of nerve origin.

12. The case resembles the local phenomena of Raynaud's disease, which is almost certainly a neurosis, and here there is commonly an absence of usual symptoms of neuritis.

13. In Raynaud's disease, however, the arteries are stated to be usually healthy.

14. From the occurrence of such changes in Raynaud's disease, we may conclude that not only from nerve lesions generally, but from disease of vasomotor nerves in particular, structural changes in arteries may arise.

15. In cases of cervical rib there occasionally occur symptoms which may possibly be explained by injury to the cervical sympathetic. Such are (1) increased heart action; (2) excessive subclavian pulsation, and sometimes fusiform dilatation of the artery; (3) abnormal sensitiveness of the arm affected to external cold; (4) thyroid enlargement.

A study of the anatomy of the region concerned suggests that the abnormal rib may have excited its evil effects not at its distal, but at its proximal extremity; here the rib is an intimate relation not only of the seventh and eighth cervical and first dorsal nerves, but also of the inferior cervical sympathetic ganglion and its branches. The number of these sympathetic connections is much greater with the lower than the upper brachial nerve trunks."

[J. H. G.]

6.—Andrew Clark reports a case of carcinoma of the breast too far advanced for operation in which the use of the X-ray for nine weeks produced a marked improvement. In this case the rays were applied for 15 minutes at a time for 5 days out of a week. The ulceration and discharge greatly diminished and the axillary glands became smaller and general improvement followed. [J. H. G.]

7.—A contribution by J. Herbert Parsons to the pathology of toxic amblyopias and a brief résumé of the researches that have been conducted since Samelsohn investigated the changes occurring in the papillo-macular bundles of the optic nerve in tobacco amblyopia.

[M. R. D.]

8.—Stewart reports the case of a man 30 years of age who presented to a marked degree nearly all the classical symptoms of the paralysis of the cervical sympathetic, and who presented to a marked degree nearly all the classical limits of anidrosis. The patient was a soldier who had been wounded in the left side of the neck by a Mauser bullet. The bullet entered 1½ inches below the mastoid process and came out through the seventh right interspace in the posterior axillary line. At the time of the injury he felt an "electric shock" all over his body, but especially in the right arm, which immediately became totally paralyzed. At the same time he suffered from hemoptysis, which persisted for 3 days, together with dysphagia. The patient's temperature became normal on the fourth day, and he was soon able to go about. The right arm gradually recovered its lost power so that it nearly, but not quite, reached the normal. Vision in the right eye was slightly impaired. The patient did not sweat on the right side of the face and neck, nor on his right upper extremity. There was no atrophy of any of the muscles. There was an area of slight analgesia, along the inner side of the whole right upper extremity to the fingers. On the dorsal surface, the anesthetic area extended quite to the outer border of the arm and forearm, and on the anterior surface it extended down the center of the limb, passing longitudinally through the ring finger, both on its palmar and dorsal surfaces. The right pupil was smaller than the left, as was also the right palpebral tissue. There was also slight enophthalmos on the right side. The lesion was evidently one which affected the entire right brachial plexus as well as the right sympathetic nerve. [J. M. S.]

LANCET.

June 8th, 1901.

1. An Address on Some of the Anatomical Associations of the Kidneys, from a Surgical Point of View. EDMUND OWEN.
See abstract of *British Medical Journal*.
2. A Clinical Lecture on Retention of Urine. CHRISTOPHER HEATH.
3. An Early Experience Concerning the Therapeutic Virtues of Iodide of Potassium in Asthmatic Affections. SIR W. T. GAIRDNER.
4. Rat Plague; A Preliminary Communication on an Outbreak of Disease in Rats at Cape Town. ALEXANDER EDINGTON.
5. Alcohol and Arsenic in the Etiology of Alcoholic Neuritis. E. FARQUAR BUZZARD.
6. An Explanation of the Vulnerability of the Apices in Tuberculosis of the Lungs. E. H. COLBECK and ERIC PRITCHARD.
7. The Surgical Treatment of Ulcers of the Stomach which are or have been Complicated with Severe Hemorrhage. C. B. KEETLEY.
8. Vitality After Severe Injury. W. H. CLAYTON GREENE.
8. The Morbid Anatomy and Origin of the Various Presystolic Murmurs Heard at the Apex. C. C. GIBBES.

2.—Christopher Heath makes retention of urine the subject of a clinical lecture. Reference is first made to retention occurring at birth from a tight prepuce. Later in life obstruction may occur in a child from impaction of a calculus. This is not infrequent and should always be thought of. Reference is also made to retention following a tight thread about the penis placed either by the child or the parent or the nurse to prevent nocturnal enuresis. A case is recalled in which gangrene of glands resulted from this cause. Gonorrheal retention may be due to an inflamed prostate. A digital examination of the rectum should always be made when retention occurs in the course of this disease. It must not be forgotten, however, that a prostatitis may result from other causes than from gonorrhea. Spasmodic retention occurs later in the course of gonorrhea, and is usually the result of excessive indulgence in alcohol. In retention from stricture after the condition has been relieved with the catheter it is well to leave the instrument fixed in the urethra. Where it is impossible to empty the bladder by means of a catheter aspiration above the pubes is recommended. The author asserts that it is a safe method of procedure if properly and aseptically done, and that unless too frequently repeated, is not apt to produce infection. Retention from anatomy of the bladder is next described. In this connection it must be always remembered that dribbling of urine indicates a distended bladder, and in such instances the bladder should always be emptied every 6 to 8 hours for several days and strychnia administered. Sometimes the electric current is of value in these cases. Retention from an enlarged prostate is finally mentioned, and the author calls attention to the fact that retention may occur from enlarged prostate after exposure to cold when before the enlarged gland had given rise to no trouble. The use of the catheter in these cases will nearly always bring away some blood, and it is well to prepare the patient for this before the instrument is passed. The hemorrhage in these cases is seldom serious. Occasionally, however, it may be found that the bladder is filled with large clots. In these cases great benefit will follow the administration of opium. Hysterical retention is mentioned, and the use of the catheter in these cases is to be avoided. The condition usually occurs in young females and is relieved by a hot bath or by suddenly throwing cold water over the head and shoulders. [J. H. G.]

3.—Gairdner gives an account of an early experience concerning the therapeutic virtues of potassium iodide in asthmatic affections. The author gives a detailed account of a case that was treated with the iodides with favorable results. [F. J. K.]

4.—Edington has contributed to medical literature a preliminary communication on an outbreak of rat plague at Cape Town. Upon the author's arrival at Cape Town he was informed by the Colonial Secretary that rats

were dying of bubonic plague. The author examined a rat that had died in one of the docks and isolated from this animal a bacillus with rounded ends, its size varying from 4 micromillimeters to 1.5 micromillimeters in length, and from 1.2 to 1 micromillimeters in breadth. This micro-organism did not show the well marked bipolar staining reaction which is so characteristic of the bacillus pestis. In the primary culture there was great morphological variation in the bacteria. Some of the micro-organisms were diplococci or diplobacteria, while others were somewhat spherical. This rat bacterium was found to be pathogenic to guinea pigs, the animals dying a few days after inoculation, but the micro-organism was not pathogenic to rabbits. Rabbits inoculated by this rat plague were not protected from bubonic plague when subsequently inoculated with the bacillus pestis. Pigeons were highly susceptible to the rat disease. The author concludes that there are marked differences between this rat disease and bubonic plague. [F. J. K.]

5.—Buzzard discusses alcohol and arsenic in the etiology of alcoholic neuritis, and concludes that clinical observation is responsible for alcoholic neuritis, and further, that in London alcoholic neuritis more often follows spirit-drinking than from other kinds of alcoholic beverages. [F. J. K.]

6.—Colbeck and Pritchard suggest an explanation for the vulnerability of the apices of the lung to tuberculosis. These authors conclude that alteration in the shape of the chest combined with misplacement and deficient musculature of the shoulder girdle are largely responsible for the susceptibility to tuberculosis. [F. J. K.]

7.—C. B. Keetley discusses the surgical treatment of ulcer of the stomach in which there occurs hemorrhage. The author differentiates between severe hemorrhage and slight hemorrhage, the danger of the former being immediate and remote and of the latter only remote. Four cases are reported. Case No. 1—Female, aged 20 years; a gastric ulcer adherent to the diaphragm and pancreas. The patient had had considerable hemorrhage, the last being nearly fatal. The ulcer was severed and sutured, the patient recovering. The pain returned and gastro-enterostomy was done, which cured the patient. Case No. 2—Female, aged 32, suffered from a severe gastric hemorrhage. In this case rest and opium and rectal feeding were employed; no operation was done and the patient died on the 12th day. Case No. 3—Woman, aged 39 years, had suffered from gastric trouble for a long time and had had numerous severe hemorrhages. In this case Loreta's operation was done, the pylorus being stretched to 4½ inches, internal circumference. This operation was followed by recovery. Case No. 4.—Was one which was not under the author's care. The patient was a man of 40 years of age who suffered from a duodenal ulcer which perforated the pancreaticoduodenal artery and produced death. No operation was done in this case. The author thinks that the bleeding vessels in the gastric wall should be tied, and that pressure alone should not be relied upon. The benefit following operation for gastric ulcer is discussed at some length, and particularly the question of keeping the stomach contents in an aseptic condition. It has been suggested that the good results following gastro-enterostomy are due to the fact that the bile and pancreatic secretion pass into the stomach in small quantities and produce there an aseptic effect. If there be any truth in this theory the author suggests the possibility of administering orally the secretions of the liver and the pancreas or the fresh glands themselves in the medical treatment of gastric ulcer. Attention is called to the very excellent results following the operative treatment of gastric ulcer, particularly when hemorrhage is present. [J. H. G.]

8.—W. H. Clayton Greene reports a case of a man who fell some distance and was impaled upon an iron railing. With stimulation the patient lived for 9 hours. At the post-mortem there was found a fracture of the sixth, seventh, eighth, ninth and tenth ribs, complete perforation of both walls of the stomach, perforation and laceration of the diaphragm, collapse of the left lung and perforation of the pericardium and of the left ventricle. [J. H. G.]

9.—Gibbes writes upon the morbid anatomy and the origin of the various presystolic murmurs heard at the apex. The author states that the presystolic murmurs heard at the apex cannot be regarded as pathognomic of mitral sounds. The presystolic murmur has been heard

during life under the following conditions: (1) mitral disease (stenosis); (2) a thrombus in the left auricle obstructing the mitral orifice; (3) dilatation of the mitral orifice without valvulitis, the heart being dilated and hypertrophied; (4) hypertrophy and dilatation of the ventricles without thickening and roughening of the mitral segments; (5) hypertrophy of the left ventricle with aortic insufficiency; (6) aortic stenosis with fusion of the aortic cusps, permitting regurgitation; (7) hypertrophy of the left ventricle from nephritis with slight thickening of the anterior mitral flap, and thickening of the chordae; (8) hypertrophy and dilatation of the right ventricle from atheroma of the pulmonary artery, with the right ventricle from atheroma of the pulmonary artery, with dilatation of the mitral orifice, and pericardial adhesions. The author emphasizes that the presystolic murmur cannot entirely arise from the auriculo-systolic blood-current. [F. J. K.]

MEDICAL RECORD.

June 22, 1901.

1. Hernia of the Urinary Bladder. W. S. CHEESMAN.
2. The Nauheim Treatment. H. NEWTON HEINEMAN.
3. Nephrorrhaphy with Flap Fixation. ARNOLD STRUMDORF.

1.—W. S. Cheesman reports a case of **hernia of the urinary bladder** and includes the discussion and review of 180 cases collected from the literature. The bibliography is especially valuable. The principal cause of bladder hernia is direct traction exercised through the peritoneal coat by the weight of the hernial mass, or by pull on the sac during ligation in operations for radical cure. In one-sixth of the cases symptoms occur sufficient to arouse suspicion, sometimes amounting to certainty of the existence of the abnormality. In about one-fourth of the cases, it may be possible during operation to recognize the bladder and avoid injuring it, and after one hernial sac has been found, any structure resembling a second should be regarded as bladder, until proved otherwise. When the bladder is wounded, the best procedure is immediate suture by two layers of catgut, and closure of the hernial wound by Bassini's method: a small drain only being left leading to the bladder suture line. The bladder wall, when thin, may be freely resected preparatory to closure. It is found that urinary fistula nearly always closes spontaneously. Injuries of the bladder have been directly responsible for death in only 10% of the hernia cases in which they occurred. [T. L. C.]

2.—H. N. Heineman, of New York, contributes a carefully prepared article on the **Nauheim treatment**. This paper is based upon the author's personal experience at Nauheim for two months for each year for ten successive years. The method of the treatment is given in detail. The factors in applying the baths which constitute an important element are: First. The warmth and the fact that it is a natural warmth, avoiding any injurious application of heat by which important elements are dissipated. Second. The presence of alkaline salts and of metals in large quantities, and of rarer elements whose exact value is uncertain. Third. The large quantity of carboic acid held in an active form and its coincident combination with salts and other elements. Finally. A certain quantity of electro-magnetism or magneto-electricity which these waters have in common with other springs. When patients with weak hearts are placed in a Nauheim bath of the usual temperature of $33\frac{1}{2}^{\circ}$ to 35° C., they first experience a feeling of oppression of the sternum, which is at times somewhat uncomfortable, but is never serious and soon passes off. The patient's pulse becomes slower and fuller in the bath and the respirations are likewise fuller and fewer in number. The bath promotes relaxation of the skin and dilation of arterioles and so relieves internal engorgement for the time being. It is not to be wondered at that in a certain number of cases in which the chest walls are so thin as to permit the mapping out of the exact size of the heart, we find the heart occupying a smaller area in some of its dimensions, at times in all, and evidently contracted as a result of the greater ease with which it drives the blood in consequence of the internal disengorgement. Heineman regards the bath treatment as an excellent nerve tonic, and believes that there is an important electric or magnetic influence. Tissue metabolism is remarkably affected. Rheumatic and gouty conditions are remarkably improved under this treatment. The exercises are a most important ad-

junct to the baths. General directions for the resistant exercises are given. The importance of proper diet is insisted upon. Alcohol being especially contraindicated as well as coffee. In arteriosclerosis the diet should be largely milk and not less than two or three liters daily should be taken. Starchy food is to be avoided. The Nauheim treatment is indicated for rheumatism and gout, inflammatory exudates, whether pleuritic, abdominal, or pelvic. In nervous disorders such as functional and incipient organic spinal disorders spinal congestion, neurasthenia, locomotor ataxia in its early stages, chorea, sciatica and certain forms of neuritis, circulatory disorders and cardiac disorders. It is contra-indicated in chronic Bright's disease, aneurysm in any advanced form as well as arteriosclerosis. A number of sphymographic tracings are given illustrating the changes in the pulse brought about by this treatment. [T. L. C.]

3.—Arnold Strumdorf reports a case of **nephrorrhaphy with flap fixation**. An incision was made obliquely downward and somewhat outward, extending from the lower border of the last rib at a point corresponding to the edge of the erector spinae group to the iliac crest and through to the perirenal fat. Incision of the fat capsule was made along the whole length of the kidney, the edges of the incised fat being drawn out of the wound as far as possible, and this redundant fat being ablated on both sides flush with the bottom of the wound. The kidney was pushed as near to the surface as possible, and steadied there by pressure exerted through the abdominal wall by the hand of an assistant. The capsula propria was incised longitudinally, exactly in the median line to within about three-fourths of an inch from either pole. A pair of closed, curved, blunt-pointed scissors was introduced beneath this capsular incision, and the capsule was carefully separated from the kidney substance for an area corresponding to the longitudinal capsular incision in length and to the lateral borders of the kidney in width. The free capsule was now raised by mouse-tooth forceps; two flaps were formed with blunt-pointed scissors by splitting the capsule laterally at each end of the longitudinal incision. The flaps were secured in the grasp of T-shaped forceps, while two silkworm retention sutures, equi-distant from each other and from either pole of the kidney, were passed through skin, superficial fat, the tendons of the abdominal muscles, the cut and trimmed edges of the perirenal fatty capsule, the fibrous capsular flaps, and the parenchyma of the kidney at a depth of about three-fourths of an inch from its surface, and left untied for the time being. The object of these sutures was not only to aid in relieving tension, but to obliterate any possible hollow spaces, thus obviating the necessity for drainage, and at the same time securing firm coaptation of broader surfaces for subsequent cicatricial union. Longitudinal slits, corresponding in location and length to the position and width of the fibrous capsular flaps, were next made through the adjacent muscular tissue, and the flaps drawn through these slits were secured in place by running suture of fine chromicized catgut. Three interrupted sutures of No. 3 chromicized gut were next passed so as to embrace muscle and kidney substance at a level with and equi-distant from the above-mentioned silkworm sutures, and tied. The final suture included skin, superficial fat, and fascia, after which the silkworm sutures, originally left hanging loose, were drawn taut by means of shot and plate. Primary union occurred, the removal of the silkworm sutures being effected on the eighth day. [T. L. C.]

NEW YORK MEDICAL JOURNAL.

June 22, 1901. Vol. LXXIII, No. 25.

1. Syphilitic Fever, with a Report of Three Cases. (From the Service of Professor William Osler). THOMAS B. FUTCHER.
2. The Evolution of the Ophthalmoscope, and What it has done for Medicine. SAMUEL THEOBALD.
3. An Introduction to the Psychological Study of Backward Children. WILLIAM B. NOYES.
4. Inguinal Bubo as a Complication of Malarial Fever. A. C. SMITH.

1.—Thomas B. Fletcher reports **three cases of syphilitic fever**, giving the various periods at which it may occur during the course of infection; (1) It may occur, in very rare instances, so long as three or four weeks before the onset of the secondary skin eruption. This early fever is

puzzling, and is likely to be attributed to some other cause until the eruption makes its appearance; (2) It may precede or be coincident with the appearance of the secondary eruption. This is the so-called "fever of invasion," and it is a very common and important symptom of secondary syphilis; (3) the fever may occur at any time during the course of the secondary or tertiary stages. The late occurrence of the fever is a most striking feature. It generally precedes the appearance of the secondary eruption by a week or ten days. Rarely does it antedate it by more than two weeks. The authorities now agree that this fever is a symptom of the invasion of the system by the organism believed to be the cause of syphilis or by its toxic products. At the onset of the fever there is often a transitory erythema of the skin which appears, to be followed by the true syphilitic roseola a few days later. The fever may be present in any of the following clinical types: (1) A mild continuous pyrexia, where the temperature ranges in the neighborhood of 101° F. Osler states that this type is not uncommon in the fever which ushers in the constitutional symptoms; (2) A remittent type of fever, with morning drops toward normal and evening exacerbations. This is considered the usual character of the fever of invasion; (3) A definite intermittent fever. This is the most remarkable form of all, and is the type which is most likely to lead to error in diagnosis. The author emphasizes the following points in connection with syphilitic fever: (1) In all cases of fever of obscure origin the possibility of its being syphilitic should be borne in mind; (2) Experience has shown that physicians of reputation, as well as those of limited experience, are prone to mistake the condition for one of the acute specific fevers; (3) The affections for which syphilitic fever is most often mistaken are malaria, typhoid fever, tuberculosis, sepsis, and occasionally rheumatic fever; (4) The fever may occur as early as four weeks previous to the appearance of secondary skin eruption, or, what is of greater importance, late in the disease after tertiary manifestations have existed probably for years; (5) The fever may be continuous, remittent, or intermittent. The remittent type is regarded as the most frequent form in the fever of invasion. The fever is often associated with chills and sweating. (6) Careful examination of the long bones and viscera for evidences of tertiary lues should be made in all cases of fever of obscure origin. [T. M. T.]

3.—William B. Noyes, in his article on an introduction to the psychological study of backward children gives the following points to be distinguished: (1) Those in whom the faculty of perception is deficient, including all those who have been born defective in their special senses. In extreme types, he states, are included the so-called idiots by deprivation, who are idiots because they lack certain special senses and power of perception, lack the power of attention, without which the most painstaking instruction is without result; (3) This class is characterized not by defect of special senses or the power of attention, but by defect or diseases of the will. [T. M. T.]

MEDICAL NEWS.

June 22, 1901. (Vol. LXXVIII, No. 25).

1. Psychic Epilepsy, with the Report of a Case. J. W. COURTNEY.
2. The Medical Expert Evidence in the Case of the Davis Bellevue Hospital Homicide. R. L. PRITCHARD.
3. Obstipation. STERLING B. TAYLOR.
4. A Study of Some Complications and Sequelæ of Typhoid Fever. H. A. HARE.

1.—J. W. Courtney defines **Psychic Epilepsy** as a peculiar pathological alteration of consciousness and memory which may precede, accompany, follow, or even according to certain observers, take the place of the epileptic fit. Pathophysiologically, such states of mind are regarded as the result of inhibitory or irritative explosions within that portion of the cerebral cortical territory which presides over psychic processes. Hence, simultaneous motor disturbances, the result of a synchronous inhibitory or irritative explosion primary within the motor cortical territory, are constantly lacking. Nevertheless, associated motor phenomena, sometimes of the most complicated and purposive types, do occur and to account for them properly we must consider them as end results of psychic processes. [T. M. T.]

3.—Sterling B. Taylor describes **obstipation** as an obstructive costiveness due to a stuffing or cramming against an obstruction which may be found under any one of the following heads: (1) Compression from without; (2) Blocking up of lumen of canal; (3) Constriction arising from disease of gut wall; (4) Hypertrophy of normal rectal valve, with consequent interruption of lumen of canal and accompanying distortion of gut above obstruction, the latter condition begetting an atonic state. [T. M. T.]

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 20th, 1901

1. A Study of the Food Consumed and Digested by Four Members of the Harvard University Boat Crew in June, 1900. W. O. ATWATER and F. G. BENEDICT.
2. Puerperal Insanity. EDWARD B. LANE.
3. The Home Treatment of Tuberculosis vs. The Climatic Treatment. EDWARD O. OTIS.

1.—Atwater and Benedict have made a study of the dietary, digestion and nitrogen metabolism of 4 members of the Harvard University Boat Crew. The ages of the four men were 20, 22, 19 and 25 years, respectively and their weights 174, 163, 175 and 167 pounds. The men were in normal condition throughout the period of the study. The quantities of solid and liquid excreta were determined for each subject, but the food consumed was determined only for the 4 men taken together. These 4 men used a food supply on the average, per man per day, consisting of 154 gm. of protein, 159 gm. of fats, 474 gm. of carbohydrates. This food furnished a total energy of 4,279 calories, and a fuel value of 3,925 calories. Tables are given comparing the results of this study with the results of similar studies made on the Harvard and Yale University crews while in training in 1898, on the foot-ball teams at Wesleyan University and the University of California, and on Sandow. The studies show that athletes eat considerably more than people in ordinary life, and that their food contains a much larger amount of protein in proportion to the fuel value than is found in the food of people with ordinary muscular strain. Why and to what extent the large percentage of protein represents is not yet fully known. It seems very natural, however, that where great muscular strength and effort are needed there should be corresponding muscular development, and this would be most naturally attained by the use of nitrogenous food. [J. M. S.]

2.—Lane objects to the term **puerperal insanity** to define a distinct type of mental trouble. He is of the opinion that the alienist going through the wards of a hospital for the insane for the first time cannot name the cases of puerperal insanity from objective symptoms. We can diagnose general paresis, mania, melancholia and katatonia objectively; but we must receive the history of recent childbirth before we can make a diagnosis of puerperal insanity. The author believes that the puerperal condition is not an important factor in the causation of insanity. Two hundred and two women patients were received at the Boston Insane Hospital during the past year, of whom only 3% were considered as puerperal cases. [J. M. S.]

3.—Otis is in favor, in the average case, of employing hygienic measures for the treatment of **pulmonary tuberculosis at home** rather than at health resort. In the home climate there is the indubitable advantage of retaining the patient in the same climate in which he has previously passed his existence and in which he must live, at least in a large majority of the cases, the remainder of it. Furthermore, by treating the patient near his usual and accustomed residence we take advantage of the psychic influence of familiar surroundings. Again, the pecuniary factor is a very important consideration with a large number of patients. Comparing sanatorium treatment at home with non-sanatorium treatment in a health resort the author doubts whether the additional climatic excellence compensates for the absence of the sanatorium régime. It is a source of great congratulation to all who are engaged in the treatment of tuberculosis that the prospects of success in the home treatment appear so auspicious. It is the very small minority of the tuberculous who are able or willing to travel far afield for a resort in which to take the cure. The majority, for one reason or another, must, if the hygienic cure is attempted at all, undertake it near home. [J. M. S.]

JOURNAL OF AMERICAN MEDICAL ASSOCIATION.

June 22, 1901.

1. The Cause of Diffuse Peritonitis Complicating Appendicitis and its Prevention. A. J. OCHSNER.
2. Section on Obstetrics and Diseases of Women. HENRY P. NEWMAN.
3. Oral Manifestations and Allied States. E. S. TALBOT.
4. Anthrax, with Report of a Case. WILLIAM ROUSH.
5. Interesting Throat Paralysis in a Case of Locomotor Ataxia of an Irregular Form. JOHN EDWIN RHODES.
6. The Diagnosis of Diaphragmatic Hernia. E. FLETCHER INGALS.
7. The Value of Calcium Carbide in the Treatment of Inoperable Carcinoma of the Uterus. I. C. CHASE.
8. Morphinism: An Unusual Case. WESLEY E. TAYLOR.
8. Spasm of the Glottis and Esophagus in Adult Life. A Report of Two Cases. L. D. BROSE.
10. Magnetic Foreign Bodies in the Eye. E. VILLIERS APPLEBY.
11. The Importance of Instruction in Medical Schools upon the Modification of Milk for Prescription Feeding. ANDREW H. WHITRIDGE.
12. A New Proctoscope and Sigmoidoscope. WILLIAM H. BEACII.

1.—A. J. Ochsner discusses the cause of diffuse peritonitis complicating appendicitis and its prevention. Diffuse peritonitis is the one complication of appendicitis which produces most deaths. Attention is first called to the anatomical relations of the appendix, and it is shown that this organ is surrounded by more or less immovable tissue excepting in the direction of the general abdominal cavity and here it is in relation with the constantly moving small intestine. The peristaltic motion of the intestine tends to the extension of the inflammation. Nature attempts to put the inflamed parts at rest by diminishing the peristalsis. The point which the author emphasizes throughout his whole address is the fact, that the introduction of food or cathartic into the stomach, by producing peristalsis, has the effect of increasing the spread of the inflammation. Great stress is laid upon the value of gastric lavage for the purpose of entirely emptying the stomach and of withholding all food or medicines by the mouth, rectal feeding being depended upon entirely. The cases in which this mode of treatment has been most satisfactory are those in which the appendix is gangrenous or perforated and in which there is already a beginning general peritonitis. The author maintains that if this form of treatment is closely adhered to that the inflammation will in most instances become circumscribed. The nausea and vomiting will entirely cease after one or two gastric irrigations. The pain will decrease together with the distension and the temperature and pulse will both fall. There is also noticed a marked difference in the abdominal rigidity after the irrigations. The author gives extensive statistics of his own work at the Augustana Hospital where this treatment has been rigidly carried out and records carefully kept. A marked decrease in the mortality of the cases of gangrenous and perforative appendicitis has followed his treatment. The author warns surgeons against the mistake of returning too quickly to gastric feeding. It is also mentioned that peristalsis can very easily result in the rupture of an already localized pus formation.

[J. H. G.]

2.—Newman in his opening address, gives a review of the scientific progress of the year in gynecology and obstetrics. In speaking of anesthesia by lumbar puncture he states that our own writers seem to agree in preferring general anesthesia by chloroform or ether except when, for any reason, these are positively contraindicated and a substitute may be found. Reclus, of France, is a vigorous and logical opponent of the method. The past year has done much to establish the operation of ovarian grafting or transplantation as a logical procedure and one worthy of careful and conscientious experiment. Mauclair concludes from his experiments that auto- and hetero-grafting will be successful if properly performed and the ovary is aseptic. Such grafts should result in modifying menstrual troubles and those consecutive to ovariectomy. Newman quotes the report of Gersuny on his work with injections of paraffin for incontinence of urine due to traumatism. The results have been satisfactory. Cesarean section for placenta previa is advocated by Dudley on the ground that it offers a method of saving two lives in place of risking one or both, and is practically free from danger if thorough asepsis is observed. Among the improved agents for sur-

gical hemastasis should be mentioned the angiotribe, whose claims for recognition rest upon facility of use, greater certainty of hemostasis, more rapid and smooth convalescence, and the avoidance of such objectionable after results as hematoma, granulating and sloughing stumps, adhesion and cicatrization. [W. A. N. D.]

3.—Will be abstracted when completed.

4.—William Roush reports an interesting case of anthrax occurring in a farmer. The patient was switched in the face by the tail of a horse which at the time was suffering from an extensive edema of the head and part of the neck, together with a profuse purulent discharge from the nostrils, mouth and eyes. The animal recovered after two months. The patient developed considerable edema followed by pustules over the cheek. A tube of agar-agar inoculated with the discharge from the wound showed the presence of the bacillus of anthrax in large numbers. The case was treated according to the recommendation of Vock-rency, which consisted in the administration internally of large doses of carbolic acid. Great improvement immediately followed the administration of this drug and the patient made a good recovery. [J. H. G.]

5.—J. E. Rhodes reports an interesting case of throat paralysis occurring in locomotor ataxia of an irregular form. When the mouth was opened and the tongue depressed for examination of the throat the soft palate was in the normal position. On irritating it with a probe, however, the right side of the palate was contracted strongly to the pharyngeal wall drawing the uvula toward the right. The left side of the palate did not respond at all to the irritation but remained relaxed and stationary. There was no anesthesia of the parts. On examination of the larynx the right vocal cord was stationary in the median line, there being a paralysis of the posterior crico arytenoid on the right side. All other conditions of the throat were normal. The diagnosis was an ascending sclerosis causing ptosis of the right eyelid and divergent squint of the right eye, paralysis of the left half of the palate and abductor paralysis of the right vocal cord. [T. L. C.]

6.—E. Fletcher Ingals discusses the difficulties of diagnosing diaphragmatic hernia. The greatest difficulty arises in differentiating this condition from pneumothorax. With the history of traumatism and the symptoms of strangulation the diagnosis may possibly be made but in the absence of these it becomes a difficult question. The condition is congenital in about 38% of the cases. In nearly all the rest it is of traumatic origin. The most important symptoms of the condition are dyspnea, metallic tinkling associated with rumbling and gurgling of gas, the displacement of the heart, the retraction of the abdomen and sometimes succussion sounds. The author then relates a case of his own in which many of the symptoms of diaphragmatic hernia developed suddenly upon the patient, distending the chest by a full inspiration. Many surgeons and physicians saw this patient but no positive agreement could be reached regarding his condition, some maintaining that it was pneumothorax and others, together with the author, thinking it to be diaphragmatic hernia. [J. H. G.]

7.—Chase, from his study of the value of calcium carbide in the treatment of inoperable carcinoma of the uterus concludes as follows: (1) The mass of literature on this subject is misleading; (2) the originators of the treatment were ignorant of the real action of calcium carbide, and had insufficient clinical experience to pass judgment on its value; (3) acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells; (4) acetylene has no escharotic effect; (5) acetylene has no bactericidal action upon pathogenic bacteria of putrefaction; (6) the principal action of calcium carbide results from liberated quicklime; (7) lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis and the tendency to promote hemorrhage. The metallic salts are more styptic, and their action may be better graduated by proper selection. So the use of calcium carbide may be sufficient to slightly cauterize the tissues. In most cases it has slight therapeutic effect save counteracting the tendency to hemorrhage and promoting contraction; (8) the heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion and more complete contraction of the wound; (9) calcium carbide is open to the same dangers as other caustics when improperly or too zealously applied; those of producing its corrosive action in the wrong place, fistulae, perforation and fatal peritonitis or occlusion of the ureters. (10) The treatment does not remove the cause of hem-

orrhage nor give more comfort to the patient than other rational lines of treatment; (12) the claims of advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusions that calcium carbide could ever cure a case of really inoperable cancer of the uterus; (13) the facts regarding the subject should be more widely disseminated to expurge medical literature and to avoid false expectations and fatal delays in inoperable cases [W. A. N. D.]

8.—W. E. Taylor reports an **unusual case of morphinism**. The patient was a man of 45 years, who had used whisky to excess from boyhood. In 1884 he began to take powdered opium in small amounts to allay a pain due to disease of the left shoulder joint. Gradually the amount of the drug was increased until he was taking 30 grains of powdered opium per day. With this he took a considerable amount of alcohol. The patient became fearful of losing his mind and stopped taking the drug suddenly, and of his own volition. He made a complete recovery. [T. L. C.]

9.—L. D. Brose reports two cases of **spasm of the glottis and esophagus in adult life**. His first case was in a patient of 51 years who was suddenly seized with an attack of dyspnea attended by spasmodic crowing inspiration and great mental distress and anxiety. The attack lasted several minutes. The examinations of the throat was absolutely negative. These attacks became frequent and usually occurred between midnight and 4 o'clock in the morning. Finally the symptoms of dysphagia set in with unmistakable evidences of carcinoma involving the lower end of the esophagus and stomach. The post-mortem findings confirmed this diagnosis. The second case was that of a man of 31 years who suffered from an acute attack of dysphasia, and in this case also no evidences of local disease were found. Later, however, positive evidence of tubercular involvement of the upper lobe of the left lung was found. [T. L. C.]

12.—William M. Beach describes a new **proctoscope and sigmoidoscope** which contains an illuminating attachment which greatly aids in the examination of the lower bowel. [J. H. G.]

AMERICAN MEDICINE.

June 15, 1901.

1. Pulsation of the Uvula in Aortic Insufficiency. DAVID RIESMAN.
2. Prevention and Cure of Postoperative Hernia. JAMES E. MOORE.
3. A Few Useful Points in the Symptomatology of Eye Diseases Applied to General Practice. HENRY BASSETT LEMERE.
4. Formalin in the Treatment of Suppurative Otitis Media. NATHAN G. WARD.
5. Synchronous Amputation of Both Thighs for Gangrene of Feet under Special Cocainization. GEORGE G. HOPKINS.
6. Permanent Gold Preparations. EMMA L. BILLSTEIN.
7. An Improved Bedstead for Invalids. E. E. MUNGER.
8. Excessive Eosinophilia in Trichinosis. A. J. PATEK.

1.—David Riesman reports the case of **pulsation of the uvula** in a patient suffering from aortic insufficiency. This condition is present in a smaller number of cases of aortic regurgitation. Much caution is necessary in order to reveal it, as attempts of retching or swallowing may simulate the pulsatile phenomena. The patient should be instructed to hold the mouth open steadily and breathe quietly. Riesman records here three cases. The phenomenon is of the same nature as the capillary pulse. [T. L. C.]

2.—Nathan G. Ward discusses the use of **formalin in the treatment of suppurative otitis media**. He concludes that by the use of formalin the following results may be obtained. There is an early cessation of the discharge. It breaks up the formation of the granulations and small granulations are discharged by alcoholic solutions. It promotes the healing of ulcerated mucous membrane, abrasions and inflammation of the external auditory canal. It retards, but does not entirely check bone necrosis. [T. L. C.]

5.—George G. Hopkins reports a case of **synchronous amputation of both thighs for gangrene of the feet under special cocainization**. The patient was a man of 68 years. 20 minims of 2% solution of cocaine hydrochlorate were employed. The needle being entered between the fourth and fifth lumbar vertebrae. The result was in every way satisfactory. [T. L. C.]

6.—Emma L. Billstein advises the following method for making **permanent gold preparations**: A mixture of 8 parts of 1% solution of gold chloride and 2 parts of formic acid is boiled three times, then cooled. Very thin pieces of tissue are put into the cooled mixture, which must be kept in the dark. After one hour the tissue is washed in distilled water and then placed in a mixture of 10 parts of formic acid and 40 parts of the distilled water and exposed to diffuse daylight. The reduction occurs in from 24 to 48 hours when the violet tissue is transferred to 70%, and after 24 hours, to 90% alcohol and kept in the dark for at least a week. It is then ready for the final manipulations and may be teased and mounted in acidulated glycerol or cut into sections. [T. L. C.]

8.—A. J. Patek reports a case of a young man of 21 who suffered from **trichinosis**, whose blood count showed 30% of eosinophiles. This is in accord with the observations of Dr. T. R. Brown, corroborated in 20 cases, that in trichinosis the eosinophiles undergo an enormous increase. [T. L. C.]

June 22, 1901.

1. Treatment of an Abdominal Aortic Aneurysm, etc. RUDOLPH MATAS.
2. The So-called Traumatic Neurosis. HAROLD N. MOYER.
3. Resection of Superior Sympathetic Cervical Ganglion for Noninflammatory Glaucoma. JOSEPH MULLEN.
4. The Bacteriologic Examination of Clinical Thermometers. RANDLE C. ROSENBERGER.
5. Atypical Pneumonia and Pulmonary Tuberculosis. W. H. BERGTOLD.
6. Electrolysis in Disease of the Skin. F. E. WISECUP.
7. The Nervous Exhaustion due to West Point Training. CHARLES E. WOODRUFF.

1.—Will be abstracted when completed.

2.—Harold M. Moyer discusses the so-called **traumatic neurosis** which he defines is any deviation from the normal in the nervous system, caused by violence. Traumatism may cause disturbance in the central nervous system which may be organic or functional, although the latter is by far the more frequent. The traumatic disturbances which follow traumatism will be found to follow in certain groups, hysteria, anesthesia and hypochondria. It appears to Moyer that concussion neurosis in all its various appellations, is an unfortunate and misleading term; that clearer understanding of functional nervous troubles renders such a term unnecessary; that pain and tenderness of the spine is rarely an evidence of change in the cord, but it usually due to the fatigue of the spinal muscles, or sprain and concussion of the spinal column; that most of the symptoms of spinal concussion are cerebral in origin, and that a correct diagnosis and prognosis may usually be reached by analyzing all such cases after the same manner that we do functional nervous troubles having their origin in nontraumatic causes. [T. L. C.]

3.—Joseph Mullen reports a case of **resection of the superior sympathetic cervical ganglion for noninflammatory glaucoma**. It is claimed that removal of this ganglion is sufficient in glaucoma, because all the sympathetic fibers go to the eye from this ganglion. Panas opposes this view. The operation itself may be performed in two days: First, reaching the ganglion by the posterior triangle, and second, by penetrating the anterior triangle. The immediate effects of excision are relief from pain, contraction of the pupil, increased lacrimation and sweating of the same side of the face. There is always conjunctival injection and oftentimes immediate reduction of intraocular tension. The author's case is similar to the one reported by Panas, and like his, shows a decline in vision. [T. L. C.]

4.—R. C. Rosenberger has made a **bacteriologic examination of clinical thermometers**. His conclusions are of interest. It is possible for the thermometer to be laden with the usual flora of the oral cavity. Such bacteria may retain their capability of growth for an indefinite time, at least 2 months, as shown by Rosenberger's experiments. Many pathogenic bacteria possess similar capabilities, and it is not unreasonable to assume, although the above experiments are not conclusive upon this point, that transmission of bacterial disease by the thermometer is possible. Thermometers are easily disinfected. Where for reasons of economy or otherwise it is impossible to carry out the recommendations of this investigator, the thermometer should be disinfected before and after using. The custom now prevalent in the hospitals of keeping thermometers in disinfecting solutions is to be commended. [T. L. C.]

case of dermatitis vesiculo-bullosa, and has considered the relation of vascular nerve changes to spontaneous gangrene and Raynaud's disease; and more recently Wulff⁷, of Berlin, has reported similar disease of the blood-vessels, causing spontaneous gangrene in a youthful subject. Some will contend that however great the arterial or vascular changes may be, they are secondary to some mysterious trophic influence. There is, of course, much to be said in favor of this view.

Lewaschew's⁸ experiments on animals have shown that five months after irritating the sciatic nerve of an animal distinct changes were noted in the blood-vessels of the part experimented upon, that there was a constriction of the vessels due to the marked changes, first in the adventitia and muscular coat, and later on in the intima of the smaller blood-vessels. Fraenkel⁹ found changes in the blood-vessels three or four weeks after section of the sciatic nerve. It was his opinion that the nerve lesion produces a condition of chronic irritation; that this in turn was responsible for a spasm of the arteries, resulting in a hypertrophy of the walls of the blood-vessels. Among the most recent writers on the subject is Lapinsky,¹⁰ who has shown conclusively that section of the vaso-motor nerves produces a change in the walls of the blood-vessels. He operated upon 14 rabbits, removing various sympathetic ganglia, and also performed resection and ligation of the cervical sympathetic. Following upon these operations he observed a dilatation of the blood-vessels, more marked pulsation, and increased blood pressure. The animals were kept alive for varying periods, from between ten to ninety days. In seven out of the fourteen cases there were marked changes in the larger blood-vessels, consisting of the thickening of the muscular coat and of the elastic membrane. The changes in the smaller blood-vessels and in the capillaries were still more marked. The muscular coat was either atrophic or had disappeared entirely. The intima was thickened and proliferated, the lumen of the blood-vessels being frequently closed. If the animals were killed before six weeks had elapsed since the operation, the degeneration of the walls was not so evident. The nature of the lesion itself and of the sympathetic did not seem to be of any special importance, and it mattered little whether or not the ganglia had been removed at the time the sympathetic was experimented upon. Lapinsky has also done excellent work in showing the dependence of vaso-motor changes upon neuritis. He was able to furnish accurate anatomical evidence of a proliferation of the intima with obliteration of the lumen, and of hemorrhages into the surrounding tissue following upon an experimental neuritis. But granted that the sympathetic and the peripheral nerves exercise an important influence upon the blood-vessels, the question arises whether disease of the blood-vessels may not occur independently of nerve lesions or possibly coincident with them. Such coincidence would not be unnatural if we reflect

that there are several organic and inorganic poisons, such as syphilis and alcohol, which exhibit their deleterious effects upon the blood-vessels as well as upon the nerves.

While Lapinsky is inclined to attach greater importance to reflex neurotic influences, Thoma has established the doctrine that the degeneration of the blood-vessels is largely due to a simple mechanical condition, and that the retardation in the rapidity of circulation and the variations in intravascular pressure are primarily responsible for the changes in the walls of the blood-vessels. Cassirer, who has tried in an impartial way to review the entire literature of the influence of the trophic nerves upon the disease of the blood-vessels, is only able to state, as a final conclusion, that "there is at least every reason to consider the condition of the vaso-motor system in cases of disease of the blood-vessels, particularly of the smaller ones." If this be the result of years of controversy, it will be more fruitful to quit the field of speculative physiology and pathology and to record for the present, in sober fashion, the widespread changes in the vascular system of patients affected with various forms of so-called tropho-neuroses. To this end a few histories and anatomical studies will be briefly reported:

CASE 1.—W. S., 27 years of age, born in Russia: seen for the first time in January, 1898. At that time he complained of a peculiar numbness and tingling sensation in his feet. These would occur at various times during the day and were followed by severe pain and a distinct bluish discoloration of the feet. The patient thinks that for four years before this first examination he has suffered in a similar way. He was employed in a silk factory and was compelled to stand on his feet all day long. The pain was paroxysmal, sometimes lasting only a few moments, at other times it would continue for several hours. He suffered more during the winter than during the summer months, although never entirely free from pain. Holding his occupation responsible for his symptoms, he changed the character of his work and was busy at a sewing machine. After working in this way only a short time and occasionally treading the machine with his bare feet, occasional pain set in in both feet, and he soon noticed that the right one assumed a dark purplish color. The paroxysmal attacks of pain became more and more frequent, the individual attacks lasting longer and longer, until the pain became practically continuous. There is no history of syphilis in this case. The urine was normal, free from sugar or any foreign matter. He had been a heavy drinker for some time, never becoming intoxicated, but rather proud of the fact that he could consume large quantities. The toes of the right foot at the time of the first examination had assumed a dark purplish color. When pricked with a pin the blood that exuded from the toes was almost black. The veins over the arch of the foot were prominent; pulsation could be felt in the arteries at the ankle joint, but not very distinctly. The feet were not sensitive to pressure, even at the time of greatest pain. The left foot was similar in every way, though all the phenomena were somewhat less marked. No sensory disturbance could be detected in either foot in the interval between the attacks. The electrical condition of the nerves and muscles was practically normal. Various therapeutic measures were employed, but without avail. The patient was evidently discouraged and disappeared from observation.

He returned a year and a half later with the history that he had gone to his home in Warsaw, Russia, and had placed himself under the care of a physician. While there, gangrene appeared and one toe after the other of the right foot had to be removed during a period of two months. Soon the toes of the left foot began to give the same trouble, and the big toe of this foot was also removed on account of gangrene. Later on the little toe was removed. The other toes were extremely cyanotic, but were not amputated. The patient felt better and decided to return to New York. When examined after his return, the following condition

7. Ueber Spontane Gangraen bei jugendlich n Individuen, Berlin Surgical Society, Dec. 10, 1888, reported in Deutsche Med. Wochenschr. No. 5, 1901, p. 68.

8. Virchows Archiv, Vol. 92, p. 152.

9. Centralblatt f. allg. Pathologie und Path. Anatomie, 5, 5, 1—quoted by Cassirer.

10. Deutsche Zeitschr. f. Nervenheilkunde Vol. XVI, p. 1.

was noted: The right foot presented a reddish purplish appearance, with veins still prominent and arteries with distinct but weak pulsation. The left foot was of a much darker appearance; the only three toes which had not been amputated were extremely cyanotic.

At this time the patient was working in a cigar factory. He was under observation just one month when severe pain and gangrene appeared on the inner and plantar surface of the left foot. On account of the pain and marked cyanotic appearance of the foot, amputation had to be resorted to, and this was done by Dr. Lilienthal, the patient making an uneventful recovery. Previous to the amputation of the foot, the patient began to complain of pain and numbness in the index and middle finger of the right hand. These fingers would get perfectly white and were practically corpse fingers, in marked contrast to the deep cyanotic color of the other fingers and rest of the hand. The pulse at the wrist did not alter its character appreciably during the entire attack. It was of great interest to us, however, that at this same time a marked phlebitic swelling occurred just below the elbow. This gradually disappeared under proper treatment.

The paroxysmal attacks of pain, the recurrent forms of local syncope and asphyxia, followed by symmetrical gangrene, the absence of marked sensory changes and of a reaction of degeneration in the nerves and muscles of the affected parts, made the diagnosis of Raynaud's disease certain enough. But, even if there were to be a difference of opinion as to the exact labeling of this special case, the marked arterio- and phlebo-sclerosis was of special interest. On carefully examining the removed tissue, we could not find a single artery or vein, large or small, that was not diseased. Slight degenerative changes were found in some of the nerve fibres. Excessive alcoholic indulgence and the peculiar occupation of the individual must be considered the chief etiological factors. With alcohol as a predisposing cause of vascular disease, the constant use of the extremities may be considered to be the additional exciting cause. Moreover, as soon as the patient changed his occupation and became a cigarmaker, necessitating the more active employment of the hands and fingers, the disease became evident in the upper extremity. Exposure to cold may also have played a rôle, and in view of the diseased condition of the blood-vessels, reactive circulation could not be easily established in parts that were improperly nourished, the obliterating endarteritis in this case was evidently not of recent date. An examination of the specimens showed some of the vessels almost completely obliterated by dense sclerotic tissue, while all possible and advanced stages of an obliterating endarteritis could be made out. The presence of phlebitic swelling in the right fore-arm, coincident with the first symptom of the Raynaud type in this same extremity, would also go to prove the intimate dependence of the latter upon the former. The patient, on close questioning, also stated that he had frequently had these lumps in the lower extremity before the later symptoms had been carefully noted. It will not be necessary to claim that Raynaud's disease is always due to vascular changes, though Barlow, Dehio, and even Raynaud himself have reported such changes in subjects of this disease. Allowing for marked trophic and vaso-motor influences, the case just reported seems to us to furnish good evidence of the intimate relation between the vascular changes and the grave disturbances in the nutrition of the peripheral parts.

CASE 2.—S. L., a tailor, 31 years of age, married 7 years. Family history negative, as far as any neurotic taint is concerned. Smokes a pipe and drinks beer very freely. No history of any venereal trouble. Has worked at a sewing machine for 4 years, but gave up this occupation 3 years ago. Has never suffered any exposure to cold. Four years before the first examination he claims that he had suffered with occasional burning pains along the inner border of the left foot and drawing pains of the left calf. These attacks were infrequent at first and lasted about half a day. He noticed that at times a red patch would appear over the inner border of this same foot, without any distinct pain in walking. Two and a half years ago he began to suffer from redness and swelling in the big toe of the left foot, which was accompanied by a marked burning sensation. The pain, the redness and the swelling were constant, but were made distinctly worse on walking. The trouble was supposed to be rheumatic, and the treatment was in accordance with this supposition. This treatment was interrupted by the appearance of an ingrowing nail on this same toe. The nail had to be removed, and a black suppurating slough developed, the gangrenous area spreading toward the end of the toe on the outside. This area was excised and the bone thoroughly scraped. Gangrene, however, continued to spread, so that it became necessary to remove the nail and one phalanx, which was done on January 21, 1899. The patient had been in the hospital three weeks, and as the amputation wound refused to heal, the sloughing skin and a piece of the proximal phalanx were removed. During all this time the patient had severe pain, and the other toes of the same foot became reddish blue, were swollen and were more or less painful. In May 1899 the proximal phalanx was removed under chloroform and the wound bid fair to heal. Later on numerous incisions had to be made for evacuation of the pus. The patient insisted on returning to his work, but ulcers were developed between the base of the second and the third toes on the dorsum of the foot. The blueness, pain and swelling were growing constantly and were especially severe when the foot was in a dependent position. The heart, lungs and kidneys were normal; the patient weighed about 141 lbs. and was emaciated in appearance. There was a general atrophy of the left limb from the hip down. This atrophy may partly have been due to disuse, as the patient had practically not used this limb for a period of four and a half months. The deep and superficial reflexes were normal. The left foot, when in a dependent position, became cyanotic; when elevated, it gradually grew paler, but remained painful. The great toe is absent, and the others are swollen, so that the lines over and around the articulation are lost. The nails are thick, round in shape and with a tendency to become ingrown. Under the dorsum of the right foot at the head of the first metacarpal bone is a round circumscribed ulcer, three centimetres in diameter, which involved the entire thickness of the skin. The borders are not undermined, but sharp, and bleed easily when the foot is dependent. At the base of the muscles is a yellow-grayish slough that does not bleed easily. Around the ulcer the skin has a reddish blue color, which disappears slowly and returns slowly on pressure. On the dorsum of this foot and base of the second and third mediodorsal phalangeal articulation is another ulcer similar in every respect to the one just described, only differing in size and shape. The pain became so severe in this case and the ulcers refusing to heal, various therapeutic measures were tried, and the leg was amputated above the knee joint by Dr. Gerster. The popliteal artery, vein and nerve, the anterior and posterior tibial arteries, veins and nerves, together with the plantar arteries and nerves and various tissues of the foot, were immediately removed and examined.

In this case also, all the veins and arteries were in a condition which might best be designated as a marked arterio- and phlebo-sclerosis. The under popliteal nerve was entirely normal. Only in the neighborhood of the ankle joint were a few degenerated fibres in the anterior and posterior tibials. There was a distinct inflammation of the nerves on the dorsal and plantar portion of the foot. In this case again, if we were interested in the diagnosis of erythromelalgia, a hue and cry would be certain to be raised; although the swelling, the redness, the pain,

the marked hyperesthesia, all increasing when the foot was in a dependent position, would be in agreement with that diagnosis. But we will not insist on it, since the clinical picture was evidently altered through the presence of an ingrowing nail, and possible infection of the foot leading to the ulceration and gangrene. There would be no objection to classifying this special case as a representative of the simple obliterating endarteritis of Friedländer; and to meet all just criticisms, it may simply be inferred that the earlier stages of obliterating endarteritis give rise to symptoms which are very similar to those included under the term of erythromelalgia. The occurrence of marked pain in these cases is of some interest. It would be natural to connect this with a terminal neuritis, as Weir Mitchell has done in his classical accounts of erythromelalgia; but one cannot escape the conclusion that the terminal neuritis may at times be secondary to this marked alteration of the blood-vessels, with subsequent malnutrition of all the tissues, including the nerves. In the case just referred to the parent trunks were normal, and changes were found only in the more peripheral portions. When gangrene and ulceration appear the neuritis may be attributed, in part, also to the effects of the infection.

CASE 3.—The patient, Mrs. S. I., 29 years of age, was referred to Dr. Wiener by Dr. Goldenberg. She was born in Germany; married 8 years; inclined to obesity, and presented gouty manifestations. Short and thick-set in stature, she easily tires and suffers from palpitation and dyspnea when she attempts to walk rapidly or to climb a flight of stairs. Of the four children born to her none is living. During first pregnancy she had a bad fall in the seventh month. The child was born at term and died shortly after birth. With the second child labor was difficult; the child was born alive, but died on the following day. The third was born at full term and died a few days thereafter in convulsion. The fourth child lived to be six months of age and then died in an attack of pneumonia. The patient has never had any serious illness and gives no history of syphilis or of any venereal infection, however suspicious the history may be. Her mother died at a very early age of unknown disease. Father is living and well. The parents of the patient have had seven children; of these seven, five are living and perfectly healthy. In regard to the other two, one died of meningitis, complicating influenza, and the others of pernicious anemia. The patient's husband is living and has been free from serious illness. In the spring of 1900 the patient's foot began to itch in a very annoying manner, so that she often was compelled to remove her shoes during the day to relieve the itching by scratching. It was especially severe in the neighborhood of the small and middle toes of the right foot and the small and big toes of the left foot. At first there was no pain, but gradually the pain appeared after scratching. After a period of three weeks, following upon the mechanical irritation produced by scratching, excoriated areas appeared over the left foot. The ordinary treatment by dry powders was of no avail; the excoriations gradually developed into ulcers, and the patient requested treatment at the Vanderbilt Clinic. She was put under thorough anti-syphilitic treatment, which had no effect on the healing of these ulcers. The pain became continuous, was burning in character and so severe that she was unable to obtain a night's sleep. After further treatment by Dr. Goldenberg, consisting of ichthyol ointment and cold dressings, which also proved unavailing, the patient was sent to Mount Sinai Hospital, where, after remaining at rest for a few weeks, the ulcers gradually healed; but as soon as she was up and about again, the same condition returned. It was then decided to amputate the big and second toes upon which the ulcers existed. Considerable relief followed upon this, and the patient has been up and about for six months. The urine was examined several times and found to be normal, only once a very slight trace of sugar was made out, to which, how-

ever, no importance could be attached. No distinct sensory disturbances were ever detected. The deep and superficial reflexes were always normal. Distinct and good pulsation was present in this foot. The toes just before amputation were very much swollen and of a reddish purple appearance. The base of the ulcers was covered by a thin grayish purulent-looking mass. The edges were not undermined or thickened.

A microscopic examination of the tissues taken from the amputated toes shows an obliterating endarteritis in its earlier stages, and also a nerve end neuritis. No normal nerve fibres could be made out in the many specimens that were examined. The tissues were infiltrated with round cells and showed an active inflammatory condition. This case demonstrates the earlier presence of vascular disease in association with nerve endneuritis and with trophic disturbances. It is not unimportant to note the early and persistent itching. The scratching, the mechanical irritation, as well as the infection, evidently led to the development of ulcers in parts embarrassed by a defective circulation, due to diseased blood-vessels.

In the three cases just reported somewhat in detail, the relation to the trophic disturbances and the vascular disease seems to be evident enough; but since our attention has been directed to the observation of the blood-vessels in the extremities, other and lesser conditions have been met with which may properly be attributed to lesser and possibly recoverable affections of the peripheral blood-vessels. Some time ago we had under observation a lady of 55 years of age, who had been treated for an attack of hemiplegia, due to embolism. The patient had a marked general arterio sclerosis in addition to the valvular lesion, without any renal complications. She had recovered from the hemiplegia and is now able to get about without assistance. Her general health is good, but she is troubled from time to time by spasmodic attacks of severe pain in the fingers of the right hand, followed by numbness and pallor of these fingers. The attack generally does not last more than a few hours. During several such attacks one of us was called to see her, and found that the fingers were absolutely numb and resembled in every respect the corpse fingers of Raynaud's disease. Each one of these attacks has been promptly relieved by the administration of hot baths, vigorous massage, and small doses of iodides. The attacks could justly be likened to those of Raynaud's disease, but the matter is referred to here merely to show the probable dependence of such symptoms upon arterio sclerosis of the peripheral vessels. It is a matter for surprise that such attacks are not more frequently referred to in association with cardiac and arterial disease in the senile period.

In another elderly lady of 60, suffering from severe diabetes and treated in conjunction with Dr. Janeway, the most distressing symptoms were frequent burning sensations, numbness and occasionally a cold feeling in the lower extremity. We might have been satisfied merely to record these as ordinary rheumatoid pains, for there was also a gouty rheumatic element in this case; but, bearing in mind the possible disease of the peripheral arteries, we watched carefully the pulsations of the dorsal artery of the foot and often found its beat feeble. Relief in this case was only to be had from active massage

and the application of intense heat. There can be little doubt that such symptoms as these are due to interference with the peripheral circulation. If we bear in mind the frequency of gangrene in diabetes, the occurrence of such symptoms as we have just described, denoting a lesser degree of vascular disease, becomes a matter of more than passing interest.

It would indeed be well to pay greater attention to the arteries of the lower extremities, for not only are such rare types of disease as intermittent claudication known to be associated with arterio sclerosis in the lower extremities, but Thoma's interesting researches have shown quite conclusively that many of the vague rheumatoid affections may be considered to be due to an angiosclerosis.

Whatever theory we may hold with regard to the influence of trophic and vaso-motor fibres upon disease of the blood-vessels, the experiences here reported seem to argue in favor of an intimate relation between the disease of the peripheral blood-vessels and many of the tropho-neuroses; but whether such disease be primary or secondary must be left to further investigation.

THE FREEZING-POINT OF URINE: ITS DETERMINATION AND THE INFERENCES WHICH MAY BE DRAWN FROM IT.*

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History.—The determination of the freezing-point is called more technically cryoscopy from kryos, cold, and skopein, to see.

As early as 1870 Bouchard employed this method in the examination of the urine, and in 1872 and 1873 Malasser and Hamburger followed in the work. In 1891, after an interval, Dreser added his name to the list of investigators, and in 1894 Koranyi, of Buda Pesth, began the careful studies which culminated in an elaborate paper published in the *Zeitschrift fuer Klinische Medicin* in 1897 and 1898. Since then there has been some steady progress along the line of this work, and at the International Medical Congress in 1900 the method of investigation received its first extensive public notice. Bouchard, Vaquez, Bousquet, and, most recently, Claude and Balthazard have all published notable papers. Outside of Germany and France, however, there has been comparatively little attention paid to the results obtained, and this is my excuse for the following paper:

Theory.—The theory of Urinary Cryoscopy is based on (A.) Raoult's theorem, now an accepted law of chemistry, much used since 1888, and (B.) Koranyi's theory of molecular exchange in the convoluted tubules of the kidney.

A. Remsen, in his theoretical chemistry, states Raoult's law as follows: "One molecule of any compound when dissolved in one hundred molecules of a liquid lowers the freezing point of the liquid by an amount which is nearly constant." Inferentially the same number of molecules of urea or of sodium chloride dissolved in urine cause the same lowering of the freezing point. This marks at

once a significant difference from the specific gravity of the urine. A few heavy molecules would notably increase the specific gravity, but would affect but little the lowering of the freezing point. Blagden has stated the law in this form: "If two different substances are contained at the same time in the same solution the lowering of the freezing point of the solution is the sum of the lowering of the freezing point which one substance would cause and that which the other would cause." The experiments of Koranyi on mixtures of solutions of sodium chloride and of urea have confirmed this law for those substances, and, to a certain degree, therefore, for urine. If T = the temperature of the freezing point of urine, and therefore the lowering of the freezing point below 0° , then $C T$ (in which C represents some constant) = the number of molecules in unit volume of urine, and if V = the amount of urine passed in twenty-four hours, $C T V$ = the total number of molecules of all sorts passed in solution in that time. Urea and the other organic compounds form about 7-12 of the average solid content of urine, sodium chloride about 3-12 and the sulphates, phosphates and metallic bases about 2-12. Of these sodium chloride is the only one which, passing unchanged through the body, does not represent any metabolism. If T' = freezing point of a solution containing the same amount of sodium chloride as the particular specimen of urine, $T - T' = T''$ = the lowering of the freezing point due to the rest of the dissolved matter including all the complex matter of the urine, and, as before, $C T'' V$ = the total number of the complex molecules, those concerned in metabolism, passed in twenty-four hours. If W = weight of the person expressed in Kilos. $(C T V) \div W$ = the number of molecules excreted per kilo of weight or the total molecular diuresis, and $(C T'' V) \div W$ = the number of complex molecular diuresis.

These symbols may be put in figures; in an actual normal urine T was found to be $-1^{\circ}.50$; V , 1500; and W , 60; $-0^{\circ}.613$ has been found to be the freezing point of 1% of sodium chloride, and the freezing point of any per cent. Cl of sodium chloride is $Cl \times .613$. In this specimen Cl was $= .4904$ and $T'' = T - T' = 1.50 - .49 = 1.01$; $.008$ and the freezing point was therefore $.8 \times .613 = .4904$ and $T'' = T - T' = 1.50 - .49 = 1.01$; $(C T V) \div W$ then was $(C \times 150 \times 1500) \div 60 = 3750 C$ and $(C T'' V) \div W = (C \times 101 \times 1500) \div 60 = 2525 C$. In each case C , of course, is a constant which is eliminated in comparisons. Normally T varies from $-1^{\circ}.30$ to $-2^{\circ}.20$ centigrade, $(C T V) \div W$ roughly from 3000 C to 4000 C and $(C T'' V) \div W$ from 2000 C to 2600 C .

B. Koranyi's theory is first, that there is filtered through the walls of the glomeruli of the kidney water containing sodium chloride in such amount that the solution has the same osmotic tension and therefore the same freezing point as the blood plasma, and second, that as this solution flows through the convoluted tubules and Henle's loops, it there returns to the blood a certain amount of water and a certain number of molecules of the sodium chloride and receives exactly the same number of molecules of more complex substances.

*Read before the New York Academy of Medicine June 6, 1901.

In general language, the solution there becomes concentrated and takes on the character of urine. If the glomerular filtration is rapid the flow of urine is rapid and the rate of molecular interchange in the tubules per unit of urine is slow. Such would be the case with high arterial tension. On the other hand, if the glomerular filtration is slow the flow of urine is slow and permits a high rate of molecular interchange in the tubules per unit of urine. Such would follow in renal stasis or in injury to the glomerular wall as in glomerulo-nephritis. Again, no matter what the rate of urinary flow, if the epithelium of the tubules performs its work imperfectly or obstructs the interchange, the rate of that molecular interchange must be lowered. Such would naturally follow in tubular nephritis or in any other organic or functional affection of the tubules.

$(C T V) \div W$, as was said, represents the total molecular diuresis, i. e., it represents the glomerular filtration, increasing in value when that is rapid, decreasing when it is slow. With high arterial tension, for example, it may go up to 6000; with renal stasis it may go down to 300. The complex molecular diuresis is represented by $(C T'' V) \div W$ and the rate of molecular exchange by the ratio of the total molecular diuresis to the complex molecular diuresis, i. e., by the ratio of $(C T V) \div W$ to $(C T'' V) \div W$ or $T \div T''$. If the swiftness of the urinary flow diminishes $(C T V) \div W$ is less, and there is opportunity for greater molecular interchange, so $(C T'' V) \div W$ increases and the ratio $T \div T''$ therefore diminishes. A nephritis limits molecular interchange, and $T \div T''$ therefore increases. Normally this ratio varies from 1.49 to 1.69. Another ratio which was studied in great detail by Koranyi is $T \div Cl$, in which Cl is the per cent. of sodium chloride in the urine, and the ratio therefore represents the total number of molecules in unit volume compared with the number of chlorine containing molecules in the same volume. This ratio was found to vary normally between 1.23 and 1.69. Still another ratio of importance is that expressing the amount of sodium chloride which is equivalent to all the matter dissolved in urine. As the freezing point of a one per cent. solution of salt is .613 T would be the freezing point of a $T \div .613$ per cent. of salt and $(V T) \div 61.3$ grams would be the amount of salt in V c. c. of a solution freezing at T , i. e., $(V T) \div 61.3$ represents the equivalent desired. This varies normally from 30 to 50.

We have, therefore, according to Raoult's law and Koranyi's theory, certain ratios, each capable of being expressed in figures, each representing the ability to perform a special renal function, each varying naturally within certain limits, and each denoting by its variation outside of those limits a definite failure of function.

Arguments.—The theory is too precise and too valuable if true not to demand the closest examination.

A. Raoult's law is not universal in the form stated; it is exact for a very large number of organic substances, but it is not found to hold good for the watery solutions of inorganic salts, acids and bases; such solutions act as if they contained

a larger number of molecules than is indicated by their formulas; in fact, with these substances, "the number of 'active molecules' is increased by the dissociation of the compounds into their ions; when the degree of the dissociation is determined, however, the law holds exactly when applied to these solutions also."

On the other hand, it is probable, according to Loomis, that molecules of albumen, and perhaps of certain normal urinary constituents, lump themselves together—several acting with reference to freezing like a single molecule—and therefore lowering the freezing point less than would be expected. $Cl \times .613$ does not without some corrections represent the exact freezing point of any percentage of sodium chloride, as the reduction of the freezing point is not exactly proportional to the per cent. It is probable, therefore, that the results are not precise, but that they are comparable among themselves. Further confirmation of the applicability of the law to all of the complicated bodies in urine is needed.

B. That the important glomerular function is to filter a salt solution from the blood seems to be supported by the best evidence obtainable. Starling recounts a number of experiments made by himself which tend to show that the glomerular epithelium may be looked on as a simple filtering membrane resembling a membrane of gelatine, and that when the pressure in the glomerular capillaries rises above 25 to 30 m. m. of mercury filtration takes place through the epithelium into the tubules—the filtrate representing simply plasma minus proteid.

C. That the water excreted in the glomeruli is partly absorbed in the convoluted tubules is supported by the facts (1) that in a general way the convoluted tubules of animals which pass a concentrated urine are long and of those which pass a dilute urine are short, and (2) that the concentration of urine lessens with the rapidity of excretion.

D. On the other hand, the theory of an exact interchange of one complex molecule for one salt molecule in the convoluted tubule is supported by little direct evidence. The physical law of the conservation of energy is the principal support. By the general theory of osmosis the work performed through the tubular membrane is least if we assume that exact exchange. No vital action is necessary for this, but it is not possible to assert that none takes place. Koranyi, however, performed certain animal experiments which involved the analysis of the blood serum as well as of the urine and found that the ratio of chlorine to non chlorine holding molecules in the blood is inversely what it is in the urine, and, therefore, in accordance with the theory.

E. The principal proofs of the value of cryoscopy must naturally be found in clinical experience with the method in the accordance of its results with those of chemical observations made in other ways as with the methylene blue test, and with autopsies. A certain number of autopsies are on record in which the conditions present in the heart and kidneys were predicted by the results of cryoscopy, but too few have employed the method for the clinical comparisons to be regarded as at all well worked out. Koranyi's papers of 1897 and 1898

were, however, founded on some thousand observations: Bouchard added a great number, and observations are now being made by many competent workers. The writer's own experience is limited, but as far as it goes certainly testifies to the agreement of inferences from cryoscopy with those drawn from more usual clinical methods. Comparisons are, however, often extremely difficult. Urinary cryoscopy is a test of function. A kidney may, for example, have a large portion useless from disease and yet be able to perform its work perfectly. It is quite within the range of probability that during certain periods of chronic nephritis there may be no renal insufficiency, and yet during those times cryoscopic examination would point to a normal condition. Finally, a milk diet, an excess of salt ingested, excessive sweating, pregnancy and convalescence from acute disease, may furnish figures suggesting a renal insufficiency which may or may not exist.

Uses.—It would be unjust to urinary cryoscopy to omit paying some attention to its pre-eminence as a test of function quite independent of structure. Startling revelations in gross or microscopic investigation of the pathological anatomy of an organ are hardly now to be expected, but intimate studies of the constantly varying capacity of an organ to do work, at least of such an organ as the kidney, have the merits of rarity and novelty and inspire the hope which springs from a new field.

A. It is in uncomplicated disease of the heart that the new method has won its greatest approval. Koranyi even insists that the investigation of a cardiac case is incomplete until the freezing point of the urine and the per cent. of sodium chloride in the urine have been determined. He has found that passive hyperemia of the kidney is earliest and most clearly demonstrated by a high value of the ratio $T \div Cl$, and that therefore the ratio may be used as a test of the effect of activity on a cardiac case. If in a patient doing a certain amount of work this ratio is over 1.7, the person should be kept quiet, person should be put to bed. This is true quite regardless of whether dyspnea or cyanosis are present or absent. The reason for this variation is admirably explained by the theory; if the circulation in the kidney is hindered in the slightest, there is less rapid excretion of serum into the glomeruli, a less rapid flow, therefore, down the tubules, a longer stay in the convoluted tubules, a more prolonged and extensive interchange of complex molecule for salt molecule, a diminution in the salt left in the urine and an increase in the fraction $T \div Cl$. In uncomplicated disease of the heart the ratios $(TV) \div W$ and $T \div T''$ are both high if there is high arterial tension, and both low if there is low arterial tension, and the same is true if the tension is due to arterial sclerosis, intoxication, or nervous derangements.

B. In uncomplicated diseases of the kidneys a study of the comparative values of certain of the ratios named may reveal a glomerular nephritis as distinguished from a tubular, a distinction hitherto hardly possible. The former form of nephritis is inferred from a low value of $(TV) \div W$ and a normal value of $T \div T''$. The degree of glomeru-

lar or of tubular obstruction may be estimated to some extent by the value of the ratios, and especially the gravity of the prognosis may be judged by the value of the ratio $(T''V) \div W$; if this falls below 500 death is said to be imminent.

C. In combined disease of the heart and kidneys the values of certain ratios point to the organ chiefly at fault—or insufficient at any moment. Even the freezing point alone is of service here. If, for example, there is anasarca and a freezing point lower than normal the kidneys are not at fault; if the freezing point is within the normal limits the kidneys are somewhat affected, and if the freezing point is above normal the kidneys are notably diseased. It is of importance, too, that the figures show that a large flow of urine following medicine may not mean a large elimination of the complex molecules.

D. In effusion into a serous cavity the ratio $T \div Cl$ indicates by its value whether absorption or exudation is going on, diminishing in the former case and increasing in the latter. In this, of course, the observation is similar to that long made about the increase or decrease of chlorine in the urine.

E. It is to Bouchard that we owe the application of the method to the study of metabolism. The molecule of albumen with an atomic weight of six thousand is split up in the body in the course of the various nutritive processes, part of the carbon going off through the lungs, part through the intestines, and part through the kidneys; the sulphur goes off partly as sulphate, and the phosphorus partly as phosphate through the kidneys. In the process of breaking up the molecule tends constantly to what may be called its lowest term, the molecule of urea, with an atomic weight of sixty. All urine contains by-products produced in the course of this reduction, but where the processes of nutrition are incomplete the urine contains more of these by-products; where the processes of nutrition are complete the urine contains less. All these by-products have atomic weights which are higher than that of urea. In other words, the average atomic weight of the various organic molecules of the urine tends toward sixty as a limit, a limit which, however, is not reached in any case. If by any means, as by cryoscopy, one may obtain the number of molecules in a specimen, obviously by taking the weight of all the matters dissolved and dividing that by the number of molecules, the average molecular weight may be obtained. This can be done, and in the same way the average molecular weight of the complex molecule can be obtained.

(If the lowering of the freezing point of a solution is proportioned to the quantity of the substance in solution and to its molecular weight the following proportion has been found to be true: If M = the weight of the substances in 100 c. c. of water and m = the average molecular weight and T the freezing point, $T : M = K : m$, where K is a constant established for every solvent and for water equal to 18.5; $m = (18.5 \div T) M$. If $m' = 118.5 (M - Cl) \div T''$ for the normal urine earlier quoted $118.5 (4.6 - 8) \div 101 = 66$. M is obtained by multiplying the last two figures of the specific gravity 1021 by Häser's coefficient 2.33.)

Bouchard has found that normally this molecular weight of the average complex molecule varies from 62 to 68 and that pathologically it may reach 130: it is regularly high in certain fevers and diseases of the lungs, liver, and kidneys. It is a confirmation of the theory of cryoscopy that these normal figures 62 to 68 are also obtained by calculating them from the known composition of urine. The importance of this use of cryoscopy lies, of course, in the estimate it gives of the power of the body to assimilate.

Practice.—The values sought are the following:

T = freezing point of the urine; normally — $1^{\circ}.30$ to $2^{\circ}.20$ C.

Cl = percentage of sodium chloride in the urine, usually .80 to 1.50.

V = 24 hour amount of urine.

W = weight of person in kilos.

M = weight of matter dissolved in 100 C. C. of urine, = $2.33 \times$ the last two figures of the specific gravity. Of these five values only T and Cl are essential.

From these are obtained the following:

T' = freezing point of a solution containing the same amount of sodium chloride as the urine, = $.613 \times$ Cl.

T'' = lowering of freezing point due to the non-chlorine containing molecules of the urine, = $T - T'$.

m = average molecular weight of M.

m' = average molecular weight of M less the chlorine molecules = $(18.5 (M - Cl)) \div T''$: normally 62 to 68.

The following ratios are diagnostic:

(a) $(V T) \div W$ = total molecular diuresis: normally 3000 to 4000.

(b) $(V T'') \div W$ = complex molecular diuresis; normally 2000 to 2600.

(c) $T \div T'' = [(V T) \div W] \div [(V T'') \div W]$ = ratio of total to complex molecular diuresis: normally 1.49 to 1.69.

(d) $T \div Cl$ = ratio of total molecules to chlorine containing molecules: normally 1.23 to 1.69.

(e) $(V T) \div 61.3$ = the sodium chloride equivalent of the non-chlorine molecules dissolved in the 24-hour urine: normally 30 to 50.

It is obvious that $T \div T''$ (Bouchard's ratio) and $T \div Cl$ (Koranyi's ratio) differ in that the denominator in the first fraction represents the number of molecules not containing chlorine, and in the second fraction the number of molecules containing chlorine. Obviously, too, $T \div T''$ will increase just in proportion as $T \div Cl$ diminishes, and vice versa. Moreover, as T'' cannot be obtained with as much exactness as Cl, the Koranyi ratio seems preferable for use. The advantage of the Bouchard ratio is in the concept to which it gives rise by its formation of the actual comparison between the numbers of molecules which pass the glomerular diaphragm and the number which pass the tubular diaphragm.

Method.—As has been pointed out, there are two determinations especially needed: (a) the freezing point T. (b) the percentage of sodium chloride Cl.

(a) The method of obtaining the freezing point with which the writer began was one advised by Prof. E. H. Loomis, of Princeton, who has for a

long time been interested in the observation of freezing points of solutions. His recommendations are as follows:

1. Use a double-walled test tube,—that is, place the test tube in another tube, which is a trifle larger, keeping them apart with a rubber band. The inside tube should be bottle-shaped at the bottom so that the stirrer may go to the lowest point of the tube and dislodge any ice that would otherwise tend to mass itself there. It should be about seven inches long and one inch wide. The thermometer may be held in place by thrusting it through a cork. The tube is provided with a "ring and feather" stirrer. This is easily made by taking a piece of wire and bending it at one end into a round loop about $\frac{5}{8}$ of an inch across. Then one side of a goose feather is stripped off and the feather is wired to the outside of the ring.

2. There is then prepared a mixture of finely-pounded ice and water of the consistency of a thick slush. This is put in a vessel of glass heavily wrapped with felt. Salt enough is added to this mixture so that the temperature of the mixture after thorough stirring is approximately that of the freezing point of the urine, determined roughly by a preliminary experiment.

3. The test tube is filled about one-third full of urine. The thermometer and stirrer are inserted, the whole is exposed to the freezing mixture until its temperature has fallen about three to four-tenths of a degree below the temperature at which the urine freezes. The tube and contents are then transferred to the bath described in 2, and a tiny crystal of ice is dropped into the over-cooled urine. This at once begins to freeze and the temperature rises, finally stopping at the freezing point. This requires about one minute and a reading of the thermometer is then taken. Uniform stirring is maintained. Loomis has found it necessary for the fine work involved in determination of molecular weights to have an electric vibrator tap the thermometer continually so as to ensure perfect mobility to the mercurial column. This method enables one to determine the freezing point within 1-1000 of a degree centigrade. The exact reading is taken through a microscope focussed on the thermometer scale. Prof. Loomis says that the instruments made by R. Fuess, of Berlin, Germany, are the only ones which have given him satisfaction. A suitable one graduated in 1-100 degrees centigrade may be imported for about \$25. As the writer had never seen a thermometer intended for this purpose he had one constructed by a reputable New York manufacturer of scientific instruments, which registers in tenths the degrees from 0° to -4° centigrade. The divisions are sufficiently large to enable one to read to fortieths, and the thermometer is a little less than six inches long. It has a lens front, but this proved to be a distinct disadvantage. Otherwise it was a most convenient instrument, but after some use it was compared with Dr. Loomis' standard thermometer and found to have so large an error that all work done with it was useless. It has been found helpful to use for the double tube two vials with flat bottoms, and to put in the outer sufficient absolute alcohol so that its level is practically the same as that of the urine in the inner tube. A sim-

ple spiral of wire works very well as a stirrer, and the thermometer may be hung in the urine by a cord. Foreign workers have advised cooling the urine by ether or carbon bisulphide rapidly volatilized by a current of air, but with this method the writer has had no experience. The mercury falls slowly to a certain point and then suddenly with or without the addition of the particle of ice rises to the freezing point; while it is rising it is especially necessary to keep the urine well stirred. After a moment when more or less of the urine is frozen the temperature gradually falls again to correspond with that of the freezing mixture. It is necessary, therefore, to take the highest point to which the mercury ascends as the freezing point. The time necessary for this observation varies from fifteen to twenty minutes. Certain precautions are necessary: the urine must not have undergone any fermentation, as the number of molecules and the freezing point are affected by that change; if the freezing throws down a precipitate, the urine must be diluted until that action is avoided; no antiseptics and no medicines must be in the specimen.

(b) The percentage of sodium chloride is determined by Volhard's method, and this is described in Hammarsten's Text-book of Physiological Chemistry as follows:

"All the chlorine from the urine acidified with nitric acid is precipitated by an excess of silver nitrate, filtered, and in a measured part of the filtrate the quantity of silver added in excess is determined by means of a sulphocyanide solution. This excess of silver is completely precipitated by the sulphocyanide, and a solution of some ferric salt, which, as is well known, gives a blood-red reaction with the smallest quantity of sulphocyanide, is used as an indicator.

"We require the following solutions for this titration: 1. A silver-nitrate solution which contains 29.075 grms. AgNO_3 per litre and of which each c. c. corresponds to 0.01 gm. NaCl or 0.00607 gm. Cl ; 2. A saturated solution at the ordinary temperature of chlorine-free iron alum or ferric sulphate; 3. Chlorine free nitric acid of a specific gravity of 1.2; 4. A potassium-sulphocyanide solution which contains 8.3 grms. KCNS per litre, and of which 2 c. c. corresponds to 1 c. c. of silver-nitrate solution.

"The determination of the chlorine in the urine is performed by this method in the following way: Exactly 10 c. c. of the urine is placed in a flask which has a mark corresponding to 100 c. c.; 5 c. c. nitric acid is added; dilute with about 50 c. c. water, and then allow exactly 20 c. c. of the silver-nitrate solution to flow in. Close the flask with the thumb and shake well, slide off the thumb and wash it with distilled water into the flask, and fill the flask to the 100 c. c. mark with distilled water. Close again with the thumb, carefully mix by shaking, and filter through a dry filter. Measure off 50 c. c. of the filtrate by means of a dry pipette, add 3 c. c. ferric-salt solution, and allow the sulphocyanide solution to flow in until the liquid above the precipitate has a permanent red color. The calculation is very simple. If we always use 10 c. c. for the determination, and always 20 c. c. AgNO_3 , and dilute with water to 100 c. c., we find the quantity of NaCl in 1000 parts of the urine by subtracting the number

of c. c. of sulphocyanide (R) required with 50 c. c. of the filtrate from 20. The quantity of NaCl p. m. is therefore under these circumstances $= 20 - R$, and the percentage of $\text{NaCl} = (20 - R) \div 10$."

This determination takes about ten minutes.

We have then T and Cl ; V should be accurately measured for the twenty-four hours; the specific gravity should be corrected for the temperature at which it is taken; the determination of W , of course, usually requires that the patient should be able to be out of bed. The valuation of the ratios is then a matter of arithmetical calculation.

Summary.—This paper will miss its object if it does not convey

(a) That the method represents a notable advance in the application of quantitative physico-chemical methods to clinical work.

(b) That the ratio $T \div \text{Cl}$ may furnish information of considerable value in diagnosis and prognosis in cases of cardiac disease and to a less extent in other cases.

(c) That it is distinctly a laboratory method requiring time and care.

In conclusion, it is a pleasure to express my obligation to Prof. E. H. Loomis, of Princeton, for much kind advice as to method, and to Dr. J. J. Walsh, of New York, for the stimulation he gave me to study the subject of my paper.

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6. Journal de l'Association Française de Pathologie, 1899, May.
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Soaps, their Chemical Composition and Disinfecting Properties.—F. K. Rosenbach, *Bibliotheca Germanica*, Vol. XII, No. 8, 1912. The author states that domestic soaps are injurious to the skin, inasmuch as they contain a large proportion of free alkali. To be beneficial a soap must be perfectly neutral. The carbolic acid soaps analyzed by him were found to contain from 9.45 to 22.10% of water and considerable free alkali. The amount of carbolic acid in these soaps varied and usually did not come up to the claims made by the manufacturers. Thus, instead of 4% only 1.32% was found; instead of 10% only 2.34%. It was observed that if the soap is made by the cold process from coconut oil the proportion of carbolic acid is more likely to correspond to the label. On the other hand, when the soap is made by the hot process a considerable amount of phenol is lost by evaporation. In the bichloride of mercury soaps a marked discrepancy was found between the statements of the manufacturers and the amount of bichloride actually present. Some samples contained only one-fourth the amount stated on the label. This difference is due to the reduction of the bichloride of mercury which takes place in the soap on keeping. Regarding the antiseptic properties of soap, the author found that plain as well as carbolic acid or bichloride of mercury soap fails to kill anthrax spores in 10 days. The vegetative forms of the colon bacillus are destroyed by plain soap, 10% solution of the latter possessing an antiseptic value equal to 0.3% solution of carbolic acid. The addition of a small amount of bichloride of mercury to a 10% solution of plain soap (0.05% of HgCl_2) does not enhance the antiseptic value of the latter. Bichloride of mercury in the soap seems to lose its antiseptic properties to a considerable extent. Thus, 0.1% of bichloride added to 10% solution of soap is less active than a 0.05% pure solution. The same results were obtained with carbolic acid. This is explained by the fact that these germicides form salts with the fatty acids of the soap, which possess weaker germicidal properties. [A. R.]

A PRELIMINARY REPORT UPON A CASE OF UN- CINARIOSIS (ANKYLOSTOMIASIS.)

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to Garfield Hospital, etc.

Uncinariosis (ankylostomiasis) is a chronic disease due to infection by a small thread worm known as the *Uncinaria Duodenalis* (*Ankylostona Duodenalis*), which fastens itself to the mucous membrane of the small intestine and sucks the blood from its host. The most prominent symptoms are intense anemia, weakness and dyspnea with anorexia and gastro-intestinal disturbances.

The presence of a genuine case of uncinariosis in this latitude, and occurring in a native American who has spent his life in Virginia, renders the matter worthy of report.

While uncinariosis is extremely common and a very serious disease in many tropical and subtropical countries, it has been diagnosed but rarely in the United States. W. L. Blickhahn *Med. News*, Dec. 9th, 1893) reports a case in a German who had probably brought the infection with him from Germany.

C. H. Tebault, Jr. (*New Orleans Medical and Surgical Journal*, 1899-1900, LII.) reports a case which must have had its origin in New Orleans, and I find in Blanchard (*Zoologie Medical*) reference to articles by Chabert and Duncan in Louisiana, Lyell in Alabama and Georgia, and Heusinger and Geddings in South Carolina, and Little and Leatherman in Florida. Blanchard doubts the authenticity of the last two. I have so far been unable to find the above articles in the Surgeon General's Library, i. e., those referred to by Blanchard.

The importance given to progressive pernicious anemia of late and the impossibility of making the differential diagnosis between it and uncinariosis without examination of the feces for ova is another factor which has led me to bring my case before the profession as soon as possible.

George R., aged nineteen years, of Westmoreland County, Va., occupation, light farm work, was admitted to the Garfield Hospital of Washington, D. C., on May 31, 1901. The history, obtained principally from his sister, as the boy is extremely stupid, is as follows:

Nothing worthy of note in the family history except that there is another brother who also is said to be pale and anemic. The patient was a small baby when born, but developed normally until about three years ago, since which time development has been tardy both in mind and body, his development and appearance at the present being that of a boy under 14 years of age. This point is worthy of note, since it is a characteristic of the disease. "Should serious Ankylostomiasis occur before puberty, the growth and development are apt to be delayed and stunted." Patrick Manson (*Tropical Diseases*). This fact is also noted by F. M. Sandwith. (Observations on 400 cases of Ankylostomiasis" (*Lancet*, Vol. I, 1894).

At school, the boy seemed as bright as any of the other children. He had been employed at light work about the farm until he became so weak that he was obliged to go to bed. He has never had any of the diseases of childhood, nor has he had malaria, which is common in his neighborhood. About three years ago, he became pale; one year later, the anemia became very marked and there was swelling of the face, abdomen, and feet. This condition did not last, however, and he seemed to get somewhat better until this spring. As far as can be learned, there have at no time been any symptoms of gastro-intestinal disturbance, which is contrary to the rule. The boy was sent to the hospital because of his great weakness, pallor, and dyspnea on slight exertion.

The appearance of the patient's face was remarkable, and differed from that seen in any other disease with which I am familiar. The expression was dejected, the skin very pale with a faint yellow tint, not the lemon yellow of pernicious anemia, nor yet the chalky white of advanced nephritis. The face looked bloated, especially about the eyes. The mucous membranes were extremely pale. The body well nourished, but the muscles extremely flabby. The tongue was clean. The heart's impulse was widely diffused, the apex beat was in the fifth interspace and almost as far to the left as the midaxillary line. Over the base there was a loud systolic murmur, the point of maximum intensity being in the pulmonary area. This murmur was also heard in the vessels of the neck. The second pulmonary sound was accentuated. At the apex there was heard a systolic murmur which was transmitted to the axilla and to the angle of the left scapula. A faint diastolic murmur was also present over a small area near the apex. The feet and ankles were edematous. The urine was pale, clear, acid and showed a Sp. g. of 1010 (urine of low sp. g. is the rule in severe cases). Sandwith, *Loc. Cit.* The blood examination, May 31, showed the number of red corpuscles to be 1,577,000 (31% of normal), the whites 4400. Because of an accident to the hemoglobinometer, the hemoglobin was not estimated until four days later, when it was found to be 30%.

Dr. J. B. Nichols, Pathologist to the Garfield Hospital, has kindly furnished me with the following report on the stained coverslips, June 9th: Macrocytes and microcytes, a few; polychromatophilia, not observed; poikilocytes, a few; microblasts, normoblasts and megoblasts, none.

Leucocytes: Small mononuclear, 15%; large transitional, 9%; polynuclear, 71%; eosinophile, 5%; myelocytes, —%.

Under the circumstances it is not surprising that we strongly inclined to the diagnosis of idiopathic pernicious anemia. However, an order was given that the evacuations be examined for the ova of the *uncinaria duodenalis* on the bare possibility that it might be a case of that most unusual disease, at least in the United States, of uncinariosis. Great was my surprise to learn that Mr. Henry M. Jewett, the Assistant Pathologist, had indeed found the object of his search, the ova of the *uncinaria*.

The eggs were so numerous that scarcely a field could be found which did not show several specimens. On June 3d, Thymol gr. xxx, was administered at 3.30 P. M. Two hours later, the dose was repeated and followed in two hours by castor oil, and the next morning by magnesium sulphate. Examination of the evacuations on the 4th revealed 14 *uncinaria*, on the 6th, 23 were found, on the 10th, 7, and as the ova were still present, the thymol was administered as before. Dr. C. W. Stiles, of the Department of Agriculture, confirmed the diagnosis of uncinariosis.

The patient seemed to improve from the date of the first expulsion of the parasites. The edema of the feet and to a marked degree of the face disappeared, and he claimed to feel much better.

The administration of iron and arsenic was at once instituted with a full, nourishing diet. Patient's weight has increased in a week from 85 to 90 pounds and the blood count has also improved slightly.

I wish to express my thanks to my resident, Dr. Bennet and to Dr. Nichols and Mr. Jewett, of the Pathological Department, for their aid and interest in the report of this case, a more complete and detailed account of which I hope to publish later.

Orthostatic Albuminuria.—This condition is the subject of a thesis by Dr. J. Vire, (quoted in *L'Independance Medicale*, 1901, No. 19). It is caused simply by standing. It is found in young people, accompanied by vague vasomotor symptoms only. Under a gram of albumin is found in the urine, accidentally as a rule, generally serum-albumen. Lying down will cause its disappearance. Recovery occurs as the patient grows stouter. It is seen in growing young men or girls who are anemic or nervous. Walking will not often cause it, long standing being the main cause. Vire explains it as a slight vasomotor disturbance in the renal circulation. The treatment is hygienic, strengthening, and anti-nervous. Milk diet is absolutely contraindicated.

THE ROLE OF INFECTION AND INTOXICATIONS
IN DISEASES OF THE SPINAL CORD.

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If in the history of medicine the cellular theory reigned a long time, it could not continue to do so with the progress of pathology, bacteriology and chemistry. The clinical observations could no more be in accord in all their aspects with the old views. Behring opened the way for new researches, which led to the discovery in the humoral substances of immunized individuals of chemical principles that now play the most important rôle in the action of antitoxins. Chemistry and bacteriology replaced therefore, the old cellular theory which seemed until recently to be the dominating one. These two sciences brought out very important though complicated points in the life of the cells.

In physiological or pathological conditions the cells present a complicated chemical laboratory of normal or abnormal organic metabolism. A loss of equilibrium in the normal condition of the cell is always characterized by the presence of abnormal chemical substances accompanied by microbes or products elaborated by these microbes—toxins. This last condition we call infection.

To Ehrlich we owe largely what we know of the character of toxins and antitoxins. His theory of lateral chains is remarkable in its simplicity, and explains the phenomena of immunity. According to his views, each protoplasmic molecule of the cell contains a central part essentially necessary to life and controlling the specific function of the cell and lateral chains or receivers. The function of the last is to receive various substances in a dissolved state, with which they enter into chemical combinations and thus take part in the intra-cellular life. The molecules of toxins introduced into the organism are received by some of the lateral chains, and as a result we have the antitoxins. Therefore, between toxins and antitoxins there is a chemical and specific relationship, and the antitoxins constitute an integral part of the cells. That antitoxins, according to Ehrlich, Bouchard and Charrin, are cellular products, and that immunity which they create might persist for years, is proven by Roux and Waillard²: After having bled profusely horses previously immunized so that a new blood was substituted, they observed that the antitoxic power did not disappear.

The microbes or bacteria do not possess the monopoly of producing an infectious disease; their products are also the cause of infection. In order that an infection should take place, two elements are necessary: the infectious agent and the predisposing cause which diminishes the resistance of the organism temporarily, like trauma or cold, or permanently like chronic intoxications (alcohol, lead, etc) and debilitating diseases of long duration.

During a very long time there was a belief that each organ lived separately from the rest of the body, and that its suffering did not have any influence on the rest. An entirely different view is held

now: There is a unity and solidarity among various parts of the living organism; when one organ is affected, the entire system suffers. A bacillus, typhoid, for example, produces a local focus of infection in the intestines, but the toxins circulating in the vascular system will have an influence on the whole economy by means of their chemical combinations with the lateral chains of the cells. The characteristic feature of toxic agents is that each has a special affinity for *certain* protoplasmic molecules and cells of *certain* organs: An infectious agent will attach, with preference, a certain organ primarily, the poisons secreted by it will show their secondary effect throughout the entire system. Whatever the infection is, one is almost certain to find histological changes in many, if not all, organs.

The nervous system, like any other organ, might be attacked primarily or secondarily. Much has been accomplished in regard to infections in diseases of other organs. The attention directed towards the chemical reactions which take place in the living cells, the discovery of toxins and antitoxins within the cells, the logical consequence of prophylaxis in infections, and the great question of serotherapy—all the benefit derived from these studies were almost exclusively applied to infections localized primarily in any organ except the nervous system. In reading very attentively the histories of a great number of cases of diseases of the spinal cord, the writer was impressed with the lack of etiological causation. It is remarkable how many writers report histories of their cases without the slightest attempt to elucidate the etiological factors, or if one or two points in that direction are mentioned, they are not at all taken in consideration, and no relationship is found between them and the disease itself. We endeavored to investigate the etiology of all the diseases of the spinal cord coming under our observation at the hospital, and almost in every case we were able to detect some infection passed unnoticed by the patient or his physician, whether it was a mild attack of measles, or a plain cold, or some febrile condition, a malaise due to auto-intoxication. In reading up the histories of cases recorded, we could find in a good number of them some infection in connection with the onset of the diseases. I do not speak exclusively of the secondary intoxications produced by certain modifications manifested in other organs, which are due to some perturbation of the whole nervous system by virtue of the presence of toxins in circulation. We also have in view the initial attacks of infections on the spinal cord, like, for instance, the primary effect on the cord of tubercular, typhoid, gonorrheal, diphtheritic infections, etc. We mentioned above that some toxic agents go directly to some organ primarily and enter into chemical combinations with certain lateral chains of certain cells. If it is true of any other organ, it is also true of the spinal cord, and this we will endeavor to prove with clinical as well as pathological facts.

Considering the nature of the phenomena which characterize an infection, we see that an intoxication takes place by means of microbes. The very first and constant result is inflammation, which represents the reaction of the organism against the intoxication. The spinal cord presents a feeble organic resistance; moreover, it seems to us that intox-

²Read before the Philadelphia Neurological Society, March 25, 1901

ications produce more deleterious effects on the spinal cord than on any other organ. An acute infectious intoxication of the spinal cord is characterized by a primitive alteration of the nervous tissue, consisting of congestion, but with a toxic vascular exudation, the contact with which is sufficient to produce foci of necrosis, hemorrhages; sclerosis follows almost inevitably. The difference between a new and an old inflammation is that in the first case we shall have an immediate and rapid reaction, whereas, in toxic lesions, due to an old inflammation, we shall have no general reaction and less rapid involvements, but the result will always be identical. If inflammatory changes are the result of infection, are all the diseases of the spinal cord due to inflammation, and if it is so, are they all due to infection? In their studies on the pathogenesis of *multiple disseminated sclerosis*, Charcot and his pupils considered the disease as a primary and chronic inflammation of the interstitial tissue. Rindfleisch,³ on the contrary, placed the initial lesion in the walls of the vessels, while others believe that the nerve element is first affected and interstitial inflammation is secondary; but most authors, according to Strumpel, consider it as a primary disease of the vessels. As to the etiology, Ebstein⁴ was first, who, after a clinical and pathological investigation on a man 44 years of age, who died from typhoid fever, found the effects of the infectious disease on the spine, expressed in a disseminated sclerosis. Later, other observations were added,⁵ and they all tend to prove that microorganisms, with their chemical products, are apt to produce a disseminated sclerosis. The chemical combinations found in the toxins are numerous; we find carbonic acid, hydrogen sulfide, ammonia gas, etc. On the other hand, cases of multiple sclerosis were reported as a result of intoxication with carbonic acid gas.⁶ This gives us a clue to explain the fact why an infectious disease might give place to multiple sclerosis. Not only typhoid infection is the cause of multiple sclerosis, but also other infections. Cases reported by Schoenfeld⁷ prove to be true. Marie observed the same after typhus, variola, scarlet fever, measles, dysentery, pneumonia, Charcot after cholera and diphtheria. Wispham⁸ observed clinical symptoms of multiple sclerosis after variola, and as the patient improved, although very slowly, he called it false disseminated sclerosis. The same type of sclerosis was observed by Marie after typhoid fever,⁹ by Sparks after whooping-cough,¹⁰ and after grippe,¹¹ by Stadhagen after diphtheria,¹² by S. Lotsch,¹³ after lung infection (2 cases), after typhus (4 cases), after influenza (1 case), by D. Williams,¹⁴ after measles, by Colcott,¹⁵ after some eruptive disease. Lannois and Paviot¹⁶ report a case of multiple sclerosis subsequent to tubercular arthritis of the shoulder. Rendu¹⁷ reports a case of transitory hemiplegia, followed by symptoms of disseminated sclerosis, which developed after some infection. Four years later the patient died, and the autopsy corroborated the diagnosis. Multiple sclerosis, with symptoms of *progressive muscular atrophy* after influenza, is reported by Hammond.¹⁸ In *Landry's paralysis* we always find a history of infection. Although the pathological findings are various as to the localization, they always show engorgement

of blood-vessels, exudation, foci, in one word—inflammation produced by an infectious agent. In the cases reported by Knapp-Thomas¹⁹ was always a condition of some infection. The same we find in Langdon's case.¹⁹ Spiller¹⁹ reports a case of Landry's paralysis occurring after an abortion which was followed by a purulent uterine discharge. O. Soltman²⁰ reports a case beginning with symptoms of infection. Boinet²¹ reports a case of a man who suddenly took cold and developed the disease; microscopical examination revealed vacuoles in the ganglion-cells, thickened meninges, nerve-fibers in a state of degeneration; bacilli were found. Kapper²² reports a case of Landry's paralysis due to auto-intoxication (dyspepsia). Remlinger²³ reports a case due to streptococcus: A soldier in the Colonies had previously malarial fevers. All of a sudden he was taken with paraplegia; a typical Landry's paralysis developed. The microscope showed: inflammation and dilatation of blood-vessels of anterior horns, streptococci in the parenchyma of the anterior horns between the cells. Baumgarten, Curschman, Eis-enlohr, Cantanni, Marinesco and Marie—found in the cord various microbes, as bacillus anthracis, Eberth's staphylococci, streptococci. In *anterior poliomyelitis*, Marie thinks, that the cause of inflammation lies in an infectious virus and commences in the blood and vessels; the degeneration of the cells is a secondary phenomenon. The whole clinical picture of this disease points to the presence of an infectious element. In Sinclair's²⁴ case it was due to a cold. Dercum²⁴ speaks of a child who, after a series of infectious diseases, as rubeola, varicella and scarlatina, sustains a trauma and develops the disease. In *muscular atrophies of spinal type*, we often find a history of some acute infection or chronic intoxication. G. Campbell²⁴ reports a case of a man who had several attacks of sciatica and was also alcoholic: developed the peroneal type of the disease. W. J. Morton²⁴ speaks of a man who contracted fevers in Africa, had chills and developed a multiple neuritis with atrophy, fibrillary twitchings, exaggerated K-J. Muscular atrophies of spinal type were seen following gonorrhea. Limasset²⁵ published 12 cases, Spillman and Haushalter²⁶ refer to two cases of spinal manifestations with muscular atrophies due to gonorrhoeic infection. Sulzer²⁷ reports a case of bilateral Erb's scapulohumeral palsy with atrophy due to fever with suppurative inflammation of ilio-cecal region. Tubercular infection might also have its effects on the spinal cord. Two cases were published in *Deut. Zeitschr., Nervenheilk.*, 1899. One is a case of a 9-year-old boy, where the tuberculous changes were characterized by inflammatory changes of arteries and veins of the dura, pia, infiltration along the vessels in the white substance and cells, swollen axis-cylinders. The second case of a two-year-old child presents the same changes. Decroly²⁸ reports a case of multiple neuritis with spinal involvement of tuberculous nature: complete palsy of the muscles of the leg with atrophy and RD, loss of K-J, Aran-Duchenne's type of atrophy. A similar case was reported by Finizio,²⁹ who found outside of other lesions involvement of the cells of the anterior horns. Cases of *ataxia* of spinal character were reported after measles by Colcott Fox,³⁰ after scarlet fever by Bruns,³¹ after

typhoid fever by Clement,³² and Kühn,³³ after mumps by Munro and Healy,³⁴ after influenza by Tumpowski.³⁵ If we now consider the natural history of *myelitis*, it seems to us that its infectious origin is an established fact. Its vascular and infectious nature is proven beyond doubt. At the last Congress of Paris, this question was brought up by various authorities with pathological and bacteriological proofs in favor of it. Marinesco found in two cases the streptococcus, in one case—pneumococcus, and in one—bacillus anthracis. His conclusions in regard to Landry's paralysis, are that the last is dependent upon an infectious ascendant and descendant myelitis. Meyer³⁶ reports a case of a cellulitis and subsequent meningitis with streptococcus, where, apart from various lesions of the brain, he found unilateral lesions of the cord in the region corresponding to the muscles affected: multiple degeneration of the cells. Dogliotti³⁷ reports a case of an abscess of the right half of the medulla due to onychia of the right thumb; cultures showed staphylococcus aureus. Leprous infection was found to show its effect on the spinal cord. Homen³⁸ saw two cases of lepra which produced lesions of the cord approaching those of *Tabes*. So did Lésage and Thiercelin.³⁹ The microscope showed a total degeneration of columns of Goll and of the septomarginal tract; the walls of the vessels were thickened and veins presented inflammatory thrombosis. Colella and Stanziale³⁹ found in a case of leprosy foci of myelitis. Looft³⁹ found atrophy of the sensory roots, sclerosis of spinal ganglions, and much pronounced degeneration of posterior columns. Jeanselme³⁹ found degeneration of Goll's columns and septomarginal tracts. Babés,³⁹ in 22 autopsies, found Hansen's bacilli in anterior horns; the chromatin was broken up, cells presented vacuolation. In Pellagra, Marinesco³⁸ found the cells of Clarke involved, degeneration of the pyramidal and anterolateral tracts. In a case of diphtheritic paralysis, L. Richon,⁸ found lesions of the cells of the anterior horns, atrophy with disappearance of the chromatin, involvement of the roots. Clark's cells were globular. Crocq³⁸ studied the histological changes of the nervous system in a dog suffering from rabies, and at the same time in different other infections, and arrived at the conclusion that rabies is an acute myelitis. *Transverse lesions* of the spinal cord were studied by Bastian:⁴⁰ in two cases secondarily to cancerous tumors of the breast, in one case following smallpox, and in one case after some unknown infection. The microscopical pictures were almost all identical as to the character of infectious inflammation: softening of the cord, great vascularity, descending and ascending degenerations. In a case of tetanus, Marnesco⁴¹ found diffuse hemorrhage in the gray matter, change in the chromatin of the cells, degeneration of the white matter. The lesions produced by syphilitic infection are too common and too well known to dwell upon. The syphilitic agent or its toxin is carried by the blood like in any other infectious disease. In addition to the direct effect of this specific toxin upon various portions of the cord through the blood-vessels, there is another point to be considered. It happens that the obnoxious specific agent reacts in a latent manner, as, for example, in para-

syphilitic lesions, and we have a weakening of the whole nervous system in its nutrition and its power of resistance. According to the most modern views pernicious anemia is supposed to be the result of an hypothetical poison. If the spinal cord becomes involved, the following changes similar to those of infectious spinal diseases were found: dilatation of perivascular spaces, which are filled with leukocytes, thickened walls of the vessels, foci of acute myelitis, proliferation of vessels, degeneration of posterior columns (Homén). E. Bloch⁴² reports a case of an eight-months' child suffering from leukemia, where autopsy showed myelitic foci followed by degeneration of fibers with diffuse sclerosis and increase of neuroglia. Lichtheim⁴³ considers diseases of the spinal cord in pernicious anemia as due to some toxic agent, and finds degenerative foci. The writer contented himself in presenting but a few examples. If one takes the trouble to read the literature for the past few years, he will be surprised to see how large is the number of spinal diseases caused by infection; and if the histories reported were read or taken carefully, one would almost always detect some infection as etiological factor. The clinical and pathological conditions of cases, where infection is not mentioned, and of those where it is stated, are identical. The microscope gives the same picture: inflammation, with all its consequences, is present. Let us turn our attention for a moment to experimental medicine in this field. Myelitis was produced by Roux in 1883 with toxins of rabies; by Babinski and Charrin, in 1888, with bacillus pyocaneus; by Roux and Yersin, in 1888-1889, with diphtheritic bacillus; by Gilbert and Lion, in 1888 and 1892, with bacteria coli; by Vincent, in 1893, with typhus bacillus; by Ballet and Lebon, in 1895-1896, with diplococcus of pneumonia. Autopsies in all these experiments showed vascular alteration in the first place, hyperemia, hemorrhages, foci of myelitis, alteration in the gray matter, degeneration in the white matter, proliferation of neuroglia. Bourges⁴⁴ experimented on a dog with streptococcus erysipelatosus and obtained the clinical pictures of amyotrophic paralysis, and at autopsy, myelitis with alteration of cells. Vidal and Berzancon⁴⁵ inoculated in the blood-vessels cultures of streptococci of various origin, with the result that paralysis took place, and at the autopsy they found diffuse degeneration mostly in the anterior horns. Morel and Rispal,⁴⁶ in a case of experimental myelitis with a culture of streptococcus, found bacteria in vessels, anterior horns and central canal. As to bacteria, it seems to us that it is not sufficient to look for them only in sections, because one might not find them, but also cultures should be made; the last procedure is more correct and rapid. Remlinger, in the case mentioned above, could not see the streptococcus in dorsal and lumbar sections, but did obtain them from cultures. Homén and Laitinen,⁴⁷ in their studies of the influence of streptococci and their toxins upon the spinal cord, described the following observation: hyperemia, hemorrhages in the first place, infiltration of leucocytes in the spinal ganglia, change of nerve fibers and neuroglia; anterior cells are destroyed in lumbar region, fibers become degenerated; bacteria in the cord in the first

five days; streptococci reach the spinal cord through lymphatic spaces of posterior roots and fill up the intermeningeal spaces of the whole cord; the pathological effect of injections of bacteria or their toxins is the same. Remlinger⁴⁸ produced an experimental muscular atrophy with paralysis by means of a sterilized culture of pneumococcus; 12 days after the injection he observed in a rabbit symmetric atrophy of the muscles of the shoulder and anterior extremities; 8 days later—complete atrophy. Carriere⁴⁹ described a case of myelitis due to pneumococcus, with autopsy. Ballet and Lebon produced a paraplegia with injections of cultures of pneumococcus. Moltchanoff⁵⁰ experimented on mice with cultures of gonococcus, and obtained an acute ascending paralysis; autopsy revealed that the cells of the anterior horns presented an acute degeneration and vacuolation. We, therefore, see that the pathological aspect of experimental diseases of the spinal cord is identical with that we mentioned above. Here and there inflammation is the first phenomenon, and the other lesions are a natural consequence of it. If we wish now to characterize the nature of the phenomena of infection, we must say that the microbes always show their effect through a process of intoxication. If, on the other hand, we give a glance at the lesions produced in the spinal cord by poisons of organic or inorganic chemical bodies, we find identical phenomena of intoxication. Lead, alcohol, arsenic, mercury, etc., introduced into the system, are capable of producing the same lesions in the spinal cord as intoxications due to microorganisms. We often observe that in chronic intoxications due to lead or alcohol, the blood and the tissues being chronically in contact with the poison are so altered that any added acute microbic infection gives an immediate and easily produced affection of the spinal cord. Any trauma or cold in an individual with a lowered resistance will aid the development of an infection; sometimes even without any apparent exciting cause, these poisons give place to the same phenomena. It is a question in my mind whether the lesions are produced directly by these organic or inorganic intoxications, or, rather, by some microorganism which has found a favorable ground to develop. Homén found in seven cases of alcoholism changes in Goll's columns and Lissauer's tracts, but always a thickening of the walls of the vessels and diffuse sclerosis. Bastian (*loc. cit.*) reports a case of an alcoholic who subsequently to an insignificant trauma within two years developed tremor, pain in the back, involvement of the sphincters. Autopsy showed that the dorsal cord was very vascular and soft; there was also ascending degeneration. Lead intoxication gives almost identical results. Onuf⁵⁰ reports a case of a painter who had a fall; later he became suddenly ill, and in three days developed paralysis of the lower extremities and left arm. Autopsy showed poliomyelitis of the anterior horns, infiltration of blood-vessels and involvement of the anterior roots. A case of *amyotrophic lateral sclerosis* due to lead intoxication was reported by Ch. T. Potts.⁵⁰ Mercury and arsenic are apt to give rise to the same symptoms. Donetti⁵¹ and Gilbert⁵² report cases of tabes due to intoxications with these two minerals. Lesions of the spinal cord might be due to toxins not intro-

duced from the outside world. I speak of so-called auto-intoxications. Alteration of blood, toxic or any irritative substance developed secondarily to digestive disturbances give place to auto-intoxication, which is apt to predispose to some degenerative condition of the cord. Sedentary life, mental and physical strain, are likely to bring on an intestinal atony; various toxins, like scatol, indol, etc., develop and are carried to the spinal cord through the lymphatic system. Feinberg⁵³ reports a case of asthenic bulbar paralysis following auto-intoxication due to obstinate constipation. Lichtheim (*loc. cit.*) speaks of a case of diabetes and of three cases of grave icterus, followed by spinal symptoms. Sougues and Marinesco⁵⁴ found at the autopsy of a woman, who died from diabetes, degeneration of the posterior columns. They express an opinion that the lesion of the cord is due to toxins of auto-intoxication. Ettlinger and Nageotte⁵⁵ produced an experimental Addisonian auto-intoxication and found in the spinal cord changes similar to infectious alteration. The preceding study permits me to arrive at one conclusion, that whether the diseases of the spinal cord are due primarily or secondarily to a microbe introduced from the outside world, to organic or inorganic intoxication, or to auto-intoxication—the general term that we could use to express the effect, is *intoxication*. As soon as the organism is attacked, it begins to defend itself by means of its cellular secretions. The cell can triumph over the pathogenic agent only when it contains ferments capable of digesting and destroying that agent. The leukocyte is not the only cell that contains phagocytic elements; there are other cells that produce chemical substances for protection against the enemy. The antitoxins meet in battle the toxins and render the organism indifferent to their influence. As soon as infection sets in, these antitoxins begin to be formed in Ehrlich's lateral chains, and the morbid condition will be shortened or prolonged, aggravated or attenuated, according to the amount of the protective substance. When the disease is conquered, profound chemical modifications take place in the system and produce *immunity*. These modifications depend upon the accumulated toxins and production of defensive substances. The therapist's duty is to combat the effect of toxemia by helping the destruction and elimination of toxins, and at the same time to stimulate the defensive reactions and therefore increase the resistance of the organism. The last can be accomplished by *serotherapy*, which has already given such admirable results in many cases. This method does what the organism should have done; it provides with substances which the enemy had not time yet to produce; it shortens the course of the disease, and in some cases succeeds in arresting it. It is permitted to hope that serotherapy will be utilized in all sorts of infections. For that it is necessary that we should be completely familiar with the evolution of infectious processes, and in all cases succeed in finding the primary cause of a given infection. The nervous system in general and the spinal cord in particular can be attacked by infections secondarily and primarily. The writer firmly believes that it takes place more frequently than it is generally thought, and that infections and intoxications of

various character present in diseases of the cord the most frequent and the most active causative element. Since his attention was directed to it, he finds an infectious element or some intoxication almost in all the cases with which he comes in contact. The examples presented by him from the literature, clinical, pathological and experimental, are very few, indeed; in reality they are numberless. The object of this essay is to plead for a more thorough investigation in etiology of diseases of the spinal cord and apply the same principle in treatment as in diseases of any other organ of an infectious nature. Serotherapy has accomplished a great deal in therapeutics, and the day is not far distant when it will be applied in diseases of the nervous system. It is not sufficient to treat the symptoms, one must ascend to the initial cause.

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JOURNAL DES PRATICIENS.

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1. Cardiac Asthma. M. MERKLEN.
2. Enteroposis. FRANTZ GLÉNARD.
3. The Pest in Alexandria in 1899. VALASSOPOULO.

1.—**Cardiac asthma** may occur in small attacks or in larger paroxysms. The smaller attacks are seen in almost all cases of cardiac insufficiency. They occur suddenly at night, on account of the greater tendency to venous stasis at that time, with dyspnea lasting at most a half hour. They generally reappear night after night, rarely twice in one night. These attacks are seen in cases of mitral insufficiency with loss of compensation, and in cases of advanced arteriosclerosis with cardiac dilatation, myocarditis, and renal insufficiency. When the aorta or coronary arteries are affected, the attacks may resemble angina

pectoris. The larger paroxysms occur at night, too, with intense dyspnea, lasting several hours. Anginoid pain may be felt with these, or edema of the lungs may follow, with expectoration, due to aggravated venous stasis. Asphyxia may come on. Pulmonary edema is commonly seen in those with arteriosclerosis or kidney disease. Cardiac asthma has been theoretically explained as due to sudden weakness of the left ventricle, to renal insufficiency, or to toxins absorbed from the gastro-intestinal tract. In the paroxysms, Merklen advises counterirritation, with bleeding should pulmonary edema exist. Heart stimulants will be needed, and morphin with ether, hypodermically. For the smaller attacks digitalis or chloral can be given. Theobromin may also do good. Rest with diet and care will effect excellent results. The iodides should only be given guardedly. [M. O.]

2.—In his third and last lecture upon **enteroptosis**, Glénard defines enteroptosis as a disease characterized by the signs and symptoms of ptosis of one or more abdominal viscera. It may be primary or secondary. Among the predisposing causes he places corsets, parturition, long standing, laparotomy, liver disease, nervous disease, etc. The exciting causes may be traumatic, puerperal, infectious, toxic, or nervous. Enteroptosis may appear in four different forms, gastro-intestinal, lithemic, neurasthenic, or cachectic. It passes through three stages, the gastric, mesogastric or hepatic (lithemic), and neurasthenic or cachectic. If no diagnosis be made, the duration will be indefinite; otherwise its duration depends upon the treatment. The diagnosis is easily made from the symptoms, which are again fully described. An abdominal binder must be worn, saline laxatives and alkalies given, and a strict diet observed. Cold douches, massage, static electricity, etc., will also aid in treatment. The prescriptions and a full diet list follow. [M. O.]

3.—In May, 1899, the pest appeared in Alexandria. The rats had already been affected. In one grocery over 200 dead rats were found. Cases were found all over the city. During the three months epidemic, 92 cases occurred. In all but one case there was little fever. About the fourth or fifth day the temperature fell to normal as a rule, with perspiration, diarrhea, etc. Then the patient began to improve, or complications were noted in a few days. The buboes suppurated in from 7 to 10 days, without fever. One case began with vulvovaginitis due to the pest bacilli. Pest-pneumonia occurred, both primary and secondary, as did the gastro-intestinal form. Buboes should be incised, with care, under chloroform, when decided fluctuation has appeared. Yersin's serum treatment was tried in 11 cases, with 7 cures. The Haffkine prophylactic serum confers about three weeks' immunity, but causes marked reaction, both local and general. Valassopoulos prefers using 5 c.c. of the Yersin antipest serum, which causes much less reaction. While pest may occur in the individuals inoculated, it is always attenuated in character and they recover eventually. [M. O.]

On the Disturbances of Speech in Intermittent Fever.—

I. E. Tilanadze (*Bobnitchnaya Gazeta Bakova*, Vol. XII, No. 13) reports 3 cases of malaria in which disturbances of speech occurred during the attack. In one aphasia developed without any other involvement of the nervous system; in the second the aphasia was accompanied by paralysis of the right upper extremity, while in the third there was only stammering. The conclusions drawn by the author from his own cases and those collected from the literature are as follows: (1) The disturbances of speech mostly observed in malaria occur in the form of atactic aphasia. (2) A simple difficulty of speech or stammering is of rare occurrence. (3) Disturbances of speech are more frequently observed in connection with the malignant forms of the disease. They occur either together with the paroxysms or at the height of the disease; rarely at the end of it. (4) Malarial aphasia is more frequent in man than in women. (5) It is frequently accompanied by paralysis. (6) Malarial aphasia is usually temporary, is of short duration and entirely recovered from. [A. R.]

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